

2016-2017 Undergraduate Catalog

Russellville, Arkansas
www.atu.edu

Arkansas Tech University, a state-supported institution of higher education, is dedicated to nurturing scholastic development, integrity, and professionalism. The University offers a wide range of traditional and innovative programs which provide a solid educational foundation for life-long learning to a diverse community of learners.

Accreditation

Arkansas Tech University is accredited by The Higher Learning Commission.



Program Accreditations

Accreditation Commission for Education in Nursing (ACEN)
3343 Peachtree Road NE, Suite 850
Atlanta, GA 30326
(404) 975-5000

Accreditation Commission for Programs in Hospitality Administration (ACPHA)
P.O. Box 400
Oxford, MD 21654
(410) 226-5527

American Chemical Society (ACS)
1155 16th Street NW
Washington, DC 20036
(202) 872-4600

Association to Advance Collegiate Schools of Business (AACSB International)
777 South Harbour Island Boulevard, Suite 750
Tampa, FL 33602-5730 USA
(813) 769-6500

**Commission on Accreditation for Health Informatics and Information Management Education (CAHIM)
(Health Information Administrator)**
C/O AHIMA
233 N Michigan Avenue
Suite 2150
Chicago, IL 60601-5800
(312) 233-1131

Computing Accreditation Commission of ABET

111 Market Place, Suite 1050
Baltimore, MD 21202
(410) 347-7700

Council for Accreditation of Educator Preparation (CAEP)

1140 19th Street, NW
Suite 400
Washington, DC 20036
(202) 223-0077

**This accreditation covers the institution's initial teacher preparation and advanced educator preparations programs.*

**Council for the Accreditation of Emergency Management Education (CAEME)
(Emergency Administration and Management)**

965 Harrison Circle
Alexandria, VA 22304
(703) 284-6050

Council on Accreditation of Parks, Recreation, Tourism and Related Professions (COAPRT)

22377 Belmont Ridge Road
Ashburn, VA 20148
(703) 858-2193

Council on Rehabilitation Education (CORE)

1699 E. Woodfield Road, Suite 300
Schaumburg, IL, 60173
(847) 944-1345

Engineering Accreditation Commission of ABET, Inc.

111 Market Place, Suite 1050
Baltimore, MD 21202
(410) 347-7700

National Association of Schools of Music (NASM)

11250 Roger Bacon Drive, Suite 21
Reston, VA 20190
(703) 437-0700

National Institutional Memberships

- American Association of Colleges for Teacher Education (AACTE)
- American Association of Collegiate Registrars and Admissions Officers (AACRAO)
- American Association of State Colleges and Universities (AASCU)
- American Society for Engineering Education (ASEE)
- Association of International Educators (NAFSA)
- Association to Advance Collegiate Schools of Business (AACSB International)
- Conference of Southern Graduate Schools (CSGS)
- Council for the Advancement and Support of Education (CASE)
- Council on Hotel, Restaurant and Institutional Education (CHRIE)
- Council on Undergraduate Research (CUR)
- Mathematical Association of America (MAA)
- National Association of College Admissions Counseling (NACAC)
- National Association of Schools of Music (NASM)
- National Association of Student Personnel Administrators (NASPA)
- National Business Education Association (NBEA)
- National Collegiate Athletic Association (NCAA)
- National Collegiate Honors Council (NCHC)

- National Council on Rehabilitation Education (NCRE)
- National League for Nursing (NLN)
- National Recreation and Park Association (NRPA)

Enrolling In College

Students are urged to acquaint themselves with this catalog thoroughly. It sets forth policies and procedures for enrolling and successfully completing the various programs of study.

The basic responsibilities of selecting a major field, enrolling in the prescribed courses of study in the field, and complying with the University's requirements for graduation rest with the student; however, University personnel will assist the student with problems encountered. Further assistance is offered in the form of capable departmental advisors, a full-time guidance and counseling service, and an appropriate graduation check list to serve as a reminder of the various graduation requirements.

For More Information

General Information	(479) 968-0389
Academic Advising Center	(479) 964-0843
Academic Affairs Office	(479) 968-0319
Admission Office	(479) 968-0343
Alumni Office	(479) 968-0242
Director of Athletics	(479) 968-0345
Business Office	(479) 968-0300
Counseling Office	(479) 968-0329
Disabilities Coordinator	(479) 968-0302 TDD (479) 964-3290
Financial Aid	(479) 968-0399 TDD (479) 968-0224
Graduate College	(479) 968-0398
Health and Wellness Center	(479) 968-0329
President's Office	(479) 968-0228
Public Safety	(479) 968-0222
Registrar's Office	(479) 968-0272
Student Accounts	(479) 968-0271
Student Services	(479) 968-0239
University Testing Center	(479) 968-0302
Student Housing	(479) 968-0376
Tucker Coliseum	(479) 968-0337

**The provisions of this catalog are subject to change without notice and do not constitute an irrevocable contract between any student and Arkansas Tech University.*

Equal Opportunity Employment

Arkansas Tech University will provide equal opportunity in employment to all persons. This applies to all phases of the personnel process, including recruitment, hiring, placement, promotion, demotion, separation, transfer, training, compensation, discipline, and all other employment terms, conditions, and benefits. Arkansas Tech University prohibits discrimination based on race, color, religion, national origin, sex, sexual orientation, gender identity, age, disability, genetic information, or veteran status.

Arkansas Tech University will provide a copy of this policy to all applicants for employment. All faculty and staff will be notified annually of the policy. Further, Arkansas Tech University will consider through a designated grievance procedure, the complaints of any person who feels that he or she has been discriminated against on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, age, disability, genetic information, or veteran status.

Affirmative Action

Arkansas Tech University will have an Affirmative Action Plan that contains a set of specific and result-oriented procedures to apply every good faith effort to achieve prompt and full utilization of minorities, women, those with disabilities or veterans at all levels and all segments of its workforce where deficiencies exist. Additionally, Arkansas Tech University will continually monitor and evaluate its employment practices to ensure that they are free of bias or discrimination based upon race, color, religion, national origin, sex, sexual orientation, gender identity, age, disability, genetic information, or veteran status.

A copy of the Affirmative Action Plan, including specific responsibilities and provisions for implementation and compliance, will be made available upon request.

Responsibility for implementation and compliance with this Affirmative Action policy has been delegated to the Affirmative Action officer, Ms. Jennifer Fleming who can be reached by emailing affirmative.action@atu.edu or calling 479-498-6020.

Arkansas Tech University does not discriminate on the basis of color, sex, sexual orientation, gender identity, race, age, national origin, religion, veteran status, genetic information, or disability in any of its practices, policies, or procedures. This includes, but is not limited to, employment, admissions, educational services, programs or activities which it operates, or financial aid.

Arkansas Tech University complies with all applicable state and federal laws including, but not limited to, Title VI and Title VII of the Civil Rights Act of 1964 as amended, Title IX of the Educational Amendments of 1972, Section 503 of the Rehabilitation Act of 1973, Section 504 of the Rehabilitation Act Amendments of 1974, Age Discrimination Act, Vietnam Era Veterans Readjustment Assistance Act, Uniformed Services Employment and Reemployment Act, the Civil Rights Restoration Act of 1987, the Americans with Disabilities Act of 1990, and the Civil Rights Act of 1991. Responsibility for implementation and compliance with this Non-Discrimination Policy has been delegated to Jennifer Fleming, Affirmative Action officer.

It is the policy of Arkansas Tech University to maintain the University Community as a place of work and study for staff, faculty, and students free of harassment, to include sexual and gender harassment and all forms of sexual intimidation and exploitation. All students, staff, and faculty should be aware that the University is both concerned and prepared to take action to prevent and correct such behavior. The determination of what constitutes sexual harassment will vary with the particular circumstances, but it may be described generally as unwanted sexual behavior, such as physical contact and verbal comments or suggestions which adversely affect the working or learning environment of others. Anyone who is subjected to offensive sexual behavior is encouraged to pursue the matter through the established informal or formal grievance procedures. Generally, the informal procedures afford an opportunity to explore a problem and consider alternative means for its resolution.

Annual Budget / Financial Report

A copy of the annual budget is available in the Ross Pendergraft Library and Technology Center. A copy of the annual financial report is available from the Office of the Vice President for Administration and Finance in Room 207 of the Administration Building.

Academic Calendar

*NOTE: The fall and spring dates below pertain to full-term courses. The summer dates pertain to the two five-week sessions. The calendar for condensed courses may differ from what is printed below. Please reference the Registrar's Office website for course and term definitions and pertinent Academic Calendar dates for courses not conforming to the beginning and ending dates outlined below.

***Summer May 9 to August 5, 2016**

First Session - May 31 to July 1, 2016 (five-week courses)

Late registration for first session	May 31 - June 1
Classes begin	May 31
Last day to officially withdraw/drop courses with full reduction of tuition and fees	June 1
Last day to register and add courses/change sections	June 1
Last day to officially withdraw/drop courses with 80 percent reduction of tuition	June 6
Early registration for freshmen for fall semester	May through August
Last day to drop courses with a "W" or change from credit to audit	June 27
First session ends	July 1

Second Session - July 5 to August 5, 2016 (five-week courses)

Holiday	(Monday) July 4
Late registration for second session	July 5 - 6
Classes begin	July 5
Last day to officially withdraw/drop courses with full reduction of tuition and fees	July 6
Last day to register and add courses/change sections	July 6
Last day to officially withdraw/drop courses with 80 percent reduction of tuition	July 11
Last day to drop courses with a "W" or change from credit to audit	August 1
Second session ends	August 5
Graduation	August 6

Fall Semester Opens August 15, 2016

Selected fall activities	August 15 - 23
Registration	August 15 - 23
Classes begin	August 24
Last day to officially withdraw/drop courses with full reduction of tuition and fees	August 30
Last day to register and add courses/change sections	August 30
Labor Day holiday	September 5
Last day to officially withdraw/drop courses with 80 percent reduction of tuition	September 28
Deadline for degree audit (transcript evaluation), December 2017 graduates	October 7
Mid-term	October 12

Fall break	October 20 - 21
Early registration for spring semester	October 24 - December 6
Thanksgiving holidays	7:00 a.m., November 23 - 7:00 a.m., November 28
Last day to drop courses with a "W" or change from credit to audit	November 28
Students follow regular Monday class schedule	Monday, December 5
Students follow regular Wednesday class schedule	Tuesday, December 6
Reading Day	8:00 a.m. - 5:00 p.m., Wednesday, December 7
End of course examinations (see exam week schedule)	7:00 p.m., December 7 - 5:30 p.m., December 13
Graduation	December 16 - 17

Spring Semester Opens January 3, 2017

Registration	January 3 - 13
Martin Luther King Day holiday	January 16
Classes begin	January 17
Last day to officially withdraw/drop courses with full reduction of tuition and fees	January 23
Last day to register and add courses/change sections	January 23
Last day to officially withdraw/drop courses with 80 percent reduction of tuition	February 20
Deadline for degree audit (transcript evaluation), May 2018 graduates	March 3
Mid-term	March 6
Spring holidays	7:00 a.m., March 20 to 7:00 a.m., March 27
Deadline for degree audit (transcript evaluation), summer 2018 graduates	March 27
Early registration for summer and fall semesters	March 27 - May 2
Last day to drop courses with a "W" or change from credit to audit	April 21
Students follow regular Monday class schedule	Monday, May 1
Students follow regular Wednesday class schedule	Tuesday, May 2
Reading Day	8:00 a.m. - 5:00 p.m., Wednesday, May 3
End of course examinations (see exam week schedule)	7:00 p.m., May 3 - 5:30 p.m., May 9
Graduation (all ceremonies in Tucker Coliseum)	
Ozark Campus	May 11
Graduate College	May 12
Russellville Campus Undergraduate	May 13

***Summer May 15 to August 11, 2017**

First Session - June 5 to July 7, 2017 (five-week courses)

Late registration for first session	June 5 - 6
Classes begin	June 5
Last day to officially withdraw/drop courses with full reduction of tuition and fees	June 6
Last day to register and add courses/change sections	June 6
Last day to officially withdraw/drop courses with 80 percent reduction of tuition	June 9
Early registration for freshmen for fall semester	May through August
Last day to drop courses with a "W" or change from credit to audit	June 30
Holiday	(Tuesday) July 4
First session ends	July 7

Second Session - July 10 to August 11, 2017 (five-week courses)

Late registration for second session	July 10 - 11
Classes begin	July 10
Last day to officially withdraw/drop courses with full reduction of tuition and fees	July 11
Last day to register and add courses/change sections	July 11
Last day to officially withdraw/drop courses with 80 percent reduction of tuition	July 14
Last day to drop courses with a "W" or change from credit to audit	August 4
Second session ends	August 11
Graduation	August 12

Administration & Faculty

Board of Trustees

Charles Blanchard, Russellville

John Chambers III, Danville

Tom Kennedy, Little Rock

Fritz Kronberger, Russellville

Leigh Whiteside, Russellville

Administrative Officers

Robin E. Bowen, 2014, President
B.S., University of Kansas, 1982
M.Ed., University of Arkansas, 1983
Ed.D., Texas Tech University, 1988

Mohamed Abdelrahman, 2016, Vice President for Academic Affairs
B.S., Cairo University, 1988
M.S., Cairo University, 1992
M.S., Idaho State University, 1994
Ph.D., Idaho State University, 1996

Bernadette Hinkle, 2016, Vice President for Administration and Finance
B.S., University of Arkansas at Pine Bluff, 1986
M.B.A., University of Arkansas at Little Rock, 1999

Amy Pennington, 1997, Vice President for Student Services
B.S., Arkansas Tech University, 1997
M.Ed., University of Arkansas, 2003

Michael V. Hutchison, 2016, Vice President for Advancement
B.A., McMurry College, 1987
M.Ed., University of Texas, 1994

Administrative Staff

Carol Adkison, Associate Director of Information Systems for Administrative Systems

Alison Ahlert, Director, Office of Events

Sabrina Anwar, International Student Services and Administrative Specialist

Jan Apple, Articulation Coordinator

Brett Arrington, Institutional Research Associate

Sabrina Billey, Area Coordinator for Residence Life

Sara Bradberry, Director of Graduate Support Services

Emily Bradley, Coordinator of Leadership and Service

Tosha Bradley, Associate Director for Admissions Operations

Jessica Brock, Associate Director for Concurrent Enrollment Programs

Rachel Bullock, Bookstore Manager
Jenny Butler, Assistant Director for Campus Life
Luke Calcaterra, Coordinator of Campus Recreation/Head Men's Golf Coach
Cass Capen-Housley, Event Coordinator for Hospitality Administration
Liz Chrisman, University Photographer
Nichole Christensen, Student Support Services Program Advisor
Pat Chronister, Assistant to the Vice President for Academic Affairs
Sara Chronister, International Student Admissions and Immigration Specialist
Lisa Clark, Director of Online Partnership and Military Outreach
Fred W. Clayton, Director of Administrative Services
Brandi Collins, Licensing Coordinator
Pam Cooper, Director of Prospect Research
Will Cooper, Assistant Dean for Student Conduct
Greg Crouch, Director of Grants and Sponsored Programs, Pre-Award
Jana Crouch, Director of Academic Services
Angela Crow, Director of Student Accounts
Jesse Dare, Admissions Officer
Kelly Davis, Director of Alumni Relations and Tech Loyalty Fund
Kristy Davis, Associate Dean of Student Wellness
Shawna Davis, Target School Liaison, Upward Bound Program
Jordan Denton, Assessment Specialist
Melanie Diffey, Career Advisor
Tim Diffey, Academic Advisor
Shauna Donnell, Assistant Vice President for Enrollment Management and Director of Admissions
Brent Drake, Director of Advancement Technology
Victor Dreier, STEM Institute and PLTW State Affiliate Director
Jennifer Duncan, Coordinator of Greek Life
Katherine Ehemann, Associate Controller
Elishia Fairfield, Director of Student Success Services
Bryan Fisher, Director of Athletic Relations
Tommy Fields, Assistant Dean for Residence Life
Debra Fithen, Director of Corporate and Foundation Relations
Jennifer Fleming, Affirmative Action Officer
Rhonda Fleming, Assistant Registrar
Eli Fuentez, Academic Advisor
Beth Giroir, Assistant Vice President for Student Success Initiatives
Rebecca Gray, Director of Health Services
Brandie Griffin, Associate Director of Undergraduate Student Recruitment
Tammy Guarino, Student Services Operations Manager
Jamison Hall, Associate Registrar
MarTeze Hammonds, Associate Dean for Diversity and Inclusion
Jenny Hardin, Academic Advisor
Phillip Harp, Academic Advisor
Jill Hendricks, Director of Upward Bound Programs
Tiffany Henry, Grant Coordinator, Office of Sponsored Programs and University Initiatives
Aaron Hogan, Associate Dean for Residence Life
Jessica Holloway, Purchasing Program Director

Aubrey Holt, Director of Student Life
Samantha Huggins, Admissions Officer
Lindsey Ingmire, Assistant Director for Programming, International and Multicultural Student Services
Linda Johnson, Budget and Special Programs Director
Terry Johnson, Director of the Museum
Aaron Jones, Coordinator of Alumni Communications and Events
Cara Knight, Academic Advisor
Brian Lasey, Director of Facilities Management
Marika Lederman, Director of Academic Advising Center
Areana Lopez, Admissions Officer
Brittany Martin, Associate Registrar
Ricky L. Massengale, Sr., Associate Vice President for University Initiatives
Joshua McMillian, Director of Public Safety
Liz Means, Director of Testing and Disability Services
Steve Milligan, Director of Technology Center/Associate Director of Information Systems for Networked Systems
Mark Mitchell, Instructional Design Specialist
Clay Moore, Coordinator of Campus Life
Theresa Motley, Associate Director of Information Systems for Support Services
Jeff Mott, Chief of Staff
Steve Mullins, Director of Athletics
Susie Nicholson, NCAA Compliance Officer/Assistant Affirmative Action Officer
Hanna Norton, Assistant Vice President for Academic Affairs and Dean, College of eTech
Marsha Oels, Coordinator of Veteran Services
Yasushi Onodera, Director of International and Multicultural Student Services
Amy Pennington, Vice President for Student Services and Dean of Students
Thomas Pennington, Associate Vice President and Counsel to the President
Carrie Phillips, Director of New Media
Karen Pittman, Coordinator of Testing Services
Courtney Pratt, College of Business Coordinator for Student Engagement
Donna Rankin, Controller
Tammy Rhodes-Weaver, Registrar
Karen Riddell, Coordinator of Academic Support Services
Daniel Riedmueller, Academic Advisor
Lindsey Riedmueller, Student Support Services Program Advisor
Mike Rivas, Assistant Director for Admissions, International and Multicultural Student Services
Niki Schwartz, Director of Student Aid
Alexis Scrimshire, Assistant Registrar
Paul Smith, Sports Information Director
Kevin Solomon, Associate Dean for Campus Life
Brooke Southard, Director of Payroll and Special Services
Michael Stoker, Director of Web Strategies and Operations
Heather Stout, Registered Nurse
Heather Strasner, Campus Visit Coordinator
Sam Strasner, Director of University Relations
Alison Taylor, Coordinator of Young Alumni and Student Philanthropy
Ryan Taylor, Coordinator of Information Services

Scott Tomlin, Academic Advisor
Bruce Trefney, Executive Chef, Lake Point Conference Center
Brandi Tripp, Associate Registrar
David G. Underwood, Associate Vice President for Academic Affairs
Liz Underwood, Coordinator of Creative Services
Kao Vang, Target School Liaison, Upward Bound Program
Allison Vatzlavick, Assistant Dean for Residence Life
Caroline Vining, Coordinator of Alumni Giving Programs
Alisa Waniewski, Associate Director for Academic Scholarships
Wyatt Watson, Director of Institutional Research and Assessment
Felisha Weaver, Director of Publications and Creative Services
Kenneth D. Wester, Director of Information Systems
Dave Wilbers, Academic Advisor
Lori Wineland, Director of Student Support Services Program
Brandon Wright, Director of Career Services
Clay Wyllia, Admissions Officer

Academic Administration

College of Arts and Humanities

Jeffrey R. Woods, Dean
Dawn M. Ward, Head of Art Department
David Ward, Head of Behavioral Sciences Department
Anthony Caton, Head of Communication and Journalism Department
Carl W. Brucker, Head of English and World Languages Department
David Blanks, Head of History and Political Science Department
Cynthia L. Hukill, Head of Music Department

College of Business

Jeff W. Robertson, Dean
Stephen Jones, Associate Dean

College of Education

Mary Gunter, Dean
Linda Bean, Associate Dean
Chris Giroir, Associate Dean and Head of College Student Personnel Department
Linda Bean, Head of Center for Leadership and Learning
Tim Carter, Head of Curriculum and Instruction Department
John Freeman, Head of Ed.D. Program
Rockie Pederson, Head of Health & Physical Education Department
M. Annette Holeyfield, Director of College of Education Partnership Office
David Bell, Director of Educator Licensure and Support Services

College of Engineering and Applied Sciences

Douglas N. Barlow, Dean

Malcolm Rainey, Head of Agriculture Department

David Hoelzeman, Head of Computer & Information Science Department

Sandra Smith, Head of Emergency Management Department

Pat Buford, Associate Dean of Engineering, Director of Electrical Engineering

Bruce Chehroudi, Head of Mechanical Engineering

Cathi McMahan, Head of Parks, Recreation and Hospitality Administration Department

College of eTech

Hanna Norton, Dean

Jeff Aulgur, Head of Professional Studies Department

College of Natural and Health Sciences

Jeff W. Robertson, Dean

John Jackson, Head of Biological Sciences Department

Jeanine L. Myers, Head of Mathematics Department

Rebecca Burris, Head of Nursing Department

James Musser, Head of Physical Sciences Department

Graduate College

Mary Gunter, Dean

Chris Giroir, Associate Dean and Head of College Student Personnel Department

Faculty

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

The date after each name indicates the first year of appointment to this institution.

Top

GABRIEL L. ADKINS, 2009

Associate Professor of Communication

B.A., Ottawa University, 1996;

M.S., Pittsburg State University, 2002;

M.A., Wichita State University, 2005;

Ph.D., University of Oklahoma, 2011.

SHERMAN Q. ALEXANDER, 1993

Associate Professor of Accounting

B.S., Eastern Illinois University, 1984;

M.B.A., Eastern Illinois University, 1985;

Ph.D., University of Kentucky, 1995.

VREGE AMIRKHANIAN, 1989

Associate Professor of Mathematics

B.S., Tehran University, 1969;

M.S., Oklahoma State University, 1973;

Ph.D., Oklahoma State University, 1978.

JAN APPLE, 2004

Instructor of English
Articulation Coordinator
B.A., University of Arkansas, 1983;
M.L.A., Arkansas Tech University, 1991.

STANTON C. APPLE, 1989

Instructor of Mechanical Engineering
B.S.M.E., University of Arkansas, 1989.

TURAJ ASHURI, 2016

B.Sc., Tehran Azad University, 1999;
M.Sc., Sharif University of Technology, 2005;
Ph.D., Delft University of Technology, 2012.

JEFFREY AULGUR, 2011

Assistant Professor of Professional Studies
Head, Department of Professional Studies
B.A., Hendrix College, 1986;
M.A., University of Arkansas, 1991;
M.S., Arkansas Tech University, 2008;
Ed.D., University of Arkansas, 2013.

CHRISTINE E. AUSTIN, 2007

Associate Professor of College Student Personnel
Director, Assessment and Institutional Effectiveness
B.A., University of Denver, 1984;
M.Ed., University of Maine, 1990;
Ph.D., University of Denver, 2007.

Top

DEBORAH L. BARBER, 2002

Associate Professor of Music
B.S., Auburn University, 1975;
M.Ed., Auburn University, 1989;
Ph.D., Auburn University, 2003.

DOUGLAS N. BARLOW, 2015

Professor of Engineering
Dean, College of Engineering and Applied Sciences
B.S., United States Air Force Academy, 1978
M.S., University of Washington, 1984;
Ph.D., Arizona State University, 1994.

DOUGLAS BARRON, 2016

Assistant Professor of Biology
B.S. Louisiana State University, 2005;
M.S. University of Illinois, 2009;
Ph.D., Washington State University, 2014.

ALICE BATCH, 2003

Assistant Professor of Business
B.A., California State University, 1978;
M.B.A., California State University, 1984.

KRISTY BAYER, 2004

Instructor of College Student Personnel
Head Coach

B.A., Grand Valley State University, 2001;
M.Ed., Grand Valley State University, 2003.

LINDA C. BEAN, 2000

Professor of Business
Associate Dean of Education
Head, Center for Leadership and Learning
B.S., Arkansas Tech University, 1973;
M.S.E., University of Central Arkansas, 1986;
Ed.D., Oklahoma State University, 1996.

C. DAVID BELL, 1988

Professor of Curriculum and Instruction
Head, Educator Licensure and Support Services;
B.S., Arkansas Tech University, 1969;
M.Ed., University of Arkansas, 1972;
Ed.D., University of Arkansas, 1978.

DANIEL A. BELONGIA, 2015

Associate Professor of Music
Director of Band
B.M., University of Miami, 1996;
M.M., University of Miami, 2004;
D.M.A., Michigan State University, 2006.

MICHAEL E. BENEFIELD, 1995

Associate Professor of Finance
B.S., United States Military Academy, 1968;
M.Ed., University of North Carolina, 1976;
M.B.A., Arkansas State University, 1980;
M.S.I.S., Arkansas State University, 1984;
Ph.D., Purdue University, 1989.

STEVEN BERG, 2015

Assistant Professor of Psychology
B.A., University at Buffalo, 2006;
M.A., University at Buffalo, 2011;
Ph.D., University at Buffalo, 2015.

ANWAR A. BHUIYAN, 2001

Professor of Chemistry
B.S., Dhaka University, 1983;
M.Sc., Dhaka University, 1986;
M.S., Northeast Louisiana University, 1994;
Ph.D., Marquette University, 1999.

GLEN R. BISHOP, 2001

Associate Professor of Recreation and Park Administration
B.S., University of Michigan, 1979;
M.S., Texas A & M, 1985;
Ph.D., Michigan State University, 1994.

ANGELA BLACK, 2012

Assistant Librarian
B.A., University of Colorado, 2002;
M.S., Florida State, 2011.

DAVID R. BLANKS, 2015

Professor of History
Head, Department of History and Political Science
B.A., Michigan State University, 1983;
M.A., Michigan State University, 1985;
Ph.D., Ohio State University, 1991.

ROBIN E. BOWEN, 2014

Professor of Rehabilitation Science
President
B.S., University of Kansas, 1982;
M.Ed., University of Arkansas, 1983;
Ed.D., Texas Tech University, 1988.

JACQUELINE K. BOWMAN, 2001

Associate Professor of Biology
B.S., Purdue University, 1982;
B.S., Illinois State University, 1984;
M.S., Illinois State University, 1986;
Ph.D., Indiana University, 1994.

LYN BRANDS, 2003

Associate Professor of Art
B.A., Fort Hays State University, 1984;
M.F.A., Fort Hays State University, 1990.

MOLLY BRANT, 2005

Associate Professor of Agriculture
B.S., Oklahoma State University, 2000;
M.S., Oklahoma State University, 2002;
Ph.D., Kansas State University, 2005.

MICHAEL BRODRICK, 2015

Assistant Professor of Philosophy
B.A., Fordham University, 2002;
M.A., Vanderbilt University, 2010;
Ph.D., Vanderbilt University, 2010.

HERBERT MATT BROWN, 2008

Associate Professor of Computer and
Information Science
B.A., University of Arkansas, 1998;
M.S., University of Arkansas, 2000;
Ph.D., Nova Southeastern University, 2007.

KRISTI M. BROWN, 2008

Instructor of Mathematics
B.S., University of Arkansas, 1997;
M.S., University of Arkansas, 1999.

CARL W. BRUCKER, 1984

Professor of English
Head, Department of English and World Languages
B.A., Rutgers University 1968;
M.A., Rutgers University, 1976;
Ph.D., Rutgers University, 1980.

B. TY BRUNSON, 1999

Associate Professor of Art

B.F.A., Louisiana Tech University, 1979;

M.F.A., Louisiana Tech University, 1986.

LINDA A. BUCKHOLTZ, 1998

Assistant Professor of Nursing

B.S.N., University of Arkansas at Pine Bluff, 1988;

M.N.Sc., University of Arkansas for Medical Sciences, 1992.

PATRICIA S. BUFORD, 2000

Professor of Electrical Engineering

Associate Dean of Engineering

B.S., Christian Brothers University, 1974;

M.S., University of Arkansas, 1985;

Ph.D., University of Arkansas at Little Rock, 2007.

REBECCA K. BURRIS, 1991

Professor of Nursing

Head, Department of Nursing

B.S.N., Northwestern State University of Louisiana, 1978;

M.S.N., Northwestern State University of Louisiana, 1991;

Ph.D., University of Arkansas for Medical Sciences, 2000.

Top

REBECCA A. CALLAWAY, 2006

Associate Professor of Curriculum and Instruction

B.S., Northwestern State University, 1973;

M.Ed., Northwestern State University, 1977;

Ed.D., Louisiana Tech University, 2004.

DEBRA S. CAPEHART, 2012

Instructor of Computer and Information Science

B.S., Arkansas Tech University, 1984;

B.S., Arkansas Tech University, 2000;

M.S., Arkansas Tech University, 2002.

ALEJANDRA K. CARBALLO, 2009

Associate Professor of Spanish

B.A., University of Rio Cuarto, Argentina, 1995;

M.A., University of Pennsylvania, 2000;

Ph.D., Florida State University, 2006.

LAURIE CARMAN, 2000

Instructor of Mathematics

B.S., Arkansas Tech University, 1997;

M.Ed., Arkansas Tech University, 2003.

PAMELA S. CARR, 1991

Professor of Accounting

B.S., Arkansas Tech University, 1977;

M.A., Missouri State University 1984;

Ph.D., Oklahoma State University, 2001;

C.P.A.

TIM L. CARTER, 1998

Professor of Curriculum and Instruction

Head, Department of Curriculum and Instruction

B.S., Arkansas Tech University, 1989;
M.Ed., Arkansas Tech University, 1994;
Ph.D., University of Georgia, 1998.

ANTHONY A. CATON, 2004

Associate Professor of Journalism
Head, Department of Communication and Journalism
Director of Broadcasting
B.A., University of the Ozarks, 1990;
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E. URSULA CHANDLER, 1981

Professor of German
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CHERYL B. CHANEY, 1999

Assistant Professor of Biology
B.S., Missouri Western State College, 1990;
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NATHANIEL G. CHAPMAN, 2015

Assistant Professor of Sociology
B.S., College of Charleston, 2006;
M.S., Virginia Tech, 2010;
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Professor of Mechanical Engineering
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B.S., Sharif University of Science and Technology, 1988;
M.S., Southern Methodist University, 1990;
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Assistant Professor of Emergency Management
B.A., Beijing Normal University, 2007;
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Ph.D., Ohio State University, 2014.

ZHI CHEN, 2014

Assistant Professor of Electrical Engineering
B.E., Wuhan University, 2009;
M.S., Polytechnic Institute of New York, 2011;
Ph.D. Clarkson University, 2014.

RAJIB CHOUDHURY, 2015

Assistant Professor of Chemistry
B.S., University of Burdwan, 2005;
M.Sc., Indian Institute of Technology Guwahati, 2007;
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WANDA CHRISTIE, 2006

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ERIN CLAIR, 2010

Associate Professor of English
B.A., Case Western Reserve University, 1999;
M.A., Texas State University, 2002;
Ph.D., University of Missouri, 2007.

BARBARA CLEMENTS, 2010

Associate Professor of Music
B.A., Luther College, 1993;
M.M., University of Missouri Columbia, 1996:
D.M., Florida State University, 2005.

JON CLEMENTS, 2005

Associate Professor of Music
B.A., Luther College, 1994;
M.M., University of Missouri-Columbia, 1996;
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LORETTA COCHRAN, 2003

Associate Professor of Management
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Ph.D., Clemson University, 1999.

TRACY L. COLE, 2007

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M.Ed., University of Arkansas, 1991;
J.D., University of Arkansas at Little Rock, 2003.

JENNIFER COLEMAN, 2001

Assistant Professor of Nursing
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B.S.N., University of Iowa, 1997;
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JAMES H. COLLINS, 1983

Professor of Agriculture
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Ph.D., Louisiana State University, 1982.

BRIAN K. CONATSER, 2015

Instructor of Music
Staff Accompanist
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Assistant Professor of College Student Personnel
B.A., Saint Michael's College, 1997;
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Ph.D., University of Northern Colorado, 2010.

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NANCY COX, 1981

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SHELLY DAILY, 2000

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R. JAMIE DALTON, 2012

Instructor of Biology
B.A., University of Washington, 1988;
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SARA DANIEL, 2014

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MELISSA DARNELL, 2003

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Learning Resources Coordinator
B.S.N., University of Central Arkansas, 1994;
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ABBY DAVIS, 2004

Instructor of Health and Physical Education
Head Coach
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Head Coach
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Director of Theatre

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REBECCA GARVIN, 2013

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FRANCES A. HAGER, 1990

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B.S.E., John Brown University, 1972;
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B.S., Montana State University, 1983;
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Ph.D., Lehigh University, 1990.

LISA HARLESS, 2005

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AMBER HARRINGTON, 2014

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B.S., Centre College, 2003;
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WAYNE A. HELMER, 1998

Professor of Mechanical Engineering
B.S., University of Dayton, 1966;
M.S., University of Arizona, 1968;
Ph.D., Purdue University, 1974.

JENNIFER E. HELMS, 1993

Professor of Nursing
B.S.N., Harding University, 1986;
M.S.N., University of Missouri at Kansas City, 1992;
Ph.D., University of Arkansas for Medical Sciences, 2006.

MOSTAFA HEMMATI, 1983

Professor of Physics
Director of Undergraduate Research
B.S., University of Meshad (Iran), 1973;
M.S., University of Oklahoma, 1980;
Ph.D., University of Oklahoma, 1983.

THERESA A. HERRICK, 1985

Professor of Recreation and Park Administration
B.S., Missouri State University, 1976;
M.S., University of Missouri at Columbia, 1981;
Ph.D., Clemson University, 1993.

PAUL HICKERSON, 2015

Assistant Professor of Rehabilitation Science
B.A., University of Arkansas, 1996;
M.S., University of Arkansas, 2006;
Ph.D., University of Arkansas, 2016.

MICAH D. HICKS, 2015

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B.A., Southern Arkansas University, 2008;
M.A., University of Southern Mississippi, 2011;
Ph.D., Florida State University, 2015.

NEWTON P. HILLIARD, 2014

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B.S., Wayland Baptist University, 1984;
Ph.D., Texas Tech University, 1995.

WILLIAM C. HOEFLER, 2004

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M.S., New Mexico State University, 1984;
Ph.D., New Mexico State University, 1987.

DAVID HOELZEMAN, 2000

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Ph.D., Louisiana State University, 1993.

EMILY HOFFMAN, 2010

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Ph.D., Oklahoma State University, 2009.

BRENT HOGAN, 2014

Instructor of English Language Institute
B.F.A., Arkansas Tech University, 1999;
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JESSICA L. HOGAN, 2006

Instructor of Mathematics
B.S., Arkansas Tech University, 2004;
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M. ANNETTE HOLEYFIELD, 1985

Professor of Physical Education
Director, College of Education Partnership Office
B.S., Arkansas Tech University, 1976;
M.Ed., Arkansas Tech University, 1977;
Ph.D., University of Arkansas, 1997.

LATASHA HOLT-BOCKSNICK, 2016

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B.S., Arkansas Tech University, 2006;
M.Ed., Arkansas Tech University, 2010.

NANCY D. HORTON, 1999

Instructor of Mathematics
B.S., Arkansas Tech University, 1997;
M.S., University of Arkansas at Little Rock, 1999.

CHRISTOPHER E. HOUSENICK, 2009

Assistant Professor of Political Science
B.A., University of Pennsylvania, 1999;
M.A., Pennsylvania State University, 2001;
Ph.D., Pennsylvania State University, 2005.

JAY M. HUDKINS, 2008

Associate Professor of Communication
B.S.E., Baylor University, 1992;
M.A., Baylor University, 1992;
Ph.D., Texas A & M, 2011.

CYNTHIA L. HUKILL, 2008

Associate Professor of Music
Head, Department of Music
B.M., University of North Texas, 1972;
M.M., University of North Texas, 1974;
D.M.A., University of Missouri-Kansas City, 1988.

DEBRA HUNTER, 2011

Associate Professor of Accounting
B.S., Louisiana College, 1984;
M.B.A., Baylor University, 1985;
D.B.A., Louisiana Tech University, 2004;
C.P.A.

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Associate Professor of Sociology

B.A., University of Arkansas at Little Rock, 1995;

M.A., University of Tennessee, 1998;

Ph.D., University of Tennessee, 2006.

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MOHAMED IBRAHIM, 2011

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B.A., Cairo University, 1984;

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Ph.D., Oklahoma State University, 2011.

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Assistant Professor of Business Data Analytics

B.S., University of Benin, 1996;

M.B.A., Helsinki School of Economics and Business Administration, 1999;

M.B.A., University of Texas at El Paso, 2000;

Ph.D., Texas Tech University, 2009.

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JOHN R. JACKSON, 2003

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Director of Fisheries and Wildlife Science Program

B.S., Michigan State University, 1983;

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Ph.D., Mississippi State University, 1996.

LINDA JACKSON, 2010

Instructor of College Student Personnel

B.A., Idaho State University, 1989;

M.Coun., Idaho State University, 1992;

M.S., Arkansas Tech University, 2006.

SHELIA JACKSON, 1998

Professor of Health and Physical Education

B.S.E., Southern Arkansas University, 1981;

M.Ed., University of Arkansas, 1984;

Ph.D., Texas Women's University, 1988.

CYNTHIA JACOBS, 2007

Associate Professor of Biology

D.V.M., Louisiana State University, 1982.

ELLEN J. JENKINS, 1997

Professor of History

Director of Honors

B.A., University of Texas at Dallas, 1977;

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Ph.D., University of North Texas, 1992.

LAURA J. JOBE, 2014

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GEORGE P. JOHNSON, 1990

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Curator of Herbarium
B.S., Western Kentucky University, 1978;
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Ph.D., North Carolina State University, 1985.

CYNTHIA J. JONES, 1984

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Assistant to Head of Nursing
B.S.N., University of Mississippi School of Nursing, 1971;
M.N., University of Mississippi, 1976.

STEPHEN JONES, 2005

Associate Professor of Management
Associate Dean of Business
B.S.E., Pittsburg State University, 1981;
M.A., University of Missouri, 1983;
M.B.A., Missouri State University, 1989;
Ph.D., University of North Texas, 1998.

VIRGINIA JONES, 2014

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B.A., University of New Mexico, 2002;
M.A., University of Wisconsin, 2004;
Ph.D., University of Kansas. 2012.

SCOTT JORDAN, 1994

Associate Professor of Mathematics
B.S., Southern Arkansas University, 1985;
M.S., University of Arkansas, 1988;
Ph.D., University of Southwestern Louisiana, 1994.

SUSAN JORDAN, 1994

Instructor of Mathematics
B.S., University of Arkansas, 1987;
M.A., University of Arkansas, 1990.

PATRICIA JOSELIN, 2010

Instructor of Spanish
B.S., Universidad de Tarapaca, 1986;
M.Ed., Arkansas Tech University, 1998;
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PETE KELLY, 2011

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PALLAVI KETKAR, 2002

Instructor of Mathematics

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B.E., NED University of Engineering & Technology, Pakistan, 1994;

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B.S., Texas A & M University, 2002;

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JAMIE KING, 2011

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SCOTT W. KIRKCONNELL, 1981

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CHAD J. KLINE, 2014

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Head Coach of Men's Basketball

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P.E.

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B.S., University of Santo Tomas, 1997;
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LOWELL H. LYBARGER, 2007

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RICKY L. MASSENGALE, 2015

Professor of Computer and Information Science
Associate Vice President for University Initiatives
B.S., Arkansas Tech University, 1993;
B.F.A., Arkansas Tech University, 2005;
M.B.A., Webster University, 2002;
Ph.D., University of Arkansas at Little Rock, 2009.

LUCAS D. MAXWELL, 2012

Assistant Professor of Agricultural Education
B. S., Southern Illinois University Carbondale, 2001;
M.S., Southern Illinois University Carbondale, 2005;
Ph.D., University of Missouri, 2010.

TONYA C. MAYS, 2012

Instructor of Health Information Management
B.S., Arkansas Tech University, 1999.

AARON J. MCARTHUR, 2012

Assistant Professor of History
B.A., Idaho State University, 2003;
M.A., University of Nevada, Las Vegas, 2005;
Ph.D., University of Nevada, Las Vegas, 2012.

SIRIPORN McDOWALL, 2015

Assistant Professor of Hospitality Administration
B.A., Thammasat University, Bangkok, 1980;
M.A., University of Southwestern Louisiana, 1984;
Ph.D., Kansas State University, 1999.

REBECCA M. MCHUGH, 2013

Assistant Professor of Psychology
B.A., Edinboro University of Pennsylvania, 2002;
M.S., University of Pittsburgh, 2009;
Ph.D., University of Pittsburgh, 2013.

TERRI J. MCKOWN, 2004

Associate Professor of Nursing
B.S.N., Arkansas Tech University, 1991;
M.S.N., University of Central Arkansas, 2000;
D.N.P., University of Tennessee, 2009.

CATHI MCMAHAN, 2000

Associate Professor of Recreation and Park Administration
Head, Department of Parks, Recreation, and Hospitality Administration
B.S., Arkansas Tech University, 1985;
M.S., Northwestern State University, 1986;
Ph.D., University of Arkansas, 2007.

JAMES R. MCSWEENEY, 2013

Instructor of Health and Physical Education
Head Athletic Trainer
B.S., Barry University, 2002;
M.S., Barry University, 2004.

CHARLES MEBI, 2009

Associate Professor of Chemistry
B.Sc., University of Buea (Cameroon), 1969;
M.Sc., University of Buea(Cameroon), 1998;
Ph.D., University of Nevada, 2007.

DAVID J. MIDDLETON, 1998

Professor of Computer and Information Science
B.S., University of Sydney, 1979;
Ph.D., University of North Carolina at Chapel Hill, 1986.

JULIE MIKLES-SCHLUTERMAN, 2007

Associate Professor of Sociology
B.A., Arkansas Tech University, 1997;
M.A., University of Tennessee, 2002;
Ph.D., University of Tennessee, 2007.

GEORGEIO D. MILAM, 2013

Instructor of Health and Physical Education
Assistant Coach of Football
B.S., Southern Arkansas University, 2008;
M.S., Southern Arkansas University, 2010.

JEFFREY A. MITCHELL, 1994

Professor of Philosophy
B.A., Whitman College, 1986;
M.A., Vanderbilt University, 1990;
Ph.D., Vanderbilt University, 1993.

CHERYL S. MONFEE, 1992

Professor of Nursing
B.S.N., University of Southern Alabama, 1983;
M.S., University of Southern Mississippi, 1990;
Ph.D., University of Arkansas for Medical Sciences, 2006.

JESSICA MONGEON, 2016

Assistant Professor of Art
B.A., University of North Dakota, 2008;
B.F.A., University of North Dakota, 2008;
M.F.A., Montana State University, 2013.

RAYMOND L. MONICA, 2013

Instructor of Health and Physical Education
Head Coach of Football
B.S., University of North Alabama, 1990.

JOHNETTE MOODY, 1997

Associate Professor of Computer and Information Science
B.S., Arkansas Tech University, 1994;
M.Ed., Arkansas Tech University, 1996;
D.B.A., Argosy University, 2006.

LARRY J. MORELL, 1998

Professor of Computer and Information Science
B.A., Duke University, 1974;
M.S., Rutgers University, 1976;
Ph.D., University of Maryland, 1983.

ARDITH A. MORRIS, 1982

Professor of Communication/Theatre
B.A., University of the Ozarks, 1973;
M.A., University of Arkansas, 1975;
Ph.D., Northwestern University, 1989.

GARY E. MORRIS, 2002

Instructor of Music
Director of Choirs
B.M.E., Arkansas State University, 1970,
M.S.E., Arkansas State University, 1971.

JAMES L. MOSES, 1999

Professor of History
B.A., Louisiana State University, 1986;
M.A., University of New Hampshire, 1989;
Ph.D., Tulane University, 1997.

JUSTIN MOSS, 2016

Assistant Professor of Psychology
B.A., University of Virginia, 2004;
M.A. University of North Carolina Wilmington, 2010;
Ph.D. Florida State University, 2015.

DAVID MUDRINICH, 1998

Professor of Art
B.S., Pennsylvania State University, 1976;
M.F.A., University of Georgia, 1992.

TOMMY L. MUMERT, 1989

Assistant Professor of Journalism
B.S., Arkansas State University, 1978;
M.A., Arkansas State University, 1986.

DEBRA D. MURPHY, 2014

Assistant Professor of Curriculum and Instruction
B.S., Texas A & M University, 1992;
M.S., Texas A & M University, 2000;
Ph.D., Texas A & M University, 2012.

JAMES R. MUSSER, 2005

Associate Professor of Physics
Head, Department of Physical Sciences
B.S., West Texas State University, 1987;
Ph.D., Texas A & M University, 2005.

JEANINE L. MYERS, 2016

Associate Professor of Mathematics
Head, Department of Mathematics
B.S., Baylor University, 1992;
M.S., Clemson University, 1994;
Ph.D., University of Arkansas, 2013.

Top

NOBUYUKI NEZU, 2001

Professor of Computer and Information Science
B.S., Gakushuin University, 1991;
M.S., Oklahoma City University, 1993;
Ph.D., Oklahoma State University, 1999.

CATHERINE NICHOLS, 2015

Associate Professor of Educational Leadership
B.A., Rutgers University, 1978;
M.S., University of Southern California, 1996;
Ph.D., University of Southern California, 2002.

TERRY NICHOLS, 2016

Assistant Professor of Educational Leadership
B.S.E., University of Central Arkansas, 1978;
M.S.E., University of Arkansas, 1993;
Ed.D., University of Southern California, 2009.

HANNA E. NORTON, 2001

Professor of Journalism
Assistant Vice President for Academic Affairs
Dean, College of eTech
A.B.J., University of Georgia, 1994;
M.A., University of Georgia, 1998;
Ph.D., University of Georgia, 2001.

TROY NORTON, 2005

Instructor of Health and Physical Education
B.S., Arkansas Tech University, 2002;
M.Ed., Arkansas Tech University, 2005.

THOMAS E. NUPP, 1997

Professor of Wildlife Science
Director of Fisheries and Wildlife Science Program
B.S., The Pennsylvania State University, 1987;
M.S., Auburn University, 1992;
Ph.D., Purdue University, 1997.

Top

JOHN O'CONNOR, 2016

Associate Professor of Health and Physical Education
B.S., Louisiana State University, 1990;
M.S., Louisiana Tech University, 1995;
Ph.D., Texas Woman's University, 2000.

DAVID M. OSBURN, 2000

Associate Professor of Psychology
B.A., University of Arizona, 1979;
M.Ed., Wichita State University, 1987;
M.A., Wichita State University, 1999;
Ph.D., Wichita State University, 2000.

Top

NANCY B. PARK, 2001

Instructor of Computer and Information Science
B.S., Arkansas Tech University, 1994;

M.B.A., University of Arkansas, 1995;
M.I.S., University of Arkansas, 1998.

PHILIP D. PARKER, 1977

Professor of Music
B.M., Wichita State University, 1975;
M.M., Indiana University, 1977.

JASON A. PATTON, 2008

Associate Professor of Geology
B.S., Arkansas Tech University, 1996;
M.S. Murray State University, 1998;
Ph.D., University of Arkansas, 2008.

JACKIE L. PAXTON, 2005

Professor of Curriculum and Instruction
B.S.E., University of Central Arkansas, 1978;
M.S.E., University of Central Arkansas, 1979;
Ed.D., University of Arkansas, 1990.

JEFFREY V. PEARSON, 2011

Assistant Professor of History
B.A., Indiana University, 1998;
M.A., University of New Mexico, 2001;
Ph.D., University of New Mexico, 2011.

KATHRYN D. PEARSON, 1984

Assistant Professor of Mathematics
B.S., Arkansas Tech University, 1976;
M.Ed., Arkansas Tech University, 1979;
Ed.D., Nova Southeastern University, 2000.

ROCKIE D. PEDERSON, 2011

Associate Professor of Health and Physical Education
Head, Department of Health and Physical Education
B.S.E., Henderson State University, 1979;
M.S.E., Henderson State University, 1980;
Ph.D., Texas Woman's University, 2000.

THOMAS W. PENNINGTON, 1995

Professor of Legal Studies
Associate Vice President and
Counsel to the President
B.S., Arkansas Tech University, 1990;
J.D., University of Arkansas, 1993.

STEPHANIE PEPPER, 2010

Associate Professor of Curriculum and Instruction
B.M.E., Delta State University, 1973;
M.Ed., University of Mississippi, 1998;
Ed.S., University of Mississippi, 2001;
Ed.D., University of Mississippi, 2007.

THOMAS J. PERRY, 2016

Assistant Professor of Music
B.M., Eastern Michigan University, 2009;
M.M., University of Tennessee, 2011.

SUSAN POZNAR, 1993

Professor of English

B.A., Brandeis University, 1980;

M.A., Duke University, 1982;

Ph.D., Duke University, 1989.

Top

MALCOLM R. RAINNEY, 2010

Professor of Animal Science

Head, Department of Agriculture

B.S., Southeastern Louisiana University, 1982;

M.Ag., West Texas State University, 1985;

Ph.D., Mississippi State University, 1988.

NELSON R. RAMÍREZ, 2006

Associate Professor of Spanish

B.A., University of California, Berkeley, 1997;

M.A., University of California, Berkeley, 1999;

Ph.D., University of California, Berkeley, 2005.

SHELLY RANDALL, 2014

Assistant Professor of Nursing

B.S.N., Arkansas Tech University, 2000;

M.S.N., West Texas A & M University, 2004;

PhD., Texas Woman's University, 2013.

JAMES REASONER, 2008

Instructor of Electrical Engineering

B.S.E.E., U.S. Naval Academy, 1971;

M.A., U.S. Naval War College, 1986.

MARK REAVIS, 2012

Assistant Professor of Economics and Finance

B.A., Ouachita Baptist University, 1987;

M.B.A., Texas A & M University, 2005;

Ph.D., Northcentral University, 2014.

SEAN S. REED, 2012

Assistant Professor of Music

B.M., University of Texas at Austin, 1995;

M.M., Rice University, 1998;

D.M.A., University of Rochester, 2004.

WILLIAM REEDER, 2010

Assistant Professor of Journalism

B.A., Arkansas Tech University, 1996;

M.A., Arkansas Tech University, 2002.

RANDELL W. RENFRO, 2003

Assistant Professor of Agriculture

B.S., Arkansas Tech University, 1980;

M.S., University of Arkansas, 1982.

CAROLYN RICONO, 2013

Assistant Professor of Nursing

B.S.N., Chamberlain College, 2009;

M.S.N., University of Alabama at Birmingham, 2012.

DAVID W. ROACH, 1983

Professor of Management

B.A., University of Arkansas, 1982;

M.B.A., University of Arkansas, 1983;

Ph.D., University of Arkansas, 1991.

JEFF W. ROBERTSON, 1997

Professor of Astrophysics

Dean, College of Natural and Health Sciences

Director of Astronomical Observatory

B.S., University of Kansas, 1989;

M.S., San Diego State University, 1991;

Ph.D., Indiana University, 1995.

RONALD D. ROBISON, 1988

Associate Professor of Computer and Information Science

B.S., Iowa State University, 1970;

M.S., University of Southern California, 1975.

SARAH H. ROBISON, 1989

Associate Professor of Computer and Information Science

B.S., University of Arkansas at Monticello, 1978;

M.Ed., Southern Arkansas University, 1982;

M.S., Nova Southeastern University, 1994.

MICHAEL T. ROGERS, 2007

Associate Professor of Political Science

B.A., Wabash College, 1995;

M.A., University at Albany-SUNY, 1999,

Ph.D., University at Albany-SUNY, 2005.

Top

REGINA ST. JOHN, 2006

Associate Professor of English

B.A., University of Arkansas at Monticello, 1993;

M.A., Arkansas State University, 1994;

Ph.D., Ball State University, 2004.

JENNIFER E. SAMSON, 2012

Assistant Professor of Psychology

B.S., Vanderbilt University, 2000;

M.S., Vanderbilt University, 2009;

Ph.D., Vanderbilt University, 2012.

JENNIFER L. SAXTON, 2011

Instructor of Professional Studies

B.A., Arkansas Tech University, 1999;

M.S., Arkansas Tech University, 2009.

JEREMY S. SCHWEHM, 2012

Assistant Professor of Professional Studies

B.A., Louisiana State University, 2000;

M.A., Northwestern State University of Louisiana, 2007;

Ph.D., University of Georgia, 2011.

MONA CHADWICK SCOTT, 2010

Associate Professor of Educational Leadership

B.S., Texas Tech University, 1975;

M.S., Sul Ross University, 1996;
Ed.D., Lamar University, 2009.

SUSAN SELF, 2012

Assistant Professor of Nursing
B.S.N., Arkansas Tech University, 1998;
M.S.N., Arkansas Tech University, 2011.

MARY V. SHARPE, 2016

Assistant Professor of English
B.A., Sewanee: The University of the South, 2007;
M.A., University of Texas at Austin, 2009;
Ph.D., University of North Texas, 2013.

DONNA S. SHERRILL, 1992

Instructor of Mathematics
B.S., Arkansas Tech University, 1990;
M.Ed., Arkansas Tech University, 1992.

HAMED SHOJAEI, 2009

Associate Professor of Physics
B.S., Sharif University of Technology (Iran), 1995;
M.S., Sharif University of Technology (Iran) 1997;
Ph.D., Indiana University, 2009.

REBECCA A. SHOPFNER, 2000

Associate Professor of Teaching and Learning
B.S.E., University of Central Arkansas, 1973;
M.Ed., Arkansas Tech University, 1986;
Ed.D., University of Arkansas, 1999.

KENNETH W. SHORES, 1985

Associate Professor of Mathematics
B.S., Arkansas Tech University, 1970;
M.S., University of Arkansas, 1972.

DUSTIN SIMPSON, 2016

Assistant Professor of Art
B.S., Full Sail University, 2007;
M.S., University of Advancing Technology, 2013.

MONTY J. SMITH, 2010

Assistant Professor of Mechanical Engineering
B.S., Texas A & M University, 1987;
M.S., Purdue University, 1990;
Ph.D., Purdue University, 1997.

SANDRA SMITH, 2011

Associate Professor of Emergency Management
Head, Department of Emergency Management
B.S.N., Duke University, 1981;
M.S.N., University of Central Arkansas, 1999;
Ph.D., Loyola University, 2005.

TIMOTHY E. SMITH, 1998

Professor of Music
B.M., St. Olaf College, 1989;
M.M., Indiana University, 1991;
D.M., Indiana University, 1998.

V. CAROLE SMITH, 2004

Professor of Curriculum and Instruction
B.M., University of Arizona, 1969;
M.M., University of Arizona, 1972;
M.Ed., University of Arizona, 1980;
Ph.D., University of Arizona, 1986.

DARLA D. SPARACINO, 1993

Associate Professor of Health Information Management
B.S., Arkansas Tech University, 1989;
M.Ed., Arkansas Tech University, 1995;
MSHI, Arkansas Tech University, 2012.

SARAH STEIN, 2014

Assistant Professor of English
B.A., University of Minnesota, 2004;
Ph.D., Emory University, 2012.

IVAN H. STILL, 2006

Associate Professor of Biology
B.S., University College London, 1988;
Ph.D., University of Newcastle-upon-Tyne, 1992.

JAMES E. STOBAUGH, 2013

Assistant Professor of Sociology
B.A., University of Hawaii, 2002;
M.A., University of Memphis, 2004;
Ph.D., University of California at Irvine, 2012.

JOSEPH N. STOECKEL, 1992

Professor of Fisheries Science
B.A., Southern Illinois University at Carbondale, 1978;
M.A., Southern Illinois University at Carbondale, 1985;
Ph.D., Virginia Polytechnic Institute and State University, 1993.

ANNETTE B. STUCKEY, 2006

Assistant Professor of Professional Studies
B.S., University of Arkansas at Pine Bluff, 1993;
M.Ed., Arkansas Tech University, 2003.

JOSEPH SWAIN, 2008

Associate Professor of Geography
B.S., Northwestern State University, 2000;
M.A., Western Illinois University, 2003;
Ph.D., University of Oklahoma, 2008.

WILLIAM BROWDER SWETNAM, 2014

Instructor of English Language Institute
B.A., Missouri Southern State University, 1986;
M.A., Northern Arizona University, 1994;
Ed.D., University of Nebraska, 2005.

Top

ZHI TAO, 2013

Assistant Professor of Management
B.S., Henan University, 1995;
B.S., East China University of Science and Technology, 2001;
M.A., University of Delaware, 2005;
Ph.D., Kent State University, 2013.

H. MICHEAL TARVER, 2002

Professor of History

B.G.S., The University of Louisiana at Lafayette, 1983;

M.A., The University of Louisiana at Lafayette, 1990;

Ph.D., Bowling Green State University, 1995.

A. ARWEN TAYLOR, 2016

Assistant Professor of English

B.A., Brigham Young University, 2005;

M.A., Indiana University Bloomington, 2009;

Ph.D., Indiana University Bloomington, 2015.

TERESA TAYLOR, 2004

Instructor of Mathematics

B.S., Arkansas Tech University, 1990;

M.Ed., Arkansas Tech University, 1994;

M.Ed., Arkansas Tech University, 2005.

WILL TAYLOR, 2014

Instructor of English Language Institute

B.A., Welch College, 2005;

M.A., Columbia International University, 2006.

BRUCE L. TEDFORD, 2001

Professor of Biology

B.S., University of Arkansas at Little Rock, 1976;

M.A., University of California, 1980;

Ph.D., Louisiana State University, 1995.

JORDAN THIBODEAUX, 2016

Assistant Professor of Psychology

B.S., University of Louisiana at Lafayette, 2007;

M.S., University of Louisiana at Lafayette, 2011;

Ph.D., George Mason University, 2016.

SHERYLE TINERELLA, 2011

Assistant Librarian

B.A., Northeastern Illinois University, 2001;

M.L.I.S., University of Wisconsin-Milwaukee, 2008.

SALLY R. TODD, 2014

Assistant Professor of Music

B.M., Indiana University, 1995;

M.M., Indiana University, 1997.

MEGAN TOLAND, 2014

Assistant Professor of Journalism

B.A., Arkansas Tech University, 2006;

M.A., Arkansas Tech University, 2008.

TERESA TOLAND, 2014

Assistant Professor of Curriculum and Instruction

B.S.E., Southern Arkansas University, 1985;

M.S.E., Henderson University, 1997;

M.L.I.S., University of Oklahoma, 2005.

BRENDAN TONER, 2014

Assistant Professor of Political Science

B.A., West Chester University of Pennsylvania, 2001;

M.A., Virginia Tech University, 2004;
Ph.D., Southern Illinois University, 2013.

ELLEN E. TREADWAY, 2013

Assistant Professor of Teaching, Learning and Leadership
B.A., Rhodes College, 1986;
M.A.T., University of Memphis, 1987;
M.A., Indiana University, 1990;
Ph.D., Indiana University, 2000.

L. KIM TROBOY, 2002

Professor of Management Information Systems
B.S., Arkansas Tech University, 1980;
M.B.A., University of Arkansas, 1987;
Ph.D., University of North Texas, 1997.

CHRISTOPHER TROMBLY, 2013

Assistant Professor of Educational Leadership
B.A., Colorado State University, 1994;
M.A., Boston College, 1997;
M.Ed., Boston College, 2002;
Ph.D., Boston College, 2012.

ROMAN C. TUBNER, 2014

Instructor of Health and Physical Education
Assistant Coach of Women's Basketball
B.A., Centenary College of Louisiana, 2011;
M.Ed., University of Arkansas, Monticello, 2012.

JACK E. TUCCI, 2013

Professor of Management
William M. Lemley Endowed Chair
B.B.A., University of Texas of the Permian Basin, 1989;
M.B.A., University of Texas of the Permian Basin, 1990;
Ph.D., University of North Texas, 1996.

BRENDA TYLER, 2014

Assistant Professor of Curriculum and Instruction
B.S., Arkansas Tech University, 1972;
M.S.E., University of Central Arkansas, 1974.

Top

JASON S. ULSPERGER, 2006

Associate Professor of Sociology
B.S., University of Central Arkansas, 1997;
M.A., Arkansas State University, 1999;
Ph.D., Oklahoma State University, 2003.

DAVID G. UNDERWOOD, 2001

Professor of Education
Associate Vice President for Academic Affairs
B.A., Western Kentucky University, 1972;
M.P.S., Western Kentucky University, 1978;
M.A.Ed., Western Kentucky University, 1979;
Ph.D., Indiana University, 1985.

SUSAN J. UNDERWOOD, 2003

Professor of College Student Personnel
B.S., Western Kentucky University, 1980;

M.A.Ed., Western Kentucky University, 1982;
Ph.D., New Mexico State University, 1990.

Top

JORISTA VAN DER MERWE, 2016

Assistant Professor of Wildlife Science
B.Sc., University of Pretoria, South Africa, 2005;
M.Sc., University of the Witwatersrand, South Africa, 2010;
Ph.D., Southern Illinois University, 2014.

PHILIPPE VAN HOUTTE, 2007

Associate Librarian
B.A., Arkansas Tech University, 2007
M.L.S., Texas Woman's University, 2011.

THOMAS A. VAUGHN, 2003

Professor of Communication
B.A., University of Arkansas, 1990;
M.A., University of Arkansas, 1992;
Ph.D., Indiana University, 1998.

ROBERT VORK, 2015

Assistant Professor of English
B.A., University of Minnesota, 2001;
M.A., University of Chicago, 2004;
Ph.D., Emory University, 2013.

Top

LYNN WALSH, 2010

Professor of Curriculum and Instruction
B.S.E., Indiana University, 1974;
M.A., University of Houston, 1980;
Ed.D., Baylor University, 2001.

JAMES R. WALTON, 2006

Associate Professor of Marketing
B.S.B.A., Missouri Southern State College, 1979;
M.B.A., University of Central Arkansas, 1993;
Ph.D., Texas Tech University, 2001.

DANA D. WARD, 1988

Professor of Spanish
B.A., Hendrix College, 1974;
M.A., University of Arkansas, 1977;
Ph.D., University of Arkansas, 1987.

DAVID W. WARD, 1999

Professor of Psychology
Head, Department of Behavioral Science
B.S., University of Texas, 1986;
M.S., University of Georgia, 1990;
Ph.D., University of Georgia, 1998.

DAWN M. WARD, 2012

Professor of Art
Head, Department of Art

B.A., Northeastern State University, 1985;
M.A., New York University, 1991;
Ph.D., New York University, 1998.

JASON E. WARNICK, 2006

Associate Professor of Psychology
Director, Center for Excellence in Teaching and Learning
B.A./B.S., Arkansas State University, 2002;
M.A., University of Mississippi, 2004;
Ph.D., University of Mississippi, 2006.

AILEEN WATTS, 2013

Assistant Professor of Curriculum and Instruction
B.S., Southern Utah University, 1996;
M.A., George Washington University, 2003;
Ed.D., George Washington University, 2010.

SUSAN WEST, 2008

Assistant Professor of Hospitality Administration
B.A.A.S., Stephen F. Austin State University, 2000;
M.A., University of Arkansas, 2003.

DONNA R. WHITE, 2001

Professor of English
B.A., Arkansas Tech University, 1976;
M.A., University of Texas, 1983;
Ph.D., University of Minnesota, 1991.

REBECCA WIEWEL, 2014

Assistant Professor of Anthropology
B.A., University of Kansas, 2004;
M.A., University of Wyoming, 2008;
Ph.D., University of Arkansas, 2014.

DAVE WILBERS, 2007

Instructor of Health and Physical Education
Head Coach of Women's Basketball
B.S., Oklahoma Christian University, 1991;
M.S., Fort Hays State University, 1997.

MELINDA WILKINS, 2016

Professor of Health Informatics
Director of Health Information Management
B.S., Southwestern Oklahoma State University, 1983;
M.Ed., Southwestern Oklahoma State University, 1988;
Ph.D., Capella University, 2008.

JENNIFER WILLBANKS, 2014

Instructor of Psychology
B.A., Arkansas Tech University, 2010;
M.S., Arkansas Tech University, 2012.

ALARIC A. WILLIAMS

Associate Professor of College Student Personnel
B.S., Texas A & M University - Commerce, 1999;
M.S., Texas A & M University - Commerce, 2004;
Ed.D., Texas A & M University - Commerce, 2008.

ALVIN WILLIAMS, 2012

Associate Professor of Agriculture
B.S., Northwestern Oklahoma State University, 1977;
D.V.M., Oklahoma State University, 1981;

PENNY P. WILLMERING, 1999

Professor of Rehabilitation Science
Director of Rehabilitation Science
B.S.Ed., University of Missouri-Columbia, 1979;
M.A., Southern Illinois University, 1986;
Ph.D., University of Madison-Wisconsin, 1999.

DEBORAH WILSON, 1992

Professor of English
B.A., Louisiana Tech University, 1974;
M.Ed., Mississippi College, 1982;
Ph.D., Louisiana State University, 1991.

ERICA WONDOLOWSKI, 2015

Assistant Professor of Rehabilitation Sciences
B.A., Eastern Connecticut State University;
M.S., Springfield College, 2011
Ph.D., Michigan State University, 2015.

JERRY D. WOOD, 2010

Associate Professor of Computer and Information Sciences
B.S., University of Arkansas at Little Rock, 2003;
M.S., Arkansas Tech University, 2008;
Ph.D., University of Arkansas at Little Rock, 2015.

JEFFREY R. WOODS, 2000

Professor of History
Dean, College of Arts and Humanities
B.A., University of Kansas, 1992;
M.A., University of Arkansas, 1994;
Ph.D., Ohio University, 2000.

SAM M. WORLEY, 1997

Professor of English
B.A., The University of Texas at Austin, 1981;
M.A., The University of North Carolina at Chapel Hill, 1986;
Ph.D., The University of North Carolina at Chapel Hill, 1991.

NANSONG WU, 2016

Assistant Professor of Electrical Engineering
B.S., Beihang University, 2004;
M.S., Florida International University, 2008;
M.S., Florida International University, 2016;
Ph.D., Florida International University, 2012.

Top

TSUNEMI YAMASHITA, 1998

Professor of Biology
B.A., Hendrix College, 1985;
Ph.D., Vanderbilt University, 1993.

JESSICA YOUNG, 2013

Assistant Professor of Physics
B.S., Henderson State University, 2006;

M.S., University of Arkansas, 2011;
Ph.D., University of Arkansas, 2012.

MATTHEW YOUNG, 2016
B.Sc., Arkansas Tech University, 2009;
M.Sc., University of Arkansas, 2012.

Top

Distinguished Professor

ROBERT CHARLES BROWN, 1993
President Emeritus and Distinguished Professor of Economics
B.A., Northwestern State University, 1967
M.A., Louisiana State University, 1969
Ph.D., Louisiana State University, 1976

RICHARD R. COHOON, 1960
Distinguished Professor and Professor Emeritus of Geology
B.A., Oklahoma City University, 1954;
M.S., University of Oklahoma, 1959;
Ed.D., Oklahoma State University, 1974.

JACK R. HAMM, 1972
Distinguished Professor and Professor Emeritus of Mathematics
B.S., Arkansas Tech University, 1964;
M.S., University of Missouri at Rolla, 1968;
Ph.D., University of Missouri at Rolla, 1972.

JOHN W. WATSON, 1978
Distinguished Professor of Mathematics
B.A., University of Arkansas, 1971;
M.S., University of Arkansas, 1973;
Ed.D., Oklahoma State University, 1978.

Faculty Emeriti

ROBERT W. ALLEN, 1981
Professor Emeritus of Chemistry
B.S., University of Oklahoma, 1969;
M.S., University of Oklahoma, 1973;
Ph.D., University of Oklahoma, 1975.

JOHN J. CADLE, 1977
Professor Emeritus of Physical Education
B.S.E., Central Missouri State University, 1965;
M.S., Central Missouri State University, 1967;
Ed.D., University of Southern Mississippi, 1970.

ROBERT L. CASEY, 1971
Professor Emeritus of Music
B.A., Arkansas Tech University, 1954;
M.M.E., University of North Texas, 1959;
Ed.D., Washington University, 1971.

ELDON G. CLARY, JR., 1967
Professor Emeritus of Secondary Education
B.S.E., North Texas State University, 1962;

M.Ed., North Texas State University, 1964;
Ed.D., North Texas State University, 1968.

EDWARD J. CONNELLY, 1960

Professor Emeritus of Music
B.M., De Paul University, 1955;
M.M., University of Illinois, 1960;
D.M.A., University of Colorado, 1979.

HAL D. COOPER, 1979

Professor Emeritus of Music
B.M.E., Henderson State University, 1966;
M.M.E., Henderson State University, 1974.

ROBERT R. EDWARDS, 1989

Professor Emeritus of Management
B.A., Arkansas Tech University, 1960;
M.S., American Technological University, 1981;
Ph.D., University of Arkansas, 1988.

PATRICIA A. GORDON, 1965

Professor Emeritus of Health and Physical Education
B.S.E., University of Central Arkansas, 1957;
M.Ed., University of Oklahoma, 1960;
Ed.D., University of Arkansas, 1977

ROYCE D. JONES, 1973

Professor Emeritus of Accounting
B.S., Arkansas Tech University, 1965;
M.B.A., East Texas State University, 1971.

DAVID W. KRUEGER, 1960

Professor Emeritus of History
B.S., Memphis State University, 1958;
M.A., Memphis State University, 1958.

JOSEPH L. MOORE, 1988

Professor Emeritus of Economics
B.S.B.A., University of Arkansas, 1965;
M.B.A., University of Arkansas, 1966;
Ph.D., University of Arkansas, 1975.

BOBBY MULLEN, 1956

Professor Emeritus of Mathematics
B.S., Arkansas Tech University, 1952;
M.A., University of Arkansas, 1955.

AUDREY R. OWENS, 1984

Professor Emeritus of Nursing
B.S., Youngstown State University, 1971;
M.S., Youngstown State University, 1978;
M.S., Texas Woman's University, 1979;
Ed.D., The University of Akron, 1983.

DONALD E. RICKARD, 1967

Professor Emeritus of Physical Science
B.S.E., University of Central Arkansas, 1960;
M.S.E., University of Central Arkansas, 1966.

EARL F. SCHROCK, Jr., 1971

Professor Emeritus of English
B.A., Arkansas Tech University, 1966;
M.A., University of Arkansas, 1968;
Ph.D., University of Arkansas, 1980.

RICHARD S. SMITH, 1991

Professor Emeritus of Economics
B.B.A., University of Iowa, 1965;
M.A., University of Iowa, 1970;
Ph.D., University of Texas, 1974.

WILLIAM W. TRIGG, 1959

Professor Emeritus of Chemistry
B.S., University of Arkansas, 1956;
M.S., University of Arkansas, 1960;
Ph.D., Louisiana State University, 1967.

HILDA J. TURNER, 1979

Professor Emeritus of Business
B.S., Arkansas Tech University, 1960;
M.Ed., University of Arkansas, 1968;
Ed.D, University of Arkansas, 1976.

THOMAS P. TYLER, 1967

Professor Emeritus of Economics
B.A., Hendrix College, 1965;
M.B.A., University of Arkansas, 1967;
Ph.D., University of Arkansas, 1980.

VICTOR K. VERE, 1976

Professor Emeritus of Geology
B.S.E., State University of New York (Cortland), 1961;
M.S., Syracuse University, 1968;
Ph.D., Syracuse University, 1972.

JAMES T. WILLCUTT, 1967

Professor Emeritus of Physics
B.S., Arkansas Tech University, 1965;
M.S., University of Missouri at Rolla, 1967.

KEITH C. WILLS, 1968

Professor Emeritus of Health and Physical Education
B.A., Hendrix College, 1958;
M.S.E., Arkansas State University, 1965;
Ph.D., Texas A & M University, 1970.

CHIA CHI YANG, 1980

Professor Emeritus of Chemistry
B.S., National Chen Kung University, Taiwan, 1949;
M.S., Georgia Tech, 1968;
Ph.D., Georgia Tech, 1979.

Degree Programs

Accounting & Economics

- Accounting
- Economics & Finance

Agriculture

- Agriculture Business
 - Animal Science Option
 - Feed Mill Management Option
 - Horticulture Option
 - Pre-Veterinary Medicine
 - Public Relations Option
- Agriculture for Teacher Licensure

Art

- Art for Teacher Licensure
- Fine Arts
- Game and Interactive Media Design
- Graphic Design

Behavioral Sciences

- Psychology
- Rehabilitation Science
- Sociology

Biological Sciences

- Biology
 - Biomedical
 - General
- Environmental Science
- Fisheries & Wildlife Science
- Allied Health Science
 - Health Information Management Option
 - Medical Technology Option
- Life Science for Teacher Licensure

Communication & Journalism

- Communication
 - Speech Option
 - Speech for Teacher Licensure
 - Theatre Option
- Journalism
 - Broadcast Option
 - Print Option
 - Public Relations Option

Computer & Information Science

- Computer Science
- Computer Science for Teacher Licensure
- Information Systems
- Information Technology

Curriculum & Instruction

- Elementary Education
- Middle Level Education
 - English/Language Arts
 - Mathematics
 - Social Studies
 - Science
- Secondary Education
 - Agriculture
 - Art
 - Business
 - Chemistry
 - Creative Writing
 - English
 - Mathematics
 - Instrumental Music
 - Keyboard Instrumental Music
 - Keyboard Vocal Music
 - Vocal Music
 - Life Science
 - Physics
 - Social Studies
 - Speech
 - World Language with Concentration in Spanish

Electrical Engineering

- Electrical Engineering
 - Electrical Engineering
 - Electrical Engineering with Biomedical Option
 - Electrical Engineering with Computer Engineering Option

Emergency Management

English & World Languages

- Creative Writing
- Creative Writing for Teacher Licensure
- English
- English for Teacher Licensure
- World Language -Spanish
- World Language with Concentration in Spanish for Teacher Licensure

Health & Physical Education

- Health & Physical Education
 - Wellness & Fitness Program

History & Political Science

- Cultural and Geospatial Studies

- History
- International Studies
 - Cultural Affairs Concentration
 - Political Affairs Concentration
- Political Science
- Public History
- Social Studies for Teacher Licensure

Management & Marketing

- Business Data Analytics
- Business Education for Teacher Licensure
- Management and Marketing
 - Entrepreneurship Concentration
 - International Business Concentration
 - Management Concentration
 - Marketing Concentration

Mathematics

- Mathematics
- Mathematics for Teacher Licensure

Mechanical Engineering

Music

- Music
- Music for Teacher Licensure
 - Instrumental Music Option
 - Keyboard Instrumental Music Option
 - Keyboard Vocal Music Option
 - Vocal Music Option

Nursing

- BSN Pre-licensure Program
- LPN to BSN Program
- RN to BSN Program

Parks, Recreation & Hospitality Administration

- Hospitality Administration
 - Event Management Emphasis
 - Foodservice Management Emphasis
 - Lodging Management Emphasis
- Recreation & Park Administration
 - Interpretation Emphasis
 - Natural Resource Emphasis
 - Recreation Sport Management Emphasis
 - Therapeutic Recreation Emphasis

Physical Science

- Chemistry
 - Biochemistry Option
 - Environmental Option

- Professional Option
- Chemistry Education
- Engineering Physics
- Geology
 - Environmental Option
 - Petroleum Option
 - Professional Option
- Nuclear Physics
- Physical Science
- Physics
- Physics Education

Professional Studies

- Professional Studies
 - Agriculture Business Concentration
 - Applied Leadership Concentration
 - Criminal Justice Concentration
 - Early Childhood Education Concentration
 - Industrial/Organization Psychology Concentration
 - Interdisciplinary Studies Concentration
 - Public Relations Concentration
 - Workforce Technology Concentration

Accounting & Economics

- Accounting
- Economics

Agriculture

Art

Behavioral Sciences

- Anthropology
- Criminal Justice
- Psychology
- Rehabilitation Science
- Sociology

Biology

Communication & Journalism

- Communication
- Journalism
- Social Media
- Theatre

English & World Languages

- Creative Writing
- English
- French
- German
- Japanese
- Latin American Studies (with language proficiency)
- Latin American Studies (without language proficiency)
- Film Studies
- Spanish
- Spanish for Medical Interpretation
- Teaching English as a Second Language

Emergency Management

History & Political Science

- Geography
- History
- Military Science
- Philosophy
- Political Science
- Pre-Law
- Religious Studies
- Strategic Studies

Management & Marketing

- Business & Entrepreneurship
- Business Data Analytics

Mathematics

Parks, Recreation & Hospitality Administration

- Recreation & Park Administration
- Hospitality Administration

Physical Science

- Chemistry
- Engineering Physics
- Geology
- Physical Science

Behavioral Sciences

- Criminal Justice
- Ozark-Ouachita Studies

College of Arts & Humanities

- General Education

Computer & Information Science

- Information Technology

Curriculum & Instruction

- Early Childhood Education

Mechanical Engineering

- Nuclear Technology

Parks, Recreation & Hospitality Administration

- Culinary Management

- Pre-Dental
- Pre-Law
- Pre-Medical
- Pre-Pharmacy
- Pre-Physical Therapy
- Pre-Veterinary Medicine

Admission

Individuals who meet the admission requirements listed below may apply to Arkansas Tech University. The University reserves the right to reject the application of any individual. Every student must file an application for admission. Applications and additional information about Arkansas Tech are available from the Office of Admissions, Arkansas Tech University, 105 West O Street, Brown Building, Room 104, Russellville, Arkansas 72801.

Students may apply on-line from the Tech website at www.atu.edu or e-mail for additional information via tech.enroll@atu.edu.

Tech will provide equal opportunity in admission to all persons. This applies to all phases of the admission process. Any demographic information collected through the admission application is on a voluntary basis and is to be used in a nondiscriminatory manner consistent with applicable civil rights laws for reporting and statistical purposes only and cannot affect eligibility for admission.

Tech is subject to and endorses both the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. The Director of Disability Services serves as the coordinator for these federal programs. The Office of Disability Services is located in Doc Bryan and can be contacted by calling (479) 968-0302 or FAX (479) 964-0375.

All students at Arkansas Tech University will be assigned a permanent, randomly generated, student identification number.

All students must provide proof of two measles, one mumps and two rubella immunizations by way of an official record from another educational institution, certificate from a licensed medical doctor, or an authorized public health department representative. Proof of the appropriate immunizations must be presented to the Office of Admissions prior to admission to the university. Students may be exempted from the immunization requirements if there is a medical contraindication or if religious or philosophical belief prohibits immunizations. Exemptions must be obtained from the Arkansas Department of Health by emailing immunization.section@arkansas.gov.

Students who are enrolled in online classes ONLY may request an immunization waiver. Students whose immunization requirements have been waived may not enroll in face to face classes.

All students who hold resident alien status must provide a copy of their resident alien card documenting an unexpired status.

Entering freshmen must comply with the following admission requirements and freshman placement standards. This includes students who enter with college credit earned prior to high school graduation, during summer following high school graduation, or by advanced placement.

Residual college entrance exams, taken on other college campuses, will not be accepted for admission.

Entering Freshman/New Student

New students to Arkansas Tech University must submit an application for admission, college entrance exam scores, an official record documenting completion of secondary requirements, and proof of immunization documenting 2 MMR vaccinations. If you have concurrent college credit, an official transcript from that institution is required. For Advanced Placement (AP), College Level Examination Program (CLEP), or International Baccalaureate (IB) credit, original score reports or copies embossed by your high school will need to be submitted prior to credit being awarded. A minimum criterion for exam scores and grade point average for unconditional admission is listed below:

1. Composite ACT score of 19, composite SAT score of 1330, or composite Accuplacer score of 67 or above. Note: The ACT Writing exam is not required for admission purposes.

2. Completion of graduation requirements from an accredited public or private secondary school, a non-accredited private secondary school, or a home school program documenting a minimum 2.0/4.0 cumulative grade point average, and completion of the university's secondary school core curriculum, OR minimum GED score of 600.

Freshmen who do not meet the above unconditional admission requirements but have a minimum composite ACT score of 15 or minimum composite SAT score of 1060, or minimum composite Accuplacer score of 57, and have completed college core with a 2.0/4.0 grade point average or minimum GED score of 600, will be admitted as conditional.

Secondary School Core Course Recommendation

A minimum of twenty-two earned core course credits is required, from grades nine through twelve, for admission purposes. Two additional units of foreign language are recommended for college preparation. Asterisks indicate core courses required by Act 1290 for unconditional admission.

*English - 4 units, with emphasis on writing skills, but not to include oral communications, journalism, drama, or debate.

*Mathematics - 4 units, including algebra I and algebra II, geometry, and an advanced math course. The fourth unit may be college algebra or a higher level college math course, as long as three college credit hours are earned. It is strongly recommended that students take a math course during their senior year.

*Natural Science - 3 units with lab experience chosen from Physical Science, Biology or Applied Biology/Chemistry, Chemistry, Physics or Principles of Technology I & II or PIC Physics.

*Social Studies - 3 units, [one (1) unit of world history, one (1) unit of U.S. history, one half (1/2) unit of civics]. *see note beside economics

Oral Communications - ½ unit of oral communications.

Physical Education - ½ unit of physical education.

Health and Safety - ½ unit of health and safety.

Economics - ½ unit of economics. *may be counted toward Social Studies or Career Focus

Fine Arts - ½ unit of fine arts.

Electives - 6 units of career focus electives.

Freshman Placement Standards

In accordance with A.C.A. § 6-61-110, first-time entering undergraduate students who enroll in baccalaureate degree programs or associate-degree transfer programs must meet the following placement standards prior to enrollment in college-level mathematics reading, or English composition courses. Remedial courses do not provide credit toward a degree.

Mathematics – Students scoring 19 or above on the mathematics section of the ACT, 460 or above on the quantitative portion of SAT-1, or 42 or above on the college algebra portion of the Accuplacer exam may enroll in college-level mathematics courses. Students not meeting the standard must successfully complete a developmental (pre-college level) mathematics program, demonstrating achievement at least as sophisticated as intermediate algebra, in order to be placed in college-level mathematics courses.

English Composition – Students scoring 19 or above on the English section of the ACT or 450 or above on the writing section of SAT-1 or 83 or above on the sentence skills portion of the Accuplacer exam may enroll in college-level English courses. Students not meeting the standard must successfully complete a developmental program.

Reading – Students scoring 19 or above on the reading section of the ACT, 470 or above on the reading section of SAT-1, or 78 or above on the sentence skills portion of the Accuplacer exam will be considered to have met minimal reading skill requirements. English composition may be taken concurrent with or subsequent to any required developmental reading program.

Students who are required to complete developmental program(s) in mathematics, English, and/or reading, must enroll in the appropriate course during their first semester at Tech and in each subsequent semester until the developmental program is completed successfully.

Former Students

Students who have interrupted their attendance at Arkansas Tech University for more than one year or who have attended another university in the interim must reapply for admission. Additional documents are required for readmission. Academic clemency may be granted in accordance with the clemency policy detailed in the Regulations and Procedures section.

Transfer Students

Transfer students making application for admission to Arkansas Tech University must submit official transcripts from all colleges/universities where they have been officially registered. Students seeking transfer of credit from other institutions may be asked to provide a catalog or course description from the transfer institution.

Students with fewer than 24 semester hours of earned college-level credit must also submit an official final high school transcript and must request current transferable ACT or SAT scores be sent to the university. Exam scores will not be required if the English and mathematics general education requirements have been satisfied with grades of "C" or better. In the event that receipt of a student's transcript is unavoidably delayed, as may frequently occur at midyear, a transfer student may be admitted provisionally pending receipt of the official transcript. However, the university reserves the right to require immediate withdrawal if the previous record does not meet admission requirements.

Applicants for transfer must have earned a GPA of 2.00 (on a 4.00 scale) on all courses attempted and be eligible to re-enroll at the last college or university attended.

Transfer Credit

ATU will recognize transfer credit from a U.S. institution provided that the institution is accredited by one of the six U.S. regional accreditation associations, and for courses that are approved for transfer by the Arkansas Department of Higher Education (ADHE) through the Arkansas Course Transfer System (ACTS). Acceptance of course credit may depend on the date that the institution was accredited or the date that a course was approved for transfer by ADHE. Transfer credit for coursework from institutions outside the U.S. will be considered on an individual basis. Students seeking transfer of credit from a foreign college/university must complete a credential evaluation through a Credential Evaluation Service authorized by Arkansas Tech University (a list of approved service providers can be obtained in the IMSSO or in the Registrar's Office). **Transfer credit, although accepted by the university, is not guaranteed to be applicable toward meeting degree requirements for the particular program of study selected by the transfer student.**

The most current available course transfer information on file with the university will be used at the time of advising and/or registration. The student is responsible for having all up-to-date official transcripts on file with the university for use at that time. The student, not the university, is responsible for advising and/or registration issues that may arise due to official transcripts being submitted and placed on file after advising or registration has taken place.

Arkansas Course Transfer System (ACTS)

The Arkansas Course Transfer System (ACTS) is designed to assist in planning the academic progress of students from the high school level through the adult workforce. This system contains information about the transferability of courses within Arkansas public colleges and universities. Students are guaranteed the transfer of applicable credits and equitable treatment in the application of credits for admissions and degree requirements. Students may complete specified General Education courses anywhere in the public system as well as many courses in the degree/major that have been pre-identified for transfer. Course transferability is not guaranteed for courses listed in ACTS as "No Comparable Course." Transferability of courses taken prior to January 1, 2007, is at the discretion of the receiving institution. The Arkansas Course Transfer System can be accessed at <http://acts.adhe.edu/>.

Act 747 of 2011 establishes a statewide common course numbering system for postsecondary courses. The Arkansas Course Transfer System (ACTS) meets this requirement.

The following table lists those courses found within ACTS and the equivalent Arkansas Tech University course as of April 1, 2016. Please refer to the ACTS website (<http://acts.adhe.edu/studenttransfer.aspx>) for the most up-to-date course listings.

ACTS Course Index Number	ACTS Course Index Name	Arkansas Tech University Course Number	Arkansas Tech University Course Name
ANTH1013	Introduction to Anthropology	ANTH 1213	Introduction to Anthropology
ANTH2013	Cultural Anthropology	ANTH 2003	Cultural Anthropology
ARTA1003	Art Appreciation	ART 2123	Experiencing Art
ARTA2003	Art History Survey I	ART 2103	Art History I
ARTA2103	Art History Survey II	ART 2113	Art History II
BIOL1004	Biology for Non-Majors	BIOL 1014	Introduction to Biological Sciences
BIOL1014	Biology for Majors	BIOL 1114	Principles of Biology
BIOL1034	Botany for Majors	BIOL 2134	Principles of Botany
BIOL1054	Zoology	BIOL 2124	Principles of Zoology
BIOL 2004	Introductory Microbiology	BIOL 2054	Microbiology for Health Sciences
BIOL2404	Human Anatomy and Physiology I *	BIOL 2404	Human Anatomy and Physiology I
BIOL2414	Human Anatomy and Physiology II *	BIOL 2414	Human Anatomy and Physiology II
CHEM1004	Chemistry I for General Education	CHEM 1114	Survey of Chemistry
CHEM1214	Chemistry I for Health Related Professions	CHEM 1113/CHEM 1111	Survey of Chemistry and Lab
CHEM1224	Chemistry II for Health Related Professions	CHEM 2204	Organic Physiological Chemistry
CHEM1414	Chemistry I for Science Majors	CHEM 2124	General Chemistry I

CHEM1424	Chemistry II for Science Majors	CHEM 2134	General Chemistry II
CPSI1003	Introduction to Computers	COMS 1003	Introduction to Computer Based Systems
CRJU1023	Introduction to Criminal Justice	CJ 2003	Introduction to Criminal Justice
DRAM1003	Theatre Appreciation	TH 2273	Introduction to Theatre
ECON2103	Principles of Macroeconomics	ECON 2003	Principles of Economics I
ECON2203	Principles of Microeconomics	ECON 2013	Principles of Economics II
ENGL1013	Composition I	ENGL 1013	Composition I
ENGL1023	Composition II	ENGL 1023	Composition II
ENGL2013	Introduction to Creative Writing	ENGL 2043	Introduction to Creative Writing
ENGL2023	Introduction to Technical Writing	ENGL 2053	Technical Writing
ENGL2113	World Literature I	ENGL 2003	Introduction to World Literature
ENGL2653	American Literature I	ENGL 2013	Introduction to American Literature
FREN1013	French I	FR 1013	Beginning French I
FREN1023	French II	FR 1023	Beginning French II
FREN2013	French III	FR 2013	Intermediate French I
FREN2023	French IV	FR 2023	Intermediate French II
GEOG1113	Human Geography	GEOG 2023	Human Geography
GEOG2103	World Regional Geography	GEOG 2013	Regional Geography of the World
GEOG2223	Physical Geography	No Comparable Course	No Comparable Course
GEOL1114	Physical Geology	GEOL 1014	Physical Geology
GEOL1124	Environmental Geology	No Comparable Course	No Comparable Course
GEOL1134	Historical Geology	GEOL 2024	Historical Geology
GERM1013	German I	GER 1013	Beginning German I
GERM1023	German II	GER 1023	Beginning German II
GERM2013	German III	GER 2013	Intermediate German I
GERM2023	German IV	GER 2023	Intermediate German II
HEAL1003	Personal Health	HLED 1513	Personal Health and Wellness
HIST1113	World Civilizations I	HIST 1503	World History to 1500
HIST1123	World Civilizations II	HIST 1513	World History since 1500
HIST2113	United States History I	HIST 2003	United States History to 1877
HIST2123	United States History II	HIST 2013	United States History since 1877
MATH1103	College Algebra Quantitative	MATH 1113	College Algebra
MATH1113	Literacy/Mathematical Reasoning	MATH 1003	College Mathematics
MATH1203	Plane Trigonometry	MATH 1203	Plane Trigonometry
MATH1305	Pre-Calculus	MATH 1914	Precalculus
MATH2103	Introduction to Statistics	MATH 2163	Introduction to Statistical Methods

MATH2203	Survey of Calculus	MATH 2243	Calculus for Business and Economics
MATH2405	Calculus I	MATH 2914	Calculus I
MATH2505	Calculus II	MATH 2924	Calculus II
MATH2603	Calculus III	MATH 2934	Calculus III
MUSC1003	Music Appreciation	MUS 2003	Introduction to Music
PHIL1103	Philosophy	PHIL 2003	Introduction to Philosophy
PHSC1004	Physical Science	PHSC 1013/PHSC 1021	Introduction to Physical Science and Physical Science Lab
PHSC1104	Earth Science	GEOL 1004	Essentials of Earth Science
PHSC1204	Introduction to Astronomy	PHSC 1053/PHSC 1051	Astronomy and Observational Astronomy Lab
PHYS2014	Algebra/Trigonometry-Based Physics I	PHYS 2014	Physical Principles I
PHYS2024	Algebra/Trigonometry-Based Physics II	PHYS 2024	Physical Principles II
PHYS2034	Calculus-Based Physics I	PHYS 2114	General Physics I
PHYS2044	Calculus-Based Physics II	PHYS 2124	General Physics II
PLSC2003	American National Government	POLS 2003	American Government
PLSC2103	State and Local Government	No Comparable Course	No Comparable Course
PSYC1103	General Psychology	PSY 2003	General Psychology
PSYC2103	Developmental Psychology	No Comparable Course	No Comparable Course
SOCI1013	Introduction to Sociology	SOC 1003	Introductory Sociology
SOCI2013	Social Problems	CJ/SOC 2033	Social Problems
SPAN1013	Spanish I	SPAN 1013	Beginning Spanish I
SPAN1023	Spanish II	SPAN 1023	Beginning Spanish II
SPAN2013	Spanish III	SPAN 2013	Intermediate Spanish I
SPAN2023	Spanish IV	SPAN 2023	Intermediate Spanish II
ACCT2003	Principles of Accounting I	ACCT 2003 **	Principles of Accounting I
ACCT2013	Principles of Accounting II	ACCT 2013 **	Principles of Accounting II
BLAW2003	Legal Environment of Business	BLAW 2033**	Legal Environment of Business
BUSI2103	Business Statistics	BUAD 2053 **	Business Statistics

* Note - Human Anatomy and Physiology I and Human Anatomy and Physiology II must be taken at the same institution to be transferable.

** Note - Accounting and business courses are not general education core courses.

***Note - Applied Technical Math courses not guaranteed for transfer.

International Student Admissions

The International and Multicultural Student Services Office (IMSSO) is pleased to serve as the admissions office for international students studying at Arkansas Tech University (Tech). Any student who is not a United States citizen or a permanent resident of the United States is considered an international student. International students are subject to out-of-state tuition rates and an international student services fee as well as additional admission requirements. International students interested in applying for admission to Tech must submit the following documents:

1. **Application** – An application for international admission, properly completed
2. **Application Fee** – A nonrefundable application fee of \$50 USD
3. **Academic Records** – All transcripts must be originals or school-certified copies of originals with official English translations. Notarized copies are not accepted.
 - i. **Entering Freshmen:** All applicants must submit appropriate academic records verifying previous educational attainment and the completion of secondary education requirements or the equivalency of US high school. This documentation should include grade/mark sheets as well as certificate/diplomas showing completion of secondary education equivalent to 12 years of US high school.
 - ii. **Transfer Students:** Students who have previously attended college either in the US or abroad must submit official transcripts from all colleges/universities where they have been officially registered. Students seeking transfer of credit from a foreign college/university must complete a credential evaluation through a company authorized by Arkansas Tech University (a list of approved service providers can be obtained in the IMSSO or in the Registrar's Office) and submit catalog or course descriptions from the transfer institution. Students with fewer than 24 semester hours of earned college-level credit must also submit a high school transcript or the equivalency of a US high school transcript and diploma as well as complete an entrance exam such as the ACT, SAT or COMPASS.
4. **Entrance Exam** – All applicants must complete the ACT, SAT or COMPASS exam. Students who have not completed the ACT or SAT may take the COMPASS exam on campus upon arrival and after admission to assist in advisement and course placement. However, if ACT or SAT scores are available, please provide this documentation along with the application for admission. Students with more than 24 semester hours of earned college-level credit and have successfully completed college-level English and mathematics courses are not required to take an entrance exam.
5. **English Proficiency** – Students who wish to apply for admission to the English Language Institute (ELI) are not required to demonstrate English proficiency. All other applicants should submit official documentation of meeting one of the following standards:
 - a. A minimum score of 500 on the written TOEFL (Test of English as a Foreign Language), 173 on the computerized TOEFL or 61 on the Internet-based TOEFL. Scores must be received directly from Educational Testing Service (ETS). The school code for Arkansas Tech University is 6010.
 - b. A minimum score of 5.5 on the International English Language Testing System (IELTS). An official score card must be sent directly to Arkansas Tech University.
 - c. An EIKEN score of Grade 2A. Scores must be sent directly from STEP, Inc. (Society for Testing English Proficiency).
 - d. For transfer students from US colleges/universities, one of the above mentioned documents can be provided or an official college/university transcript showing successful completion of college-level English Composition I and English Composition II with a grade of C or better.
- NOTE: Test scores are only valid for 2 years. Please submit only those scores taken within two years from the time of application.
6. **Evidence of Sufficient Financial Support** – Undergraduate costs are estimated at \$20,912.64 USD for 9 months of study including tuition and fees, housing, meals, books and other living expenses. Applicants must provide certified evidence of the source and amount of funding that will be utilized to support educational expenses. Documents must be official and issued within the 6 months previous to the time of application. No copies are accepted.

7. Passport – Please provide a photocopy of your current passport as well as any previous visas to the US, I-20's and an I-94 card if available.

The application for international admission and all supporting documents should be submitted by May 1 for the fall semester, October 1 for the spring semester and March 1 for both summer sessions for priority consideration. Applications are still accepted after the priority dates. Admission will not be granted until all supporting documentation as listed above has been received and evaluated. Upon acceptance, notification will be sent to the student along with an I-20 (Certificate of Eligibility).

Any deferral of admission requires updated evidence of financial support. The application fee may be applied to defer an application for admission in the same program for up to one (1) calendar year from the original application date. However, the applicant is responsible for paying a \$25 USD fee for each deferral within the calendar year. If an applicant does not complete the admission process within one (1) calendar year from the original application date, the applicant is responsible for submitting new application fees. Please send a written request for deferral to IMSSO along with the fee and updated financial support documentation within 60 days of the start date of your last admission.

Full payment of tuition and fees must be paid at registration each semester. International students are required to purchase a health insurance policy provided by the university. Tech receives no remuneration as a result of international student enrollment in the health insurance plan.

More detailed information regarding international student admissions may be obtained by contacting the International and Multicultural Student Services Office, Tomlinson 29, Arkansas Tech University, Russellville, Arkansas, 72801-2222, USA; telephone 479-964-0832; fax 479-880-2039; web <http://www.atu.edu/imsso>.

Conditional Admission

First-time entering freshmen and transfer students who have been denied admission may file a written appeal addressed to the Director of Admissions seeking conditional admission. The appeal must be made within ten calendar days from the date admission was denied and should state applicant's grounds for appeal. Students granted conditional admission will be admitted on academic probation.

Non-Degree Admission

Arkansas Tech University serves the general public by allowing individuals to enroll in classes for professional development and self-fulfillment without meeting regular admission requirements. The student admitted under this policy, who later chooses to pursue a degree, must reapply for admission as a degree seeking student and meet standard admission policies. A maximum of 27 credit hours earned as a non-degree seeking student may be applied to a degree program. Financial aid benefits may not be granted to students admitted as non-degree seeking. For more information, call the Office of Admissions at (479) 968-0343.

High School – University Admissions

Arkansas Tech University welcomes the opportunity to serve area schools by complementing their programs with special opportunities for students to enroll for college courses and earn college credit by attending Tech during summer sessions or by attending on a part-time basis during the regular academic year, concurrent with enrollment in secondary school. In accordance with the Arkansas Code of 1987 Annotated, paragraph 6-18-223 makes provisions whereby a student who is enrolled in a public school in Arkansas and who has completed the eighth grade is eligible to enroll at Arkansas Tech University upon

approval of the appropriate public school official, provided the student does not need developmental courses in mathematics, English or reading and has a cumulative high school grade point average of 2.00 or greater on a 4.0 scale.

Once admitted and enrolled, concurrent students do not need to reapply for the concurrent program unless there is a break in fall/spring enrollment. Concurrent students must reapply when changing admission status, for example, from concurrent to entering freshmen. The course(s) agreed upon by the student and their high school must also be approved each term by a university official. The application for concurrent enrollment can be found at <http://www.atu.edu/admissions>.

Non-Academic Rejection

Please note that academic performance is not the sole criterion for admission to the university. The university may evaluate a person's behavior and background to determine their ability to maintain the standards of academic and professional conduct expected at the university. An evaluation may take into consideration current behavior and performance as well as past experiences and actions. Simply qualifying for admission does not guarantee admission.

ACT (American College Testing) Program

Entering freshmen are required to provide Arkansas Tech University with American College Testing (ACT) Assessment scores for purposes of admission, academic placement, and the awarding of academic scholarships. The ACT, which covers English, mathematics, reading and science reasoning, is administered six times per year at test centers, such as high schools, colleges and universities, across the nation. ACT information and registration forms may be obtained from local high schools, colleges, or universities.

You may also contact the Arkansas Tech University Testing Center for ACT information. In addition, you may correspond directly with ACT at American College Testing Program, P.O. Box 168, Iowa City, Iowa 52243.

The 2016-2017 ACT national test schedule is as follows:

Test Date

September 10, 2016

October 22, 2016

December 10, 2016

February 11, 2017

April 8, 2017

June 10, 2017

Please check the ACT website for registration deadlines for 2016-2017 tests and for the 2017-2018 test schedule at www.actstudent.org.

Student Retention and Graduation Rates

For information about retention and graduation rates at Tech, go to <http://ir.atu.edu> or contact the Office of Institutional Research at 479-964-3219.

Selecting a Major Field

Arkansas Tech University encourages students to give serious thought to the selection of a major field of study. They should determine the academic pursuits that lead to the vocations most attractive, not only in financial gain, but in interest as well. They should then examine the program of study most closely related to their interest areas. Arkansas Tech provides students with an online career and education planning tool called FOCUS 2 to help with choosing a major. For access to FOCUS 2 and other helpful information on choosing a major, visit the Career Services page at <http://www.atu.edu/career/choosingamajor.php>

Undecided Study

Many students entering the University have not chosen a major. The individual who has not decided on a major may enroll in general education courses which are required of all candidates for the baccalaureate degree (see General Education Requirements). All undergraduate students, who have earned less than 60 credit hours, will be assigned to the Academic Advising Center. The Academic Advising Center is located in Rothwell Hall, room 107, and can be contacted by calling (479) 964-0843. Students enrolled as "undecided" may select a major at any time; however, a student must select a major during the semester in which the student earns 45 credit hours.

Procedure for Scheduling Courses

Detailed procedures for registration/early registration are available each semester online at www.atu.edu. Prior to enrollment, students, in consultation with an academic advisor in their major field of study, prepare a class schedule and officially register for classes, pay fees and, if living on campus, pay room rent and board.

Course Information

All courses taught at Arkansas Tech University are listed alphabetically by subject area in the Course Descriptions section. Course symbols, the four-digit numbers used to identify courses within a department, have the following significance: the first digit of the number denotes the year level at which the course is given; the second and third digits differentiate the course from others in the department; the fourth digit shows the number of credit hours given. Typically an "hour of credit" requires one hour of classroom work per week for the duration of a semester.

Graduate Program

The requirements for the degree of master of education, master of science, master of liberal arts, master of arts, master of science in nursing, master of engineering, and educational specialist degree are set forth in the publication entitled "Graduate Catalog". Information may be obtained by contacting the Dean of the Graduate College, telephone (479) 968-0398.

Fees & Expenses

Students enrolling at Arkansas Tech University are assessed tuition and fees to cover the costs of instruction and other student services common to a university setting. Additionally, certain courses requiring individual instruction or special facilities carry fees which are listed with the course description.

Students enrolling for twelve or more semester hours of undergraduate courses for the fall or spring semester are considered full-time. Tuition is assessed for each course at the appropriate credit-hour rate according to residency for full-time and part-time students. Instate tuition is \$219 per credit hour (\$438 per credit hour for out-of-state students). Up to \$5.50 per credit hour (\$11.00 per credit hour for out-of-state students) of the tuition fee for courses taken during the fall and spring semesters will be allocated to athletics.

Students enrolled for any semester, including summer semesters, are assessed a \$11 per credit hour technology fee, a \$1 per credit hour technology equipment fee, a \$10 per credit hour instructional support fee, a \$10 per credit hour strategic facilities initiative fee, a \$2 per credit hour assessment fee, a \$2 per credit hour transcript fee, a \$2 per credit hour student support fee, a \$3 per credit hour student communication fee, \$6 per credit hour Health and Wellness fee and, a \$10 per credit hour athletic student fee.

All fees and charges to students are set by the University's Board of Trustees. Every attempt is made to establish charges in time to appear in the catalog; however, when this is not possible, estimated charges are shown. **The University reserves the right to change fees and charges at any time if conditions necessitate or permit the change.**

Total University charges for instate residents for the school year (twelve hours fall and spring semesters) are estimated as follows:

Tuition (based on 12 credit hours)	\$5,256
Technology, assessment, and transcript fees	384
Student Communication Fee (\$3.00 per credit hour)	72
Student Support Fee (\$2.00 per credit hour)	48
Instructional Support Fee (\$10.00 per credit hour)	240
Strategic Facilities Initiative Fee (\$10.00 per credit hour)	240
Health and Wellness Fee (\$3.00 per credit hour)	144
Athletic Student Fee (\$10.00 per credit hour)	240
Room and board:	
Residence Hall with Meal plan (average)	6,542
University Commons Apartments	from 5,648 to 7,016
Vista Place Apartments	5,648
Books and supplies (estimated)	1,410

Certain courses may also have fees attached. See individual course descriptions to determine whether a course fee is applicable.

For information about a payment plan and full payments online, go to: <http://stuaccts.atu.edu>. Meal plans without board must be paid prior to the start of each term.

Fees and Charges

Prices quoted are rates currently in place for the 2016-2017 academic year. All rates are subject to change as necessary.

	Instate		Out-of-State
Undergraduate tuition ^{1,2}			
Full-time (12 credit hours per semester)	\$2,628		\$5,256
Summer and part-time (per credit hour)	219		438
Graduate tuition ^{1,2} (per credit hour)	274		548
Doctoral tuition (per credit hour)	274		548
Instructional support fee (per credit hour)	10		10
Strategic facilities initiative fee (per credit hour)	10		10
Student support fee (per credit hour)	2		2
Student communication fee (per credit hour)	3		3
Technology fee (per credit hour)	11		11
Technology equipment fee (per credit hour)	1		1
Assessment fee (per credit hour)	2		2
Transcript fee (per credit hour)	2		2
Health and Wellness Fee (per credit hour)	6		6
Athletic student fee (per credit hour)	10		10
Late registration fee		25	
Course change fee		10	
Distance learning/Mixed Technology fee (per credit hour assessed on all distance learning/mixed technology courses)		10	
International Student service fee (per semester fall/spring/summer)		30	
Residence Hall Board Charges (Each fall and spring semester)			
Unlimited meals per semester + \$50 Declining Balance Dollars (Plan A-1)		1,367	
Unlimited meals per semester + \$100 Declining Balance Dollars (Plan A-2)		1,409	
Unlimited meals per semester + \$150 Declining Balance Dollars (Plan A-3)		1,454	
210 meals per semester + \$50 Declining Balance Dollars (Plan B-1)		1,319	
210 meals per semester + \$100 Declining Balance Dollars (Plan B-2)		1,360	
210 meals per semester + \$150 Declining Balance Dollars (Plan B-3)		1,402	
150 meals per semester + \$50 Declining Balance Dollars (Plan C-1)		1,267	
150 meals per semester + \$100 Declining Balance Dollars (Plan C-2)		1,309	
150 meals per semester + \$150 Declining Balance Dollars (Plan C-3)		1,348	
65 meals per semester plus \$100 Declining Balance Dollars- Commuter Plan (Plan D)		571	
40 meals per semester plus \$100 Declining Balance Dollars- Commuter Plan (Plan E)		410	
\$500 in Declining Balance Dollars (Plan F)		500	
Residence Hall Room Charges			
Baswell, Nutt Hall, M-Street, Paine, South Hall, and Stadium Suites - Doubles		2,213	
Jones, Roush and Tucker Halls		1,843	
Brown, Critz/Hughes, Turner and Wilson Halls		1,628	
Caraway Hall		1,732	
Stadium Suites, Nutt Hall Singles		2,613	
Tucker Single		2,243	
Wilson Single		2,028	
University Commons Apartments			
2 bedroom apartments (Each fall and spring semester)		3,508	

4 bedroom apartments (Each fall and spring semester)		2,824	
Vista Apartments		2,824	
Returned check		10	
Replacement of ID card		25	
Post office box rent (required of students living in university housing)			
Per semester (fall/spring)		15	
Summer term		15	
Auto registration		30	
Parking fees and fines (see Traffic Regulations)			
(All students parking on campus must have parking permits.)			
1Students who enroll for undergraduate and graduate courses will be charged according to the course classification.			
2Required course fees are listed along with the appropriate course descriptions.			
3Up to \$5.50 (\$11.00 for out of state students) per credit hour of the tuition fee will be allocated to athletics.			

Estimated Living Expenses

All students living in residence halls are required to purchase a meal plan (exceptions - Vista Place and University Apartments); Declining Cash Balance Dollars (DCB) may be used in Chambers Cafeteria, Baswell Techionery, and Convenience Store.

Payment for room and board is due and payable prior to the start of the semester. For information about setting up a payment plan online, go to: <http://stuaccts.atu.edu>. Room and board charges are subject to change.

When space permits, students may be allowed single occupancy of a residence hall room. The additional charge of \$400 per semester is payable in full upon receipt of the monthly statement.

Residence halls are closed between fall and spring semesters. However, residents may remain in the residence halls during this period provided they submit proper paperwork to the Office of Residential Life to gain approval. There will be an additional cost for residents approved to remain in the residence halls over this break period. Residents may remain in the residence halls during all other breaks, provided they notify the residence hall staff of their intentions prior to the break period.

University Commons apartments are available to upper-class students. No board plan is required, and students are able to sign a nine-month or twelve-month contract. Two bedroom and four bedroom apartments are available.

Payment of Accounts

Tuition and all other fees and charges are due and payable prior to the start of each term. Financial settlement may be made by personal payment or **AUTHORIZED** financial aid (loans, scholarships, grants, third parties, etc.). Visa, Master Card, and Discover credit cards are accepted for all charges. Information to set up a payment plan or pay in full online, is offered via the OneTech. Payment may also be made in person at the Student Accounts Office, Brown Hall, Suite 241. Registration is not complete until all financial obligations have been met satisfactorily. Failure to make financial settlement will result in cancellation of the class schedule.

Monthly billing statements are electronic. Near the first of each month, notification and information for access will be provided to students via the individual student e-mail address and online via OneTech. Students are responsible for accessing billing statements and printing a paper copy if desired. Students registering between billing cycles are responsible for accessing their charges online or contacting Student Accounts to insure making correct payment by the required due date. Payment is due even if billing statement is not received.

Students with delinquent accounts are not eligible for food service, transcripts, recommendations, advance registration, or readmission to any term. Collection fees for outstanding debts owed to the University will be assessed to the student.

The University reserves the right to amend or add to the regulations of the institution, including those concerning charges and methods of payment, and to make such changes applicable to students enrolled in the University, as well as to new students.

Important Information for Reduction of Tuition and Fees for Official Withdrawal

The following reduction information **specifically** addresses courses that begin and end with the main term dates for Spring, Summer I, Summer II and Fall, as listed in the Academic Calendar. Courses with beginning and/or ending dates that are different than the main terms listed above may have different reduction periods. It is the students' responsibility to consult the Student Accounts or Registrar's Office for these reduction dates prior to withdrawing. withdrawal dates for courses with beginning and/or ending dates outside the traditional term can be found at: <http://www.atu.edu/registrar>.

In the event a student is receiving student financial aid, any refund amount attributable to a loan, grant, or scholarship will be returned to the appropriate account and not to the student. The amount returned to federal programs will be the amount of unearned Federal aid based on the number of calendar days of attendance up to the sixty percent point of the semester. Aid accounts will be refunded in the following order up to the amount of the original disbursement: Federal Direct Loan Programs, Federal Perkins Loan Program, Federal Direct PLUS Loan Program, Federal Pell Grant Program, Federal SEOG Program, Arkansas Department of Higher Education Programs, Tech scholarships and private aid. Additionally, students who have received a cash payment of Federal aid money will receive a letter after their withdrawal informing them of any amount to be repaid. These repayments will be made through the Student Accounts Office. The student will be ineligible to register for additional courses until the required payments are made.

Reduction of Tuition and Fees for Official Withdrawal - Summer Semesters

Students registering for a summer semester, but officially withdrawing from the courses by the end of the second day of the summer semester, as listed in the Academic Calendar will receive a 100 percent reduction of tuition and fees. Students registering for a summer semester, but officially withdrawing from the University by the end of the fifth day of the semester in a summer term, as listed in the Academic Calendar will receive an 80 percent reduction of tuition for courses which they are enrolled in at time of withdrawal. No reduction in tuition will be made after the fifth day of the summer semester. No reduction of fees will be made after the second day of the semester.

Reduction of Tuition and Fees for Official Withdrawal - Spring and Fall Semesters

Students registering for the fall or spring semester but officially withdrawing from the University by the end of the fifth day of the semester, as listed in the Academic Calendar will receive a 100 percent reduction of tuition and fees. Room and Board will be reduced on a pro rata basis. Thereafter, students officially

withdrawing by the end of the twenty-fifth day of the semester will receive an 80 percent reduction of tuition only for courses in which they are enrolled at time of withdrawal. No reduction in tuition will be made after the twenty-fifth day of the semester. No reduction in fees will be made after the fifth day of the semester.

Reduction of Tuition/Fees for Dropping to Fewer Hours

Students dropping to fewer hours before the end of the second day of the semester in a summer term, as listed in the Academic Calendar will receive 100 percent reduction for the courses which are dropped. Students dropping to fewer hours before the end of the fifth day of the semester in a summer term as listed in the Academic Calendar will receive an 80 percent reduction for the courses which are dropped. No reduction in tuition will be made after the fifth day of the semester. No reduction in fees will be made after the second day.

Students enrolled for the fall or spring semester who drop courses by the end of the fifth day of the semester, as listed in the Academic Calendar will receive a 100 percent reduction of tuition for the courses dropped. Thereafter, students enrolled who drop courses before the end of the twenty-fifth day of the semester will receive an 80 percent reduction of the courses dropped. No reduction will be made after the twenty-fifth day of the semester. No reduction in fees will be made after the fifth day of the semester.

Courses with unusual beginning and ending dates may have different reduction dates. It is the students' responsibility to verify dates with Student Accounts or the Registrars' Office prior to withdrawing. Find your specific course reduction dates at <http://www.atu.edu/registrar/> and click on "Dates for Adding and Dropping Condensed Courses."

Reduction of Room and Board

A student withdrawing from school will be charged pro rata room and board to the date of official check-out from the residence hall. It is the student's responsibility to make arrangements to do a complete check-out with their hall staff upon withdrawal from the university. Students moving from the residence hall at their request during an academic year will be charged the full room and board for term of their housing agreement (typically an academic year). Students moving into residence halls during a semester will pay a pro rata charge on room and board.

Students moving out of University Commons apartments before the end of their lease term will forfeit their deposit and will be responsible for all apartment rent.

Out-of-State Residence Status for Tuition and Fee Purposes

Students classified as "out-of-state" must pay out-of-state tuition as shown in the section entitled "Fees and Charges."

No student under the age of 21 shall be admitted to Arkansas Tech University and classified as instate for fee purposes unless the parent or legal guardian is a bona fide domiciliary of Arkansas and has resided in this state in that status for at least six consecutive months prior to the beginning of the term or semester for which the fees are to be paid.

Any student age 21 or older must be a legal resident of Arkansas and must have lived in the state for at least six consecutive months prior to the beginning of the term or semester for which fees are to be paid to be classified as an instate student.

All undergraduate students who are legal residents of states which are contiguous to Arkansas (specifically, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, or Texas) shall receive a waiver of out-of-state tuition charges.

A student from outside of Arkansas entitled to be treated as an instate student for fee purposes should complete an "Application for Residency Classification as Instate Domiciliary" and supply evidence to that effect.

In-State Tuition for Military Personnel, Veterans and Dependents

Regardless of residence, Arkansas Tech University shall classify a student as in-state or resident for the purpose of tuition and fees applicable for all programs of study, including distance learning programs, if the student is a:

1. Veteran who was discharged or released from a period of not less than ninety (90) days of active duty in the military, naval, or air service within three (3) years before the date of enrollment in a program of study;
2. Dependent of a veteran under subdivision (1) above;
3. Member of the armed forces;
4. Spouse of a member of the armed forces;
5. Veteran using educational assistance under either Chapter 30 (Montgomery G.I. Bill) - Active Duty Program or Chapter 33 (Post-9/11 G.I. Bill), of Title 38 of the United States Code, who lives in the State of Arkansas while attending a school located in the State of Arkansas (regardless of his/her formal State of residence) and enrolls in the school within three years of discharge from a period of active duty service of 90 days or more;
6. Spouse or child using transferred Post-9/11 G.I. Bill benefits (33 U.S.C. §3319) who lives in the State of Arkansas while attending a school located in the State of Arkansas (regardless of his/her formal State of residence) and enrolls in the school within three years of the transferor's discharge from a period of active duty service of 90 days or more;
7. Spouse or child using benefits under the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S. §§3311(b)(9)) who lives in the State of Arkansas while attending a school located in the State of Arkansas (regardless of his/her formal State of residence) and enrolls in the school within three years of the Servicemember's death in the line of duty following a period of active duty service of 90 days or more;
8. Person who initially met the requirements set out in sections 5, 6, or 7 will maintain "covered individual" status as long as he or she remains continuously enrolled (other than during regularly scheduled breaks between courses, semesters, or terms) at the same school even if he or she is outside the 3-year window or enrolls in multiple programs. For purposes of a student who is eligible for in-state tuition solely under sections 5, 6, or 7 above, that person must have enrolled in the school prior to the expiration of the three year period following discharge or death described above in sections 5, 6 or 7 and must be using educational benefits under either Chapter 30 or Chapter 33 of Title 38 of the United States Code; or
9. Member of the armed forces or "covered individual" as identified in Section 702 of the Veterans Access, Choice and Accountability Act of 2014.

Student Services Operations

Campus Life

While academic achievement leading to graduation is the reason for attending Arkansas Tech University, the experiences that students have outside the classroom prove to have a lifelong impact. Experiences offered through Campus Life enhance maturity, leadership, time management, friendships, career development, and civic engagement along with many other essential life skills.

Campus Life offers programs and services in the following areas: campus recreation, co-curricular experience, facilities, Greek life, leadership programs, new student orientation, outdoor recreation, registered student organizations, service initiatives, spirit squads, and student activities.

For more information, please visit: www.atu.edu/campuslife

Campus Recreation

Campus Recreation provides participation in a variety of sport, fitness and recreation events that stimulate student learning and personal development while enhancing the quality of life for Arkansas Tech University students. Campus Recreation achieves this mission by providing opportunities for a diversified population to recreate, exercise and socialize through a variety of programs within intramural sports, fitness, outdoor recreation and various special events.

For more information, please visit: www.atu.edu/campusrecreation

Co-Curricular Experience (On Track)

On Track is a co-curricular experience designed to enhance student development beyond the classroom setting, encourage students to network socially among peers and to include students in traditional and signature University events. Each semester, a map of events and activities will be available to students categorized by interest.

For more information, please visit: www.atu.edu/ontrack

Facilities

Facilities are available to support registered student organizations, campus departments, and students in achieving their objectives. This is accomplished by operating and maintaining rooms that are user friendly, flexible and comfortable for students, faculty, staff and visitors.

Venues are offered for many different types of events such as meetings, lectures, conferences, banquets and dances. By combining a number of room options with various layouts in the Doc Bryan Student Services Center, Young Ballroom, or Baswell Techionery, each event will be specific and fit the needs of every individual.

For more information, please visit: www.reservations.atu.edu

Greek Life

By emphasizing academic excellence, active participation in community service and philanthropic activities, ongoing leadership development, and social excellence, the Office of Greek Life helps promote fraternities and sororities as an integral and productive part of the Arkansas Tech community. The Office of Greek Life provides guidance and support for governing councils (Interfraternity Council and College Panhellenic Council), Greek organizations, and the Order of Omega Honor Society.

For more information, please visit: www.atu.edu/greeks

Leadership Programs

- **LEAD Academy** - The LEAD Academy is designed to prepare students to take on leadership roles by identifying individual strengths and examining how to approach leadership. Throughout this three phase

program, students will apply leadership techniques to enhance their experiences within the campus and community.

- **Freshmen Leadership Retreat** - The Freshmen Leadership Retreat is an overnight retreat that allows freshmen to make connections with other Tech students interested in becoming leaders and helps incoming students identify how they can begin making their mark at Tech. Students will participate in low and high ropes activities while learning how to make the most of the college experience.

For more information, please visit: www.atu.edu/leadership

New Student Orientation

Go Bold New Student Orientation is a mandatory two-day program held before classes begin. Orientation is designed to help incoming freshman transition into college and outlines the University's academic, social and developmental opportunities. The program includes information about resources available on campus and also provides an opportunity for new students to meet their Bridge to Excellence mentor.

GO BOLD Adventure Camp provides incoming freshman with a unique experience leading to a sense of belonging, connection, and excitement about becoming a Tech student. This extended orientation program provides freshmen with the opportunity to start building friendships and transition to life as a college student, while strengthening their bond to Arkansas Tech University through the introduction of campus culture and traditions.

For more information, please visit: www.atu.edu/orientation

Outdoor Recreation

Outdoor Recreation exists to provide students an outlet to develop their physical and emotional health in the outdoors. Through being active, students will gain a mutual respect for themselves, one another and the environment. To better experience the natural beauty that Arkansas has to offer, hiking, rock climbing, canoeing and other outdoor recreational trips are offered each semester. In addition to free trips, the outdoor recreation department also provides outdoor gear check-outs for mountain bikes, hammocks, tents, canoes and kayaks. Outdoor Recreation brings students from all backgrounds together to play in natural team settings, further promoting the global community at Arkansas Tech University.

For more information, please visit: www.atu.edu/outdoorrecreation

Registered Student Organizations

Arkansas Tech has over one hundred Registered Student Organizations. These organizations are run by students who produce their own programming and initiatives to fulfill their individual purposes. This is an opportunity for students to apply what they have learned in the classroom to real world experiences.

For more information, please visit: thelink.atu.edu or www.atu.edu/rso

Service Initiatives

- **Alternative Spring Break**- Alternative Spring Break is an opportunity for students to visit another community to give back during their Spring Break. Students not only volunteer with different community agencies but also have a chance to explore the city and be a "tourist".
- **Volunteer Opportunities**- Students are connected with service agencies throughout the community to aid in their services. Monthly service drives and action days are held throughout the year to help students engage with the Russellville community.

For more information, please visit: www.atu.edu/service

Spirit Squads

The Tech Cheer squad is composed of up to sixteen members. The Golden Girls dance team is composed of up to fourteen members. The squads are selected each spring to serve for the following

academic year. Tech Cheer participates in all home and selected away football, basketball, and volleyball games. The Golden Girls participate and perform at all home football and basketball games. Both squads participate in pep rallies throughout the year as well as campus and community related events.

For more information, please visit: www.atu.edu/spirit

Student Activities

Fully engaging students in their college experience requires not only academic experiences but also a diverse offering of activities and programs to meet their social and personal needs. Student Activities meets these needs by providing various events throughout the year to include comedians, movies, carnivals, dances, educational speakers, spirit programs, and many more! There are numerous leadership opportunities available through the Student Activities Board.

For more information, please visit: www.atu.edu/sab

Counseling Services

Counseling services provides counseling, consultation, and outreach to the Arkansas Tech University community. The counseling staff is committed to promoting the educational mission of the university by working with the campus community to establish and maintain healthy and effective behavior patterns and lifestyles that enhance learning and personal development. The range of services provided includes personal counseling for students in individual, couples, or group sessions. The staff provides consultations to students, parents, staff, faculty and administration. There is a small library of self-help books and videos, and a variety of informational brochures available. Presentations and outreach programming are scheduled throughout the year and are available upon request.

Services are provided Monday-Friday from 8:00 am-5:00 pm year round. Counseling Services is staffed by licensed counselors trained to provide professional counseling services. For additional information, please visit the Health and Wellness Center in Dean Hall 126 or call 479-968-0389.

Department of Public Safety

The Department of Public Safety is located at 1508 North Boulder Avenue. To report a crime or request information, contact Public Safety at 479-968-0222. In an emergency, call 911. Public Safety maintains direct contact with the 911 Communications Center for all emergency services. It is the responsibility of Public Safety to investigate all reports of criminal activity and accidents that occur on University property. Visit Public Safety's website at www.atu.edu/psafe for more information and services offered.

Disability Services for Students

The Office of Disability Services (DS) facilitates services and accommodations that enable students with disabilities to access the same opportunities as their peers with the greatest degree of independence possible. Students who require accommodations are encouraged to contact DS in order to assess the student's needs and prepare a tailored plan of accommodation specifically addressing barriers to academics, activities, or access to facilities.

The Director of DS is responsible for interfacing with students seeking accommodations, obtaining disability related documents, certifying eligibility for services, determining reasonable accommodations, and developing an accommodation plan for students. Offices are located in the Doc Bryan Student Services Building, Suite 171. Students may schedule an appointment by calling (479) 968-0302, (479) 964-3290 (TTY), or by email at utds@atu.edu.

Doc Bryan Tutoring Center

The Doc Bryan Tutoring Center offers free one-on-one peer tutoring for Tech students. Assistance is available in Math, Science, English, History, Psychology, Speech, and additional courses as needed. Preparation for the Praxis 1 is also available. Our tutors receive training, are required to have a 3.0 grade point average or above, and must demonstrate competency in the subject area. The Doc Bryan Tutoring Center is located in Doc Bryan 247 above Doc's Place Convenience Store. Hours are Sunday - Thursday from 5-9 p.m. during the fall and spring semesters.

Health and Wellness Center

Recognizing that optimum health is essential to effective learning, the university maintains health services available to all students. The Health and Wellness Center, located in Dean Hall Room 126 (entrance on north side of the building), provides confidential treatment of minor injuries and illnesses through a well-equipped facility and within the scope and practice of the registered nurse and certified nurse practitioners who staff the center full-time. The nurses make appropriate referrals to local health care providers when necessary.

The university assumes no financial responsibility for student care other than that provided by the Health and Wellness Center. Students are urged to carry their own health insurance.

In addition to clinical services, a wide range of health promotion and educational programs are provided in a variety of campus settings.

Patient Hours are Monday-Friday, 8:00 am-5:00 pm. Students are strongly encouraged to make appointments; however, available walk-in times are from 3:00 pm - 4:00 pm on Monday, Wednesday, and Friday. The Health and Wellness Center staff can be contacted by phone at 479-968-0329, email at hwc@atu.edu or online at www.atu.edu/hwc.

Student Accident and Health Insurance

Arkansas Tech cooperates with a number of other higher educational institutions in Arkansas to make available a student group insurance policy. Students not adequately covered by an individual or family group insurance policy may purchase this policy at the beginning of any semester. Students may contact the Health and Wellness Center for more information. All international students are required to purchase a medical insurance plan that satisfies the requirements of the Office of International and Multicultural Student Services.

International and Multicultural Student Services

The International and Multicultural Student Services Office provides support services designed to enrich the college experience for multicultural and international students. The office actively recruits multicultural and international students to increase the diversity of the Tech campus, provide the opportunity for cultural exchange, and aid in helping all Tech students develop an appreciation for cultural differences.

The office offers a wide range of services for international students, including orientation, immigration updates, cross-cultural programming, and other support services necessary to ease the transition of international students into the U.S. culture. American college students play a vital role in this process by volunteering to serve as mentors to new international students through the Global Connect program.

Several established student organizations receive support from the International and Multicultural Student Services Office, including the Black Student Association, the Chinese Student Association, the Hispanic Student Association, the Indian Student Association, the Japanese Student Association, the Saudi Student

Association and International Student Organization. Working together, programs are developed and sponsored throughout the year to educate faculty, staff and students regarding international and multicultural heritage.

Additional information may be obtained by calling (479) 964-0832, faxing (479) 880-2039, or writing to the Director of International and Multicultural Student Services, Tomlinson Room 29, Arkansas Tech University, Russellville, Arkansas 72801, U.S.A.

English Language Institute

The mission of the ATU English Language Institute (ELI) is to provide classes that assist non-native speakers of English in developing the English language skills necessary to successfully pursue academic work in a United States college or university. The ELI accomplishes the mission by delivering non-credit English as a Second Language (ESL) academic reading, writing, speaking and note-taking instruction for English language deficient students. As part of the Department of English and World Languages, ELI welcomes students from diverse backgrounds whether international or U.S. resident. Additional information may be obtained by calling (479) 890-5025, faxing (479) 880-2039, or writing to the Coordinator of the English Language Institute, Tomlinson Hall, Arkansas Tech University, Russellville, Arkansas 72801, U.S.A.

Student Exchange Opportunity

Students who wish to improve their Japanese language skills and learn more about Japanese society may do so by studying for a semester or a year at Komazawa University (Tokyo), Nagasaki International University, or Osaka University of Commerce. Participation is contingent on the admission decision by the host university. Applicants must have good academic standing. Japanese language requirement varies by the host university. Students will be admitted in the first semester beginning in April, or in the fall term which begins in September. Costs include Arkansas Tech tuition and fees (students are exempt from the host university's tuition) as well as transportation and living expenses. More information may be obtained from the Office of International and Multicultural Student Services, Tomlinson Room 029, phone (479)-964-0832 or the College of Arts and Humanities, Witherspoon 240, phone (479)-968-0274.

Norman Career Services

The Norman Career Services office is dedicated to educating and professionally preparing students to meet their career goals. The office provides students and alumni a variety of resources on-campus and through the website at www.atu.edu/career. The Norman Career Services office also provides an online career management program, CAREERlink, for students and graduates who are searching for internships, on-campus, part-time, and/or full-time positions. Beginning with the student's freshmen year, all students are encouraged to take self-assessments through FOCUS 2. The staff is available for private appointments to assist students and alumni with their career goals, resumes, cover letters, and personal marketing plans. Additionally, outreach programs for students are available including professional development workshops, classroom visits, custom student organization workshops, and employer events.

Employers partner with the Norman Career Services office to post employment opportunities through CAREERlink, as well as to arrange for additional opportunities to grow their on-campus presence. Events such as career fairs, information sessions, corporate mixers, and interviews are all arranged through Norman Career Services. By ensuring that Arkansas Tech University graduates are given every opportunity for success, Norman Career Services strives to inform students and prepare them to be successful in the workforce.

Additional information concerning Norman Career Services may be obtained by visiting the website at www.atu.edu/career, by calling (479) 968-0278, or by emailing career.services@atu.edu.

Residence Life

The Office of Residence Life exists as a vital part of the educational program and academic support services of the University. The Office of Residence Life strives to provide a clean, well-maintained, and safe living environment that is conducive to study and will foster a meaningful growth experience. Activities and programs presented within the residence halls are designed to develop a community which encourages educational opportunities while promoting maturity, responsibility, and above all, academic success.

Single students between the ages of 18 and 21, and with fewer than 60 earned credit hours of college work, who are University main campus (Russellville, Arkansas) students are required to live on campus, as space permits, in University owned housing facilities. These students are required to purchase a meal plan unless living in the University Commons Apartments or Vista Place. Exemptions to the On-Campus Residency Requirement include: students living with immediate family (Mother, Father, Sister, Brother) within 30 miles driving distance of the Russellville, Arkansas campus, married students, or students with dependent children. Students under the age of 18 between August 20, 2016 and January 1, 2017 must sign the Arkansas Tech University Waiver and Release of Liability for a Minor Living on Campus prior to being allowed to sign a housing contract and live in On-Campus housing. The Arkansas Tech University Waiver and Release of Liability for a Minor Living on Campus is available through the Office of Residence Life at <http://www.atu.edu/reslife/>. Students 17 or under on January 1, 2017 are not permitted to live in University owned housing facilities.

Students who are Arkansas Tech University Ozark campus (Ozark, Arkansas) students, who meet the aforementioned requirements, may live on-campus at the University main campus (Russellville, Arkansas). However, Arkansas Tech University Ozark campus (Ozark, Arkansas) students are not required to live on- campus.

Applications for University housing, housing contracts, room assignments, and questions concerning housing are managed by the Office of Residence Life. Students may begin the housing application process online at www.atu.edu/reslife. The Residence Life staff may be contacted by phone at 479-968-0376, or email at housing@atu.edu.

Housing rules and regulations for all students contracted with the Office of Residence Life can be found in the Arkansas Tech University Student Handbook under the section "Guide to Residence Hall Living," located online at <http://issuu.com/arkansastechuniversity/docs/studenthandbook2014>. Students residing in any facilities maintained by the Office of Residence Life are responsible for understanding all policies contained in the guide. Questions should be directed to Aaron Hogan, Associate Dean for Residence Life, at ahogan@atu.edu.

Residence Life Housing Facilities

Arkansas Tech University offers seventeen 17 living facilities for our students. Residence halls and apartments are air-conditioned and are constructed to accommodate two students per room (M Street, Stadium Suites, Nutt Hall, and Wilson Hall have some designed single rooms available). All residence halls and apartments are completely furnished. Amenities include cable television, internet access, and wireless internet available in each lobby. Laundry facilities are located in all residence halls and apartments. Laundry fees are included with student housing fees. Arkansas Tech University is a Smoke and Tobacco Free Campus; this includes all residence hall and apartment rooms.

To be eligible to be a Resident in a **University residence hall**, a person must carry a meal plan (for residents of Vista Place, and University Commons Apartments; a meal plan is optional) and be enrolled at the University campus in a minimum of (6) undergraduate semester hours each semester or a minimum of six (6) graduate hours each semester. The University reserves the right not to contract with persons who are currently violating or have previously violated the terms and conditions of a housing contract or other University rules or regulations, or who have a past due balance with the University.

To be eligible to be a Resident in the **University Commons Apartments**, a person must be enrolled at the University campus in a minimum of (6) undergraduate semester hours each semester or a minimum of six (6) graduate hours each semester. Initial preference for University Commons Apartment assignments will be given to those students who have earned a minimum of thirty (30) credit hours of college work and have a minimum (2.5) cumulative grade point average. The University reserves the right not to contract with persons who are currently violating or have previously violated the terms and conditions of a housing

contract or other University rules or regulations, or who have a past due balance with the University. The maximum number of persons occupying an apartment shall be no more than four (4) persons in a four-bedroom apartment, and no more than two (2) persons in a two-bedroom apartment. No other occupants are permitted.

To be eligible to be a Resident in **Vista Place Apartments**, a person must be enrolled at the University campus in a minimum of (6) undergraduate semester hours each semester or a minimum of six (6) graduate hours each semester. Initial preference for Vista Place Apartment assignments will be given to those students who have earned a minimum of thirty (30) credit hours of college work and have a minimum (2.5) cumulative grade point average. The University reserves the right not to contract with persons who are currently violating or have previously violated the terms and conditions of a housing contract or other University rules or regulations, or who have a past due balance with the University. The maximum number of persons occupying an apartment shall be no more than four (4) persons in a four-bedroom apartment.

Photos and descriptions of the residence halls and apartments are available at <http://www.atu.edu/reslife>

Student Financial Aid

The primary purpose of student financial aid at Tech is to provide assistance to students who, without aid, would be unable to attend college. Financial assistance consists of scholarships, grants, loans, and part-time employment, which may be offered to students singularly or in various combinations, depending upon the degree of need. In determining the extent of a student's need, the University must consider the financial support which may be expected from the income, assets, and other resources of the parents and the student. Aid awards by the University are considered supplementary to the efforts of the student's family in assisting their children with college expenses. All awards are administered by the Financial Aid Office in accordance with the University's equal educational opportunity policy. The University does not participate in individual financial aid agreements with other institutions, including study abroad programs. Study abroad in a Tech sponsored program approved for academic credit is considered for Federal aid in the same manner as all other for academic credit classes.

Application forms for all types of aid may be obtained from the Financial Aid Office on the second floor of the Brown Building.

Cost of Attendance

A student's cost of attendance (also called the financial aid budget) is the total of required tuition and fees and allowances for books and supplies, room and board, travel and personal expenses. Since federal regulations allow the cost of a computer to be added to the cost of attendance one time during the college career of a student, the cost of a computer and related accessories up to \$1,500 purchased no earlier than four months prior to enrollment will be added to the student's cost of attendance budget upon the student's submission of an itemized paid-in-full receipt. This will be a one-time adjustment with the costs being spread over the school year. No further adjustments will be made for upgrades or additional software at any time during the student's career. Other adjustments to the cost of attendance allowed by federal regulations include Tech sponsored study-abroad programs approved for academic credit, child care costs, purchase of equipment required for all students in the same course of study, and reasonable expenses incurred related to a student's disability. These adjustments may result in additional financial aid if the student was not already receiving the maximum amount of every type of aid for which they were eligible. For more information, contact the Financial Aid Office: (479) 968-0399.

Scholarship Stacking Policy

Act 1180 of 1999 prohibits postsecondary institutions from using public funds in a student aid package which may contain a combination of state, institutional, private and federal funds that exceeds the cost of attendance at the institution. Arkansas Tech follows the Arkansas Department of Higher Education regulations by reducing scholarship amounts which cause awards to exceed cost of attendance. In absence of direction from a private donor, private funds will be credited to the first semester attended

unless they cause an over-award for the semester. In these cases, the scholarship will be divided equally between the current and following semester. For more information on the scholarship stacking policy, contact the Financial Aid Office: (479) 968-0399.

Academic Policy for Students Receiving Federal Student Financial Aid

This policy applies to funds received through the Federal Pell Grant, the Federal Supplemental Educational Opportunity (FSEOG), the Federal Work Study, the Federal Subsidized Direct Loan, the Federal Unsubsidized Direct Loan and the Federal Direct PLUS loan programs.

This policy will be applied automatically and without favor or prejudice. With the exception of certificate and clock hour students, all federal aid recipients' progress is reviewed annually at the end of each spring semester and upon the receipt of each new financial aid application. Certificate students are reviewed at the end of fall, spring and summer two semesters. Clock hour students are reviewed at the end of each payment period. Students who have filed a successful appeal will be placed on an academic plan which will be monitored throughout the course of the plan. Individual students will be reviewed within the semester if notification of a grade change is received by the Financial Aid Office.

Any appeal of this policy must be made in writing to the Financial Aid Academic Policy Appeal Committee and turned in to the Financial Aid Office within thirty days of the notification of the violation. Financial aid will not be paid retroactively for any semester's lost eligibility.

Students must meet all conditions of the policy. Violation of any section will result in loss of aid.

Changing Majors

When students change majors they are required to continue meeting all sections of this policy. If the major change causes the student to exceed the maximum number of hours attempted, they may appeal and provide a memo from their advisor detailing the hours from the previous major which do not apply to the current major. All hours not applicable to the new major will then be disregarded in the calculation of maximum hours. The cumulative grade point average will still be considered as the students grade point.

Institutional Academic Suspension

Any student whose name appears on the institutional suspension list will not be eligible to receive aid for their next period of enrollment even if they re-enroll with the approval of the Admissions Council unless summer hours earned at Tech re-establish eligibility.

It is the student's responsibility to notify the Financial Aid Office when they are no longer on the suspension list.

Withdrawals/All "F" Grades

Federal regulations require a calculation to determine how much aid, if any, must be returned to the Federal program when a student withdraws or receives all grades of "F". Students who must repay funds will be notified of the amount by the financial Aid Office within 45 days after the withdrawal. These repayments must be made through the Student Accounts Office. The student will be ineligible to register for additional courses until the required payments are made.

First Undergraduate Degree

A student is considered making satisfactory academic progress if hours earned divided by hours attempted equal 67% or greater. Example: If a student enrolls in fifteen (15) hours and earns nine (9) hours, the percentage equals 60%. Therefore this student is NOT making satisfactory academic progress. On the other hand, if the same student had earned twelve (12) hours, the percentage would equal 80% and the student would be making satisfactory academic progress. Note: Accepted transfer hours are counted as both attempted and earned and are considered in this calculation. Students granted academic clemency will have all semesters attended counted on the basis of attempted hours.

Incomplete, repeat and audit classes are counted as hours attempted, but do not increase hours earned. For repeated courses, only the grade from the best attempt of the repeated course is calculated into a student's cumulative grade point although all grades and all attempts are recorded on the student's academic record. Student may not repeat a course in which the highest grade possible has already been earned. Federal financial aid will pay for only one repeat of a class with a grade of "D" or better. If an incomplete grade is not replaced by an earned letter grade by the end of the next regular semester it will become a grade of "F" and will be considered in the next regular determination of policy progress. No special consideration of the effects of dropping classes will be allowed unless the Student Financial Aid Director is contacted for approval prior to dropping the courses.

A student must receive a bachelor's degree by the end of 180 attempted credit hours, an associate's degree by the end of 90 attempted credit hours and a certificate by the end of 45 attempted credit hours. Allowances will be made for semesters involving required remedial course work, bachelor's degrees which require more than 120 earned hours, associate's degrees which require more than 60 earned hours, and certificates which require more than 30 earned hours. All semesters attended will be counted whether a student received financial aid during the semester or not. Clock hour students must complete their program by the end of 150% of the published length of the program.

Required Grade Point Average First Undergraduate Degree

With the exception of certificate and clock hour students, all students must have a minimum cumulative grade point average (GPA) of 1.0 at the end of their first semester, 1.50 at the end of their second semester, 1.75 at the end of their third semester and 2.0 at the end of their fourth and all subsequent undergraduate semesters or "equivalent transfer semesters." (Transfer students will be assigned "equivalent transfer semesters" based on the number of hours accepted by the Registrar's Office. Adjustments to Tech cumulative grade points are not made for courses transferred from other colleges or universities, but transfer grades may be used to meet the financial aid grade point requirement.) Example: A student who attempts 24 hours in four half-time semesters would be required to have a 2.0 at the end of the fourth semester. While a student who attempts 24 hours in two full-time semesters would still have two additional semesters before a 2.0 GPA would be required. Certificate and clock hour students must have a 1.5 GPA at the end of the first semester and a cumulative GPA of at least 2.0 thereafter. No appeal will be granted for anyone in violation of the required cumulative 2.0 GPA. Students granted academic clemency will have a "financial aid GPA" based on all hours completed and will not receive aid until that GPA reaches at least 2.0.

Any student who fails to meet the required 2.0 GPA will be reinstated once the required GPA is met. However, financial aid will not be paid retroactively for any aid lost because of this requirement. It is the student's responsibility to notify the Financial Aid Office when they have attained the required GPA.

Subsequent Bachelors Degree OR Teacher Certification

Any second undergraduate degree or certification must be completed by the end of 45 attempted hours. If a degree is not completed within this time frame, the student may appeal and provide a memo from their advisor detailing the reasons why it was not possible for the subsequent degree to be completed in the required time frame. All hours not applicable to the subsequent degree are then disregarded in the calculation of maximum hours.

Required Grade Point Average Subsequent Credentials or Teacher Certification

Students must maintain a cumulative 2.0 GPA.

Application for Federal Student Aid

General - Students use the Free Application for Federal Student Aid and list Tech as one of the schools to receive information. With the exception of Unsubsidized, Additional Unsubsidized Federal Direct and PLUS loans, students must be financially eligible to receive funds from Federal financial aid programs.

Deadline - To receive equal consideration, a student must have a complete application on file by March 15. All remaining funds will be awarded on a first-come, first-serve basis until depleted. Note: All requested information must be returned to the Financial Aid Office by July 15 to ensure aid availability at the beginning of the fall semester.

Federal Pell Grant

The Federal Pell Grant provides direct grants from the government to the undergraduate student for educational expenses. Since this is a grant program, the student does not have to repay the amounts received, unless the semester for which a grant is received is not completed.

Under current guidelines, only students who have never received a bachelor's degree and who have not already received the equivalent of twelve semesters of the grant are eligible for the Federal Pell Grant. The university does not determine whether a student is financially eligible. The amount of the grant given to an individual student is based on a schedule provided to the university by the government. No eligible student will be denied a grant.

Federal Supplemental Educational Opportunity Grant Program

The purpose of the Supplemental Educational Opportunity Grant Program is to provide additional funds to qualified students of exceptional need. Each grant is awarded according to federal guidelines.

Student Employment

The University uses student employees when practicable, but students are not encouraged to work to an extent which would hinder their scholastic program. Employment assignments are made under both the Federal College Work-Study Program and the institutional Non-Work-Study Program. To be eligible for student employment, the student must be enrolled at least half-time, successfully pass minimum load requirements, satisfy grade point requirements, maintain satisfactory employer-employee relations and have conduct and personal appearance that reflect credit to the student and the University.

William D. Ford Direct Loan Program

Federal regulations require a delayed disbursement of thirty days for all first-year, first-time undergraduate student borrowers in any Federal Direct Loan program. Additionally, all student borrowers must be enrolled in a minimum of six hours.

Federal Direct PLUS Loans

Parents of students may borrow annually the amount of the student's cost of education minus other aid for each child who is enrolled at least half time and is a dependent undergraduate student. PLUS is limited to parents who do not have an adverse credit history, and late payments on outstanding obligations are not to be considered as having adverse credit history. The interest rate is determined each June with the borrower beginning payment within sixty days of loan disbursement. Graduate students may also borrow under the PLUS loan program. They have to meet the same credit history requirements, must apply for Federal financial aid and may borrow up to the cost of attendance less other financial aid. As with the Parent PLUS, the interest rate is determined each June.

Federal Direct Subsidized Loans

The Federal Direct Loan program authorizes loans up to \$3,500 per year for first-year undergraduates, \$4,500 for second-year undergraduates, and \$5,500 per year for undergraduates who have completed two years of undergraduate work. The maximum an undergraduate student may borrow is \$23,000. Under this program a student must financially qualify for the loan. The interest rate is determined each June.

Repayment of principal and interest ordinarily begins six months after the student leaves school or ceases to be at least a half-time student. However, interest will begin to accrue as of the date the student ceases to be at least half-time. The amount of the monthly payments will be based on the total amount borrowed.

Federal Direct Unsubsidized Loans

The Federal Direct Unsubsidized Stafford Loan has the same loan limits and deferments as the Direct Subsidized Loan. However, the student does not have to be financially eligible for the loan and must either pay the interest while in school or have it capitalized for repayment with the loan principal. The total

borrowed in Subsidized and Unsubsidized Direct undergraduate loans may not exceed the student's yearly maximum as shown above. Graduate students may borrow up to \$20,500 for a school year, not to exceed the total undergrad and grad maximum of \$138,500. The interest rate is determined each June.

Federal Direct Additional Unsubsidized Loan - Dependent students may borrow \$2,000 per year for four years. Independent students may borrow up to \$6,000 per year for the first two years of undergraduate study and \$7,000 per year thereafter with an undergraduate maximum of \$34,500. Borrowers do not have to show need but do have to apply for financial aid. The interest rate is determined each June. Students are responsible for paying the interest that accrues on the loan from the time the loan is disbursed until it is paid in full but have the option to defer interest payments while in school and have the interest added to the amount borrowed.

Academic Scholarship Requirements

All academic scholarships are awarded on a competitive basis. The deadline to apply for Distinguished Scholars, Second Century Scholars, or Collegiate Scholars is February 28 of the current award year. The deadline to apply for University Honors is December 1 of the current award year. The deadline to apply for Transfer Scholarships is June 1 for a fall term and December 15 for a spring term of the current award year. The amount of total funds received by each student will be contingent on the Arkansas Department of Higher Education Scholarship Stacking Policy, Arkansas Act 1180 of 1999.

All scholarship recipients must be admitted on the main campus and be enrolled in a minimum of 15 credit hours. Main campus scholarship awards will only pay for main campus coursework. Students may receive only one Tech-funded academic scholarship in any semester. Scholarship recipients must live in a residence hall or receive an exemption to the residency requirements from the Office of Residence Life in accordance with established university policy. Recipients are responsible for making on-campus housing arrangements. Students who live in Louisiana, Mississippi, Missouri, Oklahoma, Tennessee, and Texas are considered in-state for tuition purposes and are therefore eligible for academic scholarship awards. Original ACT or SAT reports should not be altered. Superscores or recalculated exam scores, using subset scores from multiple exams, will not be accepted. A traditional-aged high school student who opts to take the GED and scores a minimum of 680 may apply for academic scholar awards. Students receiving scholar awards must be U.S. citizens.

All scholarship recipients must be admitted to the university with a Free Application for Federal Student Aid application (FAFSA) on file before a scholarship will be credited to a student's account. All additional information requested by the Financial Aid Office must be submitted by December 1 in order to meet the aid application requirements for second semester renewal. For all subsequent semesters, the FAFSA and all requested documentation must be on file by August 1 each year.

Scholarships are awarded for consecutive fall and spring terms only and do not cover summer terms. Scholarships may be deferred for up to one year upon Institutional Scholarship Appeals Committee approval. A deferment must be requested in writing prior to the semester for the scholarship award.

Students who receive scholarship awards are responsible for knowing the renewal requirements printed on their award notification or online at <http://www.atu.edu/admissions/>. Receipt, continued receipt, or renewal of all academic scholarships is also contingent upon the student honoring the Arkansas Tech University Student Code of Conduct as well as local, state, and federal laws. Transfer, CLEP, AP, and IB credit cannot be used to qualify for scholarship renewal.

Scholarship students are eligible for a one-time only grace semester. A grace semester is applied automatically through the Financial Aid Office. Students who qualify for a grace semester must be within .25 of the semester requirement while their cumulative GPA met the requirement. After a student's grace semester is used, failure to meet the renewal requirements in any semester will result in the forfeiture of the scholarship for all subsequent semesters. Students who fail to meet renewal requirements are notified via their official student email. Incoming freshmen and transfer students with no prior Arkansas Tech coursework are not eligible for a grace semester during their first term of enrollment.

To remain in compliance with Act 323 of 2009, the university reserves the right to cancel or modify any scholarship funded by the institution at any time.

Academic All-Star Scholarship

Transfer students who are selected as Academic All-Stars by their two-year institution are eligible to apply for this scholarship. The maximum award for this scholarship is \$2,550 per semester. A student must enroll in and complete 15 or more hours with a 3.25 semester GPA for renewal of up to five semesters or completion of an undergraduate degree, whichever comes first. Priority consideration will be given to the first ten students who apply prior to June 1. Transfer scholarships must be used on the main campus in Russellville.

Advanced Scholars Stipend

The Advanced Scholars Stipend is a \$1000 per semester award made in recognition of University Honors membership or Arkansas Governor's or Governor's Distinguished awards. All students who are awarded an Advanced Scholars Stipend must retain their university funded academic ACT scholarship award to remain eligible for the stipend. Students who fail to retain their academic award forfeit the Advanced Scholars Stipend. Students are only eligible for one Advanced Scholars Stipend in any semester.

Collegiate Scholars

Collegiate Scholars receive a maximum award of \$500 per semester for up to four semesters. Incoming freshmen who score 21-23 ACT composite and earn a 3.25 cumulative high school GPA are encouraged to apply. Scholarship recipients must enroll in a minimum of 15 hours during the fall semester of the freshman year and complete a minimum of 12 hours with a 3.00 semester GPA to be eligible for the scholarship for the following semester. Recipients must enroll in a minimum of 15 hours for the spring semester and complete a total of 30 hours for the freshman year with a 3.00 semester GPA to be eligible for the scholarship for the sophomore year. Transfer, CLEP, AP, and IB credit cannot be used to qualify for scholarship renewal. Renewal for subsequent semesters requires a 3.25 semester GPA on a minimum of 15 hours. This scholarship must be used the fall semester following high school graduation.

Distinguished Scholars

Distinguished Scholars receive a maximum award of \$4500 per semester for up to eight semesters or until the completion of an undergraduate degree, whichever comes first. Incoming freshmen who score 26-36 ACT composite and earn a 3.25 cumulative high school GPA are encouraged to apply. Scholarship recipients must enroll in a minimum of 15 hours during the fall semester of the freshman year and complete a minimum of 12 hours with a 3.00 semester GPA to be eligible for the scholarship for the following semester. Recipients must enroll in a minimum of 15 hours for the spring semester and complete a total of 30 hours for the freshman year with a 3.00 semester GPA to be eligible for the scholarship for the sophomore year. Transfer, CLEP, AP, and IB credit cannot be used to qualify for scholarship renewal. Renewal for subsequent semesters requires a 3.25 semester GPA on a minimum of 15 hours. This scholarship must be used the fall semester following high school graduation.

Phi Theta Kappa

Transfer students who are members of Phi Theta Kappa International Honor Society and have completed a minimum of 12 transferable, for-credit hours with a minimum 3.50 college GPA are eligible to apply for a Phi Theta Kappa Transfer Scholarship. These scholarships are competitive and the maximum award is \$2550 a semester. A student must enroll in and complete 15 or more hours with a 3.25 semester GPA for renewal of up to five semesters or completion of an undergraduate degree, whichever comes first. Transfer scholarships must be used on the main campus in Russellville.

Presidential Honors Transfer Scholarship

This scholarship allows any Arkansas two-year college president/chancellor the opportunity to name one student each fall for a transfer scholarship with a maximum award of \$2,550 per semester. A student must enroll in and complete 15 or more hours with a 3.25 semester GPA for renewal of up to five semesters or completion of an undergraduate degree, whichever comes first. Interested students should check with their current two-year school's Financial Aid Office or President's/Chancellor's office for further details. Transfer scholarships must be used on the main campus in Russellville.

Second Century Scholars

Second Century Scholars receive a maximum award of \$2,550 per semester for up to eight semesters or until the completion of an undergraduate degree, whichever comes first. Incoming freshmen who score 24-25 ACT composite and earn a 3.25 cumulative high school GPA are encouraged to apply. Scholarship recipients must enroll in a minimum of 15 hours during the fall semester of the freshman year and complete a minimum of 12 hours with a 3.00 semester GPA to be eligible for the scholarship for the

following semester. Recipients must enroll in a minimum of 15 hours for the spring semester and complete a total of 30 hours for the freshman year with a 3.00 semester GPA to be eligible for the scholarship for the sophomore year. Transfer, CLEP, AP, and IB credit cannot be used to qualify for scholarship renewal. Renewal for subsequent semesters requires a 3.25 semester GPA on a minimum of 15 hours. This scholarship must be used the fall semester following high school graduation.

Senior Service Fellowships

Fellowships within the various colleges of the university are open to a limited number of outstanding advanced students. These service fellowships are awarded at the discretion of college committees when the caliber of the applicant justifies such assistance. Candidates for the fellowship must have earned 90 semester hours of credit, have a minimum grade point average of 3.00 on all work, and be enrolled in a minimum of 12 hours for the semester(s) for which the fellowship is granted. Any deviation or exception to this policy must be approved by the Office of Academic Affairs. Students who would like to be considered for a Senior Service Fellowship must make written application by April 1 to the appropriate dean.

Tech Transfer Scholarship

The award amount varies for this competitive scholarship. Students who have completed 12 or more transferable, for-credit hours at an accredited college or university with a minimum 3.25 transfer GPA should apply. Students who receive transfer scholarships are required to enroll in and complete 15 or more hours with a 3.25 semester GPA for renewal of up to five semesters or completion of an undergraduate degree, whichever comes first. Transfer, CLEP, AP, and IB credit cannot be used to qualify for scholarship renewal. Transfer scholarships must be used on the main campus in Russellville.

Transitions Scholarship

ATU-Ozark campus students who have completed and ATU-Ozark campus Associate of Applied Science or Technical Certificate degree program with a minimum 3.25 cumulative college GPA are eligible to apply for a Transitions Scholarship to the ATU-Main Campus. Transitions Scholarships are competitively awarded and amounts vary. All Transitions Scholarships are renewable for five consecutive semesters or until the completion of an undergraduate degree, whichever comes first, provided that the student maintains all scholarship requirements. Please contact the ATU-Ozark campus for a scholarship application.

University Honors Scholarship

In addition to the Second Century Scholars award or Distinguished Scholars award, University Honors participants receive University Honors Stipends of up to \$3000 per semester for up to eight semesters or until the completion of an undergraduate degree, whichever comes first. An applicant must have a 3.50 cumulative high school GPA and either a 27-36 ACT composite or be ranked in the top 10% of his or her graduating class. The University Honors application deadline is noon on December 1 of the current academic year. Students who are chosen to interview will be notified in December and January. Invitations to join the University Honors Program will be sent by February 1 to selected interview candidates. All University Honors Scholarship recipients must participate in University Honors curriculum requirements, the sophomore service requirement, and all Honors functions. University Honors Scholarship recipients must complete a minimum of 15 hours per semester with a 3.25 semester GPA to be eligible for the scholarship for the following semester. Transfer, CLEP, AP, and IB credit cannot be used to qualify for scholarship renewal. For additional information on the University Honors Scholarship, contact Dr. Jan Jenkins, Director of Honors, at (479) 968-0456.

Arkansas Tech University Foundation Scholarships

Arkansas Tech University Foundation Scholarships will be awarded if funds are sufficient. To be considered for an Arkansas Tech University Foundation scholarship where need is a determining factor, a Federal Financial Aid Application (www.fafsa.com) must be on file in the Financial Aid Office. Federal and state regulations do not permit students to receive financial aid in excess of their cost of attendance. For complete details regarding scholarship stacking regulations, contact the Financial Aid Office.

Students who receive privately funded scholarships will be responsible for writing thank you notes. Expressing appreciation to donors for their interest in and support of higher education is an important part of receiving a scholarship.

The Arkansas Tech University Foundation reserves the right to amend scholarship requirements and criteria.

Applying for Foundation Scholarships

The student is responsible for submitting the Foundation Scholarship Application and all documentation listed in the scholarship criteria to the Office of Advancement. The application and all required documentation must be **received** by February 28 (i.e., applicant letter, reference letters, etc.). Only one application and documentation is required for multiple Foundation Scholarships.

Documentation must include a letter from the applicant explaining the need for the scholarship, special family circumstances, career goals, and **three** letters of recommendation from any of the following: Arkansas Tech faculty, High School Counselor, Principal, Pastor, Employer, or someone familiar with your work ethic and family situation.

The applicant will be considered for all scholarships through the Office of Advancement where all the criteria requirements have been fulfilled.

Submit Application Packet to:

Office of Advancement
1509 N. Boulder Avenue ADM 209
Russellville, AR 72801-2222

All applications and documentation must be **received** by **February 28**.

To view the Foundation Scholarships offered at Arkansas Tech University please go to
<http://www.atu.edu/scholarships>

Athletic Scholarship

The maximum number and maximum value of such scholarships will be determined by the constitution and by-laws of the NCAA Great American Conference. Applicants should contact the Arkansas Tech University Athletic Director at 479-968-0245.

Privately Supported Scholarships

Arkansas Community Foundation Scholarships -

<http://www.arcf.org/Scholarships/OurScholarships/tabcid/426/Default.aspx>

Arkansas Community Foundation is a nonprofit organization that fosters smart giving to improve communities. The Community Foundation offers tools to help Arkansans protect, grow and direct their charitable dollars as they learn more about community needs. By making grants and sharing knowledge, the Community Foundation supports charitable programs that work for Arkansas.

Arkansas Education Association Scholarships - <http://wwwaeaonline.org/awards-scholarships>:

Emma Scott - Scholarship for Future Teachers

The Emma Scott Memorial Scholarships were established in 1961 by the Arkansas Education Association to honor Emma Scott. Miss Scott was a former English teacher in Little Rock and AEA staff member who is credited with establishing Future Teachers of America programs in Arkansas.

TE Patterson - Memorial Undergraduate Scholarship

This \$500 scholarship is awarded yearly to five African-American college students in Arkansas. Each year this scholarship also honors the memory of a distinguished African-American educator. The deadline for scholarship applications is March 1st. All applications must be completed with documents by the deadline. Otherwise the committee will not consider it.

Arkansas Health Information Management Association Scholarship

An annual scholarship fund has been established by the Arkansas Health Information Management Association. The scholarship is awarded each spring to a deserving health information management major in his/her junior or senior year. The recipient is determined by the Executive Board of the Arkansas Health Information Management Association. Interested students should contact the Health Information Management Program office in Dean Hall Suite 201 to obtain an application. Application deadline is January 31st.

Arkansas Single Parent Scholarship Fund

Single parents who reside in counties other than those listed below may find information for their county at <http://www.aspsf.org/>

Logan County Single Parent Scholarship Fund

LCSPSF offers approximately \$500 per semester (spring, fall, summer), which may be used to support the needs of the scholar - pay for gasoline, pay for babysitter, pay for food, clothing, utilities, rent etc. Half the scholarship is provided at the beginning of the semester and the remainder after submission of the mid-semester grades, which must be passing grades. Students can apply for the scholarships on-line. Contact: Christy McCollough, Scholarships, 479-675-4326 email: cmccollough@atu.edu . Mailing address: Jessica Philmon, First National bank, P.O. Box 31, Paris, AR 72855.

Pope-Yell County Single Parent Scholarship

Scholarships are awarded each semester to single parents who are residents of Pope or Yell counties. Recipients must have applied for federal financial aid and be eligible for a federal Pell Grant. Application deadline is July 15 for the fall semester and January 15 for the spring semester. Applications are available from Pope-Yell County Single Parent Scholarship Board, River Valley Shelter for Battered Women and Children, Inc. P.O. Box 2066, Russellville, Arkansas 72811.

J.D. Knight Scholarship

This scholarship was established by Mrs. J.D. Knight in memory of her late husband, Mr. J.D. Knight, a former member of the Arkansas Tech Board of Trustees. The recipient must be majoring in accounting, business, or economics and must have an interest in banking as a possible career. An application may be obtained from the Accounting Department in the College of Business.

Cora McHenry Scholarship for Teaching Excellence

Three partial tuition scholarships available to African-American students committed to teaching in the public school of Arkansas at either the early childhood/middle or secondary level. To be eligible, a student must be eligible for the teacher education program, be a member of SNEA or CMLA, be enrolled in a 15 credit hour course load, and have a cumulative grade point average of 2.5 or better. To apply a student should submit a letter of application, two letters of recommendation from school officials, a brief essay on why the applicant is interested in teaching, and including a record of activities in school, church, and the community to Dr. V. Carole Smith, College of Education, Arkansas Tech University. Application deadline is February 28.

R. Lewis Urton Senior Rehabilitation Scholarship

An annual grant provided by the Arkansas Rehabilitation Association to a senior major in rehabilitation science. Applications for the scholarship are received during the spring semester. Students interested in applying should contact the Director of the Rehabilitation Science program. Each applicant will be interviewed by a committee made up of members of the Arkansas Rehabilitation Association.

Arkansas Department of Higher Education Programs

The programs listed below are awarded and administered by the Arkansas Department of Higher Education. Further information may be obtained by writing to: Arkansas Department of Higher Education, 114 East Capitol, Little Rock, AR 72201, or by calling (479) 371-2000, or 1-800-547-8839 or at www.adhe.edu. The application for all programs is available on-line.

Arkansas Academic Challenge Scholarship Program

The Academic Challenge Program provides scholarships to Arkansas residents pursuing a higher education. Funded in large part by the Arkansas Scholarship Lottery, the Academic Challenge Scholarship is available to students regardless of their academic status, whether just graduating from high school, currently enrolled in college, enrolling in college for the first time, or re-enrolling after a period of time out of college. The application deadline is June 1. There are no income restrictions but students still must complete the Free Application for Federal Student Aid. The scholarship award amount will be determined annually in early Spring.

Arkansas National Guard Tuition Incentive Program (G-TIP)

The Arkansas National Guard Tuition Incentive Program (G-TIP) provides up to \$5,000 per year to Arkansas residents who are active members of the Arkansas Army/Air National Guard. Applications may be obtained from the unit commander or online at <http://www.arguard.org/Education/ta.asp>

Governor's Distinguished Scholars

The Governor's Distinguished Scholars Program provides a tuition, mandatory fees, and room and board not to exceed \$10,000 per year to students who achieve 32 or above on the ACT or 1410 on the SAT, have a 3.50 academic grade point average or are a National Merit Finalist attending an approved Arkansas public or private college or university. The scholarship is renewable for up to three additional years provided the student meets the continuing eligibility standards. Application deadline is February 1 of high school graduation year.

Higher Education Opportunities Grant (GO! Opportunities Grant)

The GO! Grant provides \$1000 grants to full-time and \$500 grants to part-time students based on financial need. Students must be an Arkansas resident for at least 12 months prior to applying for the grant. Students also must meet the financial need criteria established for the GO! Grant and attend an approved Arkansas Institution. Applicants must complete the Free Application for Student Aid (FAFSA). Application deadline is June 1.

Law Enforcement Officer's Dependents Scholarship

The Law Enforcement Officers' Dependents Scholarship (LEO) provides a waiver of tuition, fees, and room at any public college, university, or technical institute in Arkansas for dependents and spouses of Arkansas law enforcement officers, some Highway and Transportation Department employees, and other public employees, who were killed or permanently disabled in the line of duty. Application deadline is June 1.

Military Dependent's Scholarship

The Military Dependent's Scholarship Program provides a waiver of tuition, fees, and on-campus room and board to full-time students at any public college, university, or technical institute in Arkansas for dependents and spouses of Arkansans who were killed or missing in action or who were prisoners of war or who are totally and permanently disabled. All applicants must also apply for and show acceptance or denial of the Federal dependent's Educational Assistance Program. Application deadline is June 1.

Teacher Opportunity Program (TOP)

The TOP program offers reimbursement grants to cover tuition and fees, not to exceed \$3,000, for up to six completed college credit hours per academic year to current Arkansas teachers and administrators seeking to further their education.

The State Teacher Education Program (STEP)

The State Teacher Education Program (STEP) provides Federal student loan repayment grants of up to \$4,000 per year to Arkansas residents who earned a teaching degree after 4/1/2004 and are teaching in a public school in a geographical and/or subject shortage area. Application deadline is June 1.

The Workforce Improvement Grant

A need based grant for non-traditional students who are at least 24 years old. The program's goal is to help those students returning to school who have financial need but might not be eligible for assistance from traditional state and federal programs. The annual award is a maximum of \$2,000 for a student enrolled full time (12 semester hours), but may be less in order to prevent an overaward as defined by Federal regulations. Students enrolled part time will have their grants prorated based on the number of hours enrolled. Because the grants are not renewable, students must apply each year by completing a FAFSA by July 1 of each year.

Other Sources of Assistance

Arkansas National Guard

Act 82 of 2005 provides a tuition and waiver assistance program for soldiers and airmen of the Arkansas National Guard. Members of the Arkansas National Guard should contact the Student Accounts Office for information.

Dr. James I. Balch Student Loan Fund

An interest-free loan to be repaid in installments of twenty percent, forty percent, and forty percent at nine, eighteen, and thirty-six month intervals. A student must be a junior or senior with a 3.0 cumulative grade point average, must demonstrate financial need, and must file a separate loan application. Information regarding the application process is available through the Payroll and Special Services Office.

Military Activation

Students who cease attendance at Arkansas Tech University without completing and receiving a grade in one or more courses due to military activation or deployment may receive compensation for the resulting monetary loss as provided by Act 85 of 2005. Please contact the Registrar's Office for information.

Native American Out-of-State Waiver

Arkansas Tech University offers in-state tuition rates to Native American students in other states belonging to tribes which formerly lived in Arkansas, before relocation, and whose names are on the rolls of tribal headquarters. Tribes thus identified include the Caddo, Cherokee, Chickasaw, Choctaw, Creek (Muskogee), Delaware, Kickapoo, Osage, Quapaw, Shawnee, and Tunica. Students who qualify for in-state tuition for fee purposes may apply for freshman academic scholarship. For more information contact the Office of Admissions at (800) 582-6953.

Over 60 Tuition Waiver

Arkansas residents who are sixty or older on the first day of class may have tuition and fees waived upon completion of certification of eligibility. Students must notify the Financial Aid Office each semester of the number of enrolled hours which need to be waived. Applications are available in the Financial Aid Office.

Mr. Tommy Memorial Student Loan Fund

Arkansas Tech has a special loan fund known as the "Mr. Tommy Memorial Student Loan Fund." This fund was established by Arkansas Tech alumni as a memorial to the late E.S. Tomlinson, for many years head of the biology department. Supplementing lesser contributions by hundreds of former students is the Margaret McFadden Lykes, Jr., contribution. Loans from this fund are limited in amount and intended primarily for emergency aid to students. One semester of successful residence is required of all students applying for these loans. Information relative to this fund may be obtained from the Student Services Office.

Veterans Benefits

Arkansas Tech University is approved by the State Approving Agency (SAA) as a school whereby eligible veterans and veterans' beneficiaries may use educational benefits while working toward a degree. Eligible students should contact the Office of Veteran Services to obtain information regarding school attendance under the following programs: Title 38, Chapter 33, Post-9/11 GI Bill; Title 38, Chapter 30, Montgomery GI Bill Active Duty; Title 38, Chapter 32, Veterans Educational Assistance Program; Title 38, Chapter 35, Survivors and Dependents Education; Title 10, Chapter 1606, Montgomery GI Bill for Selective Reserves; and Title 10, Chapter 1607, Reserve Educational Assistance Program.

All students must be working toward a degree and should follow the curriculum outline for their objectives, since only specific courses may be applied toward VA certification and graduation. Enrollment certification will not be sent to the Department of Veteran's Affairs until the person applying for veteran's benefits has been admitted to the University and prior credit evaluated. Students must request certification for each term to be certified and are responsible for notifying the certifying official of any changes in enrollment status or eligibility. Veterans may be given placement credit for prior military training by providing an official military transcript or DD-214.

All active duty military service persons and veterans eligible under the GI Bill as determined by the VA who are classified as "out-of-state" for tuition purposes shall receive a waiver of out-of-state tuition charges. Arkansas Tech University complies with Section 702 of the Veterans Choice Act. For additional information, please contact the Office of Veteran Services. See also "In-State Tuition for Military Personnel, Veterans and Dependents" in the Fees and Expenses section of this catalog.

Students may stop by the Office of Veteran Services or call (479) 968-0445 if they have questions or need assistance in applying for their benefits.

Vocational Rehabilitation Assistance

Persons who have substantial handicap to employment as a result of a permanent disability may receive, at no cost to themselves, vocational counseling and some financial assistance toward the cost of their college training when the vocational objective of the disabled person is approved by the Vocational Rehabilitation Counselor. These services are available through the Division of Rehabilitation Services, 1401 Brookwood Drive, Little Rock, Arkansas 72203. Application for assistance or request for information about the program may be made to that address or to a local rehabilitation counselor.

Workforce Investment Act

The Workforce Investment Act is a federal program which provides financial assistance to individuals in need. The program's primary targets are individuals with barriers to employment and dislocated workers. Candidates who meet eligibility requirements will receive tuition and book scholarships for two years to complete an associate degree at Arkansas Tech University. WIA is an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. Requests for information about eligibility may be made through the WIA office, 104 S. Rochester, Russellville, AR 72801; telephone 968-4919; TDD/ARS: 1-800-285-1131.

University Bookstore

The Arkansas Tech University Bookstore is located in the Young Building. The Tech Bookstore carries all required course materials including a large selection of textbooks for sale and rental. There are many other items available to purchase at the bookstore including apparel, gifts, caps and gowns, diploma frames, and school supplies.

Textbook Refund Guidelines

Full refunds will be given on textbook purchases and rentals until the end of the 5th class day. If a student withdraws or drops a course and has proof of such, return credit will be extended for up to three weeks after classes start.

BuyBack/Rental Return Information

The Tech Bookstore buys back books every day. However, books are typically worth more at the end of the semester as the bookstore sets prices for buyback based on demand for the upcoming semester. At the end of each semester, students are encouraged to sell back books they have purchased as well as return rented items. Rented items are typically due the Friday prior to graduation. Lost fees will be charged the Monday following the due date.

Please visit our website at <http://www.atu.edu/bookstore> for the most up-to-date information about the bookstore.

University Testing Center

The University Testing Center provides services which assist in the recruitment, retention, and graduation of students.

Testing services include providing registration information and materials and administering examinations such as the American College Test Assessment (ACT), Graduate Record Exam (GRE), Law School Admission Test (LSAT), Miller Analogies Test (MAT), Professional Assessments for Beginning Teachers (Praxis) and others. Test registration bulletins and preparatory materials are available online for many exams. Tests that will allow an individual to earn college credit by attaining the qualifying score established by Arkansas Tech University are also administered and include Advanced College Placement (AP), College Level Examination Program (CLEP), National League for Nursing (NLN) and Arkansas Tech examinations. Arkansas Tech University placement exams include the Residual ACT and the Computer Adaptive Placement Assessment & Support System (COMPASS). Tests that require payment must be paid in advance at Student Accounts located in the Doc Bryan Student Services Center.

The University Testing Center is located in Doc Bryan, Suite 171 and may be reached by calling 479-968-0302 or fax 479-968-0375. For additional information, students may visit <http://www.atu.edu/testing>.

Regulations & Procedures

All students must give prompt attention to communications from faculty and staff members of the University. Most communications will be sent through the United States mail or to your official Tech e-mail address.

Academic Dishonesty

In addition to taking reasonable steps to discourage cheating, the faculty must accept a responsibility to clarify and interpret for the students matters of dishonesty, such as cheating or plagiarism.

If an occurrence of academic dishonesty is detected, the instructor should refer to the "Student Academic Conduct Policies" outlined in both the Student Handbook and the Faculty Handbook for the appropriate procedures. The policies also outline procedures to appeal a charge of academic dishonesty if the student feels the charge was inappropriate.

Academic Misconduct

Academic misconduct concerns the student's classroom behavior. This includes the manner of interacting with the professor and other students in the class. For example, students may disrupt the learning environment in a classroom through inappropriate behavior, such as, talking to students, unnecessary interruptions, attempting to monopolize the professor's attention, or being chronically late to class. Misconduct also covers verbal or nonverbal harassment and/or threats in relation to classes. Student behavior should not infringe on the rights of other students or faculty during a class.

Academic Probation

Students will be placed on academic probation whenever their semester grade point falls below 2.00 unless the cumulative grade point is 2.00 or higher. These criteria also apply to entering transfer students. Removal of probation will be accomplished by raising the cumulative grade point to 2.00 or higher.

Freshmen students who in a probationary semester fail to remove themselves will continue on probation for the following semester. Sophomore, junior, and senior students who in a probationary semester fail to remove themselves but achieve a 1.75 semester grade point will continue on probation for the following semester unless the academic suspension policy applies.

Academic Suspension

Suspension will be automatic for sophomore, junior and senior students who in a probationary semester fail to achieve a 1.75 semester grade point; or who fail to remove themselves from probation within three successive full semesters. Students may combine summer term grades at Arkansas Tech with those of the spring semester immediately preceding in order to establish eligibility for retention in college.

Suspension means that the student will not be allowed to attend Arkansas Tech the succeeding regular semester; after one regular semester the student may be eligible for readmission on academic probation. Students receiving a second academic suspension will be eligible to seek readmission one year from the date of suspension. Students who believe there are extenuating circumstances which would justify earlier readmission must contact the Registrar's Office for assistance in arranging an appeal hearing with the appropriate college dean. Students who meet the semester/year stipulation must file a request for readmission with the Registrar's Office. Readmission does not reestablish financial aid eligibility.

Students on academic suspension who wish to transfer to Arkansas Tech must meet the eligibility standards for readmission to the last college/university attended before being considered for admission to Tech.

Adding/Dropping Courses

The deadline for adding courses or changing courses or sections is given in the University calendar; thereafter, changing to audit or dropping a course are the only changes permissible. Courses officially dropped after the attendance date and through the thirteenth week of a fall or spring semester will be recorded as "W." Students may add, drop, or change sections of courses only by following the official procedure which requires that they obtain and return the necessary forms to the Registrar's Office after obtaining the formal approval of their academic advisor. Failure to complete this procedure can result in a grade of "F" being entered on the student's record. A fee of \$10 will be charged except for changes made for the convenience of the University. Please note: A student accumulating an excessive number of absences in a course may be dropped from the course by the instructor with a grade of "FE."

Auditing Courses

Auditing of courses requires official admission to the University, approval by the instructor involved, and payment of the regular fee for the course. Audit will be on a "space available" basis. Students auditing courses are subjected to the same regulations as other students with regard to registration and attendance, but they do not take examinations nor receive credit for the course. A student accumulating an excessive number of unjustifiable absences in an audited course may be administratively withdrawn at the request of the instructor. Students may change from taking a course for credit to audit during the first thirteen weeks of the semester. Students enrolled for audit who do not wish to complete the course(s) must complete official drop/withdrawal procedures stated in this section of the catalog.

Class Absence

Regular class attendance is considered essential if students are to receive maximum benefit from any course. Control of class attendance is vested in the teacher, who has the responsibility of defining early in each course his/her standards and procedures. A student accumulating an excessive number of unjustifiable absences in a course may be dropped from the course by the instructor with a grade of "FE." A student who is dropped from three courses in a semester for unsatisfactory class attendance may be immediately suspended.

Class Load Policy

A student can expect to spend 2-3 hours outside the class (for studying, homework, preparation, etc.) for each hour in the class. This means that a student can expect to spend 24-36 hours in studying for a 12 semester credit hour load. It is therefore recommended that a full-time student enroll in no more than 18 hours per semester. Students working full-time are encouraged to take no more than 12 hours per semester. Students readmitted after academic suspension cannot take more than 12 hours per semester. Students on academic probation must obtain approval from their advisor to enroll in more than 15 hours per semester.

These totals include all courses for which students may enroll. Permission to take course loads above these maximums must be obtained in advance of registration from the dean of the college of the student's major.

Course Overload

Students who enroll above the maximum loads without securing permission from the dean will be dropped from their classes. To be considered for a course overload, the student must submit a petition to the dean and should meet the following criteria:

1. Have a 3.25 minimum grade point average in the preceding summer term (minimum: 12 semester hours) or in the preceding fall or spring semester (minimum: 12 semester hours) at the university, or
 2. Be in good academic standing in the college if in the last semester before graduation. The maximum overload permitted in any college by an approved petition is a load totaling 24 hours for a fall, spring or summer term. Overloads over 21 hours will be subject to review by the Office of Academic Affairs.
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Class Standing

Students with fewer than 30 semester hours are classified as freshmen, students with 30 through 59 semester hours as sophomores, students with 60 through 89 hours as juniors, and students with at least 90 hours as seniors.

Clemency

In accordance with Act 1000 of 1991, an undergraduate student who has previously attended Arkansas Tech University may apply to have the grades and credits earned for one or more consecutive terms or semesters removed from his/her grade point average provided the following criteria are met.

After re-entering Tech following a separation of at least three years, a student may request academic clemency at the Office of the Registrar. The student must specify the term or consecutive terms for which academic clemency is desired. The period of separation may be waived in the case of impending graduation. Academic clemency may be granted only one time and is irreversible. If the request is approved, Academic Clemency will cover all credits earned during the term or terms for which academic clemency is requested. The student's complete record will remain on the transcript with the added notation of "academic clemency granted" and the effective date.

Academic clemency does not restore eligibility for student financial aid, scholarships or athletic eligibility.

Conduct

Arkansas Tech University is dedicated to learning, the advancement of knowledge, and the development of ethically sensitive and responsible persons. Achieving these goals through a sound educational program and by implementing student conduct policies that encourage independence and maturity is a priority. Each member of the Arkansas Tech University community assumes an obligation to obey all rules and regulations made by properly constituted authorities, preserve faithfully all property provided for his or her education, and fulfill his or her duties as a student with diligence, fidelity, and honor.

Arkansas Tech University students are responsible for understanding all rules, regulations, and policies that shape the structure of our campus community. Students should read, understand, and follow the rules and regulations outlined in the Student Handbook and Student Code of Conduct as well as those outlined in the Undergraduate or Graduate Catalogs.

In compliance with the Constitution of the State of Arkansas, the Arkansas Tech University Board of Trustees is vested with authority to make regulations and policies, consistent with the laws of the land, for Arkansas Tech University. The Student Handbook is located online at www.atu.edu/studenthandbook. Students seeking interpretations of provisions within the Student Code of Conduct may contact Susie Nicholson, snicholson@atu.edu, Vice President for Student Services and University Relations or Amy N. Pennington, apennington@atu.edu, Dean of Students/ Student Conduct Administrator.

Dean's List

Undergraduate students whose term grade point at the end of the fall or spring semester is 3.50 or better, based on a minimum of 12 earned semester credit hours of undergraduate work, will be placed on the Dean's List for outstanding scholarship. Recognition will be accorded these students through appropriate news media.

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act (FERPA) afford eligible students certain rights with respect to their education records. (An "eligible student" under FERPA is a student who is 18 years of age or older or who attends a postsecondary institution.) These rights include:

1. The right to inspect and review the student's education records within 45 days after the day Arkansas Tech University receives a request for access. A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) the student wishes to inspect. The school official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the school official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes is inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA.

A student who wishes to ask the school to amend a record should write the school official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed.

If the school decides not to amend the record as requested, the school will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to provide written consent before the university discloses personally identifiable information (PII) from the student's education records, except to the extent that FERPA authorizes disclosure without consent.

The school discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by Arkansas Tech University in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person serving on the board of trustees; or a student serving on an official committee, such as a disciplinary or grievance committee. A school official also may include a volunteer or contractor outside of Arkansas Tech University who performs an institutional service or function for which the school would otherwise use its own employees and who is under the direct control of the school with respect to the use and maintenance of PII from education records, such as an attorney, auditor, or collection agent or a

student volunteering to assist another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for Arkansas Tech University.

Upon request, the school also discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Arkansas Tech University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, DC 20202

See the list below of the disclosures that Arkansas Tech University may make, without consent, under this federal law.

FERPA permits the disclosure of PII from student's education records, without consent of the student, if the disclosure meets certain conditions found in §99.31 of the FERPA regulations. Except for disclosures to school officials, disclosures related to some judicial orders or lawfully issued subpoenas, disclosures of directory information, and disclosures to the student, §99.32 of FERPA regulations requires the institution to record the disclosure. Eligible students have a right to inspect and review the record of disclosures. A postsecondary institution may disclose PII from the education records without obtaining prior written consent of the student -

- To other school officials, including teachers, within Arkansas Tech University whom the school has determined to have legitimate educational interests. This includes contractors, consultants, volunteers, or other parties to whom the school has outsourced institutional services or functions, provided that the conditions listed in §99.31(a)(1)(i)(B)(1) - (a)(1)(i)(B)(2) are met. (§99.31(a)(1))
- To officials of another school where the student seeks or intends to enroll, or where the student is already enrolled if the disclosure is for purposes related to the student's enrollment or transfer, subject to the requirements of §99.34. (§99.31(a)(2))
- To authorized representatives of the U. S. Comptroller General, the U. S. Attorney General, the U.S. Secretary of Education, or State and local educational authorities, such as a State postsecondary authority that is responsible for supervising the university's State-supported education programs. Disclosures under this provision may be made, subject to the requirements of §99.35, in connection with an audit or evaluation of Federal- or State-supported education programs, or for the enforcement of or compliance with Federal legal requirements that relate to those programs. These entities may make further disclosures of PII to outside entities that are designated by them as their authorized representatives to conduct any audit, evaluation, or enforcement or compliance activity on their behalf. (§§99.31(a)(3) and 99.35)
- In connection with financial aid for which the student has applied or which the student has received, if the information is necessary to determine eligibility for the aid, determine the amount of the aid, determine the conditions of the aid, or enforce the terms and conditions of the aid. (§99.31(a)(4))
- To organizations conducting studies for, or on behalf of, the school, in order to: (a) develop, validate, or administer predictive tests; (b) administer student aid programs; or (c) improve instruction. (§99.31(a)(6))
- To accrediting organizations to carry out their accrediting functions. §99.31(a)(7))
- To parents of an eligible student if the student is a dependent for IRS tax purposes. (§99.31(a)(8))

- To comply with a judicial order or lawfully issued subpoena. (§99.31(a)(9))
 - To appropriate officials in connection with a health or safety emergency, subject to §99.36. (§99.31(a)(10))
 - Information the school has designated as "directory information" under §99.37. (§99.31(a)(11)).
 - Directory information at Arkansas Tech University consists of the student's name, home town, electronic mail address, major field of study, enrollment status (undergraduate or graduate, full-time or part-time), dates of attendance, participation in officially recognized activities and sports, weight and height of members of athletic teams, degrees, honors and awards received.
 - "Dates of attendance" as used above means the period of time during which a student attends or attended an educational agency or institution. Examples of dates of attendance include an academic year, a spring semester or a first quarter. The term does not include specific daily records of a student's attendance at an educational agency or institution.
 - This information may be made available upon request to members of the general public.
 - If a student on the Russellville campus wishes for this "directory" information to be regarded as confidential, according to the provisions of the Family Educational Rights and Privacy Act of 1974, he or she should notify **Susie Nicholson, Vice President for Student Services and University Relations** at **snicholson@atu.edu** or **479-968-0238**.
 - If a student on the Ozark campus wishes for this "directory" information to be regarded as confidential, according to the provisions of the Family Educational Rights and Privacy Act of 1974, he or she should notify **Richard Harris, Chief Student Officer** at **rharris1@atu.edu** or **479-667-3433**.
 - To a victim of an alleged perpetrator of a crime of violence or a non-forcible sex offense, subject to the requirements of §99.39. The disclosure may only include the final results of the disciplinary proceeding with respect to that alleged crime or offense, regardless of the finding. (§99.31(a)(13))
 - To the general public, the final results of a disciplinary proceeding, subject to the requirements of §99.39, if the school determines the student is an alleged perpetrator of a crime of violence or non-forcible sex offense and the student has committed a violation of the school's rules or policies with respect to the allegation made against him or her. (§99.31(a)(14))
 - To parents of a student regarding the student's violation of any Federal, State, or local law, or of any rule or policy of the school, governing the use or possession of alcohol or a controlled substance if the school determines the student committed a disciplinary violation and the student is under the age of 21. (§99.31(a)(15))
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Grading

Final grades are reported to the Registrar's Office at the end of the semester. Midterm grades are reported for freshman and sophomore students only. A final grade of "I" may be recorded for a student who has not completed all the requirements of a course only in situations where the student has an illness or other circumstances beyond the student's control, and has completed seventy-five percent of the course requirements provided work already completed is of passing quality. If a grade of "I" is assigned, the instructor will set a reasonable time limit within the following semester in which the work must be completed. Beginning the first summer term, 1990, and thereafter, a grade of "I" will not be computed in the grade point average for the semester recorded; however, the "I" will be automatically changed to a grade of "F" for grade and grade point purposes at the end of the next regular semester (fall or spring) unless course requirements are completed and the final grade is reported before the end of the semester. A grade of "I" recorded prior to the first summer term, 1990, will be computed as an "F" for grade point purposes.

No grade other than "I" may be changed after it is recorded except if an instructor finds that a grade has been erroneously recorded. The instructor may correct the grade by submitting a written request and explanation of the error to the Vice President for Academic Affairs.

Grade points are awarded on the basis of: A, 4 points; B, 3 points; C, 2 points; D, 1 point; F, 0 points.

A grade of "Pass" for pass/fail courses is not calculated in the grade point average, but does count in earned hours. A grade of "Fail" for these courses is calculated in the grade point average as 0 points.

Graduation

Please refer to the section entitled "Graduation Requirements" for information pertaining to degree audit, application for graduation, and other graduation requirements.

Late Registration

For registration during the period stated in the University Calendar as late registration, a fee of \$25 is charged.

Repeated Courses

Students may repeat courses they have taken at Arkansas Tech University for the purpose of grade point adjustments (1) only by re-enrolling in the same courses at Arkansas Tech University and (2) subject to the following provisions. For repeated courses, only the grade from the best attempt of the repeated course is calculated into a student's cumulative grade point although all grades and all attempts are recorded on the student's academic record. Students may not repeat a course in which the highest grade possible has already been earned. Adjustments to cumulative grade points are not made for courses transferred from other colleges or universities.

Student Records

Student academic records are maintained in the Office of the Registrar. Unofficial copies of academic records are available for guidance purposes to students and their advisors. All student records are maintained in compliance with the standards and guidelines of The Family Educational Rights and Privacy Act of 1974, Federal Law 93-380.

Traffic Regulations

By authority of the Board of Trustees and in accordance with Legislative Act 328, 1967, Arkansas Tech University requires all members of the faculty, staff, student body and classified personnel to register motor vehicles which they own or operate on the Tech campus or on lands controlled by the University. All registrants shall abide by all traffic and parking regulations as outlined by a printed pamphlet available in the Doc Bryan Student Services Building, the Department of Public Safety office located at 1508 North Boulder Avenue, or online at <http://www.atu.edu/psafe/docs/ParkingMap2014.pdf>.

Registration of vehicles shall be accomplished at the time of regular registration for the fall, spring or summer semesters. Vehicles can be registered by following these steps:

- 1) Log in to OneTech (<http://onetech.atu.edu>).

- 2) Go to the "Personal Information" channel located on the welcome page.
- 3) Click on the link "Purchase Parking Permit," and follow the instructions to purchase a permit.

Individuals will need to know the make and model of their vehicle as well as their license plate number in order to complete the process listed above. Students may purchase permits with a credit card, a debit card or post the charge to their student account. Faculty and staff may purchase their permit online with a credit card or a debit card. Those purchasing their hangtags using a credit or debit card will receive an e-mail confirming their purchase. Once the parking permit is purchased, faculty, staff and students will have an opportunity to print a temporary parking permit to be displayed on their vehicle dashboard until the permanent one arrives in 7-to-10 business days.

All vehicles on Tech campus are required to register and display a current parking permit. Parameters for the operation and parking of motor vehicles may be viewed on the campus map available at the Department of Public Safety. Vehicles are defined as any self-propelled vehicle having two or more wheels.

Permits are valid from August 15th one year through August 15th of the next year. Permits must be displayed by hanging on the rear view mirror so the number can be read through the front windshield from the outside; they may not be taped on the vehicle or laid on the dash or seat. These permits can be moved from vehicle to vehicle. Permits are the responsibility of the purchaser and must be removed prior to sale or transfer of the vehicle, upon termination of employment or withdrawal from the University. Only one permit per individual can be purchased unless the prior permit was lost or stolen. The reported lost or stolen permit will be invalid. There is no refund for permit cost. The registration fee, penalties and fines are published in the ATU parking map.

Temporary permits are available at the Department of Public Safety for faculty, staff and students who have misplaced their permits.

Withdrawals

A student who wishes to withdraw from school during a semester is required to follow the official withdrawal procedure which requires submitting a written request to the Office of the Registrar. Students who withdraw without following this required procedure will have their grades recorded as "F." If a student withdraws officially, the procedure for recording grades is identical with that for dropping an individual course, as described in this section under the heading "Adding/Dropping Courses." If a student withdraws from school during the final two weeks of a semester, the Vice President for Academic Affairs may waive the requirement that grades of "F" be recorded if the circumstances forcing a withdrawal justify special consideration.

University Policy

While every effort will be made to conform to catalog announcements, the University reserves the right to adapt its program as may be necessary.

Graduation Requirements

Major fields of study leading to a bachelor degree are offered in accounting, agriculture business, agriculture education, art education, biology, business data analytics, business education, chemistry, chemistry education, computer science, creative writing, creative writing education, economics and finance, elementary education, environmental science, fine arts, electrical engineering, emergency management, engineering physics, English, English education, fisheries and wildlife science, foreign language, foreign language education, game and interactive design media, geology, graphic design, health and physical education, health information management, history, hospitality administration, information systems, information technology, international studies, journalism, life science for teacher licensure, management and marketing, mathematics, mathematics education, mechanical engineering, medical technology, middle level education, music, music education, nuclear physics, nursing, physical science, physics, physics education, political science, professional studies, psychology, public history, recreation and park administration, rehabilitation science, social studies education, sociology, speech, and speech education.

Associate degrees are offered in criminal justice, culinary management, early childhood education, general education, information technology, nuclear technology and Ozark-Ouachita studies.

Students may graduate under the catalog in force when they first enroll in the University, or any subsequent catalog, subject to the approval of the appropriate department head and dean. Students should keep in mind that curricula change in order to maintain relevance, up-to-date knowledge, and, in some cases, accreditation standards. The University reserves the right to make effective immediately any change in graduation requirements for students whose studies have not advanced beyond the level at which the change becomes operative.

Degree Audit and Application for Graduation

Candidates for graduation must complete a degree audit and an application for graduation. Seniors completing graduation requirements at the end of the fall semester must submit to the Registrar's Office an application for graduation and complete a degree audit in consultation with their advisor on or before the end of the eighth week of the previous fall semester. Seniors completing graduation requirements at the end of the spring semester or either of the following summer sessions must submit an application for graduation and complete a degree audit in consultation with their advisor on or before the end of the eighth week of the previous spring semester.

Students who file an application for graduation but fail to complete all graduation requirements as planned must submit a new degree audit and new application for graduation.

Financial Obligation

Before any transcript is issued, the student must have paid any debt owed the University.

Graduation Honors

The bachelor's degree with honors will be conferred upon candidates who at graduation have earned a minimum grade point average on all courses taken at Arkansas Tech as follows: Summa Cum Laude-3.900 - 4.000, Magna Cum Laude-3.700 - 3.899, Cum Laude-3.500 - 3.699. Graduation honors will be determined by work taken at Arkansas Tech only. The associate degree with honors will be conferred upon candidates subject to the grade point average criteria listed above.

Commencement Participation

Students must complete all degree requirements prior to participating in the December, May, or August commencement ceremonies. Students completing all degree requirements in the fall semester will participate in the December commencement ceremony; spring semester will participate in the May commencement ceremony; and summer sessions will participate in the commencement ceremony held in August. Students will not participate in the commencement ceremony if all degree requirements are not completed prior to the ceremony. Students not completing all requirements will participate in the next scheduled commencement ceremony providing all degree requirements are met. Students taking courses at other institutions must have official transcripts submitted to the Registrar's Office and have completed all degree requirements prior to the commencement ceremony to be allowed to participate.

Participation in commencement is expected of all candidates for degrees. Students who are unable to participate may officially petition the Vice President for Academic Affairs in writing for permission to have the degree awarded in absentia.

Students who do not have a minimum grade point of 2.00 in the major and overall will not be eligible to participate in the commencement ceremony.

Academic regalia shall be worn by the student during the graduation ceremony (see University Bookstore). The academic regalia will consist only of the cap and gown. No decorations, writings, necklaces, braids, cords, medallions or other items other than Arkansas Tech University Honors cords, University Honors program medallions, Tradition Keepers cords and pins representative of university groups shall be worn or placed on the gown. Decoration on caps is permitted.

Diplomas are mailed to graduates six to eight weeks following commencement.

Requirements for Baccalaureate Degrees

In compliance with Act 1014 of 2005, Arkansas Tech University has developed guaranteed, eight-semester degree completion plans for most of the baccalaureate degree programs offered by the institution.

A. General Requirements

1. A student must earn a minimum of 30 semester hours taken from Arkansas Tech, at least 6 semesters hours of which must be upper division work in the student's major. Certain programs may have more rigorous standards due to, for example, accreditation standards or licensure requirements.
2. No more than a total of 30 semester hours of correspondence, extension, military service, or credit by examination work may be applied as credit towards a degree.
3. At least 120 semester hours (excluding pre-college level courses) must be successfully completed.
4. The cumulative grade point average must not be less than 2.00 and not more than 25 percent of the semester hours may carry the "D" grade. Students must have a 2.00 grade point in their major and a 2.00 grade point in their minor, if applicable.
5. At least 40 semester hours must be in junior and senior courses, preferably more.
6. No more than four semester hours of activity credit may be counted toward graduation. The only exception is that a student may have the standard allowance of military credit (three hours of military science and three hours of PE credit) and four other hours of activity credit for a total of ten semester hours. A student registering for an activities course in excess of these limits receives no credit for the additional course and the grade is not included in the computation of grade point.
7. Only six hours of freshman English composition may be used to satisfy degree requirements.

8. For non-business majors, no more than 30 hours of courses offered by the College of Business may be counted towards completion of degree requirements.

B. General Education Requirements

To meet the need for all students to have educational experiences which broaden their knowledge of the arts, humanities, and sciences, all curricula are designed to include basic courses in these areas. Students should refer to the curriculum in their major area of study for specific courses either recommended or required by the academic department to fulfill the General Education Requirements.

C. Competence in English, Mathematics, and Reading

Each candidate for a baccalaureate degree is required to demonstrate the ability to write English clearly and correctly by completing the freshman composition courses (ENGL 1013 Composition I or ENGL 1043 Honors Composition I and ENGL 1023 Composition II or ENGL 1053 Honors Composition II) with a grade of "C" or better. A student who receives a grade of "D" or "F" in ENGL 0303 Foundational Composition, ENGL 1013 Composition I, or ENGL 1043 Honors Composition I must repeat the course to earn a grade of "C" or better before enrolling in the next course of the English sequence. The same criteria apply to transfer students.

A student who is placed in READ 0103 College Reading Skills must earn a grade of "C" or better in the course or receive a departmental waiver to complete the reading requirement.

Students showing evidence of deficiency in mathematics will be counseled to enroll in appropriate remedial courses. All students must earn a grade of "C" or higher in the course used to satisfy the general education mathematics requirement.

D. Examination for Education Majors or Teacher Candidates

Section 1 (b) of Act 5 of the first Special Extraordinary Session (1983) of the Arkansas General Assembly stipulates: "After July 1, 1984, all colleges and universities in this State shall require persons who are education majors or teacher candidates to take the examination prescribed by the State Board of Education for initial certification as a teacher in the public schools of this State and to report the results of the examination to the college or university prior to graduation. All colleges and universities in this State shall report the results of the examinations to the Department of Education upon request."

E. An official record of any correspondence or transfer work completed at another institution must be on file in the Registrar's Office prior to the end of the semester or term in which graduation is planned.

Requirements for a Minor

Arkansas Tech University offers 41 minors with requirements varying from 16-22 semester hours. Only candidates for a bachelors degree are eligible for minors. In order for the minor to be awarded a student must earn a 2.0 grade point average in the courses used to complete the minor. A minimum of 6 semester hours must be taken in residence and the same catalog must be used to complete requirements for both the major and the minor. Specific requirements for each minor are stated in the respective sections of this catalog.

Requirements for Associate Degrees

The requirements for associate degrees in culinary management, information technology, and nuclear technology are outlined under the statements of the College of Engineering and Applied Sciences. Requirements for the associate degree in early childhood education are outlined under the statements of the College of Education. The requirements for the associate degrees in criminal justice, general

education, and Ozark-Ouachita studies are outlined under the statements of the College of Arts and Humanities. In addition to completing the necessary hours prescribed, candidates for associate degrees must meet the following requirements:

1. A student must earn a minimum of 30 semester hours taken from Arkansas Tech.
 2. No more than a total of 30 semester hours of correspondence, extension, military service, or credit by examination work may be applied as credit towards a degree.
 3. Refer to major field of study for semester hour requirements.
 4. The cumulative grade point average must not be less than 2.00 and not more than 25 percent of the semester hours may carry the "D" grade. Students must have a 2.00 grade point in their major.
 5. No more than four semester hours of activity credit may be counted toward graduation. The only exception is that a student may have the standard allowance of military credit (three hours of military science and three hours of PE credit) and four other hours of activity credit for a total of ten semester hours. A student registering for an activities course in excess of these limits receives no credit for the additional course and the grade is not included in the computation of grade point.
 6. Only six hours of freshman English composition may be used to satisfy degree requirements.
 7. An official record of any correspondence or transfer work completed at another institution must be on file in the Registrar's Office prior to the end of the semester or term in which graduation is planned.
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Requirements for Additional Degrees

For both baccalaureate and associate degrees, a student may not receive multiple degrees within a semester for a single approved degree program. Students wishing to earn multiple degrees in different degree programs within the same semester may do so by completing all degree requirements for each degree, which typically takes more than 120 hours.

Baccalaureate Degrees

Students who have already received a baccalaureate degree may earn an additional baccalaureate degree by completing a minimum of 30 additional semester hours from Arkansas Tech, at least 6 semester hours of which must be upper division work in the student's major. Certain programs may have more rigorous standards due to, for example, accreditation standards or licensure requirements. All degree requirements must be satisfied. Students pursuing a second baccalaureate degree must use the Arkansas Tech University catalog in effect at the time they first enroll subsequent to receiving the first degree or any subsequent Tech catalog provided they were enrolled at the University during the year the catalog was in effect.

Associate Degrees

To complete an additional associate degree, whether the first degree is a bachelor or associate, the following must be completed: (a) a minimum of 30 semester hours at Arkansas Tech in addition to the hours for the first degree, (b) all University catalog requirements for the major field of study, (c) applicable requirements specified under "Requirements for Associate Degrees".

Students pursuing an associate degree must use the Arkansas Tech University catalog in effect at the time they first enroll subsequent to receiving the first degree or any subsequent Tech catalog provided they were enrolled at the University during the year the catalog was in effect.

Assessment Program

Arkansas Tech University (ATU) is dedicated to providing a wide range of traditional and innovative academic programs and is committed to the advancement of student learning and continuous improvement of academic programs and university services. Assessment is at the core of continuous improvement, therefore, students are responsible for participating in state and institutional assessment activities.

General Education Requirements

The general education curriculum is designed to provide a foundation for knowledge common to educated people and to develop the capacity for an individual to expand that knowledge over his or her lifetime. Students who have completed the general education curriculum at Arkansas Tech University will be able to:

Communicate effectively

Think critically

Develop ethical perspectives

Apply scientific and quantitative reasoning

Demonstrate knowledge of the arts and humanities

Understand wellness concepts

To accomplish the above goals, Arkansas Tech requires the completion of the following general education curriculum. Students should refer to the curriculum in their major area of study for specific courses either recommended or required by the academic department to fulfill the general education requirements.

English - 6 hours

(See Course Descriptions for minimum grade requirements)

Three hours from one of the following:

ENGL 1013 Composition I

ENGL 1043 Honors Composition I

Three additional hours from one of the following:

ENGL 1023 Composition II

ENGL 1053 Honors Composition II

Mathematics - 3 hours

(See Course Descriptions for minimum grade requirements)

Three hours from one of the following:

MATH 1003 College Mathematics

MATH 1113 College Algebra

Any higher level mathematics course

Science - 8 hours

Complete a total of eight hours of science with laboratory

US History or Government - 3 hours

Three hours from one of the following:

HIST 1903 Survey of American History
HIST 2003 United States History to 1877
HIST 2043 Honors United States History to 1877
HIST 2013 United States History since 1877
POLS 2003 American Government

Social Sciences, Fine Arts/Humanities, Speech Communications - 15 hours

(Complete one of the following 3 options):

Option 1:

Social Sciences - 6 hours
Fine Arts and Humanities - 6 hours
Speech Communications - 3 hours

Option 2:

Social Sciences - 6 hours
Fine Arts and Humanities - 9 hours

Option 3:

Social Sciences - 9 hours
Fine Arts and Humanities - 6 hours

Speech Communications

COMM 1003 Introduction to Speech Communication
COMM 2003 Public Speaking
COMM 2173 Business and Professional Speaking

Social Sciences

(Students majoring in engineering may substitute up to six hours of upper level humanities, social sciences, mathematics, or science)

AGBU 2063 Principles of Agriculture Macroeconomics
AGBU 2073 Principles of Agriculture Microeconomics
AMST 2003 American Studies
ANTH 1213 Introduction to Anthropology
ANTH 2003 Cultural Anthropology
ECON 2003 Principles of Economics I
ECON 2013 Principles of Economics II
ECON 2103 Honors Principles of Economics I
GEOG 2013 Regional Geography of the World
HIST 1503 World History to 1500
HIST 1513 World History since 1500
HIST 1543 Honors World History to 1500
HIST 1903 Survey of American History
HIST 2003 United States History to 1877
HIST 2013 United States History since 1877
HIST 2043 Honors United States History to 1877
POLS 2003 American Government
PSY 2003 General Psychology
SOC 1003 Introductory Sociology

Fine Arts and Humanities

ART 2123 Experiencing Art
ENGL 2003 Introduction to World Literature
ENGL 2013 Introduction to American Literature
ENGL 2023 Honors World Literature
ENGL 2173 Introduction to Film
ENGL 2183 Honors Introduction to Film
JOUR 2173 Introduction to Film
MUS 2003 Introduction to Music
PHIL 2003 Introduction to Philosophy
PHIL 2043 Honors Introduction to Philosophy
TH 2273 Introduction to Theatre

Arkansas Course Transfer System (ACTS)

Act 747 of 2011 establishes a statewide common course numbering system for postsecondary courses. The Arkansas Course Transfer System (ACTS) meets this requirement. Before you register for ATU general education courses, please see the transfer table located in the "Admissions" section of this catalog to verify whether you have courses that are transferable.

Freshman Orientation

Beginning fall, 2008, all entering freshmen are required to take an orientation course during their first semester of enrollment (fall or spring). A number of the academic majors have an orientation course designed specific to the major. Students whose declared major does not have an orientation course or who are undeclared will take CSP 1013 Principles of Collegiate Success, or TECH 1001 Orientation to the University.

All orientation courses are designed to introduce the beginning student to the Arkansas Tech University campus, its culture, and traditions, and will contain certain common topics. Important policies governing campus life will be explained, and campus resources will be identified. Topics covered in each course will answer many questions typical freshmen have, which will assist in the transition from a high school environment. Subject matter will include managing time, setting academic goals, exam preparation, study and note-taking skills, introduction to library resources, and choosing a major and career.

State Minimum Core

The courses that comprise Tech's general education curriculum also constitute the University's State Minimum Core, established in accordance with Act 98 of 1989, for implementation the fall semester of 1991. Act 98 requires colleges and universities to identify "a minimum core of courses which shall apply toward the general education core curriculum requirements for baccalaureate degrees at state supported institutions of higher education and which shall be fully transferable between state institutions."

Credit By Examination

Arkansas Tech University recognizes the rigor of Advanced Placement (AP), International Baccalaureate Programme (IB), and the College Level Examination Program (CLEP). Students who have scored accordingly on an AP, IB, or CLEP exam can earn credit toward graduation at Arkansas Tech University by receiving a qualifying score on the examinations. These credits can satisfy general education requirements.

Students who have already earned a grade in a course may not earn duplicate credit through advanced credit. Advanced credit is not used to calculate a student's grade point average, and therefore, cannot be used to retain scholarship awards.

AP, CLEP, and IB scores should be documented on your application for admission. Submit official score reports or readable copies embossed by your high school to the Office of Admissions. Students who have earned International Baccalaureate (IB) credit should submit their IB transcript for evaluation.

No more than a total of 30 semester hours of correspondence, extension, military service, or credit by examination work may be applied as credit towards a degree.

IB (International Baccalaureate) Diploma

Students who successfully complete the International Baccalaureate Diploma Programme, with a minimum score of four on each examination, will be granted 24 semester credit hours of undergraduate general education courses. ATU may grant fewer than 24 semester credit hours if the student received a score of less than four on an examination administered as part of the IB Diploma Programme.

Following are the IB examinations that Tech will accept, the corresponding qualifying score, and credit awarded.

IB Examination	Qualifying Score	Credit Awarded
Biology/Standard	4 w/diploma	BIOL 1014 Introduction to Biological Science
Biology/Higher	4	BIOL 1014 Introduction to Biological Science or BIOL 1114 Principles of Biology
Chemistry/Standard	4 w/diploma	CHEM 2124 General Chemistry I
Chemistry/Higher	4	CHEM 2124 General Chemistry I & CHEM 2134 General Chemistry II
Computer Science/Standard	4 w/diploma	COMS 2104 Foundations of Computer Programming I
Computer Science/Higher	4	COMS 2104 Foundations of Computer Programming I
Economics/Standard	4 w/diploma	ECON 2003 Principles of Economics I
Economics/Higher	4	ECON 2003 Principles of Economics I & ECON 2013 Principles of Economics II
English/Standard	4 w/diploma	ENGL 1013 Composition I
English/Higher	4	ENGL 1013 Composition I & ENGL 1023 Composition II
Environmental Systems/Higher	4	BIOL 1004 Principles of Environmental Science
Film Studies/Higher	4	ENGL 2173 Introduction to Film or JOUR 2173 Introduction to Film
Geography/Standard	4 w/diploma	GEOG 2013 Regional Geography of the World
Geography/Higher	4	GEOG 2013 Regional Geography of the World
History/Standard (U.S.)	4 w/diploma	HIST 2003 US History I
History/Higher (U.S.)	4	HIST 2003 US History I & HIST 2013 US History II
History/Standard (World)	4 w/diploma	HIST 1503 World History to 1500
History/Higher (World)	4	HIST 1503 World History to 1500 & HIST 1513 World History since 1500
Japanese: Language A or B/Standard	4 w/diploma	JPN 1013 Beginning Japanese I
Japanese: Language A or B/Standard	5 w/diploma	JPN 1013 Beginning Japanese I & JPN 1023 Beginning Japanese II
Japanese: Language A or B/Higher	4	JPN 1013 Beginning Japanese I& JPN 1023 Beginning Japanese II

Japanese: Language A or B/Higer	5	JPN 1013 Beginning Japanese I, JPN 1023 Beginning Japanese II, JPN 2013 Intermediate Japanese I & JPN 2023 Intermediate Japanese II
Math Studies/Standard	4 w/diploma	MATH 1113 College Algebra
Math Studies/Higher	4	MATH 1203 Plane Trigonometry
Math/Standard	4 w/diploma	MATH 1203 Plane Trigonometry
Math/Higher	4	MATH 2914 Calculus I
Math/Higher	5	MATH 2914 Calculus I & MATH 2924 Calculus II
Music/Standard	4 w/diploma	MUS 1713 Theory I
Music/Higher	4	MUS 1713 Theory I
Music/Higher	5	MUS 1713 Theory I & MUS 1723 Theory II
Philosophy/Standard	4 w/diploma	PHIL 2003 Introduction to Philosophy
Philosophy/Higher	4	PHIL 2003 Introduction to Philosophy
Physics/Standard	4 w/diploma	PHYS 2014 Physical Principles I
Physics/Higher	4	PHYS 2014 Physical Principles I & PHYS 2024 Physical Principles II
Psychology/Standard	4 w/diploma	PSY 2003 General Psychology
Psychology/Higher	4	PSY 2003 General Psychology
Social and Cultural Anthropology/Standard	4 w/diploma	ANTH 1213 Introduction to Anthropology
Social and Cultural Anthropology/Higher	4	ANTH 2003 Cultural Anthropology
Spanish: Language A or B/Standard	4 w/diploma	SPAN 1013 Beginning Spanish I
Spanish: Language A or B/Standard	5 w/diploma	SPAN 1013 Beginning Spanish I & SPAN 1023 Beginning Spanish II
Spanish: Language A or B/Higher	4	SPAN 1013 Beginning Spanish I & SPAN 1023 Beginning Spanish II
Spanish: Language A or B/Higher	5	SPAN 1013 Beginning Spanish I, SPAN 1023 Beginning Spanish II, SPAN 2013 Intermediate Spanish I & SPAN 2023 Intermediate Spanish II
Theater Arts/Standard	4 w/diploma	TH 2273 Introduction to Theatre
Theater Arts/Higher	4	TH 2273 Introduction to Theatre
Visual Arts/Standard	4 w/diploma	ART 2123 Experiencing Art
Visual Arts/Higher	4	ART 2123 Experiencing Art

AP (Advanced Placement) Program

High school students who participated in The College Board's AP Program may receive college credit by attaining Tech's AP qualifying score. Credit earned through AP may satisfy general education requirements. Following are the AP examinations that Tech will accept, the corresponding qualifying score required, and credit awarded.

AP Examination	Qualifying Score	Credit Awarded
Art History	4	ART 2103 Art History I
Art History	5	ART 2103 Art History I & ART 2113 Art History II
Biology	4	BIOL 1014 Introduction to Biological Science or BIOL 1114 Principles of Biology
Calculus AB	3	MATH 2914 Calculus I
Calculus BC	3	MATH 2914 Calculus I & MATH 2924 Calculus II

Chemistry	3	CHEM 1113 A Survey of Chemistry, CHEM 1111 Survey of Chemistry Laboratory & CHEM 2204 Organic Physiological Chemistry or CHEM 2124 General Chemistry I & CHEM 2134 General Chemistry II
Chinese Language & Culture	2	CHIN 1013 Beginning Chinese I
Chinese Language & Culture	4	CHIN 1013 Beginning Chinese I & CHIN 1023 Beginning Chinese II
Computer Science A	3	COMS 2104 Foundations of Computer Programming I
Computer Science A	4	COMS 2104 Foundations of Computer Programming I & COMS 2203 Foundations of Computer Programming II
English Lang/Comp or Lit/Comp	3	ENGL 1013 Composition I
English Lang/Comp or Lit/Comp	4	ENGL 1013 Composition I & ENGL 1023 Composition II
Environmental Science	4	BIOL 1004 Principles of Environmental Science, ENVS 1004 Principles of Environmental Science or PHSC 1004 Principles of Environmental Science
French Language	2	FR 1013 Beginning French I
French Language	4	FR 1013 Beginning French I & FR 1023 Beginning French II
German Language	2	GER 1013 Beginning German I
German Language	4	GER 1013 Beginning German I & GER 1023 Beginning German II
Government & Politics: Comparative	4	POLS 2403 Comparative Government
Government & Politics: US	3	POLS 2003 American Government
Human Geography	3	GEOG 2023 Human Geography
Japanese Language & Culture	2	JPN 1013 Beginning Japanese I
Japanese Language & Culture	4	JPN 1013 Beginning Japanese I & JPN 1023 Beginning Japanese II
Latin/Vergil	2	LAT 1013 Beginning Latin I
Latin/Vergil	4	LAT 1013 Beginning Latin I & LAT 1023 Beginning Latin II
Macroeconomics	4	ECON 2003 Principles of Economics I
Music Theory	3	MUS 1713 Music Theory I, MUS 1723 Music Theory II, MUS 1731 Ear Training I & MUS 1741 Ear Training II
Physics B	3	PHYS 2014 Physical Principles I & PHYS 2024 Physical Principles II
Physics C: Electricity & Magnetism	3	PHYS 2024 Physical Principles II
Physics C: Electricity & Magnetism	4	PHYS 2124 General Physics II
Physics C: Mechanics	3	PHYS 2014 Physical Principles I
Physics C: Mechanics	4	PHYS 2114 General Physics I
Physics 1	3	PHYS 2014 Physical Principles I
Physics 2	3	PHYS 2024 Physical Principles II
Psychology	3	PSY 2003 General Psychology
Spanish Language	2	SPAN 1013 Beginning Spanish I
Spanish Language	4	SPAN 1013 Beginning Spanish I & SPAN 1023 Beginning Spanish II
Spanish Literature	4	SPAN 4213 Spanish Literature
Statistics	3	MATH 2163 Introduction to Statistical Methods

Studio Art Design 2-D	4	ART 1403 Two-dimensional Design
Studio Art Drawing	4	ART 1303 Introduction to Drawing
United States/American History	3	HIST 2003 United States History to 1877 & HIST 2013 United States History since 1877
World History	3	HIST 1503 World History to 1500 & HIST 1513 World History since 1500

College Level Examination Program (CLEP)

CLEP allows students to earn credit toward graduation by attaining Tech's qualifying score on either the general and/or subject examinations. Credit earned through CLEP may satisfy general education requirements. No more than one subject examination may be taken in a particular departmental area, and students must have prior approval from the department in which they are majoring to count the hours toward graduation.

It is recommended that an ACT sub-score of 24 or above or an SAT sub-score of 500 or above be used as a guideline for attempting to earn credit through CLEP. Following are the CLEP examinations that Tech will accept, the corresponding qualifying score required, and credit awarded.

CLEP Examination	Qualifying Score	Credit Awarded
American Government	50	POLS 2003 American Government
American Literature	50	ENGL 2013 Introduction to American Literature
Biology	50	BIOL 1014 Introduction to Biological Science or BIOL 1114 Principles of Biology
Calculus	50	MATH 2914 Calculus I
Chemistry	50	CHEM 2124 General Chemistry I
Chemistry	55	CHEM 2124 General Chemistry I & CHEM 2134 General Chemistry II
College Algebra	50	MATH 1113 College Algebra
College Mathematics	50	MATH 1003 College Mathematics
College Composition	50	ENGL 1013 Composition I
College Composition	59	ENGL 1013 Composition I & ENGL 1023 Composition II
College Composition Modular	50	ENGL 1013 Composition I
College Composition Modular	59	ENGL 1013 Composition I & ENGL 1023 Composition II
English Literature	50	ENGL 3413 British Literature to 1800
English Literature	55	ENGL 3413 British Literature to 1800 & ENGL 3423 British Literature since 1800
French Language	42	FR 1013 Beginning French I
French Language	50	FR 1013 Beginning French I & FR 1023 Beginning French II
German Language	43	GER 1013 Beginning German I
German Language	55	GER 1013 Beginning German I & GER 1023 Beginning German II
History of the United States I	50	HIST 2003 United States History to 1877
History of the United States II	50	HIST 2013 United States History since 1877
Human Growth & Development	50	PSY 3813 Lifespan Development

Humanities	50	HUM 2003 Topics in Arts and Humanities
Information Systems & Computer Applications	52	COMS 1003 Introduction to Computer Based Systems
Natural Sciences	56	BIOL 1014 Introduction to Biological Science, PHSC 1013 Introduction to Physical Science , & PHSC 1021 Physical Science Laboratory
Precalculus	50	MATH 1914 Precalculus
Principles of Macroeconomics	50	ECON 2003 Principles of Economics I
Psychology, Introductory	50	PSY 2003 General Psychology
Social Sciences & History	50	HIST 1503 World History to 1500
Social Sciences & History	56	HIST 1503 World History to 1500 & HIST 1513 World History since 1500
Sociology, Introductory	50	SOC 1003 Introductory Sociology
Spanish Language	45	SPAN 1013 Beginning Spanish I
Spanish Language	55	SPAN 1013 Beginning Spanish I & SPAN 1023 Beginning Spanish II

Institutional Credit

Computer Science

Students with previous computer experience may petition the Department of Computer and Information Science for credit for COMS 1003 Introduction to Computer Based Systems. Petitioners will be given written and/or oral examinations by a computer science faculty member.

Engineering

Students who complete the appropriate Project Lead the Way (PLTW) course(s) with an average of "B" or better and score 70% or higher score on the corresponding PLTW college credit exam(s) may receive institutional credit for MCEG 1002 Engineering Graphics, and/or MCEG 1011/ELEG 1011 Introduction to Engineering.

Foreign Language

Students with previous foreign language experience may petition the Department of English and World Languages for advanced placement and credit. A foreign language faculty member will recommend an appropriate foreign language placement level. This placement level will not exceed FR 3013 Conversation and Composition II, GER 3013 Conversation and Composition II, JPN 3013 Conversation and Composition, LAT 2023 Intermediate Latin II, or SPAN 3013 Conversation and Composition II, and will be approved by the department head. Students who have omitted one or more courses in the basic language sequence will receive credit for omitted courses when they have validated their advanced placement by passing the course into which they are placed with a grade of "C" or better.

Challenge Subject Examinations

Students who have had extensive experience in health care and industrial settings may elect to attempt to earn credit through an institutional challenge examination in the following subjects or technical programs:

AHS 2013 Medical Terminology

HIM 3023 Introduction to Health Information Management

HIM 3033 Basic Coding Principles

HIM 3133 Alternative Health Records

HIM 3132 Health Data and Statistics

Nursing Examinations

Registered nurses, licensed practical nurses, and/or licensed psychiatric technician nurses seeking admission to Arkansas Tech University's nursing program may elect to demonstrate and validate previous collegiate-quality nursing education. This may be accomplished by successfully completing certain ACT-PEP, CLEP, and National League for Nursing examinations. See the Department of Nursing.

Internships

Arkansas Tech University endorses the internship approach to learning and has adopted university-wide guidelines. This approach can help students understand the reality of certain careers and supplement academic instruction with practical, realistic implementation in a work environment. Academic credit can be earned for internships in several degree programs. Please see individual programs for availability of specific degree credit.

University Honors

Dr. Ellen J. Jenkins, Director

Witherspoon Hall, Room 239B
(479) 968-0456
ejenkins@atu.edu

Dr. Julie Mikles-Schluterman, Assistant Director

Witherspoon Hall, Room 356
(479) 498-6050
jmiklesschluterman@atu.edu

The University Honors program at Arkansas Tech University is designed to provide an enriched intellectual experience for students of outstanding educational talents and leadership potential. At Arkansas Tech University, the honors student will benefit from opportunities to interact with other highly-motivated students and outstanding professors in the challenging atmosphere of small, innovative honors classes specially designed to foster rational enquiry, critical thinking, and analytical skills.

Application to University Honors should be made as early as possible during the senior year of the high school student, since the deadline for applications is noon on the first weekday in December. Honors students are selected through a process requiring admission to the university, a written essay, and a personal interview on our campus. To be eligible for University Honors, the high school student must have a cumulative grade point average of 3.5 or higher and either be in the top 10% of his high-school graduating class or have an ACT Composite of 27 or higher.

Students in the honors program take special General Education courses. Sophomores participate in on-campus volunteer projects, followed by participation as peer mentors during the junior year. The senior year requires completion of the Senior Honors Project, as well as presentation of project results at an annual Senior Honors Symposium.

Students selected for the University Honors program receive excellent scholarships as well as such privileges as the preferred preregistration, opportunities for individual directed study with Tech professors, and special recognition at commencement. The prescribed curriculum for the University Honors program is provided below.

Honors Curriculum

Freshman Year		
Fall Semester:	HONR 1003 Freshman Honors Seminar	3 hours
	HIST 1543 Honors World History to 1500 OR	3 hours
	HIST 2043 Honors United States History to 1877	
Spring Semester:	ENGL 2183 Honors Introduction to Film	3 hours
Sophomore Year		
Fall Semester:	ECON 2103 Honors Principles of Economics I	3 hours
	Campus Service Component	
Spring Semester:	PHIL 2043 Honors Introduction to Philosophy OR	3 hours
	ENGL 2023 Honors World Literature	
	Campus Service Component	
Junior Year		
Fall Semester:	Mentor incoming Honors Freshmen	
Spring Semester:	Write proposal for the Seniors Honors Project	
	ENGL 2023 Honors World Literature OR	3 hours
	PHIL 2043 Honors Introduction to Philosophy	
Senior Year		
Fall Semester:	HONR 4093 Senior Honors Project	3 hours
Spring Semester:	Honor students will present their Senior Honors Projects at the Senior Honors Symposium.	

Total Hours

21

College Distinction

College Distinction provides exceptional current Arkansas Tech students an opportunity to challenge themselves academically and gain recognition for their outstanding work in the college classroom. Students with at least sixty hours of college credit and thirty hours of course work at Arkansas Tech with a minimum 3.5 GPA are invited to participate in the program. Students who accept the invitation to pursue College Distinction will have the opportunity to take two courses designated as distinction courses. The first is an enrichment course. This course provides an extra educational experience related to the student's field of study and could include, among other experiences, study abroad, internship, service learning, or mentor-guided research. The second is an enhanced capstone course. This course demonstrates a student's ability to work at an exceptional level in a given field and is enhanced by an advanced or accelerated curriculum.

Students' successful completion of the course requirements and a graduating GPA of 3.5 or better will allow for graduation "with distinction." This will be noted on student transcripts and diplomas.

Each department within a college will identify distinction courses for each major. To see requirements for fulfillment of College Distinction in the specific departments, go to their departmental pages by following the links below.

- College of Business
- Department of Agriculture
- Department of Art
- Department of Behavioral Sciences
- Department of Biological Sciences
- Department of Communication & Journalism
- Department of Computer and Information Science
- Department of Curriculum & Instruction
- Department of Electrical Engineering
- Department of Emergency Management
- Department of English & World Languages
- Department of Health & Physical Education
- Department of History & Political Science
- Department of Mathematics
- Department of Mechanical Engineering
- Department of Music
- Department of Nursing
- Department of Parks, Recreation & Hospitality Administration
- Department of Physical Sciences
- Department of Professional Studies

For more information on College Distinction, please contact Dr. Jeff Woods, Dean of the College of Arts and Humanities at (479) 968-0274 or email at jwoods@atu.edu.

Interdisciplinary Research Center, Military Science, and ATU Museum

Interdisciplinary Research Center

The Interdisciplinary Research Center (IRC) is committed to promoting interdisciplinary research by educating the campus community about external funding opportunities and encouraging collaboration. The IRC aims to connect faculty with grant agencies and academic partners while supporting the advancement of scholarly activities . The IRC is comprised of four directors that represent the areas of Biology and Health Sciences, Natural and Applied Sciences, Social and Behavioral Sciences, and Humanities and the Arts.

Additional information can be provided by the Office of Sponsored Programs and University Initiatives by contacting ospui@atu.edu or 479-880-4327.

Military Science

Reserve Officers' Training Corps

Adjunct Faculty

Alumni House

(479) 498-6066 (Tech)

(501) 450-3145 (UCA)

Arkansas Tech University students may enroll in military science courses offered on the Arkansas Tech Campus. The objective of the department is to provide a basic military education and, in conjunction with the goals of Tech, to develop individual attributes essential to an Army officer. Instruction covers military fundamentals common to all branches of the military service.

Courses are open to all students. Requirements for enrollment in military science courses are as follows:

1. Student must be enrolled at Tech and remain at or above the University's probationary level.
 2. When contracted by the Department of Military Science, students must have a cumulative grade point average of at least 2.00; ROTC scholarship recipients must maintain a 2.50 GPA or better. Registration for military science courses is accomplished at the same time and in the same manner as registration for other courses through Tech. Students interested in this program may obtain further information by contacting the ROTC Department at (479) 498-6069.
-

Arkansas Tech University Museum

1502 North El Paso Avenue Techionery - Museum

(479) 964-0831 or

(479) 964-0826 (reception)

<http://www.atu.edu/museum>

Online Research Site: <http://atumuseum.pastperfect-online.com>

The mission of the Museum is to provide a center for collection, conservation, interpretation, and research concerned with the History of Arkansas Tech University and the stories of the people and partners that comprise that history. This knowledge and interpretation focus on the establishment, history, and

development of Arkansas Tech University, seeking to tell a compelling story of the places, events, and individuals making up the University's history to the community served by Arkansas Tech University.

The museum officially opened in April 1992 and accepts visitors between the hours of 8:30 a.m. and 4:30 p.m., Tuesday through Thursday, as well as by special arrangement, for evening programming, and through events. Examples of events are Homecoming, and *Art and Architecture: A Student Exhibition* held each spring as a cooperative program with the Art Department. Each Spring semester, the Museum offers a course entitled Interpretation/Education through Museum Methods as MUSM (ANTH, HIST) 4403 (5403). The retail aspect of the Museum is ***The Museum Store***, which serves as a conservation supplies and resource center providing advice and archival storage materials to care for family keepsakes and serve area nonprofits with collections storage solutions. Publications about Tech History are also carried by the ***Store***.

Colleges and Departments

College of Arts & Humanities

- Department of Art
- Department of Behavioral Sciences
- Department of Communication & Journalism
- Department of English & World Languages
- Department of History & Political Science
- Department of Music

College of Business

- Department of Accounting & Economics
- Department of Management & Marketing

College of Education

- Department of Curriculum & Instruction
- Department of Health & Physical Education

College of Engineering & Applied Sciences

- Department of Agriculture
- Department of Computer & Information Science
- Department of Electrical Engineering
- Department of Emergency Management
- Department of Mechanical Engineering
- Department of Parks, Recreation, & Hospitality Administration

College of eTech

- Department of Professional Studies

College of Natural & Health Sciences

- Department of Biological Sciences
- Department of Mathematics
- Department of Nursing
- Department of Physical Sciences

The College of Arts & Humanities

Programs of Study

The College of Arts and Humanities comprises six departments which offer programs of study leading to baccalaureate and associate degrees as listed below:

Associate of Arts

General Education

Associate of Science

Criminal Justice
Ozark-Ouachita Studies

Bachelor of Arts

Art Education
Communication with options in:
Speech
Theatre
Cultural and Geospatial Studies
English
English Education
Fine Arts
Foreign Language
Foreign Language Education
Graphic Design
History
International Studies with concentrations in:
Cultural Affairs
Political Affairs
Journalism with options in:
Broadcast
Print
Public Relations
Music
Political Science
Psychology
Public History
Rehabilitation Science
Social Studies Education
Sociology
Speech Education

Bachelor of Fine Arts

Creative Writing
Creative Writing Education

Bachelor of Music Education

Music Education with options in:

- Instrumental Music
- Vocal Music
- Keyboard Vocal Music
- Keyboard Instrumental Music

In addition to the degree programs offered, the College of Arts and Humanities also offers minors in:

- Anthropology
- Art
- Creative writing
- Criminal justice
- English
- French
- Geography
- German
- History
- Japanese
- Journalism
- Latin American Studies
- Military Science

- Philosophy
- Political Science
- Psychology
- Public History
- Rehabilitation Science
- Religious Studies
- Sociology
- Spanish
- Speech Communication
- Strategic Studies
- Teaching English as a Second Language
- Theatre

The college also supervises pre-professional curriculum in law and is extensively involved in the general education program.

Through these degree and pre-professional curricula, the departments in the College of Arts and Humanities prepare graduates for a variety of challenging and rewarding careers, either directly or via continued graduate or professional studies. These curricula are designed not only to develop theoretical and technical expertise in the fine arts, humanities, and social sciences, but also to nurture the ability to think clearly and express ideas persuasively. Through its general education commitment and elective offerings, the college's faculty contributes to the broadening of the knowledge and experience of all graduates of Arkansas Tech University by promoting basic competence in communication skills, by fostering an appreciation and understanding of our cultural heritage and current world affairs, and by developing problem-solving techniques.

Transfer Students

Applicability of transfer credit to meet specific degree requirements depends on the major selected by the transfer student. The transfer student should review the Transfer Credit policy in the Admission section of this catalog and meet with their academic advisor to determine final transfer credit eligibility for the selected program of study.

Department of Art

The Art Department is committed to quality visual arts education consistent with high professional standards. To achieve its mission, the Art Department seeks to provide:

1. A strong core foundation in visual art concepts and vocabulary in combination with the techniques, skills, and art processes to accomplish advanced projects.
2. Substantive curriculum content that engages and challenges students to think critically about their intellectual response to art as well as their own creative process.
3. Historical perspectives necessary for student understanding of the role of art across time, as a form of communication, and in cultural contexts.
4. Opportunities for developing a portfolio consistent with areas of professional specialization.
5. Leadership in developing and providing access to visual arts programming for the university and community.
6. Internships that offer students opportunities to work with professionals in their fields of study.

Foundations Core Courses

All majors (except Game and Interactive Media Design) will enroll in a foundations core made up of:

- ART 1303 Introduction to Drawing
- ART 1403 Two-dimensional Design
- ART 2403 Color Design
- ART 2413 Three-dimensional Design

**These courses may be taken independently of one another, and more than one may be taken in a semester.*

All art majors are required to enroll in the ART 1001 Introduction to Art course which provides an orientation to the art program and to the university, and the ART 3001 Sophomore Review course which serves as a review of the student's skills in the above four required foundation courses. All art students are also required to take twelve hours of art history.

Fine Art and Graphic Design students are required to exhibit their work in a culminating Senior Exhibition in their Senior Year.

Contact Information

Dr. Dawn M. Ward, Head

Norman Hall, Room 104

(479) 968-0244

dward23@atu.edu

Professors

David Mudrinich, Dawn Ward

Associate Professors

Lyn Brands, Ty Brunson, Neal Harrington

Assistant Professors

Joshua Fisher, Jasmine Greer, Jessica Mongeon, Dustin Simpson

For more information, please visit <http://www.atu.edu/art/>

Department of Art

Bachelor of Arts in Fine Arts

The degree Fine Arts, concentrates on drawing, painting, printmaking, ceramics, and sculpture and other special art interests.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Science with Lab ¹	4
Mathematics ¹	3	Fine Arts & Humanities ¹	3
ART 1001 Introduction to Art	1	ART 2403 Color Design	3
ART 1303 Introduction to Drawing	3	ART 2413 Three-dimensional Design	3
ART 1403 Two-dimensional Design	3		
Total Hours	16	Total Hours	16

⊕ Sophomore

Social Sciences/Fine Arts/Humanities/Speech ¹	3	Social Sciences ¹	3
Fine Arts & Humanities ¹	3	U.S. History/Government ¹	3
Science with Lab ¹	4	ART 2113 Art History II	3
ART 2103 Art History I	3	ART 2303 Figure Drawing	3
Elective ²	3	ART 3001 Sophomore Review	1
		Elective ²	2
Total Hours	16	Total Hours	15

⊕ Junior

ART 3073 Introduction to Sculpture	3	ART 3603 Introduction to Ceramics	3
ART 3303 Drawing Studio I	3	ART 3803 Introduction to Printmaking	3
ART 3403 Introduction to Opaque Painting or ART 3533 Watercolor Painting	3	Art History (3000-4000) ³	3
Art History (3000-4000) ³	3	Art Elective ²	3
Elective ²	3	Elective ²	3
Total Hours	15	Total Hours	15

⊕ Senior

Art Elective ²	6	ART 4703 Senior Project and Exhibition	3
Elective ²	9	Art Elective ²	6

Total Hours	15	Elective²	3
		Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 upper level hours are required, electives can include art courses. Art Electives are all upper level hours

³Art history electives ART 3113 Art History, American, ART 3123 Art History, Renaissance, ART 3133 Art History, Americas & Africa , ART 3143 Art History, Asia & Pacific, ART 4103 Art History, Modern 1789-1945, ART 4113 Art History, Art After 1945 , ART 4723 Art History Seminar, ART 4823 Art Criticism and Aesthetics can be used toward this requirement.

Department of Art

Bachelor of Arts in Game and Interactive Media Design

The Game and Interactive Media Design degree introduces students to the cutting edge of visual communication arts and the latest in the interactive digital technology sciences. The program prepares students for work in the video game and entertainment industries as well as a broad range of fields requiring skills in animation, simulation, programming, web design, editing, mobile application development, interactive environment construction, and story formation.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Social Sciences ¹	3
MATH 1113 College Algebra	3	ART 1403 Two-Dimensional Design	3
ART 1001 Introduction to Art	1	ART 2213 Digital Skills for the Graphic Designer	3
ART 1303 Introduction to Drawing	3	COMS 1403 Orientation to Computing	3
		COMS 1411 Computer and Information Science Lab	1
Total Hours	14	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Social Sciences ¹	3	U.S. History/Government ¹	3
Social Sciences/Fine Arts/Humanities/Communication ¹	3	Science with Lab ¹	4
ART 2223 History of Digital Art	3	ART 2303 Figure Drawing	3
COMS 2104 Foundations of Computer Programming I	4	COMS 2203 Foundations of Computer Programming II	3
Total Hours	16	Total Hours	16

⊕ Junior

ENGL 2043 Creative Writing or COMM 3163 Write Perform	3	GAME 3023 Game Development II	3
ART 3253 Digital Illustration	3	GAME 4263 3D Modeling	3
ART 4623 Animation Techniques	3	GAME 4633 3D Animation	3
GAME 3013 Game Development I	3	Electives ²	6
Elective ²	3		
Total Hours	15	Total Hours	15

⊕ Senior

GAME 4013 Senior Game Project I	3	GAME 4023 Senior Game Project II	3
GAME 4803 Game Design Theory	3	GAME 4901 Professional Portfolio	1
Elective ²	9	Elective ²	9
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 upper level hours are required.

Department of Art

Bachelor of Arts in Graphic Design

The Graphic Design program enables a student to develop the skills and techniques required to engage in the various fields of advertising art.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Science with Lab ¹	4
Mathematics ¹	3	ART 1503 Introduction to Graphic Design	3
ART 1001 Introduction to Art	1	ART 2403 Color Design	3
ART 1303 Introduction to Drawing	3	ART 2413 Three-dimensional Design	3
ART 1403 Two-dimensional Design	3		
Total Hours	16	Total Hours	16

⊕ Sophomore

Social Sciences/Fine Arts/Humanities/Speech ¹	3	U.S. History/Government ¹	3
Science with Lab ¹	4	Fine Arts & Humanities ¹	3
Fine Arts & Humanities ¹	3	ART 2113 Art History II	3
ART 2103 Art History I	3	ART 3001 Sophomore Review	1
ART 2213 Digital Skills for the Graphic Designer	3	Art Elective ²	3
		Elective ²	2
Total Hours	16	Total Hours	15

⊕ Junior

Social Sciences ¹	3	ART 3232 Production Design	2
ART 3203 Typography and Layout	3	ART 3243 Web Design	3
ART 3253 Digital Illustration	3	ART 3803 Introduction to Printmaking	3
ART 3303 Drawing Studio I or ART 4233 Illustration Studio	3	Art History (3000-4000) ³	3
Art History (3000-4000) ³	3	Elective ²	3
Total Hours	15	Total Hours	14

⊕ Senior

ART 3223 Package Design	3	ART 4231 Professional Portfolio Preparation for Graphic Designers	1
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ART 4623 Animation Techniques	3	ART 4243 Professional Portfolio Preparation for Graphic Designers	3
Elective ²	9	Elective ²	9
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 upper level hours are required, general electives can include art courses. Art electives are all upper level hours.

³Art history electives ART 3113 Art History, American , ART 3123 Art History, Renaissance, ART 3133 Art History, Americas & Africa , ART 3143 Art History, Asia & Pacific, ART 4103 Art History, Modern 1789-1945, ART 4113 Art History, Art After 1945 , ART 4723 Art History Seminar, ART 4823 Art Criticism and Aesthetics can be used toward this requirement.

Department of Art

Minor in Art

The minor program provides an opportunity to investigate a range of content and studio experiences. Students who wish to take advanced level coursework in any studio area must meet prerequisites. The minor in art requires 18 hours of courses:

- ART 1303 Introduction to Drawing
- ART 1403 Two-dimensional Design
- ART Electives (9 hours)

And 3 hours selected from the following:

- ART 2103 Art History I
- ART 2113 Art History II
- ART 2123 Experiencing Art

Department of Behavioral Sciences

The Behavioral Sciences Department includes the allied disciplines of psychology, sociology, anthropology, criminal justice, and rehabilitation science. The student is offered the opportunity to develop an understanding of human behavior via the distinctive approach of each discipline as well as an integrated view of interpersonal, social, and cultural activities.

The department has several distinctive goals. It gives basic preparation which may lead to advanced study. It provides a career line for work in state and local agencies and programs. It provides practical experience and skills in human services. Finally, it offers electives to support other programs of study in the University.

The student may select a major in Psychology, Sociology, or Rehabilitation Science. A Professional Studies degree emphasizing Criminal Justice is also available. In addition, the student may select an Associate of Science in Criminal Justice or in Ozark-Ouachita Studies or a minor in Anthropology, Psychology, Sociology, Rehabilitation Science, or Criminal Justice.

While each area outlines a complete program below, one of the objectives of the department is to maintain maximum flexibility of planning with each student within the context of the broad range of offerings. Each student is encouraged to consult with a departmental advisor at the earliest opportunity to develop a program appropriate to his/her interests and goals.

Contact Information

Dr. David Ward, Head

Witherspoon Hall, Room 348
(479) 968-0305
dward@atu.edu

Professors

Robin Bowen, David Ward, Penny Willmering

Associate Professors

Sean Huss, Joshua Lockyer, David Osburn, Julie Mikles-Schluterman, Jason Ulsperger, Jason Warnick

Assistant Professors

Steven Berg, Nate Chapman, Paul Hickerson, Rebecca McHugh, Justin Moss, Jennifer Samson, James Stobaugh, Jordan Thibodeaux, Rebecca Wiewel, Erica Wondolowski

Instructor

Jennifer Willbanks

For more information, please visit www.atu.edu/behaviorsci

Department of Behavioral Sciences

Bachelor of Arts in Psychology

The Psychology curriculum is designed to (1) prepare students for advanced study in psychology; (2) support, through electives, programs of study in other disciplines; (3) give a basis for entry into the job market; (4) arouse the curiosity of all students regarding human behavior; (5) provide opportunities for experiences outside the classroom by way of field programs and practical experiences.

The student majoring in psychology must, in addition to meeting the general education requirements:

Basic Core (12 hours):

- PSY 2003 General Psychology
- PSY/SOC 2053 Statistics for the Behavioral Sciences
- PSY/SOC 2063 Research Methods for the Behavioral Sciences
- PSY 4003 Advanced Research Methods for Psychology

Topical Core (12 hours must be chosen from these classes):

- PSY 3003 Abnormal Psychology
- PSY 3053 Physiological Psychology
- PSY 3063 Developmental Psychology I
- PSY 3073 Psychology of Learning
- PSY 3153 Theories of Personality
- PSY/SOC 4043 Social Psychology
- PSY 4073 Cognitive Psychology

Other:

- Upper Division Elective, PSY 6 hours
- ANTH 2003 Cultural Anthropology or ANTH 1213 Introduction to Anthropology and SOC 1003 Introductory Sociology
- Minor or Second Degree

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Science with Lab ¹	4
Mathematics ¹	3	PSY 2003 General Psychology	3
TECH 1001 Orientation to the University	1	Elective ^{2,3}	6
Elective ^{2,3}	6		
Total Hours	16	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	6	PSY Topical Core ⁴	3
Science with Lab ¹	4	PSY/SOC 2063 Research Design for the Behavioral Sciences	3

PSY/SOC 2053 Statistics for the Behavioral Sciences	3	Elective ^{2,3}	9
Total Hours	13	Total Hours	15

⊕ Junior

SOC 1003 Introductory Sociology	3	ANTH 1213 Introduction to Anthropology or ANTH 2003 Cultural Anthropology	3
PSY Topical Core ⁴	6	PSY Topical Core ⁴	3
Elective ^{2,3}	6	Elective ^{2,3}	9
Total Hours	15	Total Hours	15

⊕ Senior

PSY (3000-4000 level)	6	PSY 4003 Advanced Research Method and Lab for Psychology	3
Elective ^{2,3}	9	Elective ^{2,3}	12
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²A minor or second degree must be completed.

³At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

⁴See appropriate options in "Topical Core".

Department of Behavioral Sciences

Bachelor of Arts in Rehabilitation Science

The Rehabilitation Science curriculum is designed to produce undergraduate rehabilitation generalists who have training and experience conducive to successful careers in various rehabilitation service programs. Within the Rehabilitation Science major six emphasis areas are offered: 1) Addictions, 2) Aging, 3) Child Welfare, 4) Corrections, 5) Social Services, and 6) Disabilities/Vocational Rehabilitation.

The Rehabilitation Science Program is dedicated to nurturing the scholastic development, respect for diversity, ethical behavior, passion for advocacy, and professionalism of future rehabilitation practitioners. The graduates from the program will effectively serve the needs of the community, individuals with disabilities, and other human service populations. In order to accomplish this mission, the program has a primary objective to develop personnel for careers with state and private agencies that provide rehabilitation services to persons with disabilities. The program prepares scholars to enter the workforce immediately upon graduation or to pursue additional educational training in graduate school.

Upon graduation from the program students may work in a variety of roles such as case worker, case manager, parole officer, probation officer, juvenile intake officer, children and family service worker, addictions professional, or a number of rehabilitation service provider roles in direct service settings. Examples of these settings are state rehabilitation services, developmental disability centers, psychiatric treatment facilities, correctional settings, nursing homes, halfway houses, community based rehabilitation facilities, workforce centers, disability determination units, and occupational training schools.

Graduates from the program who elect to attend graduate school typically pursue degrees in rehabilitation counseling, other counseling specialties, psychology related fields, social work, occupational therapy, physical therapy, and other human service related fields of study.

The student majoring in rehabilitation science must, in addition to completing the general education requirements:

- complete the rehabilitation and related required core, including 12 hours of field placement or a 12-hour internship in rehabilitation science. If the field placements are taken instead of an internship, the student must take one placement course in the core rehabilitation area, one in the chosen primary emphasis area, and one in the chosen secondary emphasis area.
- complete a minimum of 12 non-field placement hours in a primary emphasis area and 6 hours of the indicated courses in a secondary emphasis area. Emphasis areas available are vocational rehabilitation, social services, aging, corrections, child welfare and addictions.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Mathematics ¹	3	Science with Lab ¹	4
SOC 1003 Introductory Sociology	3	ANTH 1213 Introduction to Anthropology or ANTH 2003 Cultural Anthropology	3
TECH 1001 Orientation to the University	1	PSY 2003 General Psychology	3
RS 2003 Introduction to Rehabilitation Services	3	Elective	2
Elective	2		

Total Hours	15	Total Hours	15
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⊕ Sophomore

Science with Lab ¹	4	PSY/SOC 2063 Research Design for the Behavioral Sciences	3
PSY/SOC 2053 Statistics for the Behavioral Sciences	3	RS 3004 Medical and Psychosocial Aspects of Disability	4
PSY 3063 Developmental Psychology I	3	Elective or Emphasis Area ²	8
RS 3013 The World of Work	3		
Elective	2		
Total Hours	15	Total Hours	15

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
RS 3023 Principles and Techniques of Rehabilitation Services	3	PSY 3003 Abnormal Psychology	3
RS 3073 Organization and Structure in the Rehabilitation-Human Services Setting	3	RS 3123 Ethics in Human Services	3
Elective or Emphasis Area ²	6	RS 40_4 ³	4
		Elective or Emphasis Area ²	2
Total Hours	15	Total Hours	15

⊕ Senior

RS 3133 Diversity and Inclusion in Human Services Settings	3	U.S. History/Government ¹	3
RS 40_4 ³	4	RS 40_4 ³	4
Elective or Emphasis Area ²	8	Elective or Emphasis Area ²	8
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²18 hours of emphasis area courses are required. 12 hours in a primary emphasis and 6 hours in a secondary emphasis.

³Students who choose to complete a 12 hour internship (RS 4012) will do so either their last or next to last semester and will not take the three field placements RS 40_4.

Department of Behavioral Sciences

Bachelor of Arts in Sociology

The Sociology curriculum is designed to prepare students for employment in a range of careers or for advanced study in sociology, law, criminology, criminal justice, counseling, education, research, population, social work or other related fields. Sociology prepares majors to deal with the constant social change that is today's world.

In addition to understanding the organization of social groups and the human behaviors that comprise everyday social life, sociologists remain important contributors to the collection of data pertaining to these levels of human behavior. The undergraduate sociology major learns to identify problems, formulate appropriate questions, search for answers, analyze data, organize information, and express themselves in written and spoken communication.

The undergraduate major provides a strong liberal arts degree for entry-level positions throughout the business, social service, and government worlds. In addition to the general education requirements, a student majoring in sociology must complete:

(1) 30 hours of sociology including:

- SOC 1003 Introductory Sociology
- SOC/ PSY 2053 Statistics for the Behavioral Sciences
- SOC/PSY 2063 Research Design for the Behavioral Sciences
- SOC 2073 History of Social Thought
- SOC 2083 Sociological Thought
- SOC 3163 Introduction to Social Research
- SOC 4283 Sociology Capstone
- 9 credit hours of 3000-4000 level Sociology courses

(2) Complete a minor, an associate's degree or a second degree .

(3) PSY 2003 General Psychology

(4) RS 2003 Introduction to Rehabilitation Services; and ANTH 1213 Introduction to Anthropology or ANTH 2003 Cultural Anthropology.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Fine Arts & Humanities ¹	3
TECH 1001 Orientation to the University	1	ANTH 1213 Introduction to Anthropology or ANTH 2003 Cultural Anthropology	3
SOC 1003 Introductory Sociology	3	Mathematics ¹	3
Elective ^{2,3}	3	Elective ^{2,3}	3
Total Hours	14	Total Hours	15

⊕ Sophomore

PSY 2003 General Psychology	3	U.S. History/Government ¹	3
Science with Lab ¹	4	Fine Arts & Humanities ¹	3
PSY/SOC 2053 Statistics for the Behavioral Sciences	3	SOC 2083 Sociological Thought	3
PSY/SOC 2063 Research Design for the Behavioral Sciences	3	Elective ^{2,3}	6
SOC 2073 History of Social Thought	3		
Total Hours	16	Total Hours	15

⊕ Junior

RS 2003 Introduction to Rehabilitation Services	3	SOC 3163 Introduction to Social Research	3
SOC Elective (3000-4000 level)	3	SOC Elective (3000-4000 level)	3
Elective ^{2,3}	9	Elective ^{2,3}	9
Total Hours	15	Total Hours	15

⊕ Senior

SOC Elective (3000-4000 level)	3	SOC 4283 Sociology Capstone	3
Elective ^{2,3}	12	Elective ^{2,3}	12
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²A minor, an associate's degree or a second degree must be completed.

³To be chosen in consultation with advisor. Students are strongly encouraged to pursue a foreign language. At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

Department of Behavioral Sciences

Associate of Science in Criminal Justice

The Associate of Science degree program in criminal justice is designed primarily for students interested in police work at levels other than Federal. This degree will provide the basic, foundational, knowledge to supplement the police academy experience.

Completion of the requirement for the associate's degree will provide the necessary background for those continuing study towards a bachelor's degree. To qualify for the Associate of Arts in criminal justice, the student must satisfy the associate degree requirements, see "General Education Requirements" of this catalog and complete the following curriculum:

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
Mathematics ¹	3	Fine Arts & Humanities ¹	3
TECH 1001 Orientation to the University	1	Social Sciences/Fine Arts/Humanities/Communication ¹	3
CJ/SOC 2003 Introduction to Criminal Justice	3	CJ/SOC 2043 Crime and Delinquency	3
Total Hours	14	Total Hours	16

⊕ Sophomore

U.S. History/Government ¹	3	Social Sciences ¹	6
Fine Arts & Humanities ¹	3	General Elective	6
CJ/SOC 2033 Social Problems	3	CJ Elective	3
CJ Elective	6		
Total Hours	15	Total Hours	15

¹See "General Education Requirements".

MOU Between ATU and NSU

Arkansas Tech University (ATU) and Northwestern State University (NSU) have agreed to enter into a Memorandum of Understanding for a 2+2 program between the two institutions. The 2+2 program will allow students to complete the Associate of Arts in Criminal Justice at ATU and transfer in to the Bachelor of Art Degree in Criminal Justice at NSU. More information may be obtained from the Department of Behavioral Sciences.

Department of Behavioral Sciences

Associate of Science in Ozark-Ouachita Studies

This program is designed to enhance the educational experience of students wishing to remain in the state after graduation and was derived from student interest (across academic disciplines) in a variety of topics related to the Ozark-Ouachita region. This new Associate of Science program offers the opportunity for students from three separate colleges pursuing a diversity of majors to focus their academic energy on issues of importance to Arkansas and its citizens. One goal of the program is to foster academic collaboration between the University's colleges with the hope of developing long-term research projects that combine the theories and methodologies of both the natural and social sciences. Another goal of the program is to make students uniquely employable to Arkansas businesses and to federal and state agencies targeted at cultural preservation, natural resource protection, and social services.

To qualify for the Associate of Science in Ozark-Ouachita studies, the student must satisfy the associate degree requirements of this catalog and complete the following curriculum:

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
Mathematics ¹	3	Fine Arts & Humanities ¹	3
TECH 1001 Orientation to the University	1	Social Sciences ¹	3
ANTH 1213 Introduction to Anthropology or ANTH 2003 Cultural Anthropology	3	ANTH 2103 Ozark-Ouachita Studies	3
Total Hours	14	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	3	Social Sciences ¹	6
U.S. History/Government ¹	3	Approved Electives ²	9
HIST 2153 Introduction to Arkansas History or HIST 4153 History of Arkansas	3		
SOC 2023 Sociology of the Ozark-Ouachita Region	3		
General Elective	3		
Total Hours	15	Total Hours	15

¹See "General Education Requirements".

²Approved list of electives include: ANTH 3103 Anthropology of Food, ANTH 3303 Southeastern Archaeology, ANTH 3313 Southeastern Indians, ANTH/HIST/MUSM 4403 Interpretation/Education through Museum Methods, BIOL/ENVS/PHSC 1004 Principles of Environmental Science, ENGL 4213 American Folklore, FW 2003 Elements of Fish and Wildlife Management, GEOL 1014 Physical Geology, GEOL 2024 Historical Geology, RP 1002 Backpacking, RP 1011 Sport Hunting, RP 1013 Principles of Recreation and Park Administration, SOC 3063 Communities, SOC 4183 Social Gerontology.

Department of Behavioral Sciences

Minors Available

Anthropology

The minor in anthropology concentrates on the areas of cultural anthropology. Within this subdivision, the emphasis concerns historic and contemporary cultures (ethnography) and prehistoric cultures (archeology). The Russellville Station of the Arkansas Archeological Survey is located on the Arkansas Tech University campus and offers traditional opportunities in the state for students interested in anthropology. The minor in anthropology requires 18 hours of courses:

- ANTH 1213 Introduction to Anthropology
 - ANTH 2003 Cultural Anthropology
 - ANTH Electives (12 hours)
-

Criminal Justice

The criminal justice minor is designed to prepare students for a career in the field of criminal justice, e.g. police work, probation/parole or corrections. In addition, the criminal justice minor is provided for students whose major department requires a minor. The minor in criminal justice requires 18 hours of courses:

- CJ/SOC 2003 Introduction to Criminal Justice
 - CJ/SOC 2043 Crime and Delinquency
 - CJ Electives (12 hours)
-

Psychology

The psychology minor is designed for students of any major who want to pursue an understanding of human behavior through psychology. Many majors could benefit from the psychology minor, but majors that are especially compatible include biology, business education, nursing, pre-med, pre-law, rehabilitation science, and sociology. The minor in psychology requires 18 hours of courses:

- PSY 2003 General Psychology
 - PSY Electives (3 hours)
 - PSY Electives (12 hours of 3000 or 4000 level)
-

Rehabilitation Science

The rehabilitation science minor is designed primarily for psychology and sociology majors who want to add an applied dimension to their degree and are interested in working in a human services setting after completing degree requirements. It may also be of interest to business majors interested in working in human resources, nursing majors, education majors, and other degree programs. The minor in rehabilitation science requires 18 hours of courses:

- RS 2003 Introduction to Rehabilitation Services
- RS 3023 Principles and Techniques of Rehabilitation Science
- *RS Electives (12 hours)

**Students who choose to complete a minor in rehabilitation science should consult with a rehabilitation science faculty member to discuss course selection and how they want their RS minor to supplement their major.*

Minor in Sociology

The sociology minor is designed to prepare students for employment in a range of careers that require an understanding of social processes and institutions. In addition, the sociology minor is provided for students whose major department requires a minor. The minor in sociology requires 18 hours of courses:

- SOC 1003 Introductory Sociology
- SOC/PSY 3133 Self and Society or SOC/CJ 2033 Social Problems
- SOC Electives (12 hours)

Department of Communication and Journalism

The Communication and Journalism Department offers majors in communication (speech and theatre options) and in journalism. In addition, the department offers minors in journalism, communication, and theatre. Students are involved in both the theoretical and applied dimensions of human communication in these programs. Consequently, students interested in further study and those interested in immediate career opportunities are served. With faculty guidance on the proper selection of courses, students can prepare for:

1. Graduate school
2. Public school teaching
3. Recreational or professional theatre
4. Print or broadcast journalism
5. Public relations
6. Business or government employment requiring communication expertise

Being able to speak effectively has been recognized as an indicator of the well-educated person throughout recorded history. The ancient Greeks studied the theory and practice of communication under the label of "rhetoric," which also has taken a central role in American education since Harvard was founded in 1636. Even in today's technologically sophisticated world, good human communication skills are vitally important for one's personal and professional life. The study of communication in its original form, speech, or its evolved stages of print and electronic communication can prepare the student for citizenship in a democratic society, for more satisfying relationships, and for occupational success.

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Assistant Professors

Alexis Johnson, Virginia Jones, Tommy Mumert, Billy Reeder, Megan Toland

For more information, please visit www.atu.edu/cj

Department of Communication and Journalism

Bachelor of Arts in Communication

The communication major offers a speech option and a theatre option. Both options require 30 semester hours selected from departmental course offerings. Eighteen hours of the 30-hour major must be upper division level. Students planning to teach in the public schools should refer to the suggested curriculum in Speech set forth in this catalog under teacher licensure curricula, College of Education.

Major Options

Speech
Speech Education
Theatre

Department of Communication and Journalism

Communication

Speech Option

Those students choosing the speech option must take:

- COMM 1003 Introduction to Speech - Communication
- COMM 2003 Public Speaking
- COMM 2023 Communication Research and Writing
- COMM 3123 Argumentation
- COMM 4003 Human Communication Theory

Students choosing the speech option, in consultation with an advisor, can design a program in one of the following areas of emphasis:

1. communication for the professions
2. language and culture
3. organizational communication
4. performance studies

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Social Sciences ^{1,2}	3
Science with Lab ¹	4	Mathematics ¹	3
COMM 1003 Introduction to Speech - Communication	3	Elective	6
TECH 1001 Orientation to the University	1		
Elective	3		
Total Hours	17	Total Hours	15

⊕ Sophomore

Science with Lab ¹	4	Fine Arts & Humanities ¹	3
COMM 2003 Public Speaking	3	Social Sciences ^{1,2}	3
COMM 2023 Communication Research and Writing	3	COMM 3123 Argumentation	3
COMM Elective	3	Elective	6
Elective	3		
Total Hours	16	Total Hours	15

⊕ Junior

COMM Elective (3000-4000 level)	6	Fine Arts & Humanities ¹	3
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Elective	9	COMM Elective (3000-4000 level)	3
		Elective (3000-4000 level)	9
Total Hours	15	Total Hours	15

⊕ Senior

COMM 4003 Human Communication Theory	3	COMM Elective	3
Elective (3000-4000 level)	12	COMM Elective (3000-4000 level)	3
		Elective (3000-4000 level)	1
		Elective	5
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Certain electives and social sciences are recommended based on student's emphasis.

Department of Communication and Journalism

Communication

Theatre Option

Those students choosing the theatre option must take

- COMM 2013 Voice and Diction
- TH 2203 Play Analysis
- TH 2513 Introduction to Theatrical Design and Production
- TH 2703 Acting Theories and Technologies
- TH 3513 Stagecraft Techniques

3 hours of Theatre History

- TH 4313 Theatre History I: Antiquity to Romanticism
- TH 4323 Theatre History II: Late 18th Century to the Present

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Social Sciences ^{1,4}	3
U.S. History/Government ¹	3	Mathematics ¹	3
TH 2203 Play Analysis	3	Elective ⁴	6
TH 2703 Acting Theories and Technologies	3		
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	15

⊕ Sophomore

Social Sciences ^{1,4}	3	Social Sciences/Fine Arts/Humanities/Communication ^{1,4}	3
Science with Lab ¹	4	Fine Arts & Humanities ^{1,4}	3
TH 2513 Introduction to Theatrical Design and Production	3	COMM 2013 Voice and Diction	3
Theatre Practicum	1	Elective ⁴	6
Elective ⁴	6		
Total Hours	17	Total Hours	15

⊕ Junior

Fine Arts & Humanities ^{1,4}	3	TH History ²	3
TH 3513 Stagecraft Techniques	3	TH Elective (3000-4000 level) ³	3

TH Elective (3000-4000 level) ³	3	Elective ⁵	9
Elective ⁵	6		
Total Hours	15	Total Hours	15

⊕ Senior

Theatre Practicum	1	Theatre Practicum	1
TH Elective (3000-4000 level) ³	3	TH Elective (3000-4000 level) ³	3
Elective ⁵	11	Elective ⁵	7
Total Hours	15	Total Hours	11

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Choose one: TH 4313 Theatre History I: Antiquity to Romanticism, TH 4323 Theatre History II: Late 18th Century to the Present.

³A maximum of seven hours of theatre practicum courses may be counted toward the thirty-hour major.

⁴Certain electives and social sciences are recommended based on student's emphasis.

⁵At least 40 of the total hours required for graduation must be 3000-4000 level courses.

Department of Communication & Journalism

Bachelor of Arts in Journalism

The journalism major requires 40-41 semester hours in Journalism: 21 hours of core requirements, 12-13 hours in one of three options (print, broadcast, or public relations), 3 hours of journalism electives, and 4 hours of practicum. Students may take a total of eight hours of practicum coursework; however, only four will count toward the major. The 12 hours in any option must include the pertinent writing course.

Major Options

Broadcast
Print
Public Relations

Recommended courses for each option are listed, with substitutions possible with the approval of the student's advisor and department head. Moreover, Journalism requires two semesters (6 hours) of one foreign language; and all majors must know how to type on a computer keyboard.

Journalism Core Requirements

- JOUR 2133 Introduction to Mass Communication
- JOUR 2143 Media Writing
- JOUR 2163 Introduction to Multimedia
- JOUR 3133 Media Management and Diversity
- JOUR 3143 News Reporting
- JOUR 4123 Laws of Communication
- JOUR 4883 Mass Communication Theory

Department of Communication & Journalism

Broadcast Journalism Option

Required Courses:

- JOUR 2153 Introduction to Telecommunication
- JOUR 3183 Broadcast Media Writing
- JOUR 3193 New Media News Gathering
- JOUR 4133 Television Program Production

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Mathematics ¹	3
Science with Lab ¹	4	Social Sciences ¹	3
JOUR 2133 Introduction to Mass Communication	3	JOUR 2163 Introduction to Multimedia	3
TECH 1001 Orientation to the University	1	Elective ^{2,5}	2
Total Hours	14	Total Hours	14

⊕ Sophomore

Beginning Language I ^{4,6}	3	Beginning Language II ^{4,6}	3
Social Sciences/Fine Arts/Humanities/Communication ¹	3	Fine Arts & Humanities ¹	3
Science with Lab ¹	4	U.S. History/Government ¹	3
JOUR 2143 Media Writing	3	Broadcast Option Course ³	3
Broadcast Practicum ⁵	1	Broadcast Practicum ⁵	1
Elective ^{2,5}	1	Elective ^{2,5}	2
Total Hours	15	Total Hours	15

⊕ Junior

Fine Arts & Humanities ¹	3	Broadcast Option Course ³	3
Broadcast Option Course ³	3	Broadcast Practicum ⁵	1
Broadcast Practicum ⁵	1	JOUR 3143 News Reporting	3
JOUR 3133 Media Management and Diversity	3	Elective ^{2,5}	9
Elective ^{2,5}	6		
Total Hours	16	Total Hours	16

⊕ Senior

JOUR Elective ⁵	3	JOUR 4883 Mass Communication Theory	3
JOUR 4123 Laws of Communication	3	Broadcast Option Course ³	3
Elective, ^{2,5}	8	Elective ^{2,5}	10
Total Hours	14	Total Hours	16

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Recommended electives include COMM 2003 Public Speaking, COMM 2013 Voice and Diction, COMM 3003 Interpersonal Communication, COMM 3063 Oral Interpretation, COMM 3073 Group Communication; SOC 1003 Introductory Sociology; PSY 2003 General Psychology; ECON 2003 Principles of Economics I; POLS 2003 American Government, POLS 3033 American State and Local Government.

³Broadcast option courses include JOUR 2153 Introduction to Telecommunication, JOUR 3183 Broadcast Media Writing, JOUR 3193 New Media News Gathering and JOUR 4133 Television News Production.

⁴Must be same language.

⁵At least 40 of the total hours required for graduation must be 3000-4000 level courses.

⁶Students may waive three hours of language requirement for every one year of language study in high school with grades of "C" or better.

Department of Communication & Journalism

Print Journalism Option

Required Courses

- JOUR 3153 Feature Writing
- JOUR 3174 Copy Editing
- JOUR 4053 Mass Communication Seminar
- JOUR 4143 Advanced Reporting

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
Science with Lab ¹	4	Mathematics ¹	3
JOUR 2133 Introduction to Mass Communication	3	JOUR 2163 Introduction to Multimedia	3
TECH 1001 Orientation to the University	1	Elective ^{2,5}	2
Total Hours	14	Total Hours	14

⊕ Sophomore

Beginning Language I ^{4,6}	3	Beginning Language II ^{4,6}	3
Social Sciences/Fine Arts/Humanities/Communication ¹	3	Fine Arts & Humanities ¹	3
Science with Lab ¹	4	U.S. History/Government ¹	3
JOUR 2143 Media Writing	3	Print Option Course ³	3
Journalism Practicum ⁵	1	Journalism Practicum ⁵	1
Elective ^{2,5}	1	Elective ^{2,5}	3
Total Hours	15	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	3	Print Option Course ³	4
JOUR 3133 Media Management and Diversity	3	Journalism Practicum ⁵	1
Journalism Practicum ⁵	1	JOUR 3143 News Reporting	3
Elective ^{2,5}	9	Elective ^{2,5}	8
Total Hours	16	Total Hours	16

⊕ Senior

Print Option Course ³	3	JOUR 4053 Mass Communication Seminar	3
JOUR 4123 Laws of Communication	3	JOUR 4883 Mass Communication Theory	3
Elective ^{2,5}	8	JOUR Elective (3000-4000 level)	3
		Elective ^{2,5}	6
Total Hours	14	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements"

²Recommended electives include SOC 1003 Introductory Sociology, PSY 2003 General Psychology, ECON 2003 Principles of Economics I, POLS 2003 American Government, POLS 3033 American State and Local Government, COMM 2003 Public Speaking, COMM 3003 Interpersonal Communication.

³Print option courses include JOUR 3153 Feature Writing, JOUR 3174 Copy Editing, JOUR 4143 Advanced Reporting.

⁴Must be same language.

⁵At least 40 of the total hours required for graduation must be 3000-4000 level courses.

⁶Students may waive three hours of language requirement for every one year of language study in high school with grades of "C" or better.

Department of Communication & Journalism

Public Relations Option

Required Courses:

- JOUR 3173 Public Relations Principles
- JOUR 3273 Public Relations Writing
- JOUR 4073 Graphic Communication
- JOUR 4173 Public Relations Project

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
Science with Lab ¹	4	Mathematics ¹	3
JOUR 2133 Introduction to Mass Communication	3	JOUR 2163 Introduction to Multimedia	3
TECH 1001 Orientation to the University	1	Elective ^{2,3,5}	2
Total Hours	14	Total Hours	14

⊕ Sophomore

Beginning Language I ^{4,6}	3	Beginning Language II ^{4,6}	3
Social Sciences/Fine Arts/Humanities/Communication ¹	3	Fine Arts & Humanities ¹	3
Science with Lab ¹	4	U.S. History/Government ¹	3
JOUR 2143 Media Writing	3	JOUR Elective(3000-4000 level)	3
Journalism Practicum	1	Journalism Practicum	1
Elective ^{2,3,5}	1	Elective ^{2,3,5}	4
Total Hours	15	Total Hours	17

⊕ Junior

Fine Arts & Humanities ¹	3	JOUR 3143 News Reporting	3
JOUR 3133 Media Management and Diversity	3	JOUR 3273 Public Relations Writing	3
JOUR 3173 Public Relations Principles	3	Journalism Practicum	1
Journalism Practicum	1	Elective 2,3,5	7
Elective ^{2,3,5}	6		
Total Hours	16	Total Hours	14

⊕ Senior

JOUR 4073 Graphic Communication	3	JOUR 4173 Public Relations Project	3
JOUR 4123 Laws of Communication	3	JOUR 4883 Mass Communication Theory	3
Elective ^{2,3,5}	10	Elective ^{2,3,5}	8
Total Hours	16	Total Hours	14

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Recommended PR electives: POLS 3053 Introduction to Public Administration, PSY 2023 Consumer Psychology, COMM 3073 Group Communication, COMM 4063 Organizational Communication, COMM 4173 Internship in Speech Communication, an approved marketing class.

³Recommended JOUR electives: SOC 1003 Introductory Sociology, PSY 2003 General Psychology, ECON 2003 Principles of Economics I, POLS 2003 American Government, POLS 3033 American State and Local Government, COMM 2003 Public Speaking, COMM 3003 Interpersonal Communication.

⁴Must be in the same language.

⁵At least 40 of the total hours required for graduation must be 3000-4000 level courses.

⁶Students may waive three hours of language requirement for every one year of language study in high school with grades of "C" or better.

Department of Communication & Journalism

Minors Available

Journalism

The minor in journalism is designed for students with any major who wish to better understand the role of media in a free society, and/or who anticipate dealing with media outlets in their future careers. The minor in journalism requires 18 hours of courses:

- JOUR 2133 Introduction to Mass Communication
 - JOUR 2143 Media Writing
 - JOUR 4883 Mass Communication Theory
 - JOUR Electives (9 hours of 3000 or 4000 level from the three Journalism options)
-

Social Media

The minor in social media will provide students outside of the Department of Communication and Journalism the opportunity to gain general and practical knowledge and skills that will be beneficial to them and expand their career options. The minor in social media requires 21 hours of courses:

- COMM 4153 Persuasive Theory and Audience Analysis
 - JOUR 2163 Introduction to Multimedia
 - JOUR 3173 Public Relations Principles
 - JOUR 3273 Public Relations Writing
 - JOUR 4023 Social Media
 - JOUR 4083 Computer Mediated Communication or JOUR 4123 Laws of Communication
 - MKT 3163 Consumer Behavior or PSY 2023 Consumer Psychology
-

Speech Communication

The minor in speech communication is designed for students with any major who recognize the need for communication skills in order to achieve their career goals. The minor in speech requires 18 hours of courses:

- COMM 2003 Public Speaking
 - COMM 3123 Argumentation
 - COMM Electives (12 hours of 3000 or 4000 level)
-

Theatre

The minor in theatre is designed for students with any major who wish to acquire a better knowledge and understanding of the theatrical arts in order to enrich cultural experiences in their life. The minor in theatre requires 18 hours of courses:

- TH 2203 Play Analysis
- TH 2513 Intro to Theatre Design and Production
- TH 2703 Acting Theories and Techniques
- TH 3513 Stagecraft Techniques
- TH Elective (3 hours)

and 3 hours selected from the following:

- TH 4313 Theatre History I: Antiquity to Romanticism
- TH 4323 Theatre History II: Late 18th Century to the Present

Department of English & World Languages

The Department of English and World Languages offers majors and teacher licensure in creative writing, English, and Spanish. In addition, the department offers minors in creative writing, English, film studies, French, German, Japanese, Latin American/Latino studies with language proficiency, Latin American/Latino studies without language proficiency, Spanish, Spanish medical Interpretation and teaching English as a second language.

Contact Information

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Assistant Professors

Rebecca Garvin, Micah Hicks, Mary Sharpe, Sarah Stein, Arwen Taylor, Robert Vork

Instructors

Nancy Cox, Jill Greenwood, Brent Hogan, Patricia Joselin, Browder Swetnam, Will Taylor

For more information, please visit www.atu.edu/worldlanguages

Department of English & World Languages

Bachelor of Fine Arts in Creative Writing

For students interested in Creative Writing for Teacher Licensure, click [here](#).

The program in creative writing seeks to help students develop their creative potential, especially in writing; explore the practical aspects of publishing and getting published; learn a respect for and an understanding of language; appreciate and profit from a study of our common literary heritage; increase their awareness of and empathy for diverse peoples and cultures; discover the relevance of ideas and values found in their reading; and learn to think critically and evaluate wisely.

Creative writing majors are prepared for a variety of careers in advertising, communications, education, government, management, personnel work, public relations, and sales. A degree in English also provides an excellent undergraduate preparation for the student planning to pursue graduate study of business, law, or the humanities.

The degree program in creative writing requires 45 hours in English:

- ENGL 2043 Introduction to Creative Writing
- ENGL 2063 Advanced Composition: Practice and Theory
- ENGL 3043 Literary Editing and Publishing
- ENGL 3083 Fiction Workshop
- ENGL 3093 Poetry Workshop
- ENGL 3313 American Literature to 1900
- ENGL 3323 Modern American Literature
- ENGL 3413 British Literature to 1800
- ENGL 3423 British Literature since 1800
- ENGL 4093 Seminar in Creative Writing
- ENGL 4813 Senior Project in Creative Writing
- and four English electives

The creative writing major must complete two semesters in one foreign language or have completed two years of language study in high school with grades of "C" or better.

Students who plan to use a creative writing degree as a preparation for law school are encouraged to complete some of the following electives in addition to their required courses:

- BLAW 2033 Legal Environment of Business
- CJ/SOC 2043 Crime and Delinquency
- CJ/POLS 3023 Judicial Process
- CJ 4023 Law and the Legal System
- CJ 4053 Criminal Law and the Constitution
- COMM 2003 Public Speaking
- COMM 2111- COMM 2121 Debate Practicum
- COMM 4153 Persuasive Theory and Audience Analysis
- JOUR 4123 Laws of Communication
- PHIL 3103 Logic
- POLS 4043 American Constitutional Law
- PSY 2003 General Psychology

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	6	Fine Arts & Humanities ¹	3
Mathematics ¹	3	Science with Lab ¹	4
Beginning Language I ⁴	3	Beginning Language II ⁴	3
TECH 1001 Orientation to the University	1	Elective ³	3
Total Hours	16	Total Hours	16

⊕ Sophomore

U.S. History/Government ¹	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
Fine Arts & Humanities ¹	3	ENGL 3043 Literary Editing and Publishing	3
Science with Lab ¹	4	English Elective ²	6
ENGL 2043 Introduction to Creative Writing	3	Elective ³	3
ENGL 2063 Advanced Composition: Practice and Theory	3		
Total Hours	16	Total Hours	15

⊕ Junior

ENGL 3093 Poetry Workshop	3	ENGL 3083 Fiction Workshop	3
ENGL 3313 American Literature to 1900	3	ENGL 3323 Modern American Literature	3
ENGL 3413 British Literature to 1800	3	ENGL 3423 British Literature since 1800	3
Elective ³	6	Elective ³	6
Total Hours	15	Total Hours	15

⊕ Senior

ENGL 4093 Seminar in Creative Writing	3	ENGL 4813 Senior Project in Creative Writing	3
English Elective ²	3	English Elective (3000-4000 level)	3
Elective ³	9	Elective ³	6
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Any 2-4000 level English courses excluding ENGL 2003 Introduction to World Literature, ENGL 2013 Introduction to American Literature, ENGL/JOUR 2173 Introduction to Film, ENGL 2881 Practicum-Literary Journal Publication, and ENGL 4881-4 Practicum-Editing Literary Journal.

³At least 40 of the 120 hours required for graduation must be earned in 3000-4000 level courses.

⁴All minimum college hours (at least two semesters) should be in one language. Students with previous study in a foreign language should refer to Foreign Language Advanced Placement and Credit under Credit by Examination. Students may waive three hours of language requirements for every one year of language study in high school with grades of "C" or better.

Department of English & World Languages

Bachelor of Arts in English

For students interested in English for Teacher Licensure, click [here](#).

The program in English seeks to help students express themselves effectively, especially in writing; develop a respect for and an understanding of language; appreciate and profit from a study of our common literary heritage; increase their awareness of and empathy for diverse peoples and cultures; discover the relevance of ideas and values found in their reading; and learn to think critically and evaluate wisely.

English majors are prepared for a variety of careers in advertising, communications, education, government, management, personnel work, public relations, and sales. A degree in English also provides an excellent undergraduate preparation for the student planning to pursue graduate study of business, law, or the humanities.

The degree program in English requires 36 semester hours in English

- ENGL 2063 Advanced Composition: Practice and Theory
- ENGL 3013 Systems of Grammar or ENGL 3023 Introduction to Linguistics
- ENGL 3313 American Literature to 1900
- ENGL 3323 Modern American Literature
- ENGL 3413 British Literature to 1800
- ENGL 3423 British Literature since 1800
- Six English electives

The English major must also complete two semesters of study in one foreign language or have completed two years of language study in high school with grades of "C" or better.

Students who plan to use an English degree as a preparation for law school are encouraged to complete some of the following electives in addition to their required courses:

- BLAW 2033 Legal Environment of Business
- CJ/SOC 2043 Crime and Delinquency
- CJ/POLS 3023 Judicial Process
- CJ 4023 Law and the Legal System
- CJ 4053 Criminal Law and the Constitution
- COMM 2003 Public Speaking
- COMM 2111-COMM 2121, Debate Practicum
- COMM 4153 Persuasive Theory and Audience Analysis
- JOUR 4123 Laws of Communication
- PHIL 3103 Logic
- POLS 4043 American Constitutional Law
- PSY 2003 General Psychology

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
Mathematics ¹	3	Science with Lab ¹	4
Beginning Language I ²	3	Beginning Language II ²	3

TECH 1001 Orientation to the University	1	Elective ⁴	1
Elective ⁴	1		
Total Hours	14	Total Hours	14

⊕ Sophomore

ENGL 2063 Advanced Composition: Practice and Theory	3	ENGL 3013 Systems of Grammar or ENGL 3023 Introduction to Linguistics Social Sciences/Fine	3
Fine Arts & Humanities ¹	3	Social Sciences/Fine Arts/Humanities/Communication ^{1,T}	3
Science with Lab ¹	4	Fine Arts & Humanities ¹	3
U.S. History/Government ¹	3	English Elective ³	3
English Elective ³	3	Elective ⁴	3
Total Hours	16	Total Hours	15

⊕ Junior

ENGL 3313 American Literature to 1900	3	ENGL 3323 Modern American Literature	3
ENGL 3413 British Literature to 1800	3	ENGL 3423 British Literature since 1800	3
English Elective ³	3	English Elective ³	3
Elective ⁴	6	Elective ⁴	6
Total Hours	15	Total Hours	15

⊕ Senior

English Elective (3000-4000 level)	3	English Elective (3000-4000 level)	3
Elective ⁴	12	Elective ⁴	13
Total Hours	15	Total Hours	16

¹See appropriate alternatives or substitutions in "General Education Requirements".

²All minimum college hours (at least two semesters) should be in one language. Students with previous study in a foreign language should refer to Foreign Language Advanced Placement and Credit under Credit by Examination. Students may waive three hours of language requirements for every one year of language study in high school with grades of "C" or better.

³Any 2-4000 level English courses excluding ENGL 2003 Introduction to World Literature, ENGL 2013 Introduction to American Literature, ENGL/JOUR 2173 Introduction to Film, ENGL 2881 Practicum-Literary Journal Publication, and ENGL 4881-4 Practicum-Editing Literary Journal.

⁴At least 40 of the 120 hours required for graduation must be earned in 3000-4000 level courses.

Department of English & World Languages

Bachelor of Arts World Languages - Spanish

For students interested in Foreign Language with Concentration in Spanish for Teacher Licensure, click here.

The program in world languages helps students grow personally, socially, and professionally. The department works to develop students' learning skills in world languages; to teach students to communicate effectively; to foster cultural understanding, tolerance and world perspective; and to prepare students to live, study, or work in international settings. World languages students are prepared to pursue graduate degrees and a variety of careers in business and industry, communication, education, foreign service, government, and public relations.

Students may choose a degree program in Spanish; pursue studies in Latin,; or complete a minor in French, German, Japanese, Latin American/Latino studies with language proficiency, Latin American/Latino studies without language proficiency, Spanish, and Spanish Medical Interpretation.

The degree program in Spanish requires 39 hours.

Students with previous world languages experience may petition the Department of English and World Languages for advanced placement and credit. Petitioners will be given written and/or oral examinations by a world languages faculty member who will then recommend an appropriate language placement level. This placement level will not exceed FR 3013 Conversation and Composition II, GER 3013 Conversation and Composition II, JPN 3013 Conversation and Composition II, or SPAN 3013 Conversation and Composition II, and will be approved by the department head. Students who have omitted one or more courses in the basic language sequence will receive credit for omitted courses when they have validated their advanced placement by passing the course into which they are placed with a grade of "C" or better.

Students who want to improve their Japanese language skills and cultural knowledge may do so by studying for a semester or a year at Komazawa University in Tokyo.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Fine Arts & Humanities ¹	3
Mathematics ¹	3	Science with Lab ¹	4
SPAN 2013 Intermediate Spanish I ^{2,3}	3	Social Sciences ¹	3
TECH 1001 Orientation to the University	1	SPAN 2023 Intermediate Spanish II ^{2,3}	3
Total Hours	13	Total Hours	16

⊕ Sophomore

Social Sciences ¹	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
Fine Arts & Humanities ¹	3	SPAN 3013 Conversation and Composition II	3
Science with Lab ¹	4	SPAN 3213 Advanced Grammar and Usage	3

SPAN 3003 Conversation and Composition I	3	Elective ⁴	6
Elective ⁴	3		
Total Hours	16	Total Hours	15

⊕ Junior

SPAN 3133 Spanish-American Civilization and Culture	3	SPAN 3123 Spanish Civilization and Culture	3
SPAN Elective (3000-4000 level)	3	SPAN 4023 Introduction to Spanish Linguistics	3
Elective ⁴	9	SPAN Elective (3000-4000 level)	3
		Elective ⁴	6
Total Hours	15	Total Hours	15

⊕ Senior

SPAN 4213 Spanish Literature	3	SPAN 4223 Spanish-American Literature	3
SPAN Elective (3000-4000 level)	3	Elective ⁴	12
Elective ⁴	9		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students with previous study in a foreign language should refer to Foreign Language Advanced Placement and Credit under Credit by Examination.

³Lab attendance is required for the beginning and intermediate foreign language courses.

⁴At least 40 of the total hours required for graduation must be 3000-4000 level.

Department of English & World Languages

Minors In English

Creative Writing

The minor in creative writing provides students who cannot complete a full major with an opportunity to explore their interests in writing.

The minor in creative writing requires 18 hours of courses:

- ENGL 2043 Introduction to Creative Writing
- ENGL 3083 Fiction Workshop
- ENGL 3093 Poetry Workshop

and 9 hours selected from the following:

- ENGL 2063 Advanced Composition
 - ENGL 2881 Practicum-Literary Journal Publication
 - ENGL 3043 Literary Editing and Publishing
 - ENGL 4093 Seminar in Creative Writing
 - ENGL 4881-4 Nebo Practicum
 - ENGL Electives (any 3000 or 4000 level literature course)
-

English

The English minor is an excellent complement to any major, allowing students to choose from a wide selection of courses in literature, advanced writing, and linguistics.

The minor in English requires 18 hours of English courses:

ENGL Electives (9 hours, excluding ENGL 1013 Composition I, ENGL 1023 Composition II, ENGL 1043 Honors Composition I, and ENGL 1053 Honors Composition II)
ENGL Electives (9 hours of 3000 or 4000 level)

Film Studies

The film studies minor requires 18 hours of course work selected from the following:

- ENGL/JOUR 2173 Introduction to Film
 - ENGL 3173 Studies in Film (may be repeated)
 - ENGL 3183 Studies in Television (may be repeated)
 - ENGL 4093 Seminar in Creative Writing: Screenwriting
 - ENGL 4173 Seminar in Film Studies (may be repeated)
 - HIST 4163 American History Through Film
 - SPAN 4803 Film Theory
-

Teaching English as a Second Language

The minor in teaching English as a second language offers students an opportunity to add this useful specialization to their transcripts.

The minor in teaching English as a second language requires 18 hours of English and world languages courses:

- ENGL 4023 Second Language Acquisition
- ENGL 4703 Teaching English as a Second Language
- ENGL 4713 ESL Assessment
- ENGL 4723 Teaching People of Other Cultures

and 6 hours selected from the following:

- ENGL 3013 Systems of Grammar
- ENGL/FR/GER/SPAN/COMM 3023 Introduction to Linguistics
- ENGL 4733 Teaching English in the Secondary School
- FR/GER/SPAN 4703 Foreign Language Teaching Methods

Minors in World Languages

French

The minor in French is designed for foreign language majors who would like to study an additional language and for students who cannot complete a major in a foreign language, but for employment or other considerations, would like to obtain some basic foreign language competencies and be familiar with the culture of the target language. The minor in French requires 21 hours of courses (all course prerequisites must be met first):

- FR 1013 Beginning French I
 - FR 1023 Beginning French II
 - FR 2013 Intermediate French I
 - FR 2023 Intermediate French II
 - FR 3003 Conversation and Composition I
 - FR 3013 Conversation and Composition II
 - FR 3113 Culture and Civilization
-

German

The minor in German is designed for foreign language majors who would like to study an additional language and for students who cannot complete a major in a foreign language, but for employment or other considerations, would like to obtain some basic foreign language competencies and be familiar with the culture of the target language. The minor in German requires 21 hours of courses:

- GER 1013 Beginning German I
 - GER 1023 Beginning German II
 - GER 2013 Intermediate German I
 - GER 2023 Intermediate German II
 - GER 3003 Conversation and Composition I
 - GER 3013 Conversation and Composition II
 - GER 3113 Culture and Civilization
-

Japanese

The minor in Japanese is designed for foreign language majors who would like to study an additional language and for students who cannot complete a major in a foreign language, but for employment or other considerations, would like to obtain some basic foreign language competencies and be familiar with the culture of the target language. The minor in Japanese requires 21 hours of courses:

- JPN 1013 Beginning Japanese I

- JPN 1023 Beginning Japanese II
 - JPN 2013 Intermediate Japanese I
 - JPN 2023 Intermediate Japanese II
 - JPN 3003 Conversation and Composition I
 - JPN 3013 Conversation and Composition II
 - JPN 3113 Culture and Civilization
-

Latin American/Latino Studies with language proficiency

The minor in Latin American and Latino Studies with language proficiency is designed for students who wish to obtain a sufficient background about the Spanish speaking populations in Arkansas and the United States. This minor will be particularly valuable to students who are already bilingual and who plan to work with native Spanish speakers in the health fields, law enforcement, education, and the service sectors. The minor in Latin American and Latino Studies with language proficiency requires 18 hours of courses (all course prerequisites must be met first):

- HIST 3313 Colonial Latin America
- HIST 3323 Modern Latin America
- HIST 4133 Latinos in the United States

AND 9 hours selected from the following:

- SPAN 3123 Spanish Civilization and Culture
 - SPAN 3133 Spanish-American Civilization and Culture
 - SPAN 3143 Contemporary Hispanic Culture Immersion Experiences
 - SPAN 4213 Spanish Literature
 - SPAN 4223 Spanish-American Literature
 - SPAN 4803 Film Theory
 - SPAN 4991-3 Special Problems in Spanish
-

Latin American/Latino Studies without language proficiency

The minor in Latin American and Latino Studies without language proficiency is designed for students who wish to obtain a sufficient background about the Spanish speaking populations in Arkansas and the United States, but who do not wish to major in either history or Spanish. This minor will be particularly valuable to students who plan to work with native Spanish speakers in the health fields, law enforcement, education, and the service sectors. The minor in Latin American and Latino Studies without language proficiency requires 18 hours of courses (all course prerequisites must be met first):

- GEOG 3303 Geography of Latin America
 - HIST 3313 Colonial Latin America
 - HIST 3323 Modern Latin America
 - HIST 4133 Latinos in the United States
 - SPAN 1013 Beginning Spanish I
 - SPAN 1023 Beginning Spanish II
-

Spanish

The minor in Spanish is designed for students who cannot complete a major in a foreign language, but for employment or other considerations, would like to obtain some basic foreign language competencies and be familiar with the culture of the target language. The minor in Spanish requires 21 hours of courses:

- SPAN 1013 Beginning Spanish I

- SPAN 1023 Beginning Spanish II
 - SPAN 2013 Intermediate Spanish I
 - SPAN 2023 Intermediate Spanish II
 - SPAN 3003 Conversation and Composition I
 - SPAN 3013 Conversation and Composition II or SPAN 3113 Business Spanish
 - SPAN 3123 Spanish Civilization and Culture or SPAN 3133 Spanish-American Civilization and Culture
-

Spanish Medical Interpretation

The minor in Spanish Medical Interpretation is designed for students who plan careers in medicine and would like to obtain some basic Spanish competencies and an introduction to medical interpretation theory and Spanish medical terminology. The minor in Spanish Medical Interpretations requires 20 hours of courses (all course prerequisites must be met first):

- SPAN 1063 Basic Spanish for Medical and Social Services
- SPAN 2013 Intermediate Spanish I
- SPAN 2023 Intermediate Spanish II
- SPAN 3003 Conversation and Composition I
- SPAN 3013 Conversation and Composition II
- SPAN 3133 Spanish-American Civilization and Culture
- SPAN 3382 Principles of Interpretation

Department of History & Political Science

Baccalaureate degrees in history, political science, and international studies offer excellent preparation for careers in government and education, further study in graduate school or law school, and careers in the private sector of the economy.

For students interested in Social Studies for Teacher Licensure, click [here](#).

In addition, the department offers minors in geography, history, military science, philosophy, political science, religious studies, strategic studies and pre-law.

Students must complete 120 hours for graduation with a degree in history, political science, international studies, public history, cultural and geospatial studies, or social studies education.

Contact Information

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Professors

David Blanks, Thomas DeBlack, Peter Dykema, Jan Jenkins, Jeffrey Mitchell, James Moses, Michael Smith, Micheal Tarver, Jeffrey Woods

Associate Professors

M. Diane Gleason, Michael Rogers, Joseph Swain

Assistant Professors

Michael Brodrick, Patrick Hagge, Christopher Housenick, Aaron McArthur, Jeffrey Pearson, Brendan Toner

For more information, please visit www.atu.edu/history

Department of History & Political Science

Bachelor of Arts in Cultural & Geospatial Studies

The baccalaureate degree in cultural and geospatial studies prepares students for careers in community development and cultural resources management.

The degree program in cultural and geospatial studies draws from courses in anthropology and geography, providing students with skills necessary for careers in a wide-range of fields related to community development. These include regional and community planning, economic development, cultural resources management, heritage preservation, ethnographic studies, and geographic information science.

The cultural and geospatial studies degree requires thirty-three semester hours in major curriculum requirements beyond the required General Education curriculum.

To satisfy General Education requirements, majors are required to take:

- ANTH 1213 Introduction to Anthropology,
- ANTH 2003 Cultural Anthropology, and
- GEOG 2013 World Regional Geography.

The thirty-three semester hours required for the degree includes:

- GEOG 2833 Introduction to Geographic Information Systems,
- ANTH 2833 Cultural Resources Management,
- and HIST 2203 Introduction to Public History.

Those students completing the **anthropology track** will take an additional course emphasizing qualitative research methods (ANTH 3403 Ethnographic Methods) and an upper-level anthropology seminar (ANTH 4983 Seminar in Anthropology).

Those students completing the **geography track** will take an additional methods course in geographic information science (GEOG 3403 GIS II - Planning Applications) and a senior level geography seminar (GEOG 4983 Geography Seminar).

Of the remaining eighteen hours of required anthropology/geography credit, six must come from anthropology and six from geography. Twenty-one of the required thirty-three semester hours must be on the 3000-4000 level.

Majors in this program are also required to take six hours of beginning foreign language courses or obtain the appropriate waiver for high school language study.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Mathematics ¹	3	Science with Lab ¹	4
U.S. History/Government ¹	3	GEOG 2013 Regional Geography of the World	3

TECH 1001 Orientation to the University	1	Elective ²	6
ANTH 1213 Introduction to Anthropology	3		
Elective ²	2		
Total Hours	15	Total Hours	16

⊕ Sophomore

Beginning Language I ³	3	Beginning Language II ³	3
Fine Arts & Humanities ¹	3	Science with Lab ¹	4
HIST 2203 Introduction to Public History	3	GEOG 2833 Introduction to Geographic Information Systems	3
PHIL 2003 Introduction to Philosophy ¹	3	Elective ²	6
ANTH 2003 Cultural Anthropology	3		
Total Hours	15	Total Hours	16

⊕ Junior

ANTH 2833 Cultural Resource Management	3	ANTH Elective (3000-4000 level)	3
ANTH 3403 Ethnographic Methods ⁴ or GEOG 3403 GIS II - Planning Applications ⁴	3	GEOG Elective (3000-4000 level)	3
ANTH/GEOG Elective	3	Elective ²	9
Elective ²	6		
Total Hours	15	Total Hours	15

⊕ Senior

ANTH Elective (3000-4000 level)	3	ANTH 4983 Seminar in Anthropology ⁴ or GEOG 4983 Geography Seminar ⁴	3
GEOG Elective (3000-4000 level)	3	ANTH/GEOG Elective (3000-4000 level)	3
Elective ²	9	Elective ²	7
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

³Students may waive three hours of language requirement for every one year of language study in high school with grades of "C" or better.

⁴ANTH 3403 Ethnographic Methods and ANTH 4983 Seminar in Anthropology or GEOG 3403 GIS II - Planning Applications and GEOG 4983 Geography Seminar.

Department of History & Political Science

Bachelor of Arts in History

General Education Required Courses

- HIST 1503 World History to 1500
- HIST 1513 World History since 1500
- HIST 2003 United States History to 1877
- HIST 2013 United States History since 1877

Additional courses required for the history degree include,

- POLS 2003 American Government
- ECON 2003 Principles of Economics I
- GEOG 2013 Regional Geography of the World
- ANTH 2003 Cultural Anthropology **OR** SOC 1003 Introductory Sociology
- HIST 2203 Introduction to Public History
- HIST 2513 Sources and Methods in History
- HIST 4153 History of Arkansas
- HIST 4963 Senior Seminar

Fifteen additional semester hours must be 3000-4000 level history courses with at least six hours in U.S. History, six hours in world/European history, and three hours in public history.

History majors are also required to take six hours of beginning foreign language courses or obtain the appropriate waiver for high school language study.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
Mathematics ¹	3	Fine Arts & Humanities ¹	3
TECH 1001 Orientation of the University	1	POLS 2003 American Government	3
HIST 1503 World History to 1500	3	HIST 1513 World History since 1500	3
Total Hours	14	Total Hours	16

⊕ Sophomore

Beginning Language I ⁶	3	Beginning Language II ⁶	3
ANTH 2003 Cultural Anthropology or SOC 1003 Introductory Sociology	3	HIST 2013 United States History since 1877	3
ECON 2003 Principles of Economics I	3	HIST 2513 Sources and Methods in History	3
GEOG 2013 Regional Geography of the World	3	GEOG Elective (3000-4000 level)	3
HIST 2003 United States History to 1877	3	Elective	3
Total Hours	15	Total Hours	15

Junior

Fine Arts & Humanities ¹	3	HIST Elective (3000-4000 level) ⁵	3
HIST 2203 Introduction to Public History	3	Elective ²	12
HIST Elective (3000-4000 level) ³	3		
HIST Elective (3000-4000 level) ⁴	3		
Elective ²	3		
Total Hours	15	Total Hours	15

Senior

HIST Elective (3000-4000 level) ³	3	HIST 4153 History of Arkansas	3
HIST Elective (3000-4000 level) ⁴	3	HIST 4963 Senior Seminar	3
Elective ²	9	Elective ²	9
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

³HIST class must be in the sub-field of United States History.

⁴HIST class must be in the sub-field of European or World History.

⁵HIST class must be in the sub-field of Public History

⁶Students may waive three hours of language requirement for every one year of language study in high school with grades of "C" or better.

Department of History & Political Science

Bachelor of Arts in International Studies

The International Studies program is interdisciplinary. The Degree Program in International Studies requires the completion of General Education coursework, foreign language coursework, coursework in the area of concentration, and sufficient electives to complete one hundred and twenty hours with a minimum of forty hours of upper division courses.

Students will select either Political Affairs or Cultural Affairs as the area of concentration. Students must follow the established course sequence and prerequisite requirements already defined in the catalog.

International Studies majors must select a foreign language as part of the Common Core.

Concentration Options

Cultural Affairs
Political Affairs

Department of History & Political Science

International Studies - Cultural Affairs Concentration

For the Cultural Affairs concentration, students must complete twenty one hours in the language. Students with previous foreign language experience may petition the Department of English and World Languages for advanced placement and credit. Petitioners will be given written and/or oral examinations by a foreign language faculty member who will then recommend an appropriate foreign language placement level based on university policy. The department head and dean must approve the determined placement level. Students who have omitted one or more courses in the basic language sequence will receive credit for omitted courses when they have validated their advanced placement by passing the course into which they are placed with a grade of "C" or better.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
Mathematics ¹	3	HIST 1513 World History since 1500	3
TECH 1001 Orientation of the University	1	FR 1023 Beginning French II, GER 1023 Beginning German II, JPN 1023 Beginning Japanese II, or SPAN 1023 Beginning Spanish II ^{2,3}	3
FR 1013 Beginning French I, GER 1013 Beginning German I, JPN 1013 Beginning Japanese I or SPAN 1013 Beginning Spanish I ^{2,3}	3	Electives ⁴	3
Total Hours	14	Total Hours	16

⊕ Sophomore

PHIL 2013 Religions of the World	3	Fine Arts & Humanities ¹	3
POLS 2403 Comparative Government or POLS 2413 International Relations	3	GEOG 2013 Regional Geography of the World	3

FR 2013 Intermediate French I, GER 2013				
Intermediate German I, JPN 2013 Intermediate Japanese I or SPAN 2013	3	POLS 2003 American Government		3
Intermediate Spanish I ^{2,3}				
Electives ⁴	6	POLS 2403 Comparative Government or POLS 2413 International Relations		3
		FR 2023 Intermediate French II, GER 2023 Intermediate German II, JPN 2023 Intermediate Japanese II or SPAN 2023 Intermediate Spanish II ^{2,3}		3
Total Hours	15	Total Hours		15

⊕ Junior

HIST 3703 History of Modern Africa or HIST 3803 History of the Middle East	3	GEOG 3303 Geography of Latin America or GEOG 3413 Geography of Europe or GEOG 3703 Geography of Asia	3
POLS 3433 United Nations	3	HIST 4503 History of Christianity	3
FR 3003, GER 3003, JPN 3003 or SPAN 3003 Conversation and Composition I ³	3	FR 3013, GER 3013, JPN 3013 or SPAN 3013 Conversation and Composition II	3
Electives ⁴	6	Electives ⁴	6
Total Hours	15	Total Hours	15

⊕ Senior

PHIL/POLS 3063 Modern Political Thought	3	ANTH 2003 Cultural Anthropology ENGL 2003	3
SOC 4073 Sociology of Religion	3	Introduction to World Literature ENGL 4283	3
FR 3113 Culture and Civilization, GER 3113 Culture and Civilization, SPAN 3123 Spanish Civilization and Culture or SPAN 3133 Spanish-American Civilization and Culture	3	Seminar: World Literature or MUS 4853 Music of the World's Peoples HIST 3603 History of Modern East Asia or HIST 3323 Modern Latin America	3
Electives ⁴	6	Electives ⁴	3
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students with previous study in a foreign language should refer to Foreign Language Advanced Placement and Credit under Credit by Examination.

³Lab attendance is required for the beginning and intermediate foreign language courses.

⁴At least 40 of the total hours required for graduation must be 3000-4000 level.

Department of History & Political Science

International Studies - Political Affairs Concentration

For the Political Affairs concentration, students must complete twelve hours in the language. Students with previous foreign language experience may petition the Department of English and World Languages for advanced placement and credit. Petitioners will be given written and/or oral examinations by a foreign language faculty member who will then recommend an appropriate foreign language placement level based on university policy. The department head and dean must approve the determined placement level. Students who have omitted one or more courses in the basic language sequence will receive credit for omitted courses when they have validated their advanced placement by passing the course into which they are placed with a grade of "C" or better.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
Mathematics ^{1,5}	3	EAM 1003 Living in a Hazardous Environment	3
TECH 1001 Orientation of the University	1	FR 1023 Beginning French II, GER 1023 Beginning German II, JPN 1023 Beginning Japanese II or SPAN 1023 Beginning Spanish II ^{2,3}	3
FR 1013 Beginning French I, GER 1013 Beginning German I, JPN 1013 Beginning Japanese I or SPAN 1013 Beginning Spanish I ^{2,3}	3	Electives ⁴	3
Total Hours	14	Total Hours	16

⊕ Sophomore

EAM 1013 Aim and Scope of Emergency Management	3	POLS 2003 American Government	3
GEOG 2013 Regional Geography of the World	3	POLS 2403 Comparative Government or POLS 2413 International Relations	3
HIST 1513 World History since 1500	3	FR 2023 Intermediate French II, GER 2023 Intermediate German II, JPN 2023 Intermediate Japanese II or SPAN 2023 Intermediate Spanish II ^{2,3}	3
POLS 2403 Comparative Government or POLS 2413 International Relations	3	Electives ⁴	6

FR 2013 Intermediate French I, GER 2013		
Intermediate German I, JPN 2013		
Intermediate Japanese I or	3	
SPAN 2013 Intermediate Spanish I ^{2,3}		
Total Hours	15	Total Hours
		15

⊕ Junior

Fine Arts & Humanities ¹	6	EAM 3243 Introduction to Terrorism and Anti-Terrorism	3
HIST 3083 The United States: 1945-Present	3	HIST 3513 Europe since 1939	3
HIST 3703 History of Modern Africa or			
HIST 3803 History of the Middle East	3	HIST 4483 History of Capitalism	3
POLS 3433 United Nations	3	POLS 3013 Recent American Foreign and Military Policy or POLS 3473 National Security Policy	3
		Electives ⁴	3
Total Hours	15	Total Hours	15

⊕ Senior

HIST 4083 American Diplomatic History, 1912 to the Present	3	ANTH 2003 Cultural Anthropology	3
PHIL/POLS 3063 Modern Political Thought	3	HIST 3323 Modern Latin America	3
Electives ⁴	9	HIST 3603 History of Modern East Asia	3
		Electives ⁴	6
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students with previous study in a foreign language should refer to Foreign Language Advanced Placement and Credit under Credit by Examination.

³Lab attendance is required for the beginning and intermediate foreign language courses.

⁴At least 40 of the total hours required for graduation must be 3000-4000 level.

⁵Students must complete course with a grade of C or better.

Department of History & Political Science

Bachelor of Arts in Political Science

The political science degree requires thirty nine additional semester hours beyond the General Education requirements and the College of Arts and Humanities foreign language requirement.

In the General Education requirements, political science majors are required to take

- HIST 2003 United States History to 1877,
- HIST 2013 United States History since 1877,
- HIST 1513 World History since 1500, or HIST 1503 World History to 1500 or GEOG 2013 Regional Geography of the World
- SOC 1003 Introductory Sociology **OR** PSY 2003 General Psychology **OR** ECON 2003 Principles of Economics I

Political science majors are required to take six hours of beginning foreign language courses or obtain the appropriate waiver for high school language study.

The thirty nine semester hours required for the political science degree include

- POLS 2003 American Government
- POLS 2253 Survey of Western Political Thought
- POLS 2513 Research Design
- POLS 2403 Comparative Government**OR**POLS 2413 International Relations

Majors also choose one course from three of the four political science blocks: Research Methods, Political Theory, and International Relations, and two courses from the fourth political science block: American Politics.

Nine semester hours of electives, six of which must be 3000-4000 level, and POLS 4963 Senior Seminar complete the major requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1013 Composition II ¹	3
Fine Arts & Humanities ¹	3	Science with Lab ¹	4
Mathematics ¹	3	HIST 2003 United States History to 1877	3
HIST 1503 World History to 1500, HIST 1513 World History since 1500 or GEOG 2013 Regional Geography of the World	3	POLS 2003 American Government	3
SOC 1003 Introductory Sociology, PSY 2003 General Psychology, or ECON 2003 Principles of Economics I	3	Elective ²	3
TECH 1001 Orientation of the University	1		
Total Hours	16	Total Hours	16

⊕ Sophomore

HIST 2013 United States History since 1877	3	Fine Arts & Humanities ¹	3
Science with Lab ¹	4	Research Methods Block ³	3
Beginning Language I ⁷	3	Beginning Language II ⁷	3
POLS 2253 Survey of Western Political Thought	3	POLS Elective	3
POLS 2513 Research Design	3	Elective ²	3
Total Hours	16	Total Hours	15

⊕ Junior

Political Theory Block ⁴	3	International Relations Block ⁵	3
POLS 2403 Comparative Government or POLS 2413 International Relations	3	American Politics Block ⁶	3
Elective ²	9	Elective ²	9
Total Hours	15	Total Hours	15

⊕ Senior

American Politics Block ⁶	3	POLS 4963 Senior Seminar	3
POLS Elective (3000-4000 level)	6	Elective ²	9
Elective ²	6		
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

³The Research Methods choices include: POLS 3513 Research Methods; or grade of C or better in any FL 2023 course; or appropriate methodology course approved by Department Head.

⁴The Political Theory choices include POLS 3063 Modern Political Thought; or POLS 3253 Classical Political Thought; or appropriate political theory or philosophy course approved by Department Head.

⁵The International Relations choices include POLS 3013 Recent American Foreign and Military Policy; or POLS 3433 United Nations; or POLS 3473 National Security Policy; or appropriate international relations or comparative government course approved by Department Head.

⁶The American Politics choices include POLS 3023 Judicial Process; or POLS 3033 American State and Local Government; or POLS 3053 Introduction to Public Administration; or POLS 3083 Political Parties and Interest Groups; or POLS 3123 American Political Behavior; or POLS 3133 United States Congress; or POLS 3143 The United States Presidency; or POLS 4043 American Constitutional Law; or appropriate American politics course approved by Department Head.

⁷Students may waive three hours of language requirement for every one year of language study in high school with grades of "C" or better.

Department of History & Political Science

Bachelor of Arts in Public History

The baccalaureate degree in public history prepares students for careers in historic preservation as well as museum and archive management.

The public history degree requires fifty three additional semester hours beyond the General Education requirements and the College of Arts and Humanities foreign language requirement.

General Education Required Courses

- HIST 1503 World History to 1500
- HIST 1513 World History since 1500
- HIST 2003 United States History to 1877
- HIST 2013 United States History since 1877

Public history majors are required to take six hours of beginning foreign language courses or obtain the appropriate waiver for high school language study.

The fifty three semester hours required for the public history degree include:

- GEOG 3803 Historical Geography **OR** GEOG 4203 Place and Collective Memory
- POLS 2003 American Government
- ANTH 2003 Cultural Anthropology
- HIST 2203 Introduction to Public History
- HIST 2513 Sources and Methods in History
- HIST 3223 Local and Oral History
- HIST 3281 Grant Writing for Historians
- HIST 3243 Archive and Manuscript Management
- HIST 3283 Historical Editing
- HIST 4153 History of Arkansas
- HIST 4143 Native American History
- HIST 4293 Historic Preservation
- HIST/ANTH/MUSM 4403 Interpretation/Education through Museum Methods
- HIST 3291 Practicum in Public History
- HIST 4973 Internship
- Twelve semester hours of 3000-4000 level history courses with six hours in U.S. History and six hours in world/European history

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Fine Arts & Humanities ¹	3	Science with Lab ¹	4
Mathematics ¹	3	ANTH 2003 Cultural Anthropology	3
TECH 1001 Orientation of the University	1	POLS 2003 American Government	3
HIST 1503 World History to 1500	3	HIST 1513 World History since 1500	3
Elective ²	3		
Total Hours	16	Total Hours	16

⊕ Sophomore

Science with Lab ¹	4	Fine Arts & Humanities ¹	3
Beginning Language I ⁵	3	Beginning Language II ⁵	3
HIST 2003 United States History to 1877	3	HIST 2013 United States History since 1877	3
Elective ²	5	HIST 2203 Introduction to Public History	3
		HIST 2513 Sources and Methods in History	3
Total Hours	15	Total Hours	15

⊕ Junior

GEOG 3803 Historical Geography OR GEOG 4203 Place and Collective Memory	3	HIST 3283 Historical Editing	3
HIST 3223 Local and Oral History	3	HIST 3291 Practicum in Public History	1
HIST 4143 Native American History	3	HIST/ANTH/MUSM 4403 Interpretation/Education through Museum Methods	3
HIST 4153 History of Arkansas	3	HIST Elective ³	3
HIST Electives ⁴	3	HIST Electives ⁴	3
		Elective	3
Total Hours	15	Total Hours	16

⊕ Senior

HIST 3243 Archive and Manuscript Management	3	HIST 4973 Internship	3
HIST 3281 Grant Writing for Historians	1	Electives ²	9
HIST 4293 Historic Preservation	3		
HIST Elective ³	3		
Electives	5		
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 of the total hours required for graduation must be 3000-4000 level courses.

³HIST class must be in the sub-field of United States History.

⁴HIST class must be in the sub-field of European or World History.

⁵Students may waive three hours of language requirement for every one year of language study in high school with grades of "C" or better.

Department of History & Political Science

Pre-Law Pre-Professional Program

Accredited law schools have not, in general, adopted specific requirements for pre-law courses. However, in most cases, courses of value to those planning the study of law include: history, economics, political science, philosophy, psychology, sociology, English composition, and literature, as well as courses in the natural sciences, mathematics, and accounting. A broad cultural background is of prime importance.

Rather than attempt to prescribe the specific contents of courses to be taken by pre-law students, Arkansas Tech University considers the individual intellectual interests of students of prime importance, encouraging development of the ability to read and comprehend accurately, rapidly, and thoroughly; to think logically; to analyze and weigh situations and materials; to speak and write clearly; and to develop a critical approach and mature study habits.

The pre-professional curriculum is not a major in itself. Pre-law students must declare a major for graduation selected from any degree currently offered at Arkansas Tech University. Among general electives in the chosen major, or in excess of the 120 hours required for graduation, **pre-law students are urged to take the courses listed below** to prepare them for the LSAT and law school.

Many pre-law students choose to major in history or political science, and pre-law advisors are located in the Department of History and Political Science. Students should consult these listed pre-law advisors regardless of their chosen major, as these advisors specifically help students design a good pre-law curriculum.

Recommended Curriculum in Pre-Law

BLAW 2033 Legal Environment of Business	PHIL 3103 Logic
CJ/SOC 2043 Crime and Delinquency	POLS 2003 American Government
CJ 4023 Law and the Legal System	POLS 3023/CJ 3023 Judicial Process
CJ 4053 Criminal Law and the Constitution	POLS 4043 American Constitutional Law
ENGL 3043 Advanced Composition	PSY 2003 General Psychology
JOUR 4123 Laws of Communication	COMM 2003 Public Speaking
PHIL 3023 Ethics	COMM 2111-COMM 2121 Debate Practicum
PHIL/POLS 3063 Modern Political Thought	COMM 4153 Persuasive Theory and Audience Analysis

Department of History & Political Science

Minors Available

Geography

The minor in geography is designed to allow students who have successfully completed eighteen or more hours in geography the opportunity to have their transcripts noted with a statement certifying such accomplishment.

Students must have a minimum 2.00 grade point average in their geography courses to be eligible for a geography minor.

Students wishing to obtain a minor in geography must complete:

- GEOG 2013 Regional Geography of the World
 - GEOG 2023 Human Geography
 - GEOG Electives (*12 hours with no more than 3 hours in GEOG 4993 Special Problems in Geography*)
-

History

The minor in history is designed for those students majoring in other disciplines who wish to increase the breadth and depth of their knowledge of the human past. This minor is particularly well suited for students who are interested in criminal justice, international studies, and foreign languages. The discipline of history satisfies our shared desire to know more about ourselves, and students can tailor the curriculum of the minor to meet their specific interests. Students must have a minimum of 2.00 grade point average in history courses to be eligible for a history minor. The minor in history requires 18 hours of courses:

- HIST 1503 World History to 1500 or HIST 1513 World History since 1500
 - HIST 2003 United States History to 1877 or HIST 2013 United States History since 1877
 - HIST Electives (*12 hours of 3000 - 4000 level*)
-

Military Science

The minor in military science is awarded to students who complete the Reserve Officer's Training Corps (ROTC) Program at Arkansas Tech University. The objective of the program is to provide a basic military education and, in conjunction with the goals of the University, to develop individual attributes essential to an Army officer. Instruction covers military fundamentals common to all branches of the military service. Students must have a minimum of a 2.00 grade point average in the required 21 hours to be eligible for a military science minor. Students wishing to obtain a minor in military science must complete:

- MS 1101 Leadership I
 - MS 1111 Leadership II
 - MS 2312 Military Organization/Tactics I
 - MS 2402 Military Organization/Tactics II
 - MS 3503 Advanced Leadership and Tactics I
 - MS 3603 Advanced Leadership and Tactics II
 - MS 4703 Applied Leadership and Management I
 - MS 4803 Applied Leadership and Management II
 - MS 4013 United States Military History OR HIST 4013 United States Military History
-

Philosophy

The minor in philosophy is designed for those students who wish to broaden their study of the nature of knowledge. This minor is particularly well suited for students who wish to prepare for graduate work or law school. In addition to the academic benefits, the study of philosophy can make an important contribution to the well-lived life. Students can tailor the curriculum of the minor to meet their specific interests. Students must have a minimum 2.00 grade point average in their philosophy courses to be eligible for a philosophy minor.

The minor in philosophy requires 18 hours of courses:

- PHIL 3103 Logic

and 12 hours selected from the following:

- PHIL 2013 Religions of the World
- PHIL 3003 Ancient Philosophy
- PHIL 3013 Modern Philosophy
- PHIL 3023 Ethics
- PHIL 3033 Esthetics
- PHIL 3053 Philosophy of Religion
- PHIL 3063 Modern Political Thought
- PHIL 3113 Contemporary Philosophy
- PHIL 3203 Medieval Philosophy
- PHIL 3253 Classical Political Thought
- PHIL 4093 American Philosophy
- PHIL 4103 Advanced Logic

and 3 hours in any additional philosophy courses

Political Science

The minor in political science is designed for anyone interested in politics, law, and government and is particularly well suited for students who are interested in criminal justice, international studies, journalism, business, and emergency management. Students can tailor the curriculum of the minor along either a national or international focus. Students must have a minimum 2.00 grade point average in their political science courses to be eligible for a political science minor.

The minor in political science requires 18 hours of courses:

- POLS 2253 Survey of Western Political Thought
 - POLS 2413 International Relations or POLS 2403 Comparative Government
 - POLS 2513 Research Design
 - POLS 3123 American Political Behavior OR POLS 3133 United States Congress OR POLS 3143 The United States Presidency
 - 6 hours in any 3000 or 4000 level political science courses
-

Pre-Law

The pre-law minor program's objective is to prepare students for entrance to and advanced study at law school or alternative careers in the legal profession (e.g. legal aide, court reporter, paralegal, etc.) upon graduation through the development of writing, analytic and logical reasoning, and research skills key to the study and practice of law.

The minor in pre-law requires 21 hours of courses:

- COMM 2003 Public Speaking
- ENGL 2053 Technical Writing
- PHIL 3103 Logic
- POLS/CJ 3023 Judicial Process or POLS 3043 Judicial Politics
- POLS 4043 American Constitutional Law

and 6 hours selected from the following:

- BLAW 2033 Legal Environments of Business
 - CJ 4023 Law and the Legal System
 - HIST 3023 American Revolution and Founding Era
 - HIST 4183 American Legal History
 - MGMT 3123 Business Ethics
 - PHIL 3023 Ethics
-

Religious Studies

The minor in religious studies is designed to provide students with the opportunity to learn about religion in cross-cultural and historical perspectives. The required courses are designed to provide a comparative perspective on world religions and to develop an appreciation of both the origins and contemporary expressions of different religions. This minor is particularly well suited for students in the humanities and social sciences as well as students in other disciplines who want to deepen their understanding of the role of religion in contemporary life.

Students must have a minimum of 2.00 grade point average in the required 18 hours to be eligible for a religious studies minor:

- ANTH 2003 Cultural Anthropology
 - HIST 1503 World History to 1500
 - HIST 4503 History of Christianity
 - PHIL 2013 Religions of the World
 - PHIL 3053 Philosophy of Religion
 - SOC 4073 Sociology of Religion
-

Strategic Studies

The minor in strategic studies is designed for those students who wish to increase the breadth and depth of their knowledge of the principles that have played a major role in shaping our understanding of foreign and security policy. This minor is particularly well suited for students who are interested in international studies, emergency management, political science, diplomatic history, military science, and international law.

Students wishing to obtain a minor in strategic studies must complete:

- POLS 2153 Introduction to Strategic Studies

- POLS 2413 International Relations
- POLS 3013 Recent American Foreign and Military Policy
- POLS 3473 National Security Policy

and any two of the following courses:

- EAM 3013 Public Policy and Politics in Emergency Management
- EAM 3243 Introduction to Terrorism and Anti-Terrorism
- ECON 4093 International Economics and Finance
- GEOG 4803 Seminar in Global Studies
- HIST 4013 American Military History
- HIST 4023 Vietnam War
- HIST 4083 American Diplomatic History, 1912 to the Present
- HIST 4813 World War II

Students must have a minimum 2.00 grade point average in the required 18 hours to be eligible for a strategic studies minor.

Department of Music

The mission of the Arkansas Tech University Department of Music is to fully exercise its tradition of educational and cultural regional leadership to enhance the quality of life through the art form of music, providing undergraduate educational, artistic, and career opportunities for individuals and the greater society.

The Department of Music has an established reputation for the superior quality of the music teacher preparation program and for high standards in musical performance. Arkansas Tech University is an accredited institutional member of the National Association of Schools of Music.

The goals of the music department are:

1. To provide excellence in music instruction;
2. To provide music instruction for students desiring to pursue music-related studies as a major, as preparation for graduate music studies, and as preparation for a career in music;
3. To provide music curricula leading to the Baccalaureate of Arts with a major in music;
4. To provide the necessary and desirable professional preparation for the training of accredited music teachers for public schools (Baccalaureate in Music Education);
5. To provide opportunities for meaningful professional growth through direct involvement in musical performance;
6. To provide educational and artistic service to students, the institution, the community, and the region;
7. To encourage creative work and research; and
8. To dedicate policies and resources for effectiveness in departmental programs.

An audition, demonstrating acceptable musical preparation, is required prior to enrollment as a major in music.

All music majors must demonstrate acceptable piano proficiency or enroll in class or applied piano each semester until successful completion of the appropriate Keyboard Proficiency Exit Exam. The fee for class piano is \$10 per semester. All music majors are required to attend a prescribed number of campus concerts and recitals. Successful completion of 6 semesters of recital attendance is required.

Private instruction in the student's major performance area is required of all music majors. Such study involves one one-hour lesson and 12 hours of practice per week and carries two semester hours of credit. Students may elect enrollment as a non-major, subject to faculty availability. Such study involves one thirty-minute lesson, 6 hours of practice per week, and assigned ensemble participation. A fee of \$60 per semester credit hour is assessed for all applied music study.

Contact Information

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Professors

Phillip Parker, Timothy Smith

Associate Professors

Deborah Barber, Daniel Belongia, Barbara Clements, Jon Clements,
Nicolas del Grazia, Karen Futterer,
Kenneth Futterer, Holly Ruth Gale, Cynthia Hukill

Assistant Professors

T.J. Perry, Sean Reed, Sally Todd

Instructors

Brian Conatser, Gary Morris

For more information, please visit www.atu.edu/music

Department of Music

Bachelor of Arts in Music

An audition, demonstrating acceptable musical preparation, is required prior to enrollment as a major in music.

To meet the requirements for the baccalaureate degree in music, the student must complete 120 semester hours, including

- 8 hours of applied music and successful completion of the Sophomore Barrier and Keyboard Proficiency Exams,
- 4 hours in required ensembles (band or choir),
- 16 hours in music theory and ear training; and
- 8 hours of music history.

See the Department of Music page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Mathematics ¹	3	Social Sciences ¹	3
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1__2 ^{5,7,10}	2	MUS 1__2 ^{5,7,10}	2
MUS 1441 Class Piano, I, II, III, and IV or	1	MUS 1441 Class Piano, I, II, III, and IV or	1
MUS 1201 Applied Music - Piano ²	1	MUS 1201 Applied Music - Piano ² ,	
MUS 1501 Band, MUS 1571 University		MUS 1501 Band, MUS 1571 University	
Choir or	1	Choir or	1
MUS 1681 Concert Chorale ³		MUS 1681 Concert Chorale ³	
MUS 1713 Theory I	3	MUS 1723 Theory II	3
MUS 1731 Ear Training I	1	MUS 1741 Ear Training II	1
TECH 1001 Orientation to the University ¹	1	Piano Exit Exam ⁴	0
Total Hours	15	Total Hours	14

⊕ Sophomore

Science with Lab ¹	4	Science with Lab ¹	4
Beginning Language I ¹¹	3	Beginning Language II ¹¹	3
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1__2 ^{5,7,10}	2	MUS 1__2 ^{5,7,10}	2
MUS 1441 Class Piano, I, II, III, and IV or	1	MUS 1441 Class Piano, I, II, III, and IV or	1
MUS 1201 Applied Music - Piano ²	1	MUS 1201 Applied Music - Piano ²	
MUS 1501 Band, MUS 1571 University		MUS 1501 Band, MUS 1571 University	
Choir or	1	Choir or	1
MUS 1681 Concert Chorale ³		MUS 1681 Concert Chorale ³	
MUS 2713 Theory III	3	MUS 2723 Theory IV	3

MUS 2731 Ear Training III	1	MUS 2741 Ear Training IV	1
		Sophomore Barrier Jury ⁶	0
Total Hours	15	Total Hours	15

⊕ Junior

Social Sciences ¹	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
U.S. History/Government ¹	3	Fine Arts & Humanities ¹	3
MUS 3000 Recital Attendance	0	MUS 3000 Recital Attendance	0
MUS 3773 History of Music I	3	MUS 3783 History of Music II	3
Elective ^{8,9}	7	Elective ^{8,9}	7
Total Hours	16	Total Hours	16

⊕ Senior

MUS 3692 History of Music III	2	Fine Arts & Humanities ^{1,3}	3
Elective ^{8,9}	14	Elective ^{8,9}	10
Total Hours	16	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Piano (MUS 1441 Class Piano, I, II, III, and IV or MUS 1201 Applied Music - Piano) to be taken each semester until completion of Piano Exit Exam. Students completing the exam upon entrance may substitute music elective hours for the requirement.

³Enrollment in MUS 1501 Band, MUS 1571 University Choir or MUS 1681 Concert Chorale to be selected by advisor. Only one credit per semester may be used for completion of major ensemble requirement.

⁴Successful completion required for graduation.

⁵Vocal majors are encouraged to enroll in Vocal Diction (MUS 1191 Vocal Diction I, MUS 2191 Vocal Diction II) for elective credit.

⁶Successful completion required for enrollment in upper-level applied study for two hour credit and for completion of all music degrees.

⁷Concurrent enrollment is required for applied study in appropriate MUS 1501 Band, MUS 1571 University Choir or MUS 1681 Concert Chorale.

⁸Elective courses to obtain a minimum of sixty-six non-music hours (21-23 in addition to General Education and Foreign Language hours).

⁹Elective courses to obtain a minimum of forty 3000/4000 level hours (32 in addition to music history hours).

¹⁰See course descriptions for the appropriate applied music course number.

¹¹Students may waive three hours of language requirements for every one year of language study in high school with grades of "C" or better.

College of Business

Programs of Study

The College of Business offers programs of study leading to baccalaureate degrees as listed below:

Bachelor of Science

Business Education for Teacher Licensure

Bachelor of Science in Business Administration

Accounting
Business Data Analytics
Economics and Finance
Management and Marketing with concentrations in:
Entrepreneurship
International Business
Management
Marketing

Arkansas Tech University has offered baccalaureate degrees with majors in business and accounting since 1950 and 1959 respectively. The degree programs were housed in the Division of Business and then in the School of Systems Science prior to the establishment of the School of Business in 1986. The School of Business became the College of Business in 2009. The College is comprised of a Department of Management and Marketing and a Department of Accounting and Economics. Business students may seek a Bachelor of Science in Business Administration with major fields of study in Accounting, Business Data Analytics, Economics & Finance, and Management & Marketing or a Bachelor of Science with a major in Business Education.

The College of Business is committed to preparing students for meaningful careers in business, industry, government or education; or for admission to and success in quality graduate programs. This commitment is founded on the belief that graduates from the College should have a strong background in the liberal arts as a basis for mature understanding of the problems of business leadership and management. The objective of the general education curriculum required of all College of Business majors is to ensure they acquire a knowledge and understanding of topics in the humanities, sciences, communications, social sciences and other related subjects to support a lifetime of continual learning.

The faculty believe that teaching excellence and the currency of subject matter are best maintained through ongoing professional interaction with peers and the business community. In support of its mission, the faculty participates in service and engages in scholarly activities oriented towards professional practice and pedagogical research.

College of Business faculty and students use current technology to equip students with the necessary business competency skills needed to be successful leaders in business. Students and faculty are encouraged to participate actively in the learning process. A high degree of faculty-student interaction is sought through the management of class sizes and individualized advising. The College adheres to high levels of ethical conduct and promotes this ideal to its students as they prepare for personal and professional success in an evolving global business environment.

Our Vision

We will be known for the opportunities we create for our students. Keys to our success will be to help make our students career-ready by:

- proactively crafting relationships and experiences;
- guiding professionalism; and
- attracting appropriate resources that help make our students career-ready

Our Mission

We produce quality business professionals prepared to meet the demands of our dynamic marketplace from among a campus population where business students are underrepresented.

Our Guiding Principles

- We believe that a quality graduate possesses business competencies and intellectual foundations for lifelong learning.
- We believe that our students and graduates should behave ethically in both their personal and professional conduct.
- We believe that faculty, staff, and administrators, should encourage a welcoming, but respectful relationship with students in and out of the classroom.
- We believe that a quality graduate, in part, is the end product of quality faculty.
- We believe that quality faculty teach beyond the classroom.
- We believe that a quality faculty member is also a lifelong learner and contributes to the life of the profession, institution, and community.
- We believe that our faculty, staff, and students need to conduct themselves in an ethical, professional, and business-like manner.
- We believe that professionalism and quality will help us to protect our brand in a competitive marketplace.
- We believe that our program should always fulfill the highest of accreditation standards, holding students to consistently rigorous levels of academic quality.
- We believe that our quality is judged by our stakeholders: the business community, the state of Arkansas, and our past, present and future students.

The College is committed to:

- High-quality undergraduate learning and faculty development.
- Highest ethical standards of personal and professional conduct for faculty, students and administrators. Professionalism includes maintaining faculty intellectual qualifications and expertise at levels which support the college's mission.
- Cooperative interaction among students and faculty to achieve the college's mission.
- A systems approach to continuously improve all aspects of the learning process. This includes feedback from major stakeholders and a spirit of experimentation.

Learning Goals

Students who major in any of the bachelor degree programs in the College of Business are required to complete a common core of business courses. The learning goals of the BSBA degree program are to develop students':

1. Ability to use technology to support business decisions.
2. Overall communication skills in a business context.
3. Ability to think critically and reason effectively about business problems.
4. Ethical awareness and ethical decision-making framework in a business context.
5. Foundation knowledge for conducting business in a diverse, global environment.

Accreditation

The Bachelor of Science in Business Administration degree programs offered by the College of Business are accredited by AACSB International - The Association to Advance Collegiate Schools of Business. AACSB International is the premier accrediting agency for business schools, stressing academic

excellence and a commitment to continuous improvement. Approximately one third of the business schools in the United States and several selected schools internationally have earned AACSB International accreditation.

The Bachelor of Science with a major in Business Education is accredited by the National Council for Accreditation of Teacher Education (NCATE).

Transfer Students

In order to meet baccalaureate degree requirements, all transfer students must take in residence a minimum of fifty percent of the College of Business courses required for the degree. Of these courses, at least 24 hours must be 3000-4000 level, 12 hours must be in the student's major field, and 9 hours must be in the business core curriculum.

Business courses taken at other institutions at the 1000-2000 level which are offered by Tech at the 3000-4000 level will be transferred as free electives. Business courses taken at other institutions at the 3000-4000 level are subject to validation by the College of Business.

The Curriculum

A student who majors in one of the Bachelor of Science in Business Administration (B.S.B.A.) programs in the College of Business must complete:

1. The general education requirements as described in this catalog.
2. The following business core requirements:

ACCT 2003 Accounting Principles I
ACCT 2013 Accounting Principles II
ECON 2003 Principles of Economics I
ECON 2013 Principles of Economics II
BLAW 2033 Legal Environment of Business
BUAD 1111 Introduction to Business
BUAD 2003 Business Information Systems
BUAD 2053 Business Statistics
BUAD 3023 Business Communications
ACCT 3063 Managerial Accounting **OR** ACCT 4023 Cost Accounting
ECON 3003 Money and Banking
FIN 3063 Business Finance
MKT 3043 Principles of Marketing
BDA 2003 Business Problem Solving
MGMT 3003 Management and Organizational Behavior
MGMT 3103 Operations Management
MGMT 4013 Management Information Systems **OR** ACCT 3023 Accounting Information Systems¹
MGMT 4083 Business Policy

3. The following courses in the quantitative area:

MATH 1113 College Algebra²
MATH 2223 Quantitative Business Analysis

4. Requirements that are listed on the following pages under each major.
5. Sufficient elective hours to bring the student's total hours to 120 (the number required for graduation).

In order to enroll in 3000- and 4000-level courses offered by the College of Business, students majoring in business must have the proper course prerequisites and satisfy the following enrollment requirements:

1. Must have completed a minimum of 54 hours.
2. Must have a cumulative grade point average of 2.00 or above.
3. Completion of the following eighteen hours of business foundation courses:

ACCT 2003 Accounting Principles I and ACCT 2013 Accounting Principles II

ECON 2003 Principles of Economics I and ECON 2013 Principles of Economics II

Six hours from BDA 2003 Business Problem Solving, BLAW 2033 Legal Environment of Business, BUAD 2053 Business Statistics

Business students who meet enrollment requirements (1) and (2) above and have only completed fifteen hours of the foundation courses, may enroll in upper division business courses, provided they have the proper course prerequisites and they enroll in the remaining required foundation courses in the same semester.

Students majoring in fields outside the College of Business may enroll in 3000- and 4000- level College of Business courses provided they have completed 54 credit hours, have a cumulative GPA of at least 2.0, and approval from the College of Business Dean.

¹Accounting majors must take ACCT 3023 Accounting Information Systems. All other business majors must take MGMT 4013 Management Information Systems.

²Students who have two years of high school Algebra with a grade of "C" or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis.

Department of Accounting & Economics

The Department of Accounting and Economics offers two degree programs. The objective of both degree programs is to offer an academic base equipping students to be life-long learners who will then mature as professionals in the world of business. The accounting curriculum prepares graduates for a variety of careers in public, private and not-for-profit entities as well as entry into graduate programs. The department also provides a major program in economics and finance where graduates can enter professional careers as economic and financial analysts in business or government or continue in graduate studies.

Students who plan to pursue graduate studies should consider the entrance requirements of the graduate degree program which they desire to enter. Faculty advisors will work closely with these students to assist them in planning their course work to meet the graduate degree program requirements. Part of this planning will involve the student sitting for examinations such as the GMAT, GRE, or LSAT.

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Instructor

Laura Griffin

For more information, please visit http://www.atu.edu/business/programs_accounting.php

Department of Accounting & Economics

Bachelor of Science in Business Administration in Accounting

Since the inception of the program in 1959, accounting graduates have established careers in every segment of the business world. Employment opportunities range from national, regional, and local public accounting firms to corporations, sole proprietorships, and national state and local government entities. The accounting profession offers a promising future for men and women who are comfortable in meeting people, expressing themselves, working in changing environments, and who possess an inquiring and logical thought process.

Learning Goals for Accounting Major:

1. Students will be able to demonstrate knowledge of current accounting practices and theory and be conversant in the language of business.
2. Students will be able to demonstrate the ability to think critically about accounting topics.
3. Students will demonstrate the ability to communicate accounting information effectively, both orally and in writing.
4. Students will be able to demonstrate competency in current accounting information technology.
5. Students will be able to demonstrate competency in ethical business and accounting decision making.

Holding the licensure designation as a Certified Public Accountant is viewed as evidence of a professional quality in the discipline of accounting. CPAs are viewed by the business world as individuals who possess a professional knowledge of accounting principles and concepts and have the experiences necessary to make proper application of those principles and concepts. Students who desire to pursue this professional designation can complete the curriculum which will provide them with the necessary academic background to permit the graduate to sit for the uniform certified public accountant examination.

The goal of many students is a career in private accounting rather than public accounting. Professional designations such as Certified Management Accountant (CMA) and Certified Internal Auditor (CIA) are earned by completing examinations offered by their respective professional associations. Accounting majors who desire to complete those certification processes may complete a course of study which will enable them to be a candidate for those professional examinations.

Professional Examination Requirements

All students who, upon graduation, plan to sit for a professional examination (CPA, CMA, CIA) should consult with an accounting faculty member concerning specific course requirements of the respective examination. The requirements should be considered in planning the student's course of study while completing the degree.

The following curriculum in accounting leads to a Bachelor of Science in Business Administration degree with a major in accounting.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ²	3	Science with Lab ¹	4

BUAD 1111 Introduction to Business	1	MATH 2223 Quantitative Business Analysis ²	3
BUAD 2003 Business Information Systems	3	COMM 2173 Business and Professional Speaking	3
Elective	5	Elective	2
Total Hours	15	Total Hours	15

⊕ Sophomore

ECON 2003 Principles of Economics I Science with Lab ¹	3	ECON 2013 Principles of Economics II	3
BDA 2003 Business Problem Solving	3	U.S. History/Government ¹	3
BUAD 2053 Business Statistics	3	BLAW 2033 Legal Environment of Business	3
ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
Total Hours	16	Total Hours	15

⊕ Junior

Fine Arts & Humanities ¹	3	ECON 3003 Money and Banking	3
MGMT 3003 Management and Organizational Behavior	3	MGMT 3103 Operations Management	3
BUAD 3023 Business Communication	3	ACCT 3013 Intermediate Accounting II	3
ACCT 3003 Intermediate Accounting I	3	ACCT 3023 Accounting Information Systems	3
ACCT 3043 Federal Taxes I	3	ACCT 3053 Federal Taxes II	3
Total Hours	15	Total Hours	15

⊕ Senior

MKT 3043 Principles of Marketing	3	FIN 3063 Business Finance	3
ACCT 4003 Advanced Accounting I	3	MGMT 4083 Business Policy	3
ACCT 4033 Auditing	3	ACCT 4013 Advanced Accounting II	3
Elective	5	ACCT 4023 Cost Accounting	3
		Elective	3
Total Hours	14	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students who have two years of high school algebra with a grade of "C" or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis, Quantitative Business Analysis. If omitted, an additional 3 hours of electives will be required. Students considering graduate school are advised to use free elective hours to take MATH 2914 Calculus I.

Department of Accounting & Economics

Bachelor of Science in Business Administration in Economics & Finance

The study of economics and finance equips students to analyze a broad range of socioeconomic phenomena and policy alternatives. Regulation, environmental protection, economic growth and development, the distribution of income, resource allocation, international trade and finance, comparative economic systems, inflation, and the level of employment are some traditional topics of economics. The finance courses focus on financial definitions and concepts involving sources and uses of funds, personal investment strategy, and financial institutions.

The economics and finance course of study contains a theoretical core supporting the finance, accounting, marketing, and management fields. It is designed to prepare graduates for management or analytical careers in business or government. In addition, the major provides a foundation for graduate study in a variety of fields. Faculty advisors will work closely with students to assist them in planning their course work to achieve personal career objectives.

Students who complete the economics and finance program will be able to:

1. Understand economic concepts and relationships.
2. Understand financial decision making at the individual, corporate, and public policy levels.
3. Improve problem-solving skills through the application of economic and financial concepts.
4. Evaluate economic and financial issues in a global context.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
MATH 1113 College Algebra ²	3	MATH 2223 Quantitative Business Analysis ²	3
BUAD 1111 Introduction to Business	1	COMM 2173 Business and Professional Speaking	3
BUAD 2003 Business Information Systems	3	Elective	3
Elective	1		
Total Hours	15	Total Hours	16

⊕ Sophomore

ECON 2003 Principles of Economics I	3	ECON 2013 Principles of Economics II	3
BDA 2003 Business Problem Solving	3	U.S. History/Government ¹	3
MATH 2243 Calculus for Business and Economics ³	3	BUAD 2053 Business Statistics	3
ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
Elective	3	BLAW 2033 Legal Environment of Business	3
Total Hours	15	Total Hours	15

Junior

ACCT 3063 Managerial Accounting or ACCT 4023 Cost Accounting	3	Fine Arts & Humanities ¹	6
BUAD 3023 Business Communication	3	MGMT 4013 Management Information Systems	3
ECON 3003 Money and Banking	3	MKT 3043 Principles of Marketing	3
FIN 3043 Investments I	3	FIN 3063 Business Finance	3
MGMT 3003 Management and Organizational Behavior	3		
Total Hours	15	Total Hours	15

Senior

ECON 3073 Intermediate Microeconomic Theory	3	MGMT 4083 Business Policy	3
MGMT 3103 Operations Management	3	ECON Elective (3000-4000 level) ⁴	3
FIN Elective (3000-4000 level) ⁴	3	ECON/FIN Elective (3000-4000 level) ⁴	3
ECON/FIN Elective (3000-4000 level) ⁴	3	Elective	5
Elective	3		
Total Hours	15	Total Hours	14

¹See appropriate alternatives or substitutions in “General Education Requirements”.

²Students who have two years of high school algebra with a grade of “C” or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis, Quantitative Business Analysis. If omitted, an additional 3 hours of electives will be required.

³Students considering graduate school are advised to take MATH 2914 Calculus I.

⁴ Only three hours of economic/finance internship will apply to this requirement.

Department of Accounting & Economics

Minors Available

Accounting

The minor in Accounting is available to students who wish to add to their knowledge of accounting for personal edification or for professional purposes. Please note that for non-business majors, no more than 30 hours of courses offered by the College of Business may be counted toward completion of degree requirements.

The minor in Accounting requires 21 hours of courses:

- BUAD 2003 Business Information Systems
- ACCT 2003 Accounting Principles I
- ACCT 2013 Accounting Principles II
- ACCT 3003 Intermediate Accounting I*
- ACCT 3013 Intermediate Accounting II*
- ACCT 3043 Federal Taxes I*
- 3 hours of either ACCT 3053 Federal Taxes II OR ACCT 4023 Cost Accounting*

**in order to take the upper division (3000-4000 level) ACCT courses, a non-business major must have completed 54 hours including all 2000 level courses listed above, have a cumulative GPA of at least 2.0 and permission from the Dean of Business.*

Economics

The minor in Economics is available to students who wish to add to their knowledge of business for personal edification or for professional purposes, but not open to College of Business majors. **Please note that for non-business majors, no more than 30 hours of courses offered by the College of Business may be counted toward completion of degree requirements.**

The minor in Economics requires 18 hours of courses:

- ACCT 2003 Accounting Principles I
- ECON 2003 Principles of Economics I*
- ECON 2013 Principles of Economics II
- ECON 3003 Money and Banking**
- 6 hours of 3-4000 level Economics electives**

**for many majors ECON 2003 Principles of Economics I can be used to satisfy 3 hours of the general education social science requirement.*

***in order to take the upper division (3000-4000 level) ECON courses, a non-business major must have completed 54 hours including all 2000 level courses listed above, have a cumulative GPA of at least 2.0 and permission from the Dean of Business.*

Department of Management & Marketing

The Department of Management and Marketing offers majors in business data analytics, management and marketing and business education. Decision making as a process is stressed. Students are taught to search for and identify important facts and properly analyze them in developing sound alternative courses of action. Modern analytical techniques as well as the importance of the behavioral sciences are introduced.

The management and marketing major is designed generally to prepare students for careers as professional managers or as self-employed entrepreneurs in either profit-seeking or not-for-profit organizations. The curriculum emphasizes a comprehensive understanding of business principles and economic activities. The required course of study seeks to prepare the graduate not only for initial employment but for subsequent advancement in his/her chosen vocation. Effective education for business responsibility consists not only of the development of an understanding of the principles and methodologies which govern the organization and administration of the individual business enterprise, but also includes an understanding of larger problems and relationships of the economy as a whole.

Specific objectives of the program are to provide students who select the management and marketing major with the following abilities:

1. Effectively apply technology as a problem-solving tool in management and marketing contexts.
 2. Critically evaluate management and marketing problems.
 3. Identify and evaluate ethical issues related to management and marketing problems.
 4. Effectively communicate.
 5. Proficiency in the foundation principles of management and marketing.
-

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For more information, please visit http://www.atu.edu/business/programs_management.php

Department of Management & Marketing

Bachelor of Science in Business Administration in Business Data Analytics

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BUAD 1111 Introduction to Business	1	COMM 2173 Business and Professional Speaking	3
BUAD 2003 Business Information Systems	3	BLAW 2033 Legal Environment of Business	3
MATH 2243 Calculus for Business and Economics	3	MATH 2223 Quantitative Business Analysis	3
Elective	3	BDA 2003 Business Problem Solving	3
Total Hours	13	Total Hours	15

⊕ Sophomore

ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
ECON 2003 Principles of Economics I	3	ECON 2013 Principles of Economics II	3
BUAD 2053 Business Statistics	3	Science with Lab ¹	4
BUAD 3023 Business Communications	3	U.S. History/Government ¹	3
BDA 2013 Business Spreadsheet Modeling	3	BDA 3053 Business Data Analysis	3
Total Hours	15	Total Hours	16

⊕ Junior

MKT 3043 Principles of Marketing	3	Science with Lab ¹	4
ECON 3093 Econometrics	3	ACCT 3063 Managerial Accounting or ACCT 4023 Cost Accounting	3
MGMT 3003 Management and Organizational Behavior	3	MGMT 3103 Operations Management	3
BDA 3003 Data Analytics Apps Development	3	BDA Elective ²	6
BDA 3033 Data Modeling and Management	3		
Total Hours	15	Total Hours	16

⊕ Senior

Fine Arts & Humanities ¹	6	MKT 4153 Research Methods	3
ECON 3003 Money and Banking	3	MGMT 4083 Business Policy	3
MGMT 4013 Management Information Systems	3	MGMT 4203 Project Management	3
FIN 3063 Business Finance	3	BDA 4003 Business Intelligence	3

Total Hours	BDA Elective ²	3
15	Total Hours	15

¹See appropriate alternatives or substitutions in “General Education Requirements”.

²BDA Electives: MGMT 3113 Managerial Process Analysis, BDA 4031-3 Internship, BDA 4073 Special Topics.

Department of Management & Marketing

Bachelor of Science in Business Administration in Management & Marketing

Major Options

Management & Marketing
Entrepreneurship Concentration
International Business Concentration
Management Concentration
Marketing Concentration

Department of Management & Marketing

Management & Marketing Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ²	3	MATH 2223 Quantitative Business Analysis ²	3
BUAD 1111 Introduction to Business	1	COMM 2173 Business and Professional Speaking	3
BUAD 2003 Business Information Systems	3	Elective	6
Elective	5		
Total Hours	15	Total Hours	15

⊕ Sophomore

ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
ECON 2003 Principles of Economics I	3	ECON 2013 Principles of Economics II	3
Science with Lab ¹	4	Science with Lab ¹	4
BDA 2003 Business Problem Solving	3	Fine Arts & Humanities ¹	3
BLAW 2033 Legal Environment of Business	3	BUAD 2053 Business Statistics	3
Total Hours	16	Total Hours	16

⊕ Junior

U.S. History/Government ¹	3	ACCT 3063 Managerial Accounting or ACCT 4023 Cost Accounting	3
BUAD 3023 Business Communications	3	FIN 3063 Business Finance	3
ECON 3003 Money and Banking	3	MGMT 3103 Operations Management	3
MGMT 3003 Management and Organizational Behavior	3	MGMT/MKT Elective (3000-4000 level) ³	3
MKT 3043 Principles of Marketing	3	Elective	3
Total Hours	15	Total Hours	15

⊕ Senior

MGMT 4013 Management Information Systems	3	Fine Arts & Humanities ¹	3
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MGMT/MKT Elective (3000-4000 level) ³	6	MGMT 4083 Business Policy	3
Elective	6	MGMT/MKT Elective (3000-4000 level) ³	6
Total Hours	15	Elective	1
		Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students who have two years of high school algebra with a grade of "C" or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis. If omitted, an additional 3 hours of electives will be required.

Students considering graduate school are advised to use free elective hours to take MATH 2914 Calculus I.

³The 15 hours of Management and Marketing electives must include six hours of Marketing electives, six hours of Management electives with the remaining three hours from either a management or a marketing elective. Only three hours of management/marketing internship will apply to this requirement.

Department of Management & Marketing

Entrepreneurship Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ²	3	MATH 2223 Quantitative Business Analysis ²	3
BUAD 1111 Introduction to Business	1	COMM 2173 Business and Professional Speaking	3
BUAD 2003 Business Information Systems	3	Elective	6
Elective	5		
Total Hours	15	Total Hours	15

⊕ Sophomore

ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
ECON 2003 Principles of Economics I	3	ECON 2013 Principles of Economics II	3
Science with Lab ¹	4	Science with Lab ¹	4
BDA 2003 Business Problem Solving	3	Fine Arts & Humanities ¹	3
BLAW 2033 Legal Environment of Business	3	BUAD 2053 Business Statistics	3
Total Hours	16	Total Hours	16

⊕ Junior

U.S. History/Government ¹	3	ACCT 3063 Managerial Accounting or ACCT 4023 Cost Accounting	3
BUAD 3023 Business Communications	3	FIN 3063 Business Finance	3
ECON 3003 Money and Banking	3	MGMT 3103 Operations Management	3
MGMT 3003 Management and Organizational Behavior	3	MKT 4153 Research Methods	3
MKT 3043 Principles of Marketing	3	Elective	3
Total Hours	15	Total Hours	15

⊕ Senior

MGMT 4013 Management Information Systems	3	Fine Arts & Humanities ¹	3
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MGMT 4053 Small Business Management	3	MGMT 4063 Entrepreneurial Development	3
Market Strategy elective ³	3	MGMT 4083 Business Policy	3
Elective	6	Behavioral Elective ⁴	3
		Elective	1
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students who have two years of high school algebra with a grade of "C" or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis, Quantitative Business Analysis. If omitted, an additional 3 hours of electives will be required. Students considering graduate school are advised to use free elective hours to take MATH 2914 Calculus I.

³Three hour Market Strategy elective must be taken from: MKT 3163 Consumer Behavior or MKT 4143 Marketing Management or MGMT 4113 Managerial Issues in Electronic Commerce.

⁴Three hour Behavioral elective must be taken from: MGMT 4023 Personnel/Human Resources Management or MGMT 4093 Human Behavior in Organizations or MGMT 4213 Business Leadership or MGMT 4223 Leadership: Ideas and Images in Art, Film, History, and Literature.

Department of Management & Marketing

International Business Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ²	3	MATH 2223 Quantitative Business Analysis ²	3
BUAD 1111 Introduction to Business	1	COMM 2173 Business and Professional Speaking	3
BUAD 2003 Business Information Systems	3	Elective	6
Elective	5		
Total Hours	15	Total Hours	15

⊕ Sophomore

ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
ECON 2003 Principles of Economics I	3	ECON 2013 Principles of Economics II	3
BDA 2003 Business Problem Solving	3	Fine Arts & Humanities ¹	3
BLAW 2033 Legal Environment of Business	3	BUAD 2053 Business Statistics	3
Foreign Lang	3	Foreign Lang	3
Total Hours	15	Total Hours	15

⊕ Junior

U.S. History/Government ¹	3	Science with Lab ¹	4
BUAD 3023 Business Communications	3	ACCT 3063 Managerial Accounting or ACCT 4023 Cost Accounting	3
ECON 3003 Money and Banking	3	ECON 4093 International Economics and Finance	3
MGMT 3003 Management and Organizational Behavior	3	FIN 3063 Business Finance	3
MKT 3043 Principles of Marketing	3	MGMT 3103 Operations Management	3
Total Hours	15	Total Hours	16

⊕ Senior

Science with Lab ¹	4	Fine Arts & Humanities ¹	3
MGMT 4013 Management Information Systems	3	MGMT 4083 Business Policy	3
MKT 4093 International Marketing	3	MKT 3163 Consumer Behavior or MKT 4153 Research Methods	3
MGMT Elective (3000-4000 level)	3	MGMT Elective (3000-4000 level)	3

Elective	2	Elective	2
Total Hours	15	Total Hours	14

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students who have two years of high school algebra with a grade of "C" or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis. If omitted, an additional 3 hours of electives will be required. Students considering graduate school are advised to use free elective hours to take MATH 2914 Calculus I.

Department of Management & Marketing

Management Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ²	3	MATH 2223 Quantitative Business Analysis ²	3
BUAD 1111 Introduction to Business	1	COMM 2173 Business and Professional Speaking	3
BUAD 2003 Business Information Systems	3	Elective	6
Elective	5		
Total Hours	15	Total Hours	15

⊕ Sophomore

ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
ECON 2003 Principles of Economics I	3	ECON 2013 Principles of Economics II	3
Science with Lab ¹	4	Science with Lab ¹	4
BDA 2003 Business Problem Solving	3	Fine Arts & Humanities ¹	3
BLAW 2033 Legal Environment of Business	3	BUAD 2053 Business Statistics	3
Total Hours	16	Total Hours	16

⊕ Junior

U.S. History/Government ¹	3	ACCT 3063 Managerial Accounting or ACCT 4023 Cost Accounting	3
BUAD 3023 Business Communications	3	FIN 3063 Business Finance	3
ECON 3003 Money and Banking	3	MGMT 3103 Operations Management	3
MGMT 3003 Management and Organizational Behavior	3	MGMT 3123 Business Ethics	3
MKT 3043 Principles of Marketing	3	Elective	3
Total Hours	15	Total Hours	15

⊕ Senior

MGMT 4013 Management Information Systems	3	Fine Arts & Humanities ¹	3
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		MGMT 3113 Managerial Process	
Behavioral Elective ³	6	Analysis or	3
		MGMT 4203 Project Management	
Elective	6	MGMT 4083 Business Policy	3
		Behavioral Elective ³	3
		Elective	1
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students who have two years of high school algebra with a grade of "C" or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis. If omitted, an additional 3 hours of electives will be required.

Students considering graduate school are advised to use free elective hours to take MATH 2914 Calculus I.

³Nine hours Behavioral elective must be taken from: MGMT 4023 Personnel/Human Resources Management or MGMT 4093 Human Behavior in Organizations or MGMT 4213 Business Leadership or MGMT 4223 Leadership: Ideas and Images in Art, Film, History, and Literature.

Department of Management & Marketing

Marketing Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ²	3	MATH 2223 Quantitative Business Analysis ²	3
BUAD 1111 Introduction to Business	1	COMM 2173 Business and Professional Speaking	3
BUAD 2003 Business Information Systems	3	Elective	6
Elective	5		
Total Hours	15	Total Hours	15

⊕ Sophomore

ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
ECON 2003 Principles of Economics I	3	ECON 2013 Principles of Economics II	3
Science with Lab ¹	4	Science with Lab ¹	4
BDA 2003 Business Problem Solving	3	Fine Arts & Humanities ¹	3
BLAW 2033 Legal Environment of Business	3	BUAD 2053 Business Statistics	3
Total Hours	16	Total Hours	16

⊕ Junior

U.S. History/Government ¹	3	ACCT 3063 Managerial Accounting or ACCT 4023 Cost Accounting	3
BUAD 3023 Business Communications	3	FIN 3063 Business Finance	3
ECON 3003 Money and Banking	3	MGMT 3103 Operations Management	3
MGMT 3003 Management and Organizational Behavior	3	MKT 3163 Consumer Behavior	3
MKT 3043 Principles of Marketing	3	Elective	3
Total Hours	15	Total Hours	15

⊕ Senior

MGMT 4013 Management Information Systems	3	Fine Arts & Humanities ¹	3
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MKT 4143 Marketing Management	3	MGMT 4083 Business Policy	3
MKT 4153 Research Methods	3	MGMT or MKT Electives (3000-4000 level)	3
Elective	6	MKT Electives (3000-4000 level)	3
		Elective	1
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in “General Education Requirements”.

²Students who have two years of high school algebra with a grade of “C” or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis, Quantitative Business Analysis. If omitted, an additional 3 hours of electives will be required. Students considering graduate school are advised to use free elective hours to take MATH 2914 Calculus I.

Department of Management & Marketing

Minors Available

Business and Entrepreneurship

The minor in Business and Entrepreneurship is available to students who wish to add to their knowledge of business for personal edification or for professional purposes, but not open to College of Business majors. **Please note that for non-business majors, no more than 30 hours of courses offered by the College of Business may be counted toward completion of degree requirements.**

- ACCT 2003 Accounting Principles I
- ECON 2013 Principles of Economics II*
- MGMT 3003 Management and Organizational Behavior**
- MGMT 4053 Small Business Management
- MKT 3043 Principles of Marketing**

and one of the following:

- MGMT 4023 Personnel/Human Resource Management
- MGMT 4063 Entrepreneurial Development
- MGMT 4213 Business Leadership
- MKT 3163 Consumer Behavior
- MKT 4053 Sport and Event Marketing

**for many majors ECON 2013 Principles of Economics II can be used to satisfy 3 hours of the general education social science requirement.*

***in order to take the upper division (3000-4000 level) MKT and MGMT courses, a non-business major must have completed 54 hours including all 2000 level courses listed above and have a cumulative GPA of at least 2.0.*

Business Data Analytics

The minor in Business Data Analytics is designed to give non-BDA majors knowledge and skills in data analytics applicable to their own major. Recent advances in technology have made it possible to easily collect large amounts of data. This minor allows students to capitalize on this data, perform various data analysis techniques, and create visualizations to communicate the results for making decisions and guiding actions. The minor in Business Data Analytics requires 18 hours of courses:

- BDA 2003 Business Problem Solving
- BDA 2013 Business Spreadsheet Modeling
- BDA 3053 Business Data Analysis
- BUAD 2053 Business Statistics, PSY(SOC) 2053 Statistics for the Behavioral Sciences or MATH 2163 Introduction to Statistical Methods

and 6 hours from the following:

- BDA 3003 Data Analytics Apps Development
- BDA 3033 Data Modeling and Management
- BDA 4073 Special Topics
- ECON 3093 Econometrics
- MGMT 3113 Managerial Process Analysis
- MGMT 4203 Project Management
- MKT 4153 Research Methods

College of Education

Programs of Study

The College of Education offers programs of study leading to baccalaureate degrees as listed below:

Bachelor of Science

Elementary Education
Middle Level Education
English/Language Arts
Mathematics
Social Studies
Science
Health & Physical Education
Wellness & Fitness Program
Secondary Education¹
Agriculture
Business
Chemistry
Computer Science
Life Science
Mathematics
Physics

Bachelor of Arts¹

Secondary Education
Art
English
Social Studies
Speech
World Language with Concentration in Spanish

Bachelor of Fine Arts¹

Secondary Education in Creative Writing

Bachelor of Music Education¹ with Secondary Education options in:

Instrumental Music
Keyboard Instrumental Music
Keyboard Vocal Music
Vocal Music

¹Teacher candidate preparing to teach in secondary schools must complete the courses required for specialization in a teaching concentration. These are listed in departmental sections of the catalog and recommended curricula patterns, including teacher licensure requirements, set forth in the College of Education section of this catalog.

The College of Education provides guidance and professional courses for the teacher candidate who plans to teach in elementary, middle level, and secondary schools. The teacher education program is accredited by the Council for the Accreditation of Educator Preparation (CAEP).

Teacher candidates who plan to teach physical education, elementary education, or middle level must enroll in the College of Education. Those who elect to prepare for teaching in other fields must enroll in schools appropriate to their interests in teaching.

For the freshman or sophomore teacher candidate who has not selected a major or specific teaching level or area, the College recommends enrollment in the undeclared program (see "Undecided Study"). In addition to taking the required general education courses, teacher candidates in this program are encouraged to take such electives as will provide them a good liberal education and help select a major field. Advisors in this program are selected to provide guidance to undecided teacher candidates.

In making a decision to enter the teaching profession, teacher candidates should seriously consider the demands which this choice entails. Among these are scholarship and intellectual curiosity; an interest in children and young people, and an understanding of their interests, problems, and development; a thorough understanding of the principles and skills employed by effective teachers; and an interest in and understanding of the role of the school in our society.

Teacher candidates who elect the professional program in teacher education will complete their study in at least two stages. See the appropriate catalog section for the requirements for specific programs. Some courses in the area of specialization should also be completed. **Admission to Arkansas Tech University is a prerequisite to, but separate from, admission to teacher education.** Declaration of a major in one of the University's teacher education programs is also a prerequisite to making formal application for admission to teacher education. Even though admission to Tech and declaration of a teaching major are necessary conditions for admission to teacher education, they are not the only requirements. Other criteria are listed in the section below.

Admission & Retention in Teacher Education at Tech

Professional programs are composed of courses and experiences designed to complete the undergraduate stage of professional preparation for teaching. Admission is by application to the Admission and Retention Committee of the Teacher Education Council. Before a teacher candidate may enroll in professional education courses at the upper division level (the required 3000 and 4000 level professional education courses), he or she must be formally admitted to teacher education at Tech. Application forms may be obtained from the office of the Dean of the College of Education (Crabaugh 204) or the office of the Director of Teacher Education Student Services (Crabaugh 109).

To be admitted to programs in secondary education, teacher candidates must have two assigned advisors, one from the College of Education and one from the department representing their teaching concentration, have the approval of both advisors, satisfactorily complete the pre-admission requirements, have a cumulative grade point average of 2.70 on all college work completed including transfer work, and submit a plan of study approved by both advisors. An early childhood education or middle level education major will have one advisor from the Department of Curriculum and Instruction. **Admission to teacher education will be recommended by the academic advisors and determined by the Admission and Retention Committee based on the following considerations: completion of English composition courses, an oral communication course, a college-level mathematics course, and the appropriate introductory education course with grades of "C" or higher, and completion of the Core Academic Skills Test with scores equal to or greater than the scores determined by the Arkansas Department of Education.** Other factors which reflect professional competence, including moral and emotional stability, physical and mental health, intellectual curiosity, use of English, social awareness, and professional interest will be considered by the Admission and Retention Committee. Formal screening and subsequent admission into teacher education and the monitoring of satisfactory progress in the teacher preparation program represent institutional obligations to the teaching profession, the schools served by and working with the University's programs, and the agencies that approve and accredit teacher education programs. Once admitted to teacher education, the teacher candidate must maintain satisfactory progress throughout the completion of the teacher

education program according to the standards cited above and any additional program standards in effect or lose eligibility to continue in that program. Course sequences and prerequisites will be followed carefully.

Admission Decision Appeals

A formal appeal of a decision to deny admission to teacher education may be made to the Admission and Retention Committee of the Teacher Education Council. Instructions and forms for such appeals are available in the Office of the Dean of Education. **An appeal should be based upon exceptional or extenuating circumstances and/or other pertinent information not previously available or considered.** A formal appeal must be submitted in writing to the Dean who will transmit it to the Committee. The Committee's decision may be appealed in writing to the Dean of the College of Education regarding admission to teacher education. If the appeal is not resolved at this level the teacher candidate may appeal to the Vice President for Academic Affairs whose decision will be final.

Criteria for Internship

Internship is normally expected to be the last requirement completed in teacher education programs. Internship requires a full-time academic and professional commitment. Internship requires the teacher candidate to devote one semester of the senior year to full-time internship in an approved school. The teacher candidate should plan the work of internship to provide one semester free of activities and responsibility which would interfere with the requirements of the professional semester. The teacher candidate is expected to follow the direction of the Field-Based Teacher, the School Principal, the Arkansas Tech University Supervisors, and the Arkansas Tech University Director of Teacher Education Student Services.

Admission requirements for secondary education include completion of all professional education courses, a minimum grade of "C" in all courses required for the teaching field and professional education, and a 2.50 grade point average in the courses required for the teaching field with a cumulative grade point average of 2.50 on all work attempted, including transfer work. Admission requirements for early childhood education and middle level education include no grade below "C" in any course work with a cumulative grade point average of 2.50 on all work attempted, including transfer work. Internship admission requires a Praxis II Specialty Area score which meets or exceeds the minimum scores established by the Arkansas Department of Education.

Appeals of Internship Eligibility Decisions

Decisions made regarding a teacher candidate's eligibility and readiness for placement or retention in internship may be appealed in writing to the Admission and Retention Committee of the Teacher Education Council. Such an appeal should be submitted to the Dean of the College of Education, who will transmit it to the Committee. The Committee's decision regarding an appeal may be appealed in writing to the Dean. If the appeal is not resolved at that level, the teacher candidate may appeal to the Vice President for Academic Affairs whose decision is final. Appeals should be based on exceptional or extenuating circumstances and/or pertinent information not previously available or considered.

Internship Application Process

TEACHER CANDIDATE MUST SUBMIT A FORMAL APPLICATION FOR ADMISSION TO INTERNSHIP. APPLICANTS FOR THE SPRING SEMESTER MUST SUBMIT THE APPLICATION PRIOR TO OCTOBER 1 OF THE FALL SEMESTER. APPLICANTS FOR THE FALL SEMESTER MUST SUBMIT THE APPLICATION PRIOR TO MARCH 1 OF THE SPRING SEMESTER. FAILURE TO MEET THESE DEADLINES COULD RESULT IN THE DELAY OF INTERNSHIP FOR A SEMESTER. PRIORITY IN INTERNSHIP PLACEMENT WILL BE GIVEN TO THOSE TEACHER CANDIDATES MEETING THE DEADLINES AND PREREGRISTERING FOR INTERNSHIP FOR THE GIVEN SEMESTER.

Application forms for internship may be obtained during scheduled group meetings with the Director of Teacher Education Student Services.

Early Childhood candidates may accomplish internship by enrolling in ECED 4915 Early Childhood Education Internship. Middle level candidates may accomplish internship by enrolling in MLED 4912 Internship. Secondary candidates may accomplish internship by enrolling in SEED 4809 Teaching in the Elementary and Secondary School or SEED 4909 Teaching in the Secondary School and SEED 4503 Seminar in Secondary Education, and any other courses required in their teaching concentration.

Assignment of the teacher candidate to an approved site for internship is the responsibility of the College of Education based on policies developed by the College of Education. Placements are chosen to provide the best educational experience for the teacher candidate.

APPLICANTS FOR ADMISSION TO STAGE II OR INTERNSHIP MUST MEET THE REQUIREMENTS THAT ARE IN EFFECT AT THE TIME OF APPLICATION. THE REQUIREMENTS FOR ADMISSION AND RETENTION AS PUBLISHED IN THE POLICIES AND PROCEDURES HANDBOOK OF THE ARKANSAS TECH UNIVERSITY TEACHER EDUCATION PROGRAM WILL SUPERSEDE CATALOG INFORMATION.

Transfer Students

Applicability of transfer credit to meet specific degree requirements depends on the major selected by the transfer student. The transfer student should review the Transfer Credit policy in the Admission section of this catalog and meet with their academic advisor to determine final transfer credit eligibility for the selected program of study.

Requirements for Teacher Licensure

All candidates for licensure must successfully complete the Praxis II, *Principles of Learning and Teaching*, except those taking a Praxis II subject assessment that contains a pedagogy section. These are math, life science, physical science, Spanish and English. Teacher candidates must also successfully complete the appropriate specialty area exams of Praxis II. Scores must be sent directly from the Educational Testing Service to Arkansas Tech University.

Praxis Series

Please refer to Item E under the "Requirements for Baccalaureate Degrees".

The Congress of the United States, in its reauthorization of Title of the Higher Education Act of 1998, enacted accountability measures requiring institutions of higher education to report data to the public on the pass-rates of teacher candidates on assessments required for state licensure. The pass-rates for 2008-2009 for Arkansas Tech University teacher candidates were 100 percent on the assessments of basic skills, professional knowledge, and academic content knowledge. The average pass-rates for programs in the state were also 100 percent.

Teacher candidates spend an average of 405 hours in the classroom during internship; and the average faculty-teacher candidate ratio in supervised practice teaching is 5.0. All programs are approved by the Arkansas Department of Education. The teacher education program at Tech is not designated by the State of Arkansas as a low-performing program.

Department of Curriculum & Instruction

The Department of Curriculum and Instruction offers programs leading to a bachelor's degree and/or licensure in three areas: Elementary Education, Middle Level Education , (Grade Four-Grade Eight) and Secondary Education (The grade level preparation includes 7-12, 4-12, or K-12 depending on the secondary major field pursued). In addition to these bachelor's programs, the Department offers an associate's degree program in Early Childhood Education.

Internship

Internship is the capstone of the teacher preparation program. Placements are the responsibility of the College of Education and are selected on the basis of providing the best experience available for the teacher candidate.

The assignments require full day experiences for the semester. Teacher candidates should make plans with these requirements in mind.

Praxis II

All candidates for licensure must meet minimum scores as required by Arkansas Department of Education on the Principles of Learning and Teaching, if applicable and the appropriate specialty area test.

Please refer to "Requirements for Baccalaureate Degrees".

Contact Information

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For more information, please visit www.atu.edu/ci

Department of Curriculum & Instruction

Bachelor of Science in Elementary Education

The Elementary Education program meets the needs of today's children building on the common core of knowledge, performance, and dispositions needed for early childhood professional educators.

There are three stages in the Bachelor of Science Elementary Education Degree program. Teacher candidates begin the first stage by taking general education requirements and are introduced to basic concepts, theory and practices.

During the second stage teacher candidates complete general education requirements and take courses specifically designed to prepare them for the profession. Admission requires minimum scores as determined by the Arkansas State Board of Education on the Core Academic Skills Test; a minimum cumulative grade point average of 2.70 on all college work attempted with no grade below "C" (including work from other colleges and universities); and beginning the development of a portfolio which must include a philosophy and documented evidence of observations of children.

During the third stage of the elementary program, teacher candidates are placed in an appropriate environment for their internship. Admission to this stage requires a minimum grade point average of 2.70 with no grade below "C" in all courses and a satisfactory score on the licensure exam as established by the Arkansas Department of Education. Teacher candidates should make application for admission to the internship for the spring semester by October 1, or the fall semester by March 1.

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL 1014 Introduction to Biological Science	4	HIST 1503 World History to 1500	3
MATH 1003 College Mathematics	3	MATH 1113 College Algebra	3
COMM 2173 Business and Professional Speaking	3	PHSC 1013 Introduction to Physical Science	3
TECH 1001 Orientation to the University	1	PHSC 1021 Physical Science Laboratory	1
		POLS 2003 American Government	3
Total Hours	14	Total Hours	16

⊕ Sophomore

EDMD 3013 Integrating Instructional Technology	3	MUS 2003 Introduction to Music	3
HIST 1903 Survey of American History	3	PE 3593 Methods of Teaching Health and Physical Education for K-6 Teachers	3
MATH 2033 Mathematical Concepts I	3	MATH 2043 Mathematical Concepts II	3
GEOL 1004 Essentials of Earth Science	4	SPED 3023 Development & Characteristics of Diverse Learners	3

ELED 2003 Educational Research and the Teacher as a Lifelong Learner	3	ELED 3113 Human Development and Learning Theories	3
Total Hours	16	Total Hours	15

⊕ Junior

MATH 2163 Introduction to Statistical Methods	3	BIOL/PHSC 3243 Integrating the Three Dimensions of Science	3
RDNG 3003 Teaching Literacy Foundations	3	HIST 2153 Introduction of Arkansas History	3
SPED 3033 Foundations of Special Education	3	RDNG 3163 Integrated Language Arts	3
ELED 3123 Diagnosis and Assessment of Elementary Students	3	SPED 3153 Planning, Instruction, and Assessment for Students with Disabilities	3
ELED 3133 Integrated Curriculum	3	ELED 3143 Teaching Methods K-6 Social Studies	3
Total Hours	15	Total Hours	15

⊕ Senior

ART 2123 Experiencing Art	3	RDNG 4023 Disciplinary Reading and Writing	3
PHSC 3253 Teaching Methods for STEM	3	ELED 4912 Internship in Elementary Education	12
RDNG 4003 Literacy Assessment and Intervention	3		
RDNG 4013 Child and Adolescent Literature	3		
ELED 4033 Classroom and Behavior Management	3		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

Department of Curriculum & Instruction

Bachelor of Science in Middle Level Education

The Middle Childhood/Early Adolescence degree exists to provide quality preservice educational programs and services in preparation for teaching grades 4-8. The program prepares and nurtures interdisciplinary teachers who reflect content knowledge as well as facilitate creative talents.

The program is designed around a conceptual framework which organizes learning expectations and experience into manageable discipline-specific strands including: professional and pedagogical knowledge, knowledge of the student, developmentally appropriate and effective practices, knowledge of integrated disciplines, global and cultural perspectives, technology, and a liberal arts and science background. The teaching candidate entering the middle-level program must complete two of the following concentrations: English/Language Arts, Math, Social Studies and Science.

The first stage of the middle level program is a pre-professional program and admission to this stage does not constitute approval for admission to the professional program in teacher education. Stage II is the professional stage of the preparation program. Teacher candidates must satisfactorily complete the requirements of the first stage, have a cumulative grade point average of 2.70 on all coursework, complete English composition courses, an oral communication course, a college-level mathematics course, and complete MLED 2003 Introduction to Education with grades of "C" or higher. Competence in oral and written grammar will be assessed. Teacher candidates must submit scores from the Core Academic Skills Test that meet or exceed the levels established by the Arkansas Department of Education.

After satisfying all of the requirements at this level, the teacher candidate will apply for internship. Admission to internship requires completion of all professional education courses, senior standing, satisfactory completion of all prerequisites listed in the course descriptions, a minimum grade of "C" in all courses with a cumulative grade point average of 2.70, and the minimum score on the licensure examination as required by the Arkansas Department of Education.

Teacher candidates should complete an application for admission to the internship for the spring semester by October 1 or for the fall semester by March 1. Teacher candidates must present scores on the appropriate licensure examination as directed by the Arkansas Department of Education.

See the College of Education page for additional requirements.

Select Two Concentrations

English/Language Arts

- ENGL 2043 Introduction to Creative Writing
- ENGL 2063 Advanced Composition: Practice and Theory
- ENGL 3013 Systems of Grammar
- ENGL 3323 Modern American Literature

Social Studies

- ECON 2003 Principles of Economics I
- GEOG 2013 Regional Geography of the World^T
- HIST 2013 United States History since 1877^T

Math

- MATH 1203 Plane Trigonometry^T
- MATH 2043 Mathematical Concepts II
- MATH 2163 Introduction to Statistical Methods
- MATH 3033 Methods of Teaching Elementary Mathematics

Science

- BIOL 2004 Basic Human Anatomy and Physiology^T
- GEOL 1004 Essentials of Earth Science^T
- PHYS 1114 Applied Physics^T
- BIOL/PHSC 3223 Science Education in the Middle Level

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
HIST 1503 World History to 1500	3	HIST 1513 World History since 1500	3
BIOL with Lab ³	4	PHSC with Lab	4
MATH 1113 College Algebra ²	3	MATH 2033 Mathematical Concepts I	3
TECH 1001 Orientation to the University	1	MLED 2003 Introduction to Education	3
Total Hours	14	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
HIST 2003 United States History to 1877	3	POLS 2003 American Government	3
COMM 2003 Public Speaking	3	EDMD 3013 Integrating Instructional Technology	3
Concentration ⁴ /Elective ⁴	8	Concentration ⁴ /Elective ⁴	6
Total Hours	17	Total Hours	15

⊕ Junior

ENGL 4703 Teaching English as a Second Language	3	MLED 3041 School to Home Communication	1
MLED 3012 Research Foundations	2	MLED 3062 Tests & Educational Measurements	2
MLED 3024 Psychological Foundations for the Nature and Needs of Middle Level Students	4	MLED 3072 Diversity in the Classroom	2
MLED 3034 Literacy Development in the Middle Grades	4	Concentration ⁴ /Elective ⁴	10
MLED 3102 Reading Through Literature in the Middle Ages	2		
Total Hours	15	Total Hours	15

⊕ Senior

HIST 2153 Introduction of Arkansas History	3	MLED 4912 Internship	12
MLED 4004 Middle Level Curriculum and Pedagogy	4		
MLED 4023 Guided Field Experiences	3		
Concentration ⁴ /Elective ⁴	6		
Total Hours	16	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Any higher level Mathematics course may be substituted for MATH 1113 College Algebra.

³Science concentrations are required to take BIOL 1114 Principles of Biology

⁴Select two concentrations and take additional electives to achieve 120 total hours.

Department of Curriculum & Instruction

Secondary Education

Options for Teacher Licensure

Bachelor of Science

- Agricultural Education
- Business Education
- Chemistry Education
- Computer Science Education
- Life Science Education
- Mathematics Education
- Physics Education

Bachelor of Arts

- Art Education
- English Education
- Foreign Language with Concentration in Spanish Education
- Social Studies Education
- Speech Education

Bachelor of Fine Arts

- Creative Writing Education

Bachelor of Music Education with options in:

- Instrumental Music
- Keyboard Instrumental Music
- Keyboard Vocal Music
- Vocal Music

The secondary education curriculum is designed to prepare teacher candidates for teaching careers in grade levels 7-12, 4-12, or K-12 depending upon the secondary major field pursued. Teacher candidates completing the CAEP approved program in secondary education will qualify for licensure in an area appropriate to their major field. The program recognizes three important components in the education of a prospective teacher: a strong general education, an in-depth knowledge in a selected teaching field, and a knowledge of the school, various diversity and developmental characteristics of students, and the teaching-learning process.

The unit's conceptual framework is Professionals of the 21st Century. The framework emphasizes the concepts of teacher as instructional leader, reflective decision-maker, and problem solver who has knowledge of the teacher candidate, a strong content and pedagogical knowledge, a commitment to their profession, and a desire to continue their development.

Teacher candidates preparing to teach in secondary schools must complete the courses required for specialization in the appropriate curriculum, see "Curriculum in Secondary Education".

Teacher candidates desiring entrance to the teacher education program in secondary education should apply for admission to Stage II during the second semester of their sophomore year. Teacher candidates who are admitted to Stage II of the teacher education program for secondary teachers enroll jointly in course work for their degree specialization and course work in the Department of Curriculum and Instruction. For example, teacher candidates planning to teach mathematics enroll in the math department and the Department of Curriculum and Instruction. The requirements of both departments must be satisfied.

Teacher candidates should make application for admission to internship for the spring semester by October 1 and for the fall semester by March 1. Teacher candidates must present scores on the Praxis II specialty area test equal to or greater than the state-established level in order to be approved for internship. Any questions concerning internship placement should be addressed to the Director of Teacher Education Student Services located in Crabaugh 109.

Professional Requirements

Professional requirements for the secondary education program include:

- SEED 2002 Education as a Profession
- SEED 3552 Child and Adolescent Development
- SEED 3702 Introduction to Educational Technology
- SEED 4052 Educating Diverse and Exceptional Learners
- SEED 4503 Seminar in Secondary Education
- SEED 4556 Classroom Application of Educational Psychology
- SEED 4809 Teaching in the Elementary and Secondary School **OR** SEED 4909 Teaching in the Secondary School

SEED 2002 Education as a Profession, SEED 3552 Child and Adolescent Development, SEED 3702 Introduction to Educational Technology, SEED 4052 Educating Diverse and Exceptional Learners, and SEED 4556 Classroom Application of Educational Psychology must be completed prior to internship.

Secondary teacher education candidates enrolling in internship should register for SEED 4503 Seminar in Secondary Education and either SEED 4809 Teaching in the Elementary and Secondary School or SEED 4909 Teaching in the Secondary School. In addition to the course requirements specified, the state also requires that the applicants for an Arkansas teaching license supply a copy of his/her score on the Praxis II (Principles of Learning and Teaching, if applicable and Specialty Area Tests) and the criminal background check as required by Act 1310. The Specialty Area Test is required for entry into internship. The Principles of Learning and Teaching, if applicable, may be completed during internship (see "Requirements for Teacher Licensure").

See the College of Education page for additional requirements.

Department of Curriculum & Instruction

Secondary Education Program

Agricultural Education for Teacher Licensure²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL 1014 Introduction to Biological Science	4	COMS 1003 Introduction to Computer Based Systems	3
MATH 1113 College Algebra	3	AGBU 1013 Principles of Agricultural Business	3
AGAS 1014 Principles of Animal Science	4	AGED 1013 Agricultural Youth Organizations	3
AGED 1001 Introduction to Agricultural Education	1	AGPS 1024 Principles of Plant Science	4
Total Hours	15	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Social Sciences ¹	3	CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4
SEED 2002 Education as a Profession	2	U.S. History/Government ¹	3
COMM 2003 Public Speaking	3	AGED 2203 Applied Agricultural Systems Technology	3
AGED 2104 Introduction to Agricultural Systems Technology	4	AGEG 3203 Soil, Water and Forest Conservation	3
Total Hours	15	Total Hours	16

⊕ Junior

SEED 3552 Child and Adolescent Development	2	SEED 3702 Introduction to Educational Technology	2
SEED 4052 Educating Diverse and Exceptional Learners	2	AGAS 2084 Feeds and Feeding	4
AGAS 3021 Livestock Selection and Evaluation	1	AGED 4033 Curriculum Design and Assessment	3
AGED 3033 Philosophy and Foundations of Program Development	3	AGLE 3013 Team Leadership and Organizational Change	3

AGLE 3003 Personal Leadership Theory and Development	3	AGPS 3093 Greenhouse Operation and Management	3
AGPS 3044 Plant Propagation	4		
Total Hours	15	Total Hours	15

⊕ Senior

Social Sciences ¹	3	SEED 4503 Seminar in Secondary Education	3
SEED 4556 Classroom Application of Educational Psychology	6	SEED 4909 Teaching in the Secondary School	9
AGBU 3013 Principles of Farm Management	3		
AGED 4044 Methods in Teaching Agriculture	4		
Total Hours	16	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For teacher licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

Department of Curriculum & Instruction

Secondary Education - Business Education for Teacher Licensure³

*See the *College of Education* page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
COMM 2003 Public Speaking or COMM 2173 Business and Professional Speaking	3	HIST 1903 Survey of American History ¹	3
MATH 1113 College Algebra ²	3	MATH 2223 Quantitative Business Analysis	3
BUAD 1023 Keyboarding	3	POLS 2003 American Government	3
BUAD 1111 Introduction to Business	1	BUAD 2043 Principles of Word Processing	3
BUAD 2003 Business Information Systems	3		
Total Hours	16	Total Hours	15

⊕ Sophomore

Science with Lab ¹	4	Fine Arts & Humanities ¹	3
ACCT 2003 Accounting Principles I	3	ACCT 2013 Accounting Principles II	3
BDA 2003 Business Problem Solving	3	BLAW 2033 Legal Environment of Business	3
ECON 2003 Principles of Economics I	3	ECON 2013 Principles of Economics II	3
SEED 2002 Education as a Profession	2	BUAD 2053 Business Statistics	3
Total Hours	15	Total Hours	15

⊕ Junior

ANTH 2003 Cultural Anthropology	3	Fine Arts & Humanities ¹	3
MGMT 3003 Management and Organizational Behavior	3	MGMT 3103 Operations Management	3
MKT 3043 Principles of Marketing	3	FIN 3063 Business Finance	3
SEED 3552 Child and Adolescent Development	2	SEED 4052 Educating Diverse and Exceptional Learners	2
SEED 3702 Introduction to Educational Technology	2	VOBE 4023 Methods of Teaching Vocational Business	3
BUAD 3023 Business Communications	3		
Total Hours	16	Total Hours	14

Senior

Science with Lab ¹	4	SEED 4503 Seminar in Secondary Education	3
MGMT 4013 Management Information Systems	3	SEED 4809 Teaching in the Elementary and Secondary School	9
MGMT 4083 Business Policy	3	VOBE 4701 Special Methods in Vocational Business	1
SEED 4556 Classroom Application of Educational Psychology	6		
Total Hours	16	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students who have two years of high school algebra with a grade of "C" or better and a math ACT score of 22 or above may omit College Algebra and enroll directly in MATH 2223 Quantitative Business Analysis. If omitted, an additional 3 hours of electives will be required.

³For teacher licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

Department of Curriculum & Instruction

Secondary Education - Chemistry Education for Teacher Licensure²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Fine Arts & Humanities ¹	3	BIOL 1114 Principles of Biology	4
MATH 1914 Precalculus	4	MATH 2914 Calculus I	4
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
Total Hours	15	Total Hours	16

⊕ Sophomore

HIST 1903 Survey of American History	3	COMM 2003 Public Speaking	3
PHYS 2114 General Physics I and PHYS 2000 Physics Laboratory I	4	PHYS 2024 Physical Principles II or PHYS 2124 General Physics II and PHYS 2010 Physics Laboratory II	4
MATH 2924 Calculus II	4	CHEM 3264 Mechanistic Organic Chemistry	4
CHEM 3254 Fundamentals of Organic Chemistry	4	CHEM 3313 Environmental Chemistry	3
SEED 2002 Education as a Profession	2	Elective	1
Total Hours	17	Total Hours	15

⊕ Junior

Fine Arts & Humanities ¹	3	POLS 2003 American Government	3
MATH 2163 Introduction to Statistical Methods	3	COMS 2003 Microcomputer Applications or COMS 2803 Programming in C	3
PHYS 3213 Modern Physics	3	CHEM 3245 Quantitative Analysis	5
CHEM 3301 Chemistry Seminar	1	PHSC 3252 The Nature and Context of Science	2
CHEM 3423 Descriptive Inorganic Chemistry	3	SEED 3702 Introduction to Educational Technology	2
Total Hours	13	Total Hours	15

⊕ Senior

ANTH 2003 Cultural Anthropology	3	PHSC 4701 Special Methods in Physical Science	1
PHSC 3233 Science Education in the Secondary School	3	SEED 4503 Seminar in Secondary Education	3
SEED 3552 Child and Adolescent Development	2	SEED 4909 Teaching in the Secondary School	9
SEED 4052 Educating Diverse and Exceptional Learners	2		
SEED 4556 Classroom Application of Educational Psychology	6		
Total Hours	16	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

Department of Curriculum & Instruction

Secondary Education - Computer Science Education for Teacher Licensure²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra or higher level Mathematics	3	Social Sciences ¹	3
TECH 1001 Orientation to the University	1	Fine Arts & Humanities ¹	3
COMS 1333 Web Publishing I	3	COMS 2104 Foundations of Computer Programming I	4
COMS 1403 Orientation to Computing, Information, and Technology	3	COMS 2700 Networking and Architecture Laboratory	0
COMS 1411 Computer and Information Science Lab	1	COMS 2703 Computer Networks and Architecture	3
Total Hours	14	Total Hours	16

⊕ Sophomore

SEED 2002 Education as Profession	2	Social Sciences ¹	3
COMM 2173 Business and Professional Speaking or COMM 2003 Professional Speaking	3	U.S. History/Government ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
COMS 2203 Foundations of Computer Programming II	3	COMS 2213 Data Structures	3
COMS 2903 Discrete Structures for Technical Majors	3	Elective ³	3
Total Hours	15	Total Hours	16

⊕ Junior

SEED 3552 Child and Adolescent Development	2	Fine Arts & Humanities ¹	3
SEED 3702 Introduction to Educational Technology	2	SEED 4052 Educating Diverse and Exceptional Learners	2
COMS 3053 Implications of Technology on Society	3	COMS 3243 Data Mining	3
COMS 3233 Database Design and Implementation	3	COMS 3413 App Development	3
COMS 3903 Systems Software and Architecture	3	Elective ³	4
Elective ³	3		

Total Hours**16 Total Hours****15****⊕ Senior**

SEED 4556 Classroom Application of Educational Psychology	6	SEED 4503 Seminar in Secondary Education	3
COMS 4033 Systems Analysis and Design I	3	SEED 4809 Teaching in the Elementary & Secondary School	9
COMS 4813 Teaching Methods in Computer Science Education	3	COMS 4801 Special Methods in Computer Science Education	1
Elective ³	3		
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For teacher licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

³The elective courses placed in the degree should be used by students to take either COMS courses or courses in another area that the student would like to get certified (i.e. mathematics, business - both of which offer a minor). This will make graduates more marketable.

Department of Curriculum & Instruction

Secondary Education - Life Science Education for Teacher Licensure²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ³	3	HIST 1903 Survey of American History	3
BIOL 1011 Orientation to the Biological Sciences	1	BIOL 2124 Principles of Zoology or BIOL 2134 Principles of Botany	4
BIOL 1114 Principles of Biology	4	CHEM 2134 General Chemistry II	4
CHEM 2124 General Chemistry I	4		
Total Hours	15	Total Hours	14

⊕ Sophomore

GEOL 1004 Essentials of Earth Science or GEOL 1014 Physical Geology	4	COMM 2003 Public Speaking	3
MATH 2163 Introduction to Statistical Methods	3	ANTH 2003 Cultural Anthropology	3
BIOL 2124 Principles of Zoology or BIOL 2134 Principles of Botany	4	BIOL/FW 3114 Principles of Ecology	4
PHYS 2014 Physical Principles I	4	PHYS 2024 Physical Principles II	4
SEED 2002 Education as a Profession	2	POLS 2003 American Government	3
Total Hours	17	Total Hours	17

⊕ Junior

BIOL 2004 Basic Human Anatomy and Physiology	4	Fine Arts & Humanities ¹	3
CHEM 3254 Fundamentals of Organic Chemistry	4	BIOL 3034 Genetics	4
MATH 2243 Calculus for Business and Economics	3	BIOL 3054 Microbiology or BIOL 4033 Cell Biology	3-4
SEED 3702 Introduction to Educational Technology	2	BIOL /PHSC 3252 The Nature and Context of Science SEED 3552 Child and Adolescent Development SEED 4052 Educating Diverse and Exceptional Learners	2 2 2
Total Hours	13	Total Hours	16-17

Senior

Fine Arts & Humanities ¹	3	BIOL 4701 Special Methods in Biology	1
BIOL/PHSC 3233 Science Education in the Secondary School	3	SEED 4503 Seminar in Secondary Education	3
BIOL 4891 Seminar in Biology	1	SEED 4909 Teaching in the Secondary School	9
SEED 4556 Classroom Application of Educational Psychology	6		
Biology Elective	3-4		
Total Hours	16-	Total Hours	13
	17		

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For teacher licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

³Any higher level Mathematics course may be substituted for MATH 1113 College Algebra.

Department of Curriculum & Instruction

Secondary Education - Mathematics Education for Teacher Licensure²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Social Sciences ¹	3
TECH 1001 Orientation to the University	1	HLED 1513 Personal Health and Wellness	3
MATH 2914 Calculus I	4	MATH 2703 Discrete Mathematics	3
Elective	4	MATH 2924 Calculus II	4
Total Hours	15	Total Hours	16

⊕ Sophomore

PHYS 2114 General Physics I	4	PHYS 2124 General Physics II	4
COMS 2803 Programming in C	3	Fine Arts & Humanities ¹	3
MATH 2934 Calculus III	4	ANTH 2003 Cultural Anthropology	3
MATH 3003 Foundations of Number Systems	3	MATH 3123 College Geometry	3
SEED 2002 Education as a Profession	2	MATH 3243 Differential Equations I	3
Total Hours	16	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	3	MATH 3203 Introduction to Analysis	3
COMM 2003 Public Speaking	3	MATH 4123 Mathematical Modeling	3
MATH 3153 Applied Statistics I	3	MATH 4703 Special Methods in Mathematics	3
MATH 4003 Linear Algebra I	3	SEED 3702 Introduction to Educational Technology	2
SEED 3552 Child and Adolescent Development	2	Elective	3
SEED 4052 Educating Diverse and Exceptional Learners	2		
Total Hours	16	Total Hours	14

⊕ Senior

MATH 4033 Abstract Algebra I	3	SEED 4503 Seminar in Secondary Education	3
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MATH 4113 History of Mathematics	3	SEED 4909 Teaching in the Secondary School	9
MATH 4772 Mathematics Teaching Practicum	2		
MATH 4971 Mathematics Senior Seminar	1		
SEED 4556 Classroom Application of Educational Psychology	6		
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For teacher licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

Department of Curriculum & Instruction

Secondary Education - Physics Education for Teacher Licensure²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
PHSC 1053 Astronomy	3	BIOL/ENVS/PHSC 1004 Principles of Environmental Science	4
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
Total Hours	15	Total Hours	16

⊕ Sophomore

HIST 1903 Survey of American History	3	COMM 2003 Public Speaking	3
PHYS 2114 General Physics I and PHYS 2000 Physics Laboratory I	4	PHYS 2124 General Physics II and PHYS 2010 Physics Laboratory II	4
MATH 2934 Calculus III	4	MATH 3243 Differential Equations I	3
POLS 2003 American Government	3	PHSC 2003 Physics in Society and the Environment	3
SEED 2002 Education as a Profession	2	Electives	3
Total Hours	16	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	6	COMS 2003 Microcomputer Applications or COMS 2803 Programming in C	3
ANTH 2003 Cultural Anthropology	3	PHYS 4113 Advanced Physics Laboratory or PHYS 4993 Special Problems in Physics and Astronomy	3
PHYS 3213 Modern Physics or PHYS 3133 Theory of Electricity and Magnetism	3	PHSC 3033 Meteorology	3
PHYS, PHSC, CHEM or MATH Elective	3	PHSC 3252 The Nature and Context of Science SEED 3702 Introduction to Educational Technology	2

Total Hours**15 Total Hours****13**

⊕ Senior

PHYS 3213 Modern Physics or PHYS 3133 Theory of Electricity and Magnetism	3	PHSC 4701 Special Methods in Physical Science	1
PHSC/BIOL 3233 Science Education in the Secondary School	3	SEED 4503 Seminar in Secondary Education	3
SEED 3552 Child and Adolescent Development	2	SEED 4909 Teaching in the Secondary School	9
SEED 4052 Educating Diverse and Exceptional Learners	2		
SEED 4556 Classroom Application of Educational Psychology	6		
Total Hours	16	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

Department of Curriculum & Instruction

Secondary Education - Art for Teacher Licensure

The degree in Art Education provides a foundation of art skills, methodology, and advanced work through teaching internships necessary for teacher licensure.

*See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Science with Lab ¹	4
Mathematics ¹	3	ART 1503 Introduction to Graphic Design	3
ART 1001 Introduction to Art	1	ART 2123 Experiencing Art	3
ART 1303 Introduction to Drawing	3	ART 2403 Color Design	3
ART 1403 Two-dimensional Design	3		
Total Hours	16	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	3	U.S. History/Government ¹	3
Science with Lab ¹	4	COMM 2003 Public Speaking	3
SEED 2002 Education as a Profession	2	ART/JOUR 1163 Basic Digital Photography	3
ART 2103 Art History I	3	ART 2113 Art History II	3
ART 2413 Three-dimensional Design	3	ART 2303 Figure Drawing	3
		ART 3001 Sophomore Review	1
Total Hours	15	Total Hours	16

⊕ Junior

Social Sciences ¹	3	SEED 3552 Child and Adolescent Development	2
ART 3003 Concepts in Art Education	3	SEED 3702 Introduction to Educational Technology	2
ART 3073 Introduction to Sculpture	3	SEED 4052 Educating Diverse and Exceptional Learners	2
ART 3403 Introduction to Opaque Painting or ART 3533 Watercolor Painting	3	ART 3013 Art Education Practicum	3
Art Elective (3000-4000)	3	ART 3603 Introduction to Ceramics Art History (3000-4000) ²	3
Total Hours	15	Total Hours	15

⊕ Senior

SEED 4556 Classroom Application of Educational Psychology	6	SEED 4503 Seminar in Secondary Education	3
ART 3803 Introduction to Printmaking	3	SEED 4809 Teaching in the Elementary and Secondary School	9
ART 4823 Art Criticism and Aesthetics	3		
Art Elective (3000-4000)	3		
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Art history electives ART 3113 Art History, American , ART 3123 Art History, Renaissance, ART 3133 Art History, Americas & Africa , ART 3143 Art History, Asia & Pacific, ART 4103 Art History, Modern 1789-1945, ART 4113 Art History, Art After 1945 , ART 4723 Art History Seminar can be used toward this requirement.

Department of Curriculum & Instruction

Secondary Education - English Education for Teacher Licensure⁵

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
Mathematics ¹	3	Science with Lab ¹	4
Beginning Foreign Language I ²	3	Beginning Foreign Language II ²	3
TECH 1001 Orientation to the University	1	COMM 2003 Public Speaking	3
Total Hours	13	Total Hours	16

⊕ Sophomore

U.S. History/Government ¹	3	Fine Arts & Humanities ¹	3
Science with Lab ¹	4	SEED 2002 Education as a Profession	2
ENGL 2003 Introduction to World Literature	3	ENGL 3023 Introduction to Linguistics	3
ENGL 2063 Advanced Composition: Practice and Theory	3	English Elective ³	3
Elective ⁴	3	Elective ⁴	5
Total Hours	16	Total Hours	16

⊕ Junior

ENGL 3313 American Literature to 1900	3	ENGL 3013 Systems of Grammar	3
ENGL 3413 British Literature to 1800	3	ENGL 3323 Modern American Literature	3
SEED 3702 Introduction to Educational Technology or EDMD 3013 Integrating Instructional Technology	2-3	ENGL 3423 British Literature since 1800	3
English Elective ³	6	SEED 3552 Child and Adolescent Development	2
Elective ⁴	2-1	SEED 4052 Educating Diverse and Exceptional Learners	2
		Elective ⁴	3
Total Hours	16	Total Hours	16

Senior

ENGL 4013 History of the English Language	3	SEED 4503 Seminar in Secondary Education	3
ENGL 4733 Teaching English in the Secondary School	3	SEED 4909 Teaching in the Secondary School	9
SEED 4556 Classroom Application of Educational Psychology	6		
ENGL (3000-4000)	3		
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²All minimum college hours (at least two semesters) should be in one language. Students with previous study in a foreign language should refer to Foreign Language Advanced Placement and Credit under Credit by Examination

³Any 2-4000 level English courses excluding ENGL 2003 Introduction to World Literature, ENGL 2013 Introduction to American Literature, ENGL/ JOUR 2173 Introduction to Film, ENGL 2881 Practicum-Literary Journal Publication, and ENGL 4881-4 Practicum-Editing Literary Journal.

⁴At least 40 of the 120 hours required for graduation must be earned in 3000-4000 level courses.

⁵For teacher licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

Department of Curriculum & Instruction

Secondary Education - Foreign Language with Concentration in Spanish Education for Teacher Licensure^{2,4,5}

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
Mathematics ¹	3	Fine Arts & Humanities ¹	3
TECH 1001 Orientation to the University	1	Science with Lab ¹	4
SPAN 2013 Intermediate Spanish I ^{2,3}	3	SPAN 2023 Intermediate Spanish II ^{2,3}	3
Total Hours	13	Total Hours	16

⊕ Sophomore

COMM 2003 Public Speaking	3	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	SPAN 3013 Conversation and Composition II	3
Science with Lab ¹	4	SPAN 3123 Spanish Civilization and Culture	3
SPAN 3003 Conversation and Composition I	3	SEED 2002 Education as a Profession	2
		SEED 3702 Introduction to Educational Technology or	2-
Electives	3	EDMD 3013 Integrating Instructional Technology	3
		Electives	2-
			3
Total Hours	16	Total Hours	16

⊕ Junior

SPAN 3133 Spanish-American Civilization and Culture	3	SPAN 4023 Introduction to Spanish Linguistics	3
SPAN 3213 Advanced Grammar and Usage	3	SPAN 4223 Spanish-American Literature	3
SPAN 4213 Spanish Literature	3	SEED 4052 Educating Diverse and Exceptional Learners	2
SEED 3552 Child and Adolescent Development	2	SPAN Elective (3000-4000 level)	3
SPAN Elective (3000-4000 level)	3	Electives	5
Elective	1		
Total Hours	15	Total Hours	16

Senior

SPAN 4003 Oral Communication	3	SPAN 4701 Foreign Language Pedagogy	1
SPAN 4703 Foreign Language Teaching Methods	3	SEED 4503 Seminar in Secondary Education	3
SEED 4556 Classroom Application of Educational Psychology	6	SEED 4809 Teaching in the Elementary and Secondary School	9
Electives	3		
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students with previous study in a foreign language should refer to Foreign Language Advanced Placement and Credit under Credit by Examination.

³Lab attendance is required for beginning and intermediate foreign language courses.

⁴For teacher licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

⁵An oral proficiency level of Advanced Low, as demonstrated by a score on the ACTFL Oral Proficiency Interview, will be required of all foreign language education majors for admission to the internship.

Department of Curriculum & Instruction

Secondary Education - Social Studies Education for Teacher Licensure²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
HIST 1503 World History to 1500	3	HIST 1513 World History since 1500	3
Science with Lab ¹	4	Science with Lab ¹	4
Mathematics ¹	3	SOC 1003 Introductory Sociology	3
SEED 2002 Education as a Profession	2	Elective	1
TECH 1001 Orientation to the University	1		
Total Hours	16	Total Hours	14

⊕ Sophomore

POLS 2003 American Government	3	COMM 2003 Public Speaking or COMM 2173 Business and Professional Speaking	3
HIST 2003 United States History to 1877	3	HIST 2013 United States History since 1877	3
PSY 2003 General Psychology	3	ECON 2003 Principles of Economics I	3
ANTH 2003 Cultural Anthropology	3	SEED 3702 Introduction to Educational Technology	2
GEOG 2013 Regional Geography of the World	3	GEOG Elective	3
		HIST/POLS Elective	3
Total Hours	15	Total Hours	17

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
HIST 4714 Social Studies Methods for Secondary Teachers	4	ECON 2013 Principles of Economics II	3
POLS 3033 American State and Local Government	3	HIST 4153 History of Arkansas	3
HIST/POLS Elective (3000-4000 level)	6	SEED 3552 Child and Adolescent Development	2
		SEED 4052 Educating Diverse and Exceptional Learners	2
		HIST/POLS Elective (3000-4000 level)	3
Total Hours	16	Total Hours	16

Senior

HIST 4963/POLS 4963 Senior Seminar	3	SEED 4503 Seminar in Secondary Education	3
SEED 4556 Classroom Application of Educational Psychology	6	SEED 4909 Teaching in the Secondary School	9
HIST/POLS Elective (3000-4000 level) Elective	3 2		
Total Hours	14	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

Department of Curriculum & Instruction

Secondary Education - Speech Education for Teacher Licensure²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Social Sciences ¹	3
Mathematics ¹	3	Science with Lab ¹	4
Science with Lab ¹	4	COMM 2003 Public Speaking	3
COMM 1003 Introduction to Speech - Communication	3	Elective	2
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	15

⊕ Sophomore

Social Sciences ¹	3	Fine Arts & Humanities ¹	6
TH 2703 Acting Theories and Techniques	3	JOUR 2133 Introduction to Mass Communication	3
SEED 2002 Education as a Profession	2	COMM 2013 Voice and Diction	3
COMM 2023 Communication Research and Writing	3	COMM 3073 Group Communication	3
Elective	4		
Total Hours	15	Total Hours	15

⊕ Junior

Social Sciences ¹	3	TH 3803 Directing Theories and Techniques	3
TH 3513 Stagecraft Techniques	3	TH 4323 Theatre History II: Late 18th Century to the Present	3
COMM 3063 Oral Interpretation	3	COMM 3003 Interpersonal Communication	3
SEED 3552 Child and Adolescent Development	2	Elective ^T	6
SEED 3702 Introduction to Educational Technology	2		
SEED 4052 Educating Diverse and Exceptional Learners	2		
Total Hours	15	Total Hours	15

⊕ Senior

TH 4313 Theatre History I: Antiquity to Romanticism	3	COMM 4701 Special Methods in Speech	1
COMM 3123 Argumentation	3	SEED 4503 Seminar in Secondary Education	3
SEED 4556 Classroom Application of Educational Psychology	6	SEED 4909 Teaching in the Secondary School	9
Elective	3		
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

³Certain electives and social sciences are recommended based on student's emphasis.

Department of Curriculum & Instruction

Secondary Education - Creative Writing Education for Teacher Licensure⁴

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
Mathematics ¹	3	Science with Lab ¹	4
TECH 1001 Orientation to the University	1	COMM 2003 Public Speaking ^T	3
Beginning Foreign Lang I ²	3	Beginning Foreign Lang II ²	3
Elective	3		
Total Hours	16	Total Hours	16

⊕ Sophomore

U.S. History/Government ¹	3	Fine Arts & Humanities ¹	3
Science with Lab ¹	4	ENGL 2003 Introduction to World Literature	3
ENGL 2043 Introduction to Creative Writing	3	ENGL 3023 Introduction to Linguistics	3
ENGL 2063 Advanced Composition: Practice and Theory	3	ENGL 3043 Literary Editing and Publishing	3
Elective	3	SEED 2002 Education as a Profession	2
Total Hours	16	Total Hours	14

⊕ Junior

ENGL 3093 Poetry Workshop	3	ENGL 3013 Systems of Grammar	3
ENGL 3313 American Literature to 1900	3	ENGL 3083 Fiction Workshop	3
ENGL 3413 British Literature to 1800	3	ENGL 3323 Modern American Literature	3
SEED 3552 Child and Adolescent Development	2	ENGL 3423 British Literature since 1800	3
SEED 3702 Introduction to Educational Technology or EDMD 3013 Integrating Instructional Technology	2-3	ENGL 4813 Senior Project in Creative Writing	3
SEED 4052 Educating Diverse and Exceptional Learners	2		
Total Hours	15- 16	Total Hours	15

⊕ Senior

ENGL 4093 Seminar in Creative Writing	3	SEED 4503 Seminar in Secondary Education	3
ENGL 4733 Teaching English in the Secondary School	3	SEED 4909 Teaching in the Secondary School	9
SEED 4556 Classroom Application of Educational Psychology	6		
ENGL Elective ³	3		
Elective	0-1		
Total Hours	15- 16	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²All minimum college hours (at least two semesters) should be in one language. Students with previous study in a foreign language should refer to Foreign Language Advanced Placement and Credit under Credit by Examination.

³Any 2-4000 level English courses excluding ENGL 2003 Introduction to World Literature, ENGL 2013 Introduction to American Literature, ENGL/JOUR 2173 Introduction to Film, ENGL 2881 Practicum-Literary Journal Publication, and ENGL 4881-4 Practicum-Editing Literary Journal.

⁴For teacher licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning and Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

Department of Curriculum & Instruction

Secondary Education - Music Education for Teacher Licensure⁷ (Instrumental Music Option)

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Mathematics ¹	3	Science with Lab ¹	4
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1_2 ⁸	2	MUS 1_2 ⁸	2
MUS 1441 Class Piano, I, II, III, and IV or	1	MUS 1441 Class Piano, I, II, III, and IV or	1
MUS 1201 Applied Music - Piano ²	1	MUS 1201 Applied Music - Piano ²	
MUS 1501 Band	1	MUS 1501 Band	1
MUS 1713 Theory I	3	MUS 1723 Theory II	3
MUS 1731 Ear Training I	1	MUS 1741 Ear Training II	1
MUS 2441 Class Voice	1		
TECH 1001 Orientation to the University	1		
Total Hours	16	Total Hours	15

⊕ Sophomore

Social Sciences ¹	3	SEED 2002 Education as a Profession	2
COMM 2003 Public Speaking	3	Science with Lab ¹	4
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1_2 ⁸	2	MUS 1_2 ⁸	2
MUS 1441 Class Piano, I, II, III, and IV or	1	MUS 1441 Class Piano, I, II, III, and IV or	1
MUS 1201 Applied Music - Piano ²	1	MUS 1201 Applied Music - Piano ²	
MUS 1501 Band	1	MUS 1501 Band ^T	1
MUS 2713 Theory III	3	MUS 2723 Theory IV	3
MUS 2731 Ear Training III	1	MUS 2741 Ear Training IV	1
MUS 3401 Brass Instruments	1	MUS 3481 Stringed Instruments	1
		Sophomore Barrier Jury ³	0
		Piano Exit Exam	0
Total Hours	15	Total Hours	15

⊕ Junior

Social Sciences ¹	3	U.S. History/Government ¹	3
MUS 3000 Recital Attendance	0	MUS 3000 Recital Attendance	0
MUS 3_2 ⁸	2	MUS 3_2 ⁸	2

MUS 3421 Woodwind Instruments, Double Reeds	1	MUS 3281 Secondary Instrumental Methods and Materials I	1
MUS 3501 Band	1	MUS 3431 Woodwind Instruments, Single Reeds	1
MUS 3773 History of Music I	3	MUS 3501 Band	1
MUS 3802 Principles of Conducting	2	MUS 3702 Music Educational Technology	2
MUS 4461 Percussion Instruments	1	MUS 3762 Instrumental and Choral Arranging	2
MUS 4712 Form and Analysis	2	MUS 3783 History of Music II	3
Total Hours	15	Total Hours	15

⊕ Senior

SEED 3552 Child and Adolescent Development ⁵	2	Fine Arts & Humanities ¹	6
SEED 4052 Educating Diverse and Exceptional Learners ⁵	2	SEED 4556 Classroom Application of Educational Psychology ⁵	6
MUS 3_2 ⁸	2	MUS 4001 Senior Recital	1
MUS 3501 Band	1	MUS 4281 Secondary Instrumental Methods and Materials II	1
MUS 3692 History of Music III	2		
MUS 3853 Music in the Elementary Classroom ⁴	3		
MUS 4971 Marching Band Techniques	1		
Total Hours	13	Total Hours	14

⊕ Senior 9th Semester

SEED 4503 Seminar in Secondary Education	3
SEED 4809 Teaching in the Elementary and Secondary School ^{6,7}	9
Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements"

²Piano (MUS 1441 Class Piano, I, II, III, and IV or MUS 1201 Applied Music - Piano) to be taken each semester until successful completion of Piano Exit Exam.

³Required for enrollment in upper-level applied study for two-hour credit and for completion for all music degrees

⁴Prerequisite: successful completion of Piano Exit Exam.

⁵Prerequisite: admission to Stage II.

⁶See admission policy and procedure.

⁷For licensure, students must pass the Praxis II music specialty and Principles of Learning and Teaching exam.

⁸See course descriptions for the appropriate applied music course number.

Department of Curriculum & Instruction

Secondary Education - Music Education for Teacher Licensure⁴ (Keyboard Instrumental Music Option)

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Mathematics ¹	3	Science with Lab ¹	4
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1202 Applied Music - Piano	2	MUS 1202 Applied Music - Piano	2
MUS 1501 Band	1	MUS 1501 Band	1
MUS 1713 Theory I	3	MUS 1723 Theory II	3
MUS 1731 Ear Training I	1	MUS 1741 Ear Training II	1
MUS 2441 Class Voice	1	MUS 2201 Accompanying Seminar	1
TECH 1001 Orientation to the University	1		
Total Hours	15	Total Hours	15

⊕ Sophomore

Social Sciences ¹	3	COMM 2003 Public Speaking	3
Science with Lab ¹	4	SEED 2002 Education as a Profession	2
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1202 Applied Music - Piano	2	MUS 1202 Applied Music - Piano	2
MUS 1501 Band	1	MUS 1501 Band	1
MUS 2713 Theory III	3	MUS 2201 Accompanying Seminar	1
MUS 2731 Ear Training III	1	MUS 2723 Theory IV	3
MUS 3401 Brass Instruments	1	MUS 2741 Ear Training IV	1
		MUS 3481 Stringed Instruments	1
		Sophomore. Barrier Jury ²	0
Total Hours	15	Total Hours	14

⊕ Junior

Social Sciences ¹	3	Fine Arts & Humanities ¹	3
MUS 3000 Recital Attendance	0	U.S. History/Government ¹	3
MUS 3202 Applied Music - Piano	2	MUS 3000 Recital Attendance	0
MUS 3421 Woodwind Instruments, Double Reeds	1	MUS 3202 Applied Music - Piano	2
		MUS 3281 Secondary Instrumental	
MUS 3501 Band	1	Methods and Materials I	1

MUS 3702 Music Educational Technology	2	MUS 3431 Woodwind Instruments, Single Reeds	1
MUS 3773 History of Music I	3	MUS 3501 Band	1
MUS 3802 Principles of Conducting	2	MUS 3783 History of Music II	3
MUS 4712 Form and Analysis	2	MUS 4461 Percussion Instruments	1
Total Hours	16	Total Hours	15

⊕ Senior

Fine Arts & Humanities ¹	3	SEED 4556 Classroom Application of Educational Psychology ³	6
SEED 3552 Child and Adolescent Development ³	2	MUS 3442 Piano Pedagogy	2
SEED 4052 Educating Diverse and Exceptional Learners	2	MUS 3762 Instrumental and Choral Arranging	2
MUS 3202 Applied Music - Piano	2	MUS 4001 Senior Recital	1
MUS 3501 Band	1	MUS 4281 Secondary Instrumental Methods and Materials II	1
MUS 3692 History of Music III	2	MUS 4701 Special Methods in Music	1
MUS 3853 Music in the Elementary Classroom	3		
Total Hours	15	Total Hours	13

⊕ Senior 9th Semester

SEED 4503 Seminar in Secondary Education	3
SEED 4809 Teaching in the Elementary and Secondary School ^{3,4}	9
Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Required for enrollment in upper-level applied study for two-hour credit and for completion of all music degrees.

³See admission policy and procedure.

⁴For licensure, students must pass the Praxis II specialty and Principles of Learning and Teaching exam.

Department of Curriculum & Instruction

Secondary Education - Music Education for Teacher Licensure⁵ (Keyboard Vocal Music Option)

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Mathematics ¹	3	Science with Lab ¹	4
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1202 Applied Music - Piano	2	MUS 1202 Applied Music - Piano	2
MUS 1571 University Choir, MUS 1581			
Chamber Choir or	1	MUS 1231 Applied Music - Voice	1
MUS 1681 Concert Chorale		MUS 1571 University Choir, MUS 1581	
MUS 1713 Theory I	3	Chamber Choir or	1
		MUS 1681 Concert Chorale	
MUS 1731 Ear Training I	1	MUS 1723 Theory II	3
MUS 2441 Class Voice	1	MUS 1741 Ear Training II	1
TECH 1001 Orientation to the University	1	MUS 2201 Accompanying Seminar	1
Total Hours	15	Total Hours	16

⊕ Sophomore

Social Sciences ¹	3	COMM 2003 Public Speaking	3
Science with Lab ¹	4	SEED 2002 Education as a Profession	2
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1202 Applied Music - Piano	2	MUS 1202 Applied Music - Piano	2
MUS 1231 Applied Music - Voice	1	MUS 1231 Applied Music - Voice	1
MUS 1571 University Choir, MUS 1581		MUS 1571 University Choir, MUS 1581	
Chamber Choir or	1	Chamber Choir or	1
MUS 1681 Concert Chorale		MUS 1681 Concert Chorale	
MUS 2713 Theory III	3	MUS 2201 Accompanying Seminar	1
MUS 2731 Ear Training III	1	MUS 2723 Theory IV	3
		MUS 2741 Ear Training IV	1
		Sophomore Barrier Jury ²	0
Total Hours	15	Total Hours	14

⊕ Junior

Social Sciences ¹	3	Fine Arts & Humanities ¹	3
MUS 1231 Applied Music - Voice	1	U.S. History/Government ¹	3
MUS 3000 Recital Attendance	0	MUS 3000 Recital Attendance	0

MUS 3202 Applied Music - Piano	2	MUS 3202 Applied Music - Piano	2
MUS 3571 University Choir, MUS 3581		MUS 3571 University Choir, MUS 3581	
Chamber Choir or	1	Chamber Choir or	1
MUS 3681 Concert Chorale		MUS 3681 Concert Chorale	
MUS 3773 History of Music I	3	MUS 3702 Music Educational Technology	2
MUS 3802 Principles of Conducting	2	MUS 3783 History of Music II	3
MUS 3821 Secondary Choral Methods and Materials	1	MUS 4821 Secondary Choral Methods and Materials II	1
MUS 4712 Form and Analysis	2		
Total Hours	15	Total Hours	15

⊕ Senior

Fine Arts & Humanities ¹	3	SEED 4556 Classroom Application of Educational Psychology ⁴	6
SEED 3552 Child and Adolescent Development ⁴	2	MUS 3442 Piano Pedagogy	2
SEED 4052 Educating Diverse and Exceptional Learners ⁴	2	MUS 3762 Instrumental and Choral Arranging	2
MUS 3202 Applied Music - Piano	2	MUS 4001 Senior Recital	1
MUS 3441 Instrumental Concepts	1	MUS 4701 Special Methods in Music	1
MUS 3571 University Choir, MUS 3581			
Chamber Choir or	1		
MUS 3681 Concert Chorale			
MUS 3692 History of Music III	2		
MUS 3853 Music in the Elementary Classroom	3		
Total Hours	16	Total Hours	12

⊕ Senior 9th Semester

SEED 4503 Seminar in Secondary Education	3
SEED 4809 Teaching in the Elementary and Secondary School ^{4,5}	9
Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements"

²Required for enrollment in upper-level applied study for two-hour credit and for completion for all music degrees.

³Prerequisite: admission to Stage II.

⁴See admission policy and procedure.

⁵For licensure, students must pass the Praxis II specialty and Principles of Learning and Teaching exam.

Department of Curriculum & Instruction

Secondary Education - Music Education for Teacher Licensure⁷ (Vocal Music Option)

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Mathematics ¹	3	Social Sciences ¹	3
MUS 1000 Recital Attendance	0	MUS 1000 Recital Attendance	0
MUS 1232 Applied Music - Voice	2	MUS 1191 Vocal Diction I	1
MUS 1441 Class Piano, I, II, III, and IV or	1	MUS 1232 Applied Music - Voice ^T	2
MUS 1201 Applied Music - Piano ²			
MUS 1571 University Choir, MUS 1581 Chamber Choir or MUS 1681 Concert Chorale	1	MUS 1441 Class Piano, I, II, III, and IV or MUS 1201 Applied Music - Piano ²	1
		MUS 1571 University Choir, MUS 1581 Chamber Choir or MUS 1681 Concert Chorale ^T	
MUS 1713 Theory I	3	MUS 1723 Theory II	3
MUS 1731 Ear Training I	1	MUS 1741 Ear Training II	1
TECH 1001 Orientation to the University	1		
Total Hours	15	Total Hours	15

⊕ Sophomore

Science with Lab ¹	4	Science with Lab ¹	4
MUS 1000 Recital Attendance	0	SEED 2002 Education as a Profession	2
MUS 1232 Applied Music - Voice	2	MUS 1000 Recital Attendance	0
MUS 1441 Class Piano, I, II, III, and IV or	1	MUS 1232 Applied Music - Voice	2
MUS 1201 Applied Music - Piano ²			
MUS 1571 University Choir, MUS 1581 Chamber Choir or MUS 1681 Concert Chorale	1	MUS 1441 Class Piano, I, II, III, and IV or MUS 1201 Applied Music - Piano ²	1
		MUS 1571 University Choir, MUS 1581 Chamber Choir or MUS 1681 Concert Chorale	
MUS 2191 Vocal Diction II	1	MUS 2723 Theory IV	3
MUS 2713 Theory III	3	MUS 2741 Ear Training IV	1
MUS 2731 Ear Training III	1	Sophomore Barrier Jury ³	0
		Piano Exit Exam	0
Total Hours	13	Total Hours	14

⊕ Junior

COMM 2003 Public Speaking	3	Social Sciences ¹	3
MUS 3000 Recital Attendance	0	U.S. History/Government ¹	3
MUS 3232 Applied Music - Voice	2	MUS 3000 Recital Attendance	0
MUS 3571 University Choir, MUS 3581 Chamber Choir or MUS 3681 Concert Chorale	1	MUS 3191 Vocal Solo Literature	1
MUS 3702 Music Educational Technology	2	MUS 3232 Applied Music - Voice	2
MUS 3773 History of Music I	3	MUS 3571 University Choir, MUS 3581 Chamber Choir or MUS 3681 Concert Chorale	1
MUS 3802 Principles of Conducting	2	MUS 3762 Instrumental and Choral Arranging	2
MUS 3821 Secondary Choral Methods and Materials	1	MUS 3783 History of Music II	3
MUS 4712 Form and Analysis	2	MUS 4821 Secondary Choral Methods and Materials II	1
Total Hours	16	Total Hours	16

⊕ Senior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
SEED 3552 Child and Adolescent Development ⁵	2	SEED 4556 Classroom Application of Educational Psychology ⁵	6
SEED 4052 Educating Diverse and Exceptional Learners ⁵	2	MUS 4001 Senior Recital	1
MUS 3232 Applied Music - Voice	2	MUS 4701 Special Methods in Music	1
MUS 3441 Instrumental Concepts	1	MUS 4832 Vocal Pedagogy	2
MUS 3571 University Choir, MUS 3581 Chamber Choir or MUS 3681 Concert Chorale	1		
MUS 3692 History of Music III	2		
MUS 3853 Music in the Elementary Classroom ⁴	3		
Total Hours	16	Total Hours	13

⊕ Senior 9th Semester

SEED 4503 Seminar in Secondary Education	3
SEED 4809 Teaching in the Elementary and Secondary School ^{6,7}	9
Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements"

²Piano (MUS 1441 Class Piano, I, II, III, and IV or MUS 1201 Applied Music - Piano) to be taken each semester until successful completion of Piano Exit Exam.

³ Required for enrollment in upper-level applied study for two-hour credit and for completion for all music degrees.

⁴ Prerequisite: successful completion of Piano Exit Exam.

⁵ Prerequisite: admission to Stage II.

⁶ See admission policy and procedure.

⁷ For licensure, students must pass the Praxis II specialty and Principles of Learning and Teaching exam.

Department of Health & Physical Education

The Department of Health and Physical Education has a nationally accredited (SHAPE) program that is a part of the College of Education professional preparation program curricula designed to serve the students, faculty and staff of Arkansas Tech University.

Following are the SHAPE standards:

Standard 1 - The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.

Standard 2 - The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.

Standard 3 - The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

Standard 4 - The physically literate individual exhibits responsible personal and social behavior that respects self and others.

Standard 5 - The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

The programs in the Department of Health and Physical Education are designed to prepare students for lifelong growth in the physical, intellectual, cultural, emotional and social dimensions. These goals and objectives are met through the qualified faculty's presentation of research-based information, utilizing the latest technology.

The Department of Health and Physical Education offers the following degree tracks:

1. **Wellness/Fitness Programs:** This track serves students who want to pursue professional preparation in the broad area of Wellness and Fitness Programs. This would include those students who desire to work in clinical based, commercial and/or corporate settings.
2. **Health and Physical Education Teacher Licensure:** This track serves students who want to teach K-12 Health and Physical Education, with a coaching license.

Driver Education Program

The driver education program has been designed to serve individuals preparing to be driver and traffic education teachers. Additional information about this summer program may be obtained by calling 968-0344.

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Assistant Professors

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For more information, please visit www.atu.edu/hpe

Department of Health & Physical Education

Bachelor of Science in Health & Physical Education

(Including Teacher Licensure Requirements)²

See the College of Education page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra or higher	3	Social Sciences ¹	3
BIOL 1014 Introduction to Biological Science	4	Physical Science with Lab ¹	4
HLED 1513 Personal Health and Wellness	3	PE 2111 Methods of Teaching Individual Activities	1
WS 1002 Physical Wellness and Fitness	2	PE 2513 First Aid	3
PE 1201 Orientation to Health, Physical Education, and Wellness Science	1		
Total Hours	16	Total Hours	14

⊕ Sophomore

U.S. History/Government ¹	3	Fine Arts & Humanities ¹	6
COMM 2003 Public Speaking	3	Social Sciences ¹	3
PE 2101 Methods of Teaching Team Activities	1	SEED 2002 Education as a Profession	2
PE 2523 Foundations in Health and Physical Education	3	PE 3051 Methods of Teaching Fitness and Wellness Concepts	1
PE 2653 Anatomy and Physiology	3	PE 3661 Laboratory Experiences in Anatomy/ Physiology and Kinesiology	1
PE 3101 Methods of Teaching Rhythmic and Gymnastic Movements	1	PE 3663 Kinesiology	3
Total Hours	14	Total Hours	16

⊕ Junior

HLED 4403 Nutrition and Physical Fitness	3	HLED 3203 Consumer Health Programs	3
SEED 3702 Introduction to Educational Technology	2	SEED 3552 Child and Adolescent Development	2

PE 3103 Methods of Teaching Movement Patterns and Activities for Children	3	PE 3512 Coaching Strategies: Football & Baseball, PE 3522 Coaching Strategies: Basketball & Track and Field, or PE 3532 Coaching Strategies: Softball and Volleyball	2
PE 3413 Coaching Theory	3	PE 3583 Methods and Materials in Physical Education and Recreation for Kindergarten and Elementary Grades	3
PE 3573 Prevention and Care of Athletic Injuries	3	PE 3603 Methods and Materials in Physical Education for Secondary Schools	3
PE 4033 Basic Exercise Physiology	3	PE 4513 Organization and Administration of Health and Physical Education	3
Total Hours	17	Total Hours	16

⊕ Senior

HLED 4303 Methods and Materials in Health for Grades K-12	3	SEED 4503 Seminar in Secondary Education	3
SEED 4052 Educating Diverse and Exceptional Learners	2	SEED 4809 Teaching in the Elementary and Secondary School ³	9
SEED 4556 Classroom Application of Educational Psychology	6	PE 4701 Special Methods in Health and Physical Education	1
PE 4203 Methods of Teaching Adapted Physical Education in the Schools	3		
PE 4523 Measurement and Evaluation in Health and Physical Education	3		
Total Hours	17	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²For licensure, students must achieve the minimum score on the Praxis II Specialty Area and Principles of Learning Teaching Tests as determined by the Arkansas Department of Education. For further requirements see Admission and Retention to Teacher Education and also the Criteria for Internships located on the College of Education home page.

³Three semester hours of the student teaching requirement must be completed at the elementary or middle school level, below the ninth grade, where the cooperative teacher is certified in Elementary Physical Education OR student must complete a three-semester-hour internship under direct supervision from the staff of the University's Physical Education Department.

Selected Second Teaching Fields

Students are encouraged to meet at least minimal licensure requirements in a second field of teaching in addition to their major field of study.

Licensure requirements in Driver Education are as follows: Hold or be qualified to hold a standard secondary certificate; Driver Education I, two semester hours; Driver Education II, two semester hours; First Aid, two semester hours. Total of 6 semester hours.

Department of Health & Physical Education

Health & Physical Education

Wellness & Fitness Program Option

See the *College of Education* page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra or higher	3	Social Sciences ¹	3
BIOL 1014 Introduction to Biological Science	4	Physical Science with Lab ¹	4
HLED 1513 Personal Health and Wellness	3	COMM 2173 Business and Professional Speaking	3
PE 1201 Orientation to Health, Physical Education, and Wellness Science	1	WS 1002 Physical Wellness and Fitness	2
Elective	1		
Total Hours	15	Total Hours	15

⊕ Sophomore

U.S. History/Government ¹	3	Fine Arts & Humanities ¹	6
COMS 1003 Introduction to Computer Based Systems or equivalent	3	ECON 2003 Principles of Economics I	3
PE 2513 First Aid	3	PE 2861 Rhythmic Aerobic Activities	1
PE 2653 Anatomy and Physiology	3	PE 3661 Laboratory Experiences in Anatomy/	1
WS 2003 Field-Based Experience in Wellness	3	Physiology and Kinesiology	
WS 2031 Directing Food, Exercise, and Body Composition Programs	1	PE 3663 Kinesiology	3
Total Hours	16	Total Hours	14

⊕ Junior

AHS 2013 Medical Terminology	3	HLED 3203 Consumer Health Programs	3
MGMT 3003 Management and Organizational Behavior	3	PE 4103 Principles of Adapted Physical Education	3
PE 3573 Prevention and Care of Athletic Injuries	3	WS 2081 Directing Muscle Fitness Programs	1
PE 4033 Basic Exercise Physiology	3	WS 3003 Exercise Prescription	3

WS 2043 Applied Fitness Assessment and Development	3	WS 3023 Exercise Behavior and Adherence	3
WS 2091 Directing Fitness Walking/Jogging Programs	1	WS 4003 Advanced Professional Seminar	3
Total Hours	16	Total Hours	16

⊕ Senior

HLED 4403 Nutrition and Physical Fitness	3	WS 4012 Wellness and Fitness Program Management Internship	12
MKT 3043 Principles of Marketing	3		
WS 4013 Wellness Science Practicum	3		
WS 4023 Principles of Strength and Conditioning	3		
WS 4063 Wellness and Fitness Programming Elective	3 1		
Total Hours	16	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

Wellness & Fitness Programs Option

There are three levels in the Wellness/Fitness program. Students begin the first level by taking general education requirements and are introduced to basic concepts of the wellness/fitness program in PE 1201 Orientation to Health, Physical Education, and Wellness Science and WS 1002 Physical Wellness and Fitness.

During the second level, students complete general education requirements and take courses specific to the wellness profession. Admission to level two requires completion of PE 1201 Orientation to Health, Physical Education, and Wellness Science, WS 1002 Physical Wellness and Fitness, ENGL 1013 Composition I, ENGL 1023 Composition II, MATH 1113 College Algebra, BIOL 1014 Introduction to Biological Science, and COMM 2173 Business and Professional Speaking with a grade of C or better.

The third level is the internship stage of the program. Admission to this level requires completion of all content area courses (HLED, PE, & WS) with a grade of "C" or better and a cumulative GPA of 2.00 or better.

College of Engineering & Applied Sciences

Programs of Study

The College of Engineering and Applied Sciences offers programs of study leading to baccalaureate degrees as listed below:

Bachelor of Science

Agriculture Business with options in:

- Animal Science
- Feed Mill Management
- Horticulture
- Pre-Veterinary Medicine
- Public Relations

Agriculture for Teacher Licensure

Computer Science

Computer Science Education*

Emergency Management

Information Systems

Information Technology

Hospitality Administration with emphases in:

- Foodservices Management
- Lodging Management
- Event Management

Recreation & Park Administration with emphases in:

- Interpretation
- Natural Resource
- Recreation Sport Management
- Therapeutic Recreation

**Pending approval from the Arkansas Department of Higher Education*

Bachelor of Science in Electrical Engineering

Electrical Engineering

Electrical Engineering with Biomedical Option

Electrical Engineering with Computer Engineering Option

Bachelor of Science in Mechanical Engineering

Mechanical Engineering

Associate of Applied Science

Culinary Management

Information Technology

Associate of Science in Nuclear Technology

Mission

The mission of the College of Engineering and Applied Sciences is to provide high-quality accredited Associate, Bachelor of Science and Masters of Science degree programs.

Vision

The vision of the College is to provide high quality educational opportunities preparing students for their chosen profession and to provide a fundamental broad-based education preparing graduates as educated citizens with an aspiration for life-long learning.

Core Values

The College of Engineering and Applied Sciences values integrity, service to constituents and excellence in preparing graduates for life.

Principles

The College values scholarly activity, especially as it relates to the enhancement of teaching and its positive affect on high-impact student learning. The College values service to the University and to the local, regional, state and professional communities. The College seeks to demonstrate to students, and instill in them, high ethical standards of personal and professional conduct. The College strives to achieve continuous improvement through rigorous assessment processes. The College equips students with the interdisciplinary, technical, and critical-thinking skills necessary to develop workable solutions to complex problems. The College is composed of six academic departments: Agriculture, Computer and Information Science, Electrical Engineering, Emergency Management, Mechanical Engineering, and Parks, Recreation and Hospitality Administration. These departments offer programs of study leading to the baccalaureate and associate degrees listed above.

Transfer Students

Applicability of transfer credit to meet specific degree requirements depends on the major selected by the transfer student. The transfer student should review the Transfer Credit policy in the Admission section of this catalog and meet with their academic advisor to determine final transfer credit eligibility for the selected program of study.

Department of Agriculture

The Agriculture Department includes programs of study as follows:

1. A four-year curriculum in agriculture business, with animal science, feedmill management, horticulture, public relations, and pre-veterinary medicine options, leading to a bachelor of science degree.
2. Pre-veterinary medicine - Through proper advising and taking courses in proper sequence, students can meet the minimum course requirements for entrance into Louisiana State University, University of Missouri, Oklahoma State University, Tuskegee Institute, and other institutions offering the D.V.M degree in two years.
3. Agricultural Education - Students interested in teaching agriculture in secondary schools should follow the curriculum set forth in this catalog under the agricultural education for teacher licensure curricula in the College of Education.

The objectives of the department are to:

1. provide a balanced educational program with relatively broad interdisciplinary training as opposed to narrow specialization, thus preparing the student for success in his/her chosen field and in his/her citizenship responsibilities.
2. serve and assist the student in educational and personal problems through active faculty counseling.
3. assist the student in development and improvement of leadership abilities through encouragement of active participation in activities of the Ag Ambassadors, Agri Club, Collegiate FFA, FFA Day and Pre-Veterinary Club and other extracurricular activities.

Trends in occupations related to agriculture are shifting from production to agri-business services such as management, processing, distribution, and marketing. This creates a need for personnel with a broad background in these areas of training. Our systems concept is geared to integration of disciplines to better prepare graduates for present day needs.

Attractive career opportunities exist in agricultural business firms, banks and other financial agencies, marketing, food processing, extension, soil conservation, forestry, farm and agri-business management, and sales and distribution firms.

The curricula that follow represent the program of study for the four-year degree in agri-business, including the animal science, feed mill management, horticulture, public relations, and pre-veterinary medicine options. Students enrolled in programs other than agri-business may want to tailor their curriculum to best meet their individual needs.

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Justin Killingsworth, Lucas Maxwell, Randy Renfro

For more information, please visit www.atu.edu/agriculture

Department of Agriculture

Bachelor of Science in Agriculture Business

The curricula that follow represent the program of study for the four-year degree in agri-business, including the animal science, feed mill management, horticulture, and public relations options. Students enrolled in programs other than agri-business may want to tailor their curriculum to best meet their individual needs.

Major Options

Agriculture Business
Animal Science
Feed Mill Management
Horticulture
Public Relations

The baccalaureate degree program in agri-business integrates the discipline of agriculture, business, accounting, economics, and finance. Emphasis is placed on management directed toward the farm business and agri-business firms.

Trends in occupations related to agriculture are shifting from production to agri-business services such as management, processing, distribution, and marketing. This creates a need for personnel with a broad background in these areas of training. Our systems concept is geared to integration of disciplines to better prepare graduates for present day needs.

Attractive career opportunities exist in agricultural business firms, banks and other financial agencies, marketing, food processing, extension, soil conservation, forestry, farm and agri-business management, and sales and distribution firms.

Department of Agriculture

Agriculture Business Program

Animal Science Option

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL 1014 Introduction to Biological Science	4	MATH 1113 College Algebra	3
COMS 1003 Introduction to Computer Based Systems	3	COMM 2173 Business and Professional Speaking	3
AGAS 1014 Principles of Animal Science	4	AGBU 1013 Principles of Agriculture Business	3
AGBU 1001 Agriculture Orientation	1	AGPS 1024 Principles of Plant Science	4
Total Hours	15	Total Hours	16

⊕ Sophomore

ENGL 2053 Technical Writing	3	U.S. History/Government ¹	3
ACCT 2003 Accounting Principles I	3	MATH 2163 Introduction to Statistical Methods	3
BLAW 2033 Legal Environment of Business or AGBU 3033 Legal Environment of Agricultural Business	3	AGAS 2084 Feeds and Feeding	4
CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4	AGBU 2073 Principles of Agriculture Microeconomics	3
AGBU 2063 Principles of Agricultural Macroeconomics	3	AGSS 2014 Soils	4
Total Hours	16	Total Hours	17

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
AGAS 3004 Reproduction in Farm Animals	4	AGAS 3104 Swine Management	4
AGBU 3213 Career Development in Agriculture	3	Poultry Science ³	3
Agriculture Elective ²	3	Agriculture Elective ²	3
Elective ²	2		
Total Hours	15	Total Hours	13

⊕ Senior

AGAS 4203 Livestock and Poultry Nutrition	3	AGAS 3014 Beef Cattle Management	4
AGBU 4003 Agri-Business Management	3	AGAS 3933 Animal Breeding and Genetics	3
AGBU 4013 Agricultural Marketing	3	AGBU 4023 Agricultural Finance	3
AGPS 3023 Forage Crops and Pasture Management	3	AGBU 4033 Agricultural Policy	3
		AGBU 4973 Senior Seminar	3
Total Hours	12	Total Hours	16

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

³One of the following AGAS 3303 Poultry Management, AGAS 3343 Regulatory Affairs of the Food Industry, or AGAS 4403.

Department of Agriculture

Agriculture Business Program

Feed Mill Management Option

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL 1014 Introduction to Biological Science	4	CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4
MATH 1113 College Algebra	3	COMS 1003 Introduction to Computer Based Systems	3
AGAS 1014 Principles of Animal Science	4	AGBU 1013 Principles of Agriculture Business	3
AGBU 1001 Agriculture Orientation	1	AGPS 1024 Principles of Plant Science	4
Total Hours	15	Total Hours	17

⊕ Sophomore

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
ACCT 2003 Accounting Principles I	3	MATH 2163 Introduction to Statistical Methods	3
BLAW 2033 Legal Environment of Business or AGBU 3033 Legal Environment of Agricultural Business	3	AGAS 2084 Feeds and Feeding	4
ENGL 2053 Technical Writing	3	AGAS 3303 Poultry Management	3
COMM 2173 Business and Professional Speaking	3	AGBU 2073 Principles of Agriculture Microeconomics	3
AGBU 2063 Principles of Agricultural Macroeconomics	3		
Total Hours	18	Total Hours	16

⊕ Junior

U.S. History/Government ¹	3	AGAS 3343 Regulatory Affairs of the Food Industry	3
AGBU 4053 Agricultural Price Analysis	3	AGBU 4013 Agricultural Marketing	3
Agriculture Elective ²	9	AGBU 4023 Agricultural Finance	3
		AGBU 4033 Agricultural Policy	3
		AGBU 4063 Agricultural Investments	3
		AGBU 4073 Commodity Risk and Futures	3
Total Hours	15	Total Hours	18

⊕ Senior

AGAS 4203 Livestock and Poultry Nutrition	3	AGBU 3993 Internship I in Agriculture	3
AGBU 3213 Career Development in Agriculture	3	AGBU 4983 Internship II in Agriculture	3
AGBU 4003 Agri-Business Management	3		
AGBU 4973 Senior Seminar	3		
Agriculture Elective ²	3		
Total Hours	15	Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements".

² At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

Department of Agriculture

Agriculture Business Program

Horticulture Option

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	COMS 1003 Introduction to Computer Based Systems	3
BIOL 1014 Introduction to Biological Science or BIOL 2134 Principles of Biology	4	MATH 1113 College Algebra	3
AGAS 1014 Principles of Animal Science	4	AGBU 1013 Principles of Agriculture Business	3
AGBU 1001 Agriculture Orientation	1	AGPS 1024 Principles of Plant Science	4
Total Hours	15	Total Hours	16

⊕ Sophomore

ACCT 2003 Accounting Principles I	3	Fine Arts & Humanities ¹	3
BLAW 2033 Legal Environment of Business or AGBU 3033 Legal Environment of Agricultural Business	3	ENGL 2053 Technical Writing	3
CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4	MATH 2163 Introduction to Statistical Methods	3
COMM 2173 Business and Professional Speaking	3	AGBU 2073 Principles of Agriculture	3
		Microeconomics	
AGBU 2063 Principles of Agricultural Macroeconomics	3	AGSS 2014 Soils	4
Total Hours	16	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	3	AGPS 3064 Vegetable Growing	4
AGBU 3213 Career Development in Agriculture	3	AGPS 3093 Greenhouse Operation and Management	3
AGPS 3044 Plant Propagation	4	Agriculture Elective ²	4
AGPS 3244 Plant Pathology	4	Elective	2
Elective	2		
Total Hours	16	Total Hours	13

⊕ Senior

AGBU 4003 Agri-Business Management	3	AGBU 4023 Agricultural Finance	3
AGBU 4013 Agricultural Marketing	3	AGBU 4033 Agricultural Policy	3
AGPS 3074 Floriculture	4	AGBU 4973 Senior Seminar	3
Agriculture Elective ²	3	AGPS 3083 Small Fruit and Nut Culture	3
		AGPS 4103 Crop and Garden Insects	3
Total Hours	13	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

² At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

Department of Agriculture

Agriculture Business Program

Public Relations Option

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4	COMS 1003 Introduction to Computer Based Systems	3
MATH 1113 College Algebra	3	JOUR 2133 Introduction to Mass Communication	3
AGAS 1014 Principles of Animal Science	4	AGBU 1013 Principles of Agriculture Business	3
AGBU 1001 Agriculture Orientation	1	AGPS 1024 Principles of Plant Science	4
Total Hours	15	Total Hours	16

⊕ Sophomore

ACCT 2003 Accounting Principles I	3	Fine Arts & Humanities ¹	3
BLAW 2033 Legal Environment of Business or AGBU 3033 Legal Environment of Agricultural Business	3	BIOL 1014 Introduction to Biological Science	4
JOUR 2143 Media Writing	3	MATH 2163 Introduction to Statistical Methods	3
COMM 2173 Business and Professional Speaking	3	AGBU 2073 Principles of Agriculture Microeconomics	3
AGBU 2063 Principles of Agricultural Macroeconomics	3	AGSS 2014 Soils	4
Total Hours	15	Total Hours	17

⊕ Junior

Fine Arts & Humanities ¹	3	JOUR 3273 Public Relations Writing	3
U.S. History/Government ¹	3	JOUR 4033 Community Journalism	3
ENGL 2053 Technical Writing	3	Agriculture Elective ²	3
JOUR 3173 Public Relations Principle	3	Elective	6
Agriculture Elective ²	3		
Total Hours	15	Total Hours	15

⊕ Senior

JOUR 4073 Graphic Communication	3	JOUR 4173 Public Relations Project	3
AGBU 3213 Career Development in Agriculture	3	JOUR 4883 Mass Communication Theory	3
AGBU 4003 Agri-Business Management	3	AGBU 4023 Agricultural Finance	3
AGBU 4013 Agricultural Marketing	3	AGBU 4033 Agricultural Policy	3
AGBU 4973 Senior Seminar	3		
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

Department of Agriculture

Agriculture Business Program

Pre-Veterinary Medicine Option

Arkansas Tech University offers a complete pre-professional training program in pre-veterinary medicine. Statements and curricula for this program are listed below.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL 1114 Principles of Biology	4	BIOL 2124 Principles of Zoology	4
COMS 1003 Introduction to Computer Based Systems	3	CHEM 2124 General Chemistry I	4
MATH 1113 College Algebra	3	AGBU 1013 Principles of Agriculture Business	3
AGAS 1014 Principles of Animal Science	4		
AGBU 1001 Agriculture Orientation	1		
Total Hours	18	Total Hours	14

⊕ Sophomore

Fine Arts & Humanities ¹	3	ACCT 2003 Accounting Principles I	3
CHEM 2134 General Chemistry II	4	BLAW 2033 Legal Environment of Business or AGBU 3033 Legal Environment of Agricultural Business	3
PHYS 2014 Physical Principles I	4	PHYS 2024 Physical Principles II	4
COMM 2173 Business and Professional Speaking	3	AGAS 2084 Feeds and Feeding	4
AGBU 2063 Principles of Agricultural Macroeconomics	3	AGBU 2073 Principles of Agriculture Microeconomics	3
Total Hours	17	Total Hours	17

⊕ Junior

Fine Arts & Humanities ¹	3	CHEM 3264 Mechanistic Organic Chemistry	4
U.S. History/Government ¹	3	ENGL 2053 Technical Writing	3
CHEM 3254 Fundamentals of Organic Chemistry	4	MATH 2163 Introduction to Statistical Methods	3
AGAS 4203 Livestock and Poultry Nutrition	3	AGAS 3933 Animal Breeding and Genetics	3
AGBU 3213 Career Development in Agriculture	3		

Total Hours**16 Total Hours****13**

⊕ Senior

AGAS 3004 Reproduction in Farm Animals	4	BIOL 3054 Microbiology	4
AGBU 4003 Agri-Business Management	3	CHEM 3344 Principles of Biochemistry	4
AGBU 4013 Agricultural Marketing	3	AGBU 4023 Agricultural Finance	3
AGBU 4973 Senior Seminar	3	AGBU 4033 Agricultural Policy	3
Total Hours	13	Total Hours	14

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

³Recommended electives are SPAN 1013 Beginning Spanish I and SPAN 1023 Beginning Spanish II.

Department of Agriculture

Minor in Agriculture

The minor in Agriculture is available to students who wish to add to their knowledge of Agriculture for personal improvement and/or for professional development but **not** open to Department of Agriculture majors. This minor may be of particular interest to those students who wish to work in the food or fiber industries after graduation. This minor may be well suited for students in Accounting, Economics, Business Administration, Engineering, Emergency Management, Hospitality Administration and Fisheries and Wildlife Sciences.

The minor in Agriculture requires 21 hours of courses:

- AGAS 1014 Principles of Animal Science
- AGBU 1013 Principles of Agriculture Business
- AGPS 1024 Principles of Plant Science
- AGSS 2014 Soils
- *AG Electives (6 hours of Agriculture academic courses at the 3000 or 4000 level, excluding: AGBU 3213 Career Development in Agriculture, AGBU 3993 Internship I in Agriculture, AGBU 4983 Internship II in Agriculture, and AGBU 4991-4 Special Problems in Agriculture

**In order to take the upper division (3000-4000 level) AG courses, the student must have completed 54 hours including all 1000 and 2000 level courses listed above as well as any prerequisites and have a cumulative GPA of at least 2.0.*

Department of Computer & Information Science

The Computer and Information Science Department offers four undergraduate programs: a Bachelor of Science in Computer Science, a Bachelor of Science in Information Systems, a Bachelor of Science in Information Technology, and an Associate of Applied Science in Information Technology.

The Bachelor of Science in Computer Science and the Bachelor of Science in Information Systems programs are both accredited by the Computing Accreditation Commission (CAC) of ABET, Inc., the national accrediting board for engineering and technology.

In order to ensure continued program quality, the department strives to achieve the following objectives for its graduates and alumni:

- Communicate effectively using terminology and processes that are appropriate for the field
 - Work efficiently and effectively in a team environment to develop support tools and systems to satisfy stated requirements
 - Solve complex computational problems using appropriate models, techniques, and abstractions
 - Conduct themselves in a professional and ethically responsible manner
 - Learn new trends and technology and willingly adapt to new systems and software environments
-

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For more information, please visit www.atu.edu/cis/

Department of Computer & Information Science

Bachelor of Science in Computer Science

The program in computer science prepares students for careers as systems programmers in a scientific and/or engineering environment and for graduate work in computer science. Mathematics and engineering courses supplement a strong core of computer science courses, enabling students to design and implement software that requires complicated computations, data structures and interfaces.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Fine Arts & Humanities	3	Social Sciences ¹	3
U.S. History/Government ¹	3	MATH 2914 Calculus I	4
TECH 1001 Orientation to the University	1	COMS 2003 Microcomputer Applications	3
COMS 1403 Orientation to Computing, Information, and Technology	3	COMS 2104 Foundations of Computer Programming I	4
COMS 1411 Computer and Information Science Lab	1		
Total Hours	14	Total Hours	17

⊕ Sophomore

ELEG 2130 Digital Logic Design Lab	0	ENGL 2053 Technical Writing	3
ELEG 2134 Digital Logic Design	4	Science Sequence I ²	4
MATH 2924 Calculus II	4	COMS 2213 Data Structures	3
COMS 2203 Foundations of Computer Programming II	3	COMS 2223 Computer Organization and Programming	3
COMS 2903 Discrete Structures for Technical Majors	3	COMS 3913 Advanced Discrete Structures	3
Total Hours	14	Total Hours	16

⊕ Junior

Science Sequence II ²	4	Fine Arts & Humanities ¹	3
MATH 3153 Applied Statistics I	3	COMM 2173 Business and Professional Speaking	3
COMS 2700 Networking and Architecture Laboratory	0	COMS 3703 Operating Systems	3
COMS 2703 Computer Networks and Architecture	3	COMS 4163 Personal Software Engineering	3
COMS 3213 Advanced Data Structures and Algorithm Design	3	COMS 4700 Data Communications and Networking Lab	0

COMS 3233 Data Design and Implementation	3	COMS 4703 Data Communications and Networks	3
Total Hours	16	Total Hours	15

⊕ Senior

Social Sciences ¹	3	COMS 4043 Systems Analysis and Design II	3
MATH 4003 Linear Algebra I	3	COMS 4403 Compiler Design	3
COMS 3053 Implications of Technology on Society	3	Management Elective ³	3
COMS 4033 Systems Analysis and Design I	3	Elective (Math or Science)	2
COMS 4103 Organization of Programming Languages	3	Elective (3000-4000 level)	2
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²May be satisfied by any 1-year science sequence that requires a lab in each course, excluding biological science courses.

³This management elective is to be selected from COMS 4053 Information Systems Resource Management, COMS 4063 IT Project Administration IT Project Administration, or MGMT course approved jointly by the Department of Management and Marketing and the Department of Computer and Information Science.

Department of Computer & Information Science

Bachelor of Science in Information Systems

The program in information systems prepares students for careers as application programmers/analysts in a business environment and for further graduate work in information systems. Business courses supplement a strong core of technical courses to enable students to design and implement business processing systems that require programming, databases, web development, networking, and client-server processing.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	U.S. History/Government ¹	3
MATH 2243 Calculus for Business and Economics	3	ECON 2003 Principles of Economics I	3
TECH 1001 Orientation to the University	1	COMS 2003 Microcomputer Applications	3
COMS 1403 Orientation to Computing, Information, and Technology	3	COMS 2104 Foundations of Computer Programming I	4
COMS 1411 Computer and Information Science Lab	1		
Total Hours	15	Total Hours	16

⊕ Sophomore

ENGL 2053 Technical Writing	3	Social Sciences ¹	3
ACCT 2003 Accounting Principles I	3	BLAW 2033 Legal Environment of Business	3
COMS 2203 Foundations of Computer Programming II	3	BUAD 2053 Business Statistics	3
COMS 2700 Networking and Architecture Laboratory	0	COMS 2213 Data Structures	3
COMS 2703 Computer Networks and Architecture	3	COMS 3233 Database Design and Implementation	3
COMS 2903 Discrete Structures for Technical Majors	3		
Total Hours	15	Total Hours	15

⊕ Junior

COMM 2173 Business and Professional Speaking	3	Science with Lab ¹	4
MGMT 3003 Management and Organizational Behavior	3	COMS 3243 Data Mining	3

COMS 3513 Administering and Using the IBM Platform	3	COMS 3503 Visual Programming	3
COMS 3903 Systems Software and Architecture	3	COMS 4700 Data Communications and Networking Lab	0
Elective 2000 ² -4000	3	COMS 4703 Data Communications and Networks	3
		Elective	1
Total Hours	15	Total Hours	14

⊕ Senior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
COMS 3053 Implications of Technology on Society	3	MKT 3043 Principles of Marketing	3
COMS 3163 Web Programming	3	COMS 4043 Systems Analysis and Design II	3
COMS 4033 Systems Analysis and Design I	3	COMS 4053 Information Systems Resource Management	3
COMS 4133 Application Program Development	3	COMS Elective ²	3
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²1000-level courses may only be taken to satisfy this requirement with the explicit permission of the Computer and Information Science Department Head.

Department of Computer & Information Science

Bachelor of Science in Information Technology

The program in information technology prepares students for careers in administering and supporting the computing infrastructures of an organization. The curriculum consists of an integrated set of courses in networking, web development and administration, database development and administration, systems administration, and computer forensics.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	U.S. History/Government ¹	3
MATH 2243 Calculus for Business and Economics	3	ECON 2003 Principles of Economics I	3
TECH 1001 Orientation to the University	1	COMS 1333 Web Publishing I ^T	3
COMS 1403 Orientation to Computing, Information, and Technology	3	COMS 2104 Foundations of Computer Programming I	4
COMS 1411 Computer and Information Science Lab	1		
Total Hours	15	Total Hours	16

⊕ Sophomore

ENGL 2053 Technical Writing	3	BUAD 2053 Business Statistics	3
COMS 2203 Foundations of Computer Programming II	3	COMS 2003 Microcomputer Applications	3
COMS 2333 Web Publishing II	3	COMS 2213 Data Structures	3
COMS 2700 Networking and Architecture Laboratory	0	COMS 2713 Survey of Operating Systems	3
COMS 2703 Computer Networks and Architecture	3	COMS 2733 Introduction to Computer Forensics and Security	3
COMS 2903 Discrete Structures for Technical Majors	3		
Total Hours	15	Total Hours	15

⊕ Junior

Fine Arts & Humanities ¹	3	Science with Lab ¹	4
COMM 2173 Business and Professional Speaking	3	COMS 2163 Scripting Languages	3
COMS 3233 Database Design and Implementation	3	COMS 3523 Human Factors in Information Technology	3

COMS 3903 Systems Software and Architecture	3	COMS 4700 Data Communications and Networking Lab	0
COMS 4313 Server Administration	3	COMS 4703 Data Communications and Networks	3
		Elective (3000-4000 level)	1

Total Hours	15	Total Hours	14
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⊕ Senior

Social Sciences ¹	3	Fine Arts & Humanities ¹	3
COMS 4033 Systems Analysis and Design I	3	COMS 3053 Implications of Technology on Society	3
COMS 4213 Database Administration	3	COMS 4043 Systems Analysis and Design II	3
COMS 4710 Heterogeneous Networks Lab	0	COMS 4063 IT Project Administration	3
COMS 4713 Heterogeneous Networks	3	Elective (3000-4000 level)	3
COMS (3000-4000) Elective	3		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

Department of Computer & Information Science

Associate of Applied Science in Information Technology

The Associate of Applied Science in Information Technology program enables students to develop skills in the areas of web processing, databases, networking, programming, and various operating systems. These skills enable students to seek positions within the information technology industry.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	COMS 1333 Web Publishing I	3
MATH 1113 College Algebra ²	3	COMS 2104 Foundations of Computer Programming I	4
TECH 1001 Orientation to the University	1	COMS 2233 Introduction to Databases	3
COMS 1403 Orientation to Computing, Information, and Technology	3	Elective	2
COMS 1411 Computer and Information Science Lab	1		
COMS 2003 Microcomputer Applications	3		
Total Hours	17	Total Hours	15

⊕ Sophomore

ENGL 2053 Technical Writing	3	COMM 2173 Business and Professional Speaking	3
PHSC 1013 Introduction to Physical Science	3	COMS Elective ³	9
PHSC 1021 Physical Science Laboratory	1		
COMS 2203 Foundations of Computer Programming II	3		
COMS 2700 Networking and Architecture Laboratory	0		
COMS 2703 Computer Networks and Architecture	3		
COMS Elective ³	3		
Total Hours	16	Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²The mathematics requirement may be fulfilled by taking MATH 1113 College Algebra or any higher level mathematics course.

³1000-level courses may not be used to satisfy this requirement.

Department of Electrical Engineering

The Department of Electrical Engineering offers a four-year degree program leading to the degree Bachelor of Science in Electrical Engineering (BSEE). The Electrical Engineering Program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>. Our accredited electrical engineering program is one of only three in Arkansas located at public institutions. ATU offers the following degrees:

Program: Bachelor of Science Electrical Engineering
Major: Electrical Engineering

Program: Bachelor of Science Electrical Engineering
Major: Electrical Engineering with Biomedical Option

Program: Bachelor of Science Electrical Engineering
Major: Electrical Engineering with Computer Engineering Option.

The mission of the Department of Electrical Engineering at Arkansas Tech University is to maintain an accredited program leading to the Bachelor of Science degree. The Department is committed to providing its students with a positive atmosphere in which to learn the fundamentals of engineering practice including engineering science and design. In order to fulfill its mission, the Department has established the following educational objectives.

Engineers who graduate from Arkansas Tech University with a BSEE degree will be:

1. Intellectuals - with a commitment to ethics, social and environmental responsibility, and lifelong learning.
2. Team Players - communicating, planning, coordinating, and managing projects and personnel with efficiency and effectiveness.
3. Problem solvers - learning new concepts, techniques, skills, and tools to aid in analyzing and designing electrical engineering systems.
4. Professionals - trained and competent in the fundamentals of engineering science, applied mathematics, laboratory practice, and principles of electrical and computer engineering.

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For more information, please visit www.atu.edu/electrical

Department of Electrical Engineering

Bachelor of Science in Electrical Engineering

Engineers who graduate from Arkansas Tech University with a BSEE degree will be:

1. Intellectuals - with a commitment to ethics, social and environmental responsibility, and lifelong learning.
2. Team Players - communicating, planning, coordinating, and managing projects and personnel with efficiency and effectiveness.
3. Problem solvers - learning new concepts, techniques, skills, and tools to aid in analyzing and designing electrical engineering systems.
4. Professionals - trained and competent in the fundamentals of engineering science, applied mathematics, laboratory practice, and principles of electrical and computer engineering.

The first two years of curriculum contain the needed science, mathematics, engineering, and computer science basics to prepare the student for the upper level courses. The junior and senior years of the traditional electrical engineering path include 9 hours of electives which allow students to concentrate their studies in an area of specialization such as electric power, controls and robotics, or communications.

The following curriculum represents the program of study and a suggested sequence for the Bachelor of Science in Electrical Engineering degree. The student should be aware that not all courses are offered each semester and that the ordering of courses is subject to change. In order to minimize scheduling difficulties, each student should schedule a special session with their advisor at the beginning of their junior year to plan the remaining coursework.

Curriculum

Program: Bachelor of Science Electrical Engineering

Major: Electrical Engineering

The matrix below is a sample plan for all coursework required for this major.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Fine Arts & Humanities ¹	3	COMS 2104 Foundations of Computer Programming I	4
CHEM 2124 General Chemistry I	4	MATH 2924 Calculus II	4
MATH 2914 Calculus I	4	ELEG 2130 Digital Logic Design Lab	0
ELEG 1011 Introduction to Electrical Engineering	1	ELEG 2134 Digital Logic Design	4
TECH 1001 Orientation to the University	1		
Total Hours	16	Total Hours	15

⊕ Sophomore

COMS 2203 Foundations of Computer Programming II	3	PHYS 2124 General Physics II ^T	4
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PHYS 2114 General Physics I	4	MATH 2934 Calculus III	4
MATH 3243 Differential Equations I	3	ELEG 2111 Electric Circuits	1
ELEG 2103 Electric Circuits I	3	Laboratory	
ELEG 3133 Microprocessor Systems Design	3	ELEG 2113 Electric Circuits II	3
		ELEG/MATH 3173 Math Methods for	
		Engineers	3
Total Hours	16	Total Hours	15

⊕ Junior

ELEG/MCEG 3003 Engineering Modeling and Design	3	U.S. History/Government ¹	3
ELEG 3103 Electronics I	3	ELEG 3123 Signals and Systems	3
ELEG 3153 Electrical Machines	3	ELEG 3143 Electromagnetics	3
Technical Elective ³	3	ELEG 4103 Electronics II	3
Engineering Elective ²	3	MATH Electives ⁴	3
Total Hours	15	Total Hours	15

⊕ Senior

Social Sciences ¹	3	Fine Arts & Humanities ¹	3
ELEG 4113 Digital Signal Processing	3	ELEG 4122 Electrical Systems Lab	2
ELEG 4143 Communication Systems I	3	ELEG 4192 Electrical Design Project II	2
ELEG 4191 Electrical Design Project I	1	Technical Elective ³	3
ELEG/MCEG 4202 Engineering Design	2	Engineering Elective ²	3
ELEG 4303 Control Systems	3		
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Engineering Elective must be a 3000 or 4000 level Electrical Engineering course.

³Technical Elective must be a course from Engineering, MGMT 4203 Project Management, Math or the Sciences (excluding courses intended for Education Majors). All electives must have approval of the Department.

⁴Must have departmental approval.

Department of Electrical Engineering

Biomedical Option

Curriculum

Program: Bachelor of Science Electrical Engineering
Major: Electrical Engineering with Biomedical Option

The matrix below is a sample plan for all coursework required for this major.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL 1114 Principles of Biology	4	U.S. History/Government ¹	3
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
CHEM 2124 General Chemistry I	4	Biol 2014 Human Anatomy	4
CHEM 2020 General Chemistry I Lab	0	CHEM 2134 General Chemistry II	4
ELEG 1011 Introduction to Electrical Engineering	1	CHEM 2130 General Chemistry II Lab	0
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	18

⊕ Sophomore

PHYS 2114 General Physics I	4	PHYS 2124 General Physics II	4
PHYS 2000 General Physics I Lab	0	PHYS 2010 General Physics II Lab	0
MATH 3243 Differential Equations I	3	MATH 2934 Calculus III	4
CHEM 3254 Fundamentals of Organic Chemistry	4	ELEG 2111 Electric Circuits Lab	1
ELEG 2103 Electric Circuits I	3	ELEG 2113 Electric Circuits II	3
Total Hours	14	Total Hours	12

⊕ Junior

SOC 1003 Introductory Sociology	3	COMS 2203 Foundations of Computer Programming II	3
PSY 2003 General Psychology	3	ELEG 3123 Signals and Systems	3
COMS 2104 Foundations of Computer Programming I	4	ELEG 3143 Electromagnetics	3
ELEG 3103 Electronics I	3	ELEG/MATH 3173 Math Methods for Engineers	3
		ELEG 4103 Electronics II	3
		ELEG 4122 Electrical Systems Lab	2
Total Hours	13	Total Hours	17

⊕ Senior

ELEG 2130 Digital Logic Design Lab	0	Fine Arts & Humanities ¹	3
ELEG 2134 Digital Logic Design	4	BIOL 3074 Human Physiology	4
ELEG/MCEG 3003 Engineering Modeling & Design	3	ELEG 3133 Microprocessor Systems Design	3
ELEG 4113 Digital Signal Processing	3	ELEG 4192 Electrical Design Project II	2
ELEG 4143 Communication Systems I	3	ELEG 4303 Control Systems	3
ELEG 4191 Electrical Design Project I	1		
ELEG/MCEG 4202 Engineering Design	2		
Total Hours	16	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

The following courses are not required for the Biomedical Option major; however, they are recommended for application to an advanced medical degree program:

Semester	Course Number	Course Name	Credits
Sophomore Fall	BIOL 3034	Genetics*	4
Sophomore Spring	CHEM 3264	Mechanistic Organic Chemistry*	4
Junior Fall	CHEM 3344	Principles of Biochemistry*	4
Senior Spring	BIOL 4033	Cell Biology*	3
Total			15

Department of Electrical Engineering

Computer Engineering Option

Curriculum

Program: Bachelor of Science Electrical Engineering

Major: Electrical Engineering with Computer Engineering Option

The matrix below is a sample plan for all coursework required for this major.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Fine Arts & Humanities ¹	3	COMS 2104 Foundations of Computer Programming I	4
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
CHEM 2124 General Chemistry I	4	ELEG 2130 Digital Logic Design Lab	0
ELEG 1011 Introduction to Electrical Engineering	1	ELEG 2134 Digital Logic Design	4
TECH 1001 Orientation to the University	1		
Total Hours	16	Total Hours	15

⊕ Sophomore

Sophomore			
PHYS 2114 General Physics I	4	PHYS 2124 General Physics II	4
COMS 2203 Foundations of Computer Programming II	3	MATH 2934 Calculus III	4
MATH 3243 Differential Equations I	3	MATH/ELEG 3173 Math Methods for Engineers	3
ELEG 2103 Electric Circuits I	3	ELEG 2111 Electric Circuits Laboratory	1
ELEG 3133 Microprocessor Systems Design	3	ELEG 2113 Electric Circuits II	3
Total Hours	16	Total Hours	15

⊕ Junior

Social Sciences ¹	3	COMS 2213 Data Structures	3
Fine Arts & Humanities ¹	3	COMS 2223 Computer Organization and Programming	3
COMS 2903 Discrete Structures for Technical Majors	3	ELEG 3123 Signals and Systems	3
ELEG/MCEG 3003 Engineering Modeling and Design	3	ELEG 3143 Electromagnetics	3
ELEG 3103 Electronics I	3	ELEG 4103 Electronics II	3
Total Hours	15	Total Hours	15

⊕ Senior

ELEG 4113 Digital Signal Processing	3	U.S. History/Government ¹	3
ELEG 4133 Advanced Digital Design	3	COMS 3703 Operating Systems	3
ELEG 4143 Communication Systems I	3	ELEG 4122 Electrical Systems Lab	2
ELEG 4191 Electrical Design Project I	1	ELEG 4192 Electrical Design Project II	2
ELEG/MCEG 4202 Engineering Design	2	Engineering Elective ²	3
ELEG 4303 Control Systems	3		
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Engineering Elective must be a 3000 or 4000 level Electrical Engineering course.

Department of Emergency Management

The bachelor of science degree in Emergency Management (EAM) was established in 1997. Arkansas Tech University was one of the first institutions to offer a baccalaureate degree in this specialized and rapidly growing academic discipline. In 2006, the program became the first degree program to receive accreditation on a national as well as international level from the Foundation for Higher Education Accreditation in Emergency Management (now known as the Council for the Accreditation of Emergency Management Education). In view of the interest in this degree from a wide geographic area including foreign countries, the degree is also available online as an electronic degree that was approved by the Higher Learning Commission in 2005. The program offers a master of science degree in Emergency Management and Homeland Security for students seeking an advanced degree in the discipline.

Vision Statement

The department will lead the discipline and field of emergency management and homeland security by bridging theory and practice.

Mission Statement

Empower students to become world-changers by equipping them with the education, critical thinking, and experience needed as scholars and practitioners in emergency management and homeland security.

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For more information, please visit www.atu.edu/emergencymanagement

Department of Emergency Management

Bachelor of Science in Emergency Management

Interest in emergency management and its importance from the global perspective have increased following recent events related to natural and technological hazards, terrorism, and other Homeland Security issues. The degree supports advancement opportunities for career professionals in a broad range of discipline areas as well as appealing to students seeking careers in emergency management in both the private and public sectors.

The curriculum in the EAM degree is based on the following core competencies for emergency managers:

Management Skills
Communication Skills
Leadership and Decision Making Skills
Technical Skills, Systems and Standards
Understanding of Comprehensive Emergency Management
Coordination Skills within Legal and Political Contexts
Understanding of Ethical and Social Contexts
Understanding of Emergency Management Theory, Practical Application, and Research

The curriculum requires all students to complete 60 hours of EAM courses which include 12 hours of credit for practical application experiences. The program is designed to build a solid foundation in emergency management concepts, competencies, and demonstrated applications. Additionally, students are required to complete a speech elective as part of the General Education Core as well as COMS 2003 Computer Applications or the equivalent and ENGL 2053 Technical Writing or PS 3023 Professional Communications.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
Mathematics ¹	3	Science with Lab ¹	4
TECH 1001 Orientation to the University	1	COMS 2003 Microcomputer Applications or Equivalent	3
Communication ¹	3	EAM 1013 Aim and Scope of Emergency Management	3
EAM 1003 Living in a Hazardous Environment	3		
Total Hours	16	Total Hours	16

⊕ Sophomore

Science with Lab ¹	4	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3

ENGL 2053 Technical Writing or PS 3023 Professional Communications	3	EAM 3013 Public Policy and Politics in Emergency Management	3
EAM 3003 Developing Emergency Management Skills	3	EAM 3023 Principles of Preparedness and Response Operations	3
EAM 3063 Emergency Management Doctrine	3	EAM 3053 Introduction to Ethical and Legal Issues in Emergency Management	3
Total Hours	16	Total Hours	15

⊕ Junior

EAM 4003 Principles of Disaster Relief and Recovery	3	EAM 4033 Emergency Management Research Methods/Analysis	3
EAM 4013 Mitigation and Continuity of Operations	3	EAM Electives	9
EAM 4023 Information Technology and Emergency Management	3	Elective	3
Elective	6		
Total Hours	15	Total Hours	15

⊕ Senior

EAM Electives	6	EAM 4106 Internship/Practicum	6
Electives	9	EAM 4606 Capstone	6
Total Hours	15	Total Hours	12

¹See appropriate alternatives or substitutions "General Education Requirements".

EAM Core (33 hours)

Students must make a "C" or better in all required courses and practical applications.

Required EAM Courses Include:

- EAM 1003 Living in a Hazardous Environment
- EAM 1013 Aim and Scope of Emergency Management
- EAM 3003 Developing Emergency Management Skills
- EAM 3013 Public Policy and Politics in Emergency Management
- EAM 3023 Principles of Preparedness and Response Operations
- EAM 3053 Introduction to Ethical and Legal Issues in Emergency Management
- EAM 3063 Emergency Management Doctrine
- EAM 4003 Principles of Disaster Relief and Recovery
- EAM 4013 Mitigation and Continuity of Operations
- EAM 4023 Information Technology and Emergency Management
- EAM 4033 Emergency Management Research Methods/Analysis

In addition, all students must take 12 Hours of Practical Application:

- EAM 4106 Internship/Practicum
- EAM 4606 Capstone

And 15 hours of EAM electives from the following:

- EAM 2033 Citizen/Family/Community Disaster Preparedness Education
- EAM 3033 The Social Dimensions of Disaster
- EAM 3123 Public Information Skills for Emergency Managers
- EAM 3143 The Economics of Hazards and Disaster
- EAM 3243 Introduction to Terrorism and Anti-Terrorism
- EAM 4043 Disaster and Emergency Management Ethics
- EAM 4053 Community Management of Hazardous Materials
- EAM 4063 Leadership
- EAM 4083 Legal Issues in Emergency Management
- EAM 4991, 4992, or 4993 Special Problems and Topics

Department of Emergency Management

Minor in Emergency Management

The minor in Emergency Management is designed to provide additional breadth for students majoring in related programs in the field of crisis and disaster management.

The minor will require 18 hours of coursework emphasizing content in areas of human and physical consequences of natural and technological disasters along with mitigation procedures.

- EAM 1003 Living in a Hazardous Environment
- EAM 1013 Aim and Scope of Emergency Management
- Twelve hours of upper division EAM courses

Department of Mechanical Engineering

The Department of Mechanical Engineering offers a four-year degree program leading to the Bachelor of Science in Mechanical Engineering (BSME) and a two-year degree program in Nuclear Technology. The program leading to the Bachelor of Science in Mechanical Engineering (BSME) degree is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Mission

The mission of the Department of Mechanical Engineering at Arkansas Tech University is to develop and maintain accredited programs leading to the Bachelor of Science degree. The department is committed to providing its students with a positive atmosphere in which to learn the fundamentals of engineering practice including engineering science and design. In order to meet its mission, the department has established educational objectives for its program.

The educational objectives of the engineering program of the Department of Mechanical Engineering at Arkansas Tech University are:

1. To produce graduates who use the engineering skills and technical ability gained through the program to embark upon successful careers in mechanical engineering.
2. To produce graduates who engage in life-long learning.
3. To produce graduates who employ engineering analysis, experimental methods, and design techniques to solve engineering problems.
4. To produce graduates who demonstrate skills pertinent to the design process including the ability to formulate problems, to think creatively, to communicate effectively, to synthesize information and to work collaboratively.
5. To produce graduates who understand their professional and ethical responsibilities.

Transfer of Credit

Students wishing to transfer into one of the programs offered by the Department of Mechanical Engineering are urged to contact the Department Head as soon as possible to reduce the possibility of taking non-transferable courses. Course work taken at another institution must meet the requirements of the Arkansas Tech University transfer policies and, in addition, are subject to the department's current transfer policy. Contact the Department of Mechanical Engineering for the latest course transfer information and policy.

Students planning to transfer to another university can, in most cases, complete the first two years of work at Arkansas Tech University. Students who plan to transfer should consult with the school to which they plan to transfer to coordinate details.

The following curriculum represents the program of study and a suggested sequence for the Bachelor of Science in Mechanical Engineering degree. The student should be aware that not all courses are offered each semester and that the ordering of courses is subject to change. In order to minimize scheduling difficulties, each student should schedule a special session with their advisor at the beginning of their junior year to plan the remaining coursework.

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Turaj Ashuri, Monty Smith

Instructor

Stan Apple

For more information, please visit www.atu.edu/mechanical

Department of Mechanical Engineering

Bachelor of Science in Mechanical Engineering

Mechanical engineering is the profession which designs, develops, and manufactures machines that produce, transmit, or use power. Mechanical engineers are involved in the design, development, and production of virtually every product one can imagine. The range of job possibilities for mechanical engineers, both in location and function, is limitless. The mechanical engineering program at Arkansas Tech is designed to give its students a solid grounding in the machine design and thermal systems areas and to help satisfy the engineering manpower needs of industry in Arkansas and the mid-south region. The required courses provide a basic foundation in mechanical engineering with a strong cross-disciplinary component and an emphasis on engineering design.

Most graduates of the engineering program go directly into the work force as practicing engineers. Many are employed by manufacturing companies in the Arkansas River Valley area, while others have obtained positions with large national and multinational corporations. A number of graduates have elected to attend one of many different graduate schools specializing in disciplines such as engineering (electrical, mechanical, industrial, or nuclear), mathematics, physics, or business.

The first two years of the curriculum contain the needed mathematics, science, and engineering science basics to prepare the student for the upper-level mechanical engineering courses. The junior and senior years include 12 hours of engineering electives which allows the student to concentrate in one of the available areas of specialization which include machine design, nuclear systems, or thermal systems.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Fine Arts & Humanities ¹	3	PHYS 2114 General Physics I	4
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
CHEM 2124 General Chemistry I	4	MCEG 1002 Engineering Graphics	2
MCEG 1011 Introduction to Mechanical Engineering	1	MCEG 2203 Computational Methods in Engineering	3
TECH 1001 Orientation to the University	1		
Total Hours	16	Total Hours	16

⊕ Sophomore

CHEM 2134 General Chemistry II or PHYS 2124 General Physics II	4	Social Sciences ¹	3
MATH 2934 Calculus III	4	ELEG 2103 Electric Circuits I	3
MCEG 2013 Statics	3	MATH 3243 Differential Equations I	3
MCEG 2023 Engineering Materials	3	MCEG 2033 Dynamics	3
		MCEG 3013 Mechanics of Materials	3
Total Hours	14	Total Hours	15

⊕ Junior

ELEG 2113 Electric Circuits II	3	Fine Arts & Humanities ¹	3
MCEG 3313 Thermodynamics I	3	MATH Elective ⁵	3
MCEG 3413 Fundamentals of Mechanical Design	3	MCEG 4403 Mechanics of Fluids and Hydraulics	3
MCEG 3442 Mechanical Laboratory I	2	MCEG 4423 Machine Component Design	3
ENGR Electives ³	3	ENGR Electives ³	3
Total Hours	14	Total Hours	15

⊕ Senior

U.S. History/Government ¹	3	ELEG 4303 Control Systems	3
MCEG/ELEG 3003 Engineering Modeling and Design	3	MCEG 4442 Mechanical Laboratory II	2
MCEG/ELEG 4202 Engineering Design	2	MCEG 4443 Heat Transfer	3
MCEG 4433 Thermodynamics II	3	MCEG 4492 Mechanical Design Project II	2
MCEG 4491 Mechanical Design Project I	1	ENGR Lab Elective ²	2
Technical Elective ⁴	3	ENGR Electives ³	3
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²3000-level or above ELEG or MCEG laboratory class.

³3000-level or above ELEG or MCEG course with minimum of three (3) hours at the 4000-level and approval of advisor.

⁴Technical elective course to be chosen with approval of advisor from list of eligible courses maintained in the departmental office.

⁵Mathematics elective course to be chosen with approval of advisor from list of eligible courses maintained in the departmental office.

Department of Mechanical Engineering

Associate of Science in Nuclear Technology

The department also offers a two-year program leading to the Associate of Science in Nuclear Technology (ASNT) degree. This degree is designed to allow the student to obtain the knowledge base and training necessary to work in one of the many areas in the nuclear field. While many technology degrees, especially at the associate's level, are seen as less rigorous paths, the ASNT program at Arkansas Tech University includes most of the same courses as the first two years of the engineering programs.

Graduates of the program leading to the Associate of Science Degree in Nuclear Technology may find employment in many areas of the nuclear industry. Many past ASNT graduates have continued their studies to obtain bachelor's degrees in engineering or the physical sciences either at Arkansas Tech University or at other institutions.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	PHYS 2114 General Physics I	4
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
CHEM 2124 General Chemistry I	4	MCEG 2023 Engineering Materials	3
MCEG 1011 Introduction to Mechanical Engineering or ELEG 1011 Introduction to Electrical Engineering	1		
TECH 1001 Orientation to the University	1		
Total Hours	16	Total Hours	14

⊕ Sophomore

Social Sciences/Fine Arts/Humanities/Communication ¹	3	Social Sciences ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
U.S. History/Government ¹	3	MCEG 3313 Thermodynamics I	3
MCEG 2013 Statics	3	MCEG 3512 Radiation Detection Laboratory	2
MCEG 3503 Basic Nuclear Engineering	3	MCEG 3523 Radiation Health Physics	3
		Elective	1
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

Department of Parks, Recreation & Hospitality Administration

The Department of Parks, Recreation and Hospitality Administration offers two Bachelor of Science degrees, one in Recreation and Park Administration and one in Hospitality Administration, plus an Associate of Applied Science in Culinary Management and minors in Recreation and Park Administration and Hospitality Administration.

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For more information, please visit www.atu.edu/prha

Department of Parks, Recreation & Hospitality Administration

Bachelor of Science in Recreation & Park Administration

The Bachelor of Science in Recreation and Park Administration offers four emphases of professional preparation:

Interpretation
Natural Resource
Recreation Sport Management
Therapeutic Recreation

This program is designed to prepare students for management careers in private and public recreation agencies or park systems. A broad background in the behavioral and natural sciences is required with major emphasis on resource management and the delivery of leisure services to diverse populations. Specialized course work in biological sciences and business management aid in natural resource decision making. This provides a base for professional courses in planning, design, and operation of park and recreation facilities. A career in recreation sport management, park administration, therapeutic recreation, or interpretation requires a basic understanding of human behavior and the challenges of contemporary society. Due to the multidisciplinary nature of the career field, a student is required to choose courses from several related fields, based on professional interest. A comprehensive general education is complemented with a core of professional courses.

The Recreation and Park Administration major provides specialized education that prepares students for supervisory and administrative positions in federal, state, and local recreation and park agencies as well as commercial recreation and tourism organizations. This program is accredited by the Council on Accreditation of Parks, Recreation, Tourism and Related Professions (COAPRT), sponsored by the National Recreation and Park Association.

Vision Statement

The program will produce leaders in Recreation and Park Administration.

Core Values

The Recreation and Park Administration Program is committed to:

- Lifelong learning
- Service to community
- Personal and professional development
- Diversity of experience
- Environmental stewardship
- Interpersonal communication
- Healthy lifestyles

Mission Statement

The mission of the Recreation and Park Administration Program is to educate Recreation and Park professionals for self, community and society.

Department of Parks, Recreation & Hospitality Administration

Recreation & Park Administration Program

Interpretation Emphasis

The Interpretation Emphasis offers a curriculum that utilizes communication skills and interpretive methods courses for those wanting to find employment with various interpretive programs of private, state and federal agencies operating cultural and natural history oriented sites. Students are required to minor in Anthropology, Biology, or History.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Mathematics ¹	3
GEOL 1014 Physical Geology	4	BIOL 1014 Introduction to Biological Science	4
RP 1001 Orientation to Recreation and Park Administration	1	COMS 1003 Introduction to Computer Based Systems	3
RP 1013 Principles of Recreation and Park Administration	3		
Total Hours	14	Total Hours	13

⊕ Sophomore

PSY 2003 General Psychology	3	Social Sciences ¹	3
COMM 2003 Public Speaking	3	LBMD 2001 Introduction to Library Resources	1
RP 2003 Recreation Programming Elective	3	RP 2013 Landscape Planning and Design	3
	3	RP 2033 Recreation Leadership	3
		Elective in Minor ²	3
Total Hours	12	Total Hours	13

⊕ Junior

Fine Arts & Humanities ¹	3	RP 3043 Work Experience	3
RP 3013 Recreation for Special Populations	3	RP 3063 Outdoor Education	3
RP 3033 Commercial Recreation	3	RP 3403 Financing Recreation and Parks	3
RP 3034 Site Planning and Design	4	Elective in Minor ²	7
RP 3093 Interpretive Methods	3		
Total Hours	16	Total Hours	16

Senior

		ANTH/HIST/MUSM 4403	
Fine Arts & Humanities ¹	3	Interpretation/Education through Museum Methods	3
RP 4013 Recreation and Park Administration	3	RP/HA 4001 Internship Preparation	1
RP 4103 Recreation Law and Policy	3	RP 4023 Research Methods	3
RP/HA 3113 Human Resource Management in Parks, Recreation, and Hospitality Administration	3	RP Major Elective ³	3
Elective in Minor ²	3	Elective in Minor ²	5
Total Hours	15	Total Hours	15

Senior 9th Semester

Fall

RP 4116 Internship⁴	6
Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Students must minor in Anthropology, History or Biology. See Departmental Advisor.

³Students must select from the following list of RP courses: RP 1993 Basic Forest Firefighting, RP 3023 Camp Administration, RP 3053 Natural Resource Management and Planning, RP/ HA 3133 Tourism Planning, RP 3993 Wildland Fire Practices in Natural Resource Management, RP 4042 Field Seminar in Interpretive Methods, RP 4053 Water Resources Development, RP/HA 4093 Resort Management, RP 4951-4 Undergraduate Research in Recreation and Park Administration, RP 4991-3 Special Problems and Topics.

⁴Internship must be completed in last semester after all coursework has been completed.

Department of Parks, Recreation & Hospitality Administration

Recreation & Park Administration Program

Natural Resource Emphasis

The Natural Resource Emphasis prepares students to manage large parks, resource areas and visitor facilities. Planning and management of land and water resources within private and public park and natural resource management organizations to provide outdoor recreation opportunities for constituents are emphasized.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Social Sciences ¹	3
CHEM 1113 Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory or	4	BIOL 2124 Principles of Zoology or BIOL 2134 Principles of Botany	4
GEOL 1014 Physical Geology			
RP 1001 Orientation to Recreation and Park Administration	1	Mathematics ¹	3
RP 1013 Principles of Recreation and Park Administration	3	COMS 1003 Introduction to Computer Based Systems	3
Total Hours	14	Total Hours	16

⊕ Sophomore

PSY 2003 General Psychology	3	COMM 2003 Public Speaking	3
Fine Arts & Humanities ¹	3	RP 2013 Landscape Planning and Design	3
LBMD 2001 Introduction to Library Resources	1	RP 2033 Recreation Leadership	3
RP 2003 Recreation Programming	3	Approved Elective ²	4
RP Major Elective ³	4		
Total Hours	14	Total Hours	13

⊕ Junior

Fine Arts & Humanities ¹	3	RP 3043 Work Experience	3
RP 3013 Recreation for Special Populations	3	RP 3053 Natural Resource Management and Planning	3
RP 3033 Commercial Recreation	3	RP 3063 Outdoor Education	3
RP 3034 Site Planning and Design	4	RP 3403 Financing Recreation and Parks	3
RP 3093 Interpretive Methods	3	Approved Elective ²	3
Total Hours	16	Total Hours	15

Senior

HA 3013 Hospitality Marketing and Sales	3	RP/HA 4001 Internship Preparation	1
RP 4013 Recreation and Park Administration	3	RP 4023 Research Methods	3
RP 4063 Park Operations	3	RP 4053 Water Resources Development	3
RP 4103 Recreation Law and Policy	3	RP/HA 3113 Human Resource Management in Parks, Recreation, and Hospitality Administration	3
		RP Major Elective ³	1
		Approved Elective ²	3
Total Hours	12	Total Hours	14

Senior 9th Semester

Fall

RP 4116 Internship⁴	6
Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements".

²See Departmental Advisor or select from the following list:

BIOL 1014 Introduction to Biological Science, BIOL 1114 Principles of Biology, BIOL 2124 Principles of Zoology, BIOL 2134 Principles of Botany, or any 3000 or 4000 level BIOL course

FW 2003 Elements of Fish and Wildlife Management, or any 3000 or 4000 level FW course

GEOL 1014 Physical Geology or GEOL 3153 Environmental Geology, AGEG 3203 Soil, Water and Forest Conservation

AGPS 1024 Principles of Plant Science, AGPS 1033 Introduction to Forestry or AGPS 3244 Plant Pathology, AGSS 2014 Soils

FW/GEOG 2833 Introduction to Geographic Information Systems

³Choose from the following RP courses: RP 1993 Basic Forest Firefighting or RP 3993 Wildland Fire Practices in Natural Resource Management

⁴Internship must be completed in last semester after all coursework has been completed.

Department of Parks, Recreation & Hospitality Administration

Recreation & Park Administration Program

Recreation Sport Emphasis

The Recreation Sport Management Emphasis prepares students to work in community and campus organizations, as well as recreation businesses, developing and managing recreation and sport programs and venues. Students in this emphasis gain knowledge in administration, turfgrass and facilities management, recreation programming and leadership.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Mathematics ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
RP 1001 Orientation to Recreation and Park Administration	1	COMS 1003 Introduction to Computer Based Systems ^T	3
RP 1013 Principles of Recreation and Park Administration	3		
Total Hours	14	Total Hours	13

⊕ Sophomore

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Social Sciences ¹	3	COMM 2003 Public Speaking	3
PSY 2003 General Psychology	3	RP 2013 Landscape Planning and Design	3
LBMD 2001 Introduction to Library Resources	1	RP 2033 Recreation Leadership	3
RP 2003 Recreation Programming	3	RP 3023 Camp Administration	3
Total Hours	13	Total Hours	15

⊕ Junior

RP 3013 Recreation for Special Populations	3	RP 3043 Work Experience	3
RP 3033 Commercial Recreation	3	RP 3063 Outdoor Education	3
RP 3034 Site Planning and Design	4	RP 3403 Financing Recreation and Parks	3
RP 3763 Introduction to Turfgrass Management	3	RP 3503 Recreational Sport Management	3
Approved Elective ²	3	RP 3793 Turfgrass Pest Control	3
Total Hours	16	Total Hours	15

⊕ Senior

HA 3013 Hospitality Marketing and Sales	3	RP/HA 4001 Internship Preparation	1
RP 4013 Recreation and Park Administration	3	RP 4023 Research Methods	3
RP 4063 Park Operations	3	RP/HA 4093 Resort and Club Management	3
RP/HA 3113 Human Resource Management			
RP 4103 Recreation Law and Policy	3	in Parks, Recreation, and Hospitality Administration	3
Approved Elective ²	3	RP 4753 Sports Field Management and Design	3
Total Hours	15	Total Hours	13

Senior 9th Semester**Fall**

RP 4116 Internship ³	6
Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements".

²See Departmental Advisor.

³Internship must be completed in last semester after all coursework has been completed.

Department of Parks, Recreation & Hospitality Administration

Recreation & Park Administration Program

Therapeutic Recreation Emphasis

The Therapeutic Recreation Emphasis prepares students for a career as a Certified Therapeutic Recreation Specialist (CTRS) working with special populations in clinical and community recreation environments. The specialized TR emphasis prepares students for national certification under guidelines established by the National Council for Therapeutic Recreation Certification.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Fine Arts & Humanities ¹	3	Mathematics ¹	3
U.S. History/Government ¹	3	Science with Lab ¹	4
RP 1001 Orientation to Recreation and Park Administration	1	COMS 1003 Introduction to Computer Based Systems ^T	3
RP 1013 Principles of Recreation and Park Administration	3		
Total Hours	13	Total Hours	13

⊕ Sophomore

PSY 2003 General Psychology	3	Social Sciences ¹	3
COMM 2003 Public Speaking	3	Fine Arts & Humanities ¹	3
BIOL 2004 Basic Human Anatomy and Physiology	4	LBMD 2001 Introduction to Library Resources	1
RS 2003 Introduction to Rehabilitation Services	3	PSY 3813 Lifespan Development	3
RP 2003 Recreation Programming	3	RP 2033 Recreation Leadership	3
Total Hours	16	Total Hours	13

⊕ Junior

RP 3013 Recreation for Special Populations	3	PSY 3003 Abnormal Psychology	3
RP 3033 Commercial Recreation	3	RP 3023 Camp Administration	3
RP 3034 Site Planning and Design	4	RP 3043 Work Experience	3
RP 3403 Financing Recreation and Parks	3	RP 3063 Outdoor Education	3
RP 4073 Principles and Techniques of Therapeutic Recreation	3	RP 4173 Therapeutic Recreation Assessment and Documentation	3
Total Hours	16	Total Hours	15

Senior

AHS 2013 Medical Terminology	3	RP/HA 4001 Internship Preparation	1
PE 4103 Principles of Adapted Physical Education	3	RP 4023 Research Methods	3
RP 4013 Recreation and Park Administration	3	RP/HA 3113 Personnel Management in Parks, Recreation, and Hospitality Administration	3
RP 4103 Recreation Law and Policy	3	RP 4373 Interventions in Therapeutic Recreation	3
RP 4273 Administration and Operation of Therapeutic Recreation Programs	3	RP 4473 Issues and Trends in Therapeutic Recreation	3
Total Hours	15	Total Hours	13

Senior 9th Semester

Fall

RP 4116 Internship ²	6
Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Internship must be completed in last semester after all coursework has been completed.

Department of Parks, Recreation & Hospitality Administration

Bachelor of Science in Hospitality Administration

Major Options

Event Management
Foodservice Management
Lodging Management

The Hospitality Administration degree program is designed to prepare students for management positions within the hospitality industry such as lodging, resorts, conference, convention and visitor centers, restaurants, contract services, theme parks and travel and tourism related operations.

The course work concentrates on general business, management, finance, marketing, accounting, law, computer science, and specific courses related to hospitality management. The entire curriculum features numerous opportunities for the practical application of problem-solving skills and creativity. The Hospitality Administration Program is accredited by the Accreditation Commission for Programs in Hospitality Administration.

Vision Statement

The program will develop leaders in the Hospitality profession.

Core Values

- Community Service
- Commitment to personal and professional development
- Embrace diversity
- Lifelong learning
- Work hard/Play hard
- Communication
- Harmony

Mission Statement

The mission of the Hospitality Administration Program is to provide quality education in hospitality administration, build a foundation for professional growth and development and encourage lifelong learning.

Department of Parks, Recreation & Hospitality Administration

Hospitality Administration Program

Event Management Emphasis

The Event Management Emphasis prepares students for careers in tourism, convention and visitors bureaus and sport and event management. This emphasis will provide a background in commercial recreation, recreational sport and event management in Arkansas' second leading industry and the world's largest industry. Tourism and Event Management is a collection of industries under the larger umbrella of hospitality management.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL 1014 Introduction to Biological Science	4	CHEM 1111 Survey of Chemistry Laboratory and CHEM 1113 A Survey of Chemistry	4
COMS 1003 Introduction to Computer Based Systems	3	MATH 1113 College Algebra	3
HA 1001 Orientation to Hospitality Administration	1	HA 1011 Sanitation Technology	1
HA 1043 Introduction to Hospitality Management ⁴	3	HA 2133 Introduction to Travel and Tourism	3
Total Hours	14	Total Hours	14

⊕ Sophomore

PSY 2003 General Psychology	3	ACCT 2003 Accounting Principles I	3
ECON 2003 Principles of Economics I	3	COMM 2173 Business and Professional Speaking	3
HA 2023 Hospitality Leadership and Ethics	3	HA 2053 Work Experience	3
HA 2043 Lodging Operations Management	3	HA 2073 Introduction to Event Management	3
HA/RP 2813 Basic Human Nutrition	3	HA 2914 Principles of Food Preparation	4
Total Hours	15	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
U.S. History/Government ¹	3	PE 2513 First Aid	3
HA 2063 Guest Service Management	3	HA 3113 Human Resources Management	3
HA 3173 Hospitality Managerial Accounting	3	HA 3183 Catering and Event Management	3
		HA 4073 Hospitality Financial Analysis	3

Total Hours**12 Total Hours****15**

⊕ Senior

BUAD 3023 Business Communications	3	HA/RP 4001 Internship Preparation	1
MGMT 3003 Management and Organizational Behavior	3	HA 4023 Hospitality Facilities Management and Design	3
HA 3013 Hospitality Marketing and Sales	3	HA 4033 Legal Aspects of Hospitality Administration	3
HA 3163 Hospitality Technology	3	HA 4053 Meetings and Conventions Management	3
HA 4063 Beverage Management	3	HA 4203 Hospitality Strategic Management	3
Total Hours	15	Total Hours	13

Senior 9th Semester**Fall**HA 4116 Internship³

6

Total Hours**6**

¹See appropriate alternatives or substitutions in "General Education Requirements".

²See Departmental Advisor.

³Internship must be completed in last semester after all coursework has been completed.

Department of Parks, Recreation & Hospitality Administration

Hospitality Administration Program

Foodservices Emphasis

The Foodservices Management Emphasis prepares students for management careers in the food and beverage industries as well as managed foodservice. This emphasis will provide the knowledge and skills necessary for a comprehensive management background in this dynamic and ever-changing hospitality industry. Restaurants are the nation's largest private-sector employer.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Biol 1014 Introduction to Biological Science	4	CHEM 1113 Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4
COMS 1003 Introduction to Computer Based Systems	3	MATH 1113 College Algebra	3
HA 1001 Orientation to Hospitality Administration	1	HA 1011 Sanitation Safety	1
HA 1043 Introduction to Hospitality Management	3	HA 2133 Introduction to Travel and Tourism	3
Total Hours	14	Total Hours	14

⊕ Sophomore

ECON 2003 Principles of Economics I	3	ACCT 2003 Accounting Principles I	3
PSY 2003 General Psychology	3	COMM 2173 Business and Professional Speaking	3
HA 2023 Hospitality Leadership and Ethics	3	HA/CUL 2053 Work Experience	3
HA 2043 Lodging Operations Management I	3	HA 2073 Introduction to Event Management	3
HA/CUL 2813 Basic Human Nutrition	3	HA 2914 Principles of Food Preparation	4
Total Hours	15	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹			
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
U.S. History/Government ¹	3	PE 2513 First Aid	3
HA 2063 Guest Service Management	3	HA 3113 Human Resources Management	3
HA 3173 Hospitality Managerial Accounting	3	HA 4073 Hospitality Financial Analysis	3

HA 4063 Beverage Management	3		
Total Hours	15	Total Hours	12

Senior

MGMT 3003 Management and Organizational Behavior	3	BUAD 3023 Business Communications	3
HA 3013 Hospitality Marketing and Sales	3	HA/RP 4001 Internship Preparation	1
HA 3163 Hospitality Technology	3	HA 4023 Hospitality Facilities Management and Design	3
HA 4986 Purchasing and Advanced Food Production	6	HA 4033 Legal Aspects of Hospitality Administration	3
		HA 4203 Hospitality Strategic Management	3
Total Hours	15	Total Hours	13

Senior 9th Semester

Fall

HA 4116 Internship ³	6
Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements".

²See Departmental Advisor.

³Internship must be completed in last semester after all coursework has been completed.

Department of Parks, Recreation & Hospitality Administration

Hospitality Administration Program

Lodging Management Emphasis

The Lodging Management Emphasis prepares students for management careers in hotels, lodging, resorts, and public and private clubs. This emphasis will analyze competitive strategies, leadership styles, teamwork, and technology in this dynamic and ever-changing hospitality industry.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Biol 1014 Introduction to Biological Science	4	CHEM 1113 Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4
COMS 1003 Introduction to Computer Based Systems	3	MATH 1113 College Algebra	3
HA 1001 Orientation to Hospitality Administration	1	HA 1011 Sanitation Safety	1
HA 1043 Introduction to Hospitality Management	3	HA 2133 Introduction to Travel and Tourism	3
Total Hours	14	Total Hours	14

⊕ Sophomore

PSY 2003 General Psychology	3	COMM 2173 Business and Professional Speaking	3
ECON 2003 Principles of Economics I	3	ACCT 2003 Accounting Principles I	3
HA 2023 Hospitality Leadership and Ethics	3	HA 2053 Work Experience	3
HA 2043 Lodging Operations Management I	3	HA 2073 Introduction to Event Management	3
HA 2813 Basic Human Nutrition	3	HA 2914 Principles of Food Preparation	4
Total Hours	15	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
U.S. History/Government ¹	3	PE 2513 First Aid	3
HA 2063 Guest Service Management	3	HA 3113 Human Resources Management	3
HA 3143 Lodging Operations Management	3	HA 4073 Hospitality Financial Analysis	3
HA 3173 Hospitality Managerial Accounting	3		

Total Hours	15 Total Hours	12
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⊕ Senior

MGMT 3003 Management and Organizational Behavior	3	BUAD 3023 Business Communications	3
HA 3013 Hospitality Marketing and Sales	3	HA/RP 4001 Internship Preparation	1
HA 3163 Hospitality Technology	3	HA 4023 Hospitality Facilities Management and Design	3
HA 4243 Advanced Lodging Operations Management	3	HA 4033 Legal Aspects of Hospitality Administration	3
HA 4093 Resort and Club Management	3	HA 4203 Hospitality Strategic Management	3
Total Hours	15	Total Hours	13

Senior 9th Semester

Fall

HA 4116 Internship ³	6
Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements".

²See Departmental Advisor.

³Internship must be completed in last semester after all coursework has been completed.

Department of Parks, Recreation & Hospitality Administration

Associate of Applied Science in Culinary Management

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1003 College Mathematics	3	CHEM 1113 Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4
TECH 1001 Orientation to the University	1	CUL/HA 2813 Basic Human Nutrition in Hospitality Administration	3
CUL/HA 1011 Sanitation Safety	1	CUL/HA 2914 Principles of Food Preparations	4
CUL 1923 Introduction to Food and Beverage Management	3		
Total Hours	11	Total Hours	14

Summer Between 1st and 2nd Year

CUL 2923 Stock, Sauces, and Soups	3
CUL 2943 Introduction to Baking & Pastry	3
Total	6

⊕ Sophomore

COMM 2173 Business and Professional Speaking	3	COMS 1003 Introduction to Computer Based Systems	3
CUL 2003 Cost Controls	3	CUL/HA 2023 Hospitality Leadership and Ethics	3
CUL/HA 2053 Work Experience	3	CUL//HA 2063 Guest Service Management	3
CUL 2903 Introduction to Garde Manger	3	CUL 2933 Advanced Food Preparations	3
Total Hours	12	Total Hours	12

Summer After 2nd Spring

CUL 2996 Externship	6
Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements".

Department of Parks, Recreation & Hospitality Administration

Minors Available

Recreation & Park Administration

The minor in Recreation and Park Administration is designed for those students majoring in other disciplines who wish to develop specialized knowledge in the area of Recreation and Park Administration. This minor may be of particular interest to those students who wish to work for a recreation and park oriented agency after graduation. This minor may be well-suited for Emergency Management, Fisheries and Wildlife Science, and Hospitality Administration majors. Flexibility in the minor allows students to choose courses to match their particular needs and interests. The minor in Recreation and Park Administration requires 18 hours of courses:

- RP 1013 Principles of Recreation and Park Administration
 - RP 2003 Recreation Programming
 - RP Electives (12 hours of RP academic courses including 9 hours at the 3000 or 4000 level, excluding RP 3043 Work Experience, RP/HA 4001 Internship Preparation, and RP 4116 Internship)
-

Hospitality Administration

The Hospitality Administration minor is designed for students of any major who want to learn about the hospitality profession. The minor in Hospitality Administration consists of 18 hours of coursework:

- HA 1043 Introduction to Hospitality Management
- HA/CUL 2053 Work Experience
- HA/RP 4093 Resort Management
- HA Elective (3 hours)
- HA Elective (6 hours of 3000 or 4000 level)

College of eTech

Program of Study

Professional Studies with specialty/concentrations in:

- Agriculture Business
- Applied Leadership
- Criminal Justice
- Early Childhood Education
- Industrial/Organization Psychology
- Interdisciplinary Studies
- Public Relations
- Workforce Technology

Vision Statement

The College of eTech's vision is to foster innovative online learning.

Mission Statement

The College of eTech believes education is the gateway to professional goal fulfillment. We develop and deliver accessible, interactive and rigorous online learning opportunities.

We provide a single focal point for online resources for students and faculty. For more information about the college, visit www.atu.edu/etech.

Undergraduate students who require remediation, as determined by ACT scores, must check with the office of the Registrar (479-968-0272, <http://www.atu.edu/registrar/contact.php>) to determine eligibility to enroll in eTech courses.

Students interested in an electronic degree program may apply for admission at www.atu.edu/admissions or gain additional information by calling 1-800-582-6953.

Department of Professional Studies

Bachelor of Professional Studies

Professional Studies with specialty/concentrations in:

Agriculture Business
Applied Leadership
Criminal Justice
Early Childhood Education
Industrial/Organization Psychology
Interdisciplinary Studies
Public Relations
Workforce Technology

The Bachelor of Professional Studies (BPS) is an online Accelerated Degree Program (ADP) offering a flexible degree completion path addressing the unique needs of particular target groups. The accelerated delivery format is designed to ease the financial, time, and geographic constraints adults face in completing a baccalaureate program. Students complete the necessary hours for the degree within a convenient yet directed scheduling format under the guidance of advisors who understand the unique needs of the adult learner. The primary target groups include:

- Students graduating from community colleges
- Adults pursuing full-time careers or raising families
- Degree “stop-outs” who began but never completed a bachelor’s degree
- Individuals who have accumulated hours that cannot be applied toward a specific major.

The curriculum is designed to enhance workplace skills such as planning, organizational behavior, ethics, needs assessment, problem solving, communications, human resources, and technology applications.

Learning Objectives for Professional Studies Degree

- Communication: Student will demonstrate competency in public presentation and written communication skills.
- Research: Student will apply empirical research to recommend relevant strategies for solving problems.
- Leadership/Critical Thinking: Student will assume a leadership role in identifying and addressing issues in a real-world environment.
- Project Management: Student will create, plan, and implement relevant strategies needed to develop a business proposal.

Students select one of the following concentration areas: agriculture business, applied leadership, criminal justice, early childhood education, industrial/organizational psychology, interdisciplinary studies, public relations, or workforce technology. All bachelor’s degrees at Arkansas Tech University require 35 hours of general education coursework and a minimum of 40 hours of upper division courses.

Program of Study (BPS)

General Education coursework or enrollment in courses as needed:35 hours

Required Professional Core: 24 hours

PS 3003 Project Design
PS 3013 Professional Studies Seminar
PS 3023 Professional Communications

PS 3133 Applied Principles of Personnel Management

PS 3143 Applied Professional Research

PS 4003 Capstone Project

Six hours of Professional Studies electives from the following list of courses:

PS 4143 Nonprofit Governance

PS 4243 Planning for Adult Learners

PS 4343 Community Development

PS 4443 Professional Leadership

PS 4543 Workplace Supervision

*Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

Selected Concentration: 18 hours

Agriculture Business (all courses not available online)

Applied Leadership

Criminal Justice

Early Childhood Education (Note: Does not lead to K-6 certification)

Industrial/Organizational Psychology

Interdisciplinary Studies

Public Relations

Workforce Technology

Balance of electives: Varies

*Hours needed to meet 40-hour upper division requirement
or balance of 120 hours*

Total : 120 hours

Prior Learning Assessment (PLA)

A Prior Learning Assessment (PLA) process is available that could award up to 12 hours of upper-division credit for relevant work experience, professional development, or military training through a portfolio course. The course requires documentation to determine the number of credit hours awarded.

Contact Information

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Assistant Professors

Jeff Aulgur, Tennille Lasker-Scott, Jeremy Schwehm, Annette Stuckey

Instructor

Jennifer Saxton

For more information, please visit www.atu.edu/etech/online-prostudies.php

Department of Professional Studies

Agriculture Business Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
Social Sciences ¹	3	Social Sciences ¹	3
Technical Course ²	3	Mathematics ¹	3
Communication ¹	3	U.S. History/Government ¹	3
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	16

⊕ Sophomore

AGBU 2063 Principles of Agricultural Macroeconomics	3	AGBU 2073 Principles of Agriculture Microeconomics	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Technical Course ²	3	PS 3013 Professional Studies Seminar	3
Elective ³	6	Elective ³	6
Total Hours	15	Total Hours	15

⊕ Junior

PS 3133 Applied Principles of Personnel Management	3	PS 3023 Professional Communications	3
AGBU 3133 Intermediate Agricultural Macroeconomics	3	PS 3143 Applied Professional Research	3
AGBU 4013 Agricultural Marketing	3	AGBU 4003 Agri-Business Management	3
Professional Studies Professional Core ⁴	6	Elective ³	3
Total Hours	15	Total Hours	12

⊕ Senior

PS 3003 Project Design	3	PS 4003 Capstone Project	3
AGBU 4023 Agricultural Finance	3	Technical Courses ²	9
Technical Courses ²	6	Elective ³	3
Elective ³	3		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Technical courses taken as part of an associate degree or from a community college may be transferred into the BPS degree.

³At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

⁴Six hours from the following: PS 4143 Nonprofit Governance, PS 4243 Planning for Adult Learners, PS 4343 Community Development, PS 4443 Professional Leadership, PS 4543 Workplace Supervision. Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

Department of Professional Studies

Applied Leadership Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

*Students enrolled in the Applied Leadership concentration area must select PS 4543 Workplace Supervision and 3 hours of relevant, advisor approved upper division electives in the Professional Studies Professional Core.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ^{1,2}	4
Social Sciences ¹	3	Social Sciences ¹	3
Technical Course ²	3	Mathematics ¹	3
Elective ³	3	Elective ³	3
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	16

⊕ Sophomore

Communication ¹	3	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Technical Course ²	3	PS 3013 Professional Studies Seminar	3
Elective ³	6	BUAD 3123 Management	3
		Elective ³	3
Total Hours	15	Total Hours	15

⊕ Junior

PS 3133 Applied Principles of Personnel Management	3	PS 3023 Professional Communications	3
BUAD 3143 Marketing	3	PS 3143 Applied Professional Research	3
PS 4343 Community Development	3	Elective ³	6
Professional Studies Professional Core			
Electives ⁴	6		
Total Hours	15	Total Hours	12

⊕ Senior

PS 3003 Project Design	3	PS 4003 Capstone Project	3
PS 4143 Nonprofit Governance	3	PS 4243 Planning for Adult Learners	3

PS 4443 Professional Leadership	3	Technical Courses ²	9
Technical Courses ²	6		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Technical courses taken as part of an associate degree or from a community college may be transferred into the BPS degree.

³At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

⁴Six hours from the following: PS 4143 Nonprofit Governance, PS 4243 Planning for Adult Learners, PS 4343 Community Development, PS 4443 Professional Leadership, PS 4543 Workplace Supervision. Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

Department of Professional Studies

Criminal Justice Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ^{1,2}	4
Social Sciences ¹	3	Social Sciences ¹	3
Technical Course ²	3	Mathematics ¹	3
CJ 2003 Introduction to Criminal Justice	3	CJ 2043 Crime and Delinquency	3
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	16

⊕ Sophomore

Communication ¹	3	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Technical Course ²	3	PS 3013 Professional Studies Seminar	3
Elective ³	6	CJ/SOC 3083 Social Deviance	3
		Elective ³	3
Total Hours	15	Total Hours	15

⊕ Junior

PS 3133 Applied Principles of Personnel Management	3	PS 3023 Professional Communications	3
CJ/POLS 3023 Judicial Process	3	PS 3143 Applied Professional Research	3
CJ/SOC 3033 The Criminal Mind	3	Elective ³	6
Professional Studies Professional Core	6		
Electives ⁴			
Total Hours	15	Total Hours	12

⊕ Senior

PS 3003 Project Design	3	PS 4003 Capstone Project	3
CJ/SOC 3103 The Juvenile Justice System	3	Technical Courses ²	9
Technical Courses ²	6	Elective ³	3
Elective ³	3		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Technical courses taken as part of an associate degree or from a community college may be transferred into the BPS degree.

³At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

⁴Six hours from the following: PS 4143 Nonprofit Governance, PS 4243 Planning for Adult Learners, PS 4343 Community Development, PS 4443 Professional Leadership, PS 4543 Workplace Supervision. Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

Department of Professional Studies

Early Childhood Education Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ^{1,2}	4
Social Sciences ¹	3	Social Sciences ¹	3
Technical Course ²	3	Mathematics ¹	3
Elective	3	ECED 2003 Introduction to Early Childhood Education	3
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	16

⊕ Sophomore

Communication ¹	3	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Technical Course ²	3	PS 3013 Professional Studies Seminar	3
Elective ³	6	MATH 2033 Mathematical Concepts I	3
		Elective ³	3
Total Hours	15	Total Hours	15

⊕ Junior

PS 3133 Applied Principles of Personnel Management	3	PS 3023 Professional Communications	3
ECED 3023 Foundations of Early Childhood Education	3	PS 3143 Applied Professional Research	3
ECED 3033 Child Development	3	Elective ³	6
Professional Studies Professional Core	6		
Electives ⁴			
Total Hours	15	Total Hours	12

⊕ Senior

PS 3003 Project Design	3	PS 4003 Capstone Project	3
EDMD 3013 Integrating Instructional Technology	3	Technical Courses ²	9

Technical Courses²	6	BIOL/PHSC 3213 Science Education in the Elementary School	3
Elective³	3		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Technical courses taken as part of an associate degree or from a community college may be transferred into the BPS degree.

³At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

⁴Six hours from the following: PS 4143 Nonprofit Governance, PS 4243 Planning for Adult Learners, PS 4343 Community Development, PS 4443 Professional Leadership, PS 4543 Workplace Supervision. Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

Department of Professional Studies

Industrial/Organizational Psychology Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ^{1,2}	4
Social Sciences ¹	3	Social Sciences ¹	3
Technical Course ²	3	Mathematics ¹	3
PSY 2003 General Psychology	3	PSY 2023 Consumer Psychology	3
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	16

⊕ Sophomore

Communication ¹	3	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Technical Course ²	3	PS 3013 Professional Studies Seminar	3
Elective ³	6	PSY 3063 Developmental Psychology I	3
		Elective ³	3
Total Hours	15	Total Hours	15

⊕ Junior

PS 3133 Applied Principles of Personnel Management	3	PS 3023 Professional Communications	3
PSY 3163 Developmental Psychology II	3	PS 3143 Applied Professional Research	3
Professional Studies Professional Core			
Electives ⁴	6	Elective ³	6
Elective ³	3		
Total Hours	15	Total Hours	12

⊕ Senior

PS 3003 Project Design	3	PS 4003 Capstone Project	3
PSY 3093 Industrial Psychology	3	PSY 4043 Social Psychology	3
Technical Courses ²	6	Technical Courses ²	9
Elective ³	3		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Technical courses taken as part of an associate degree or from a community college may be transferred into the BPS degree.

³At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

⁴Six hours from the following: PS 4143 Nonprofit Governance, PS 4243 Planning for Adult Learners, PS 4343 Community Development, PS 4443 Professional Leadership, PS 4543 Workplace Supervision. Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

Department of Professional Studies

Interdisciplinary Studies Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ¹	4
Social Sciences ¹	3	Social Sciences ¹	3
TECH 1001 Orientation to the University	1	Mathematics ¹	3
Electives ²	6	Electives ²	3
Total Hours	17	Total Hours	16

⊕ Sophomore

Communication ¹	3	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Electives ²	9	PS 3013 Professional Studies Seminar	3
		Electives ²	6
Total Hours	15	Total Hours	15

⊕ Junior

PS 3133 Applied Principles of Personnel Management	3	PS 3023 Professional Communications	3
Professional Studies Professional Core	6	PS 3143 Applied Professional Research	3
Electives ³	6	Electives ²	6
Total Hours	15	Total Hours	12

⊕ Senior

PS 3003 Project Design	3	PS 4003 Capstone Project	3
Electives ²	12	Electives ²	12
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

³Six hours from the following: PS 4143 Nonprofit Governance, PS 4243 Planning for Adult Learners, PS 4343 Community Development, PS 4443 Professional Leadership, PS 4543 Workplace Supervision. Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

Department of Professional Studies

Public Relations Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ^{1,2}	4
Social Sciences ¹	3	Social Sciences ¹	3
Technical Course ²	3	Mathematics ¹	3
Elective ³	3	Technical Course ²	3
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	16

⊕ Sophomore

Communication ¹	3	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Technical Course ²	3	PS 3013 Professional Studies Seminar	3
Elective ³	6	JOUR 3173 Public Relations Principles	3
		Elective ³	3
Total Hours	15	Total Hours	15

⊕ Junior

PS 3133 Applied Principles of Personnel Management	3	PS 3023 Professional Communications	3
COMM 3033 Interviewing Principles and Practices	3	PS 3143 Applied Professional Research	3
COMM 4153 Persuasive Theory and Audience Analysis	3	JOUR 4083 Computer Mediated Communications	3
Professional Studies Professional Core			
Electives ⁴	6	Elective ³	3
Total Hours	15	Total Hours	12

⊕ Senior

PS 3003 Project Design	3	PS 4003 Capstone Project	3
JOUR 4033 Community Journalism	3	JOUR 4173 Public Relations Project	3
Technical Courses ²	6	Technical Courses ²	6
Elective ³	3	Elective ³	3

Total Hours

15 Total Hours

15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Technical courses taken as part of an associate degree or from a community college may be transferred into the BPS degree.

³At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

⁴Six hours from the following: PS 4143 Nonprofit Governance, PS 4243 Planning for Adult Learners, PS 4343 Community Development, PS 4443 Professional Leadership, PS 4543 Workplace Supervision. Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

Department of Professional Studies

Workforce Technology Concentration

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Science with Lab ¹	4	Science with Lab ^{1,2}	4
Social Sciences ¹	3	Social Sciences ¹	3
Technical Course ²	3	Mathematics ¹	3
Elective ³	3	COMS 2003 Microcomputer Applications	3
TECH 1001 Orientation to the University	1		
Total Hours	17	Total Hours	16

⊕ Sophomore

Communication ¹	3	U.S. History/Government ¹	3
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Technical Courses ²	3	PS 3013 Professional Studies Seminar	3
BDA 2003 Business Problem Solving	3	BDA 2013 Business Spreadsheet Modeling	3
Elective ³	3	Elective ³	3
Total Hours	15	Total Hours	15

⊕ Junior

PS 3133 Applied Principles of Personnel Management	3	PS 3023 Professional Communications	3
BUAD 3123 Management	3	PS 3143 Applied Professional Research	3
Professional Studies Professional Core	6	MGMT 4073 Special Topics in Management	3
Electives ⁴	3	Elective ³	3
Total Hours	15	Total Hours	12

⊕ Senior

PS 3003 Project Design	3	PS 4003 Capstone Project	3
COMS 3053 Implications of Technology on Society	3	Technical Courses ²	9
Technical Courses ²	6	Elective ³	3
Elective ³	3		
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Technical courses taken as part of an associate degree or from a community college may be transferred into the BPS degree.

³At least 40 of the total hours required for graduation must be 3000 - 4000 level courses.

⁴Six hours from the following: PS 4143 Nonprofit Governance, PS 4243 Planning for Adult Learners, PS 4343 Community Development, PS 4443 Professional Leadership, PS 4543 Workplace Supervision. Students enrolled in the Applied Leadership concentration must take PS 4543 and an upper division elective in order to meet the six (6) hours of electives requirement.

College of Natural & Health Sciences

Programs of Study

Students earning degrees in the College of Natural and Health Sciences receive an undergraduate education that prepares them to compete for employment in a variety of careers or for entry into graduate or professional school. The College of Natural and Health Sciences offers programs of study leading to baccalaureate degrees as listed below:

Bachelor of Science

Biology with options in:

Biomedical

General

Chemistry with A.C.S. approved options in:

Biochemistry

Environmental

General

Professional

Engineering Physics

Environmental Science

Fisheries & Wildlife Science

Geology with options in:

Environmental

Petroleum

Professional

Health Information Management

Mathematics

Medical Technology

Nuclear Physics

Physical Science

Physics

Secondary Education with Teacher Licensure in:

Chemistry

Life Science

Mathematics

Physics

Bachelor of Science in Nursing

Nursing

The College of Natural and Health Sciences is subdivided into four administrative units: the Departments of Biological Sciences, Mathematics, Nursing, and Physical Sciences. These departments offer a variety of major programs leading to masters and baccalaureate degrees.

The College also serves a special role in providing the principal curricular needs of students seeking to enter professional schools of medicine, dentistry, medical technology, optometry, pharmacy, chiropractic, and others. A secondary service is that of contributing to the general education of those students majoring outside of the College of Natural and Health Sciences.

Environmental Science Options

Three environmental science degree options are available as follows: B.S. in environmental science, B.S. in chemistry-environmental option, and B.S. in geology-environmental option. The student interested in environmental science should choose the program that best suits his or her interest based on background, competencies, and career objectives. Arkansas Tech University's location in the Arkansas River Valley between the Ouachita and Ozark mountains is ideally suited to environmental programs. With the diversity of ecosystems and geological formations found, the area serves as an outdoor laboratory encompassing habitats that range from wetland and riparian ecosystems to upland coniferous and mountaintop deciduous forests. Swamps, streams, rivers, and lakes dot the landscape. Geological formations ranging in age from Ordovician to Pennsylvanian are within easy field trip distance from the University. Crop farming, hog and poultry production, a nuclear-powered electricity generating plant, coal strip mining, urban centers, and a multi-use national forest provide ample opportunities for studying the impact of modern society on ecosystems and the natural environment.

The employment opportunities in environmental science are projected to continue to increase. Graduates may find employment with environmental consulting companies, local, state, or federal governmental agencies, and private companies that have significant environmental impact. Environmental scientists are involved in the following types of studies: environmental impact analysis, pollution assessment and control, solid waste landfill location and management, ecosystem analysis, surface and groundwater resources, air quality, and many others. The student interested in a specific environmental science curriculum should refer to the appropriate section of this catalog. For example, the B.S. in environmental science is listed with the other biology curricula, while the environmental options in geology and chemistry are with the physical sciences.

Pre-Professional Options

Arkansas Tech University offers complete pre-professional education for students interested in medicine, dentistry, physical therapy, and pharmacy. Students who study at Arkansas Tech University are very successful at gaining entrance into these professional schools. Although the entrance requirements for medical schools reserve the ability to accept students meeting the minimum core courses, in practice students gaining admission will usually have completed a B.S. degree. Most of these students major either in biology or chemistry, but any field is acceptable as long as they complete specific courses required by their chosen professional school. The Biochemical Option of the Chemistry major and the Biomedical Option of the Biology major were specifically developed to serve these "Pre-med" students in addition to others with plans for post-graduate education. Faculty advisors in chemistry and biology are also available to guide students targeting a wide variety of other allied health sciences including optometry, radiology, dental hygiene, pharmacy technician, and others. Course schedules can be customized to meet pre-requisites specified by any professional school of the student's choice.

Transfer Students

Applicability of transfer credit to meet specific degree requirements depends on the major selected by the transfer student. The transfer student should review the Transfer Credit policy in the Admission section of this catalog and meet with their academic advisor to determine final transfer credit eligibility for the selected program of study.

Department of Biological Sciences

The Department of Biological Sciences offers baccalaureate degrees in a wide variety of majors and options. We also offer one minor. These different aspects of biological science and associated faculty are organized in the following program areas:

Biology Programs:

- Biology major Biomedical Option
- Biology major General Option
- Biology Minor

Environmental Science

Fisheries and Wildlife Science Program:

- Fisheries and Wildlife Science major

Allied Health Sciences Programs:

- Health Information Management major
- Medical Technology major

For students interested in Life Science for Teacher Licensure, click [here](#).

Each of the bachelor of science degree programs offered by the department, with the exception of the teacher licensure curricula, requires a total of 120 hours for graduation. Except for Allied Health Science programs (AHS), which adhere to grade policies recommended by certifying associations, no more than 12 hours of "D's" may be applied toward the baccalaureate degrees listed above. Students in the Department of Biological Sciences, except for AHS program majors, are required to take a common core consisting of: an orientation course; BIOL 1114 Principles of Biology; BIOL 2124 Zoology; BIOL 2134 Principles of Botany; an ecology course; a physiology course; and a seminar course. These same students are required to take MATH 1113 College Algebra, plus two additional math oriented courses above that level. Courses in computer science, chemistry, and physics are also required. The following descriptions of individual degree programs include specific descriptions and requirements.

Graduating seniors, except those in AHS programs, will be required to take the Major Field Assessment Test (MFAT) in Biology as part of the assessment plan for the department. Students will take the test during the last few weeks of the semester of planned graduation.

Contact Information

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Professors

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Associate Professors

Jacqueline Bowman, Cynthia Jacobs, Eric Lovely, Darla Sparacino, Ivan Still

Assistant Professors

Douglas Barron, Cheryl Chaney, Sara Daniel, Geoffrey Ecker, Jorista van der Merwe

Instructors

Jamie Dalton, Jennifer Lewter, Tonya Mays

For more information, please visit www.atu.edu/biosciences

Department of Biological Sciences

Allied Health Science Program

The allied health science program include a four-year curricula in health information management and in medical technology.

Major Options

Health Information Management
Medical Technology

Department of Biological Sciences

Allied Health Science Program

Bachelor of Science in Health Information Management

The degree program in health information management prepares the student for a professional career as an active member of the modern health-care team. In this age of increased computerization and data analysis, the health information management field is an exciting new area with virtually unlimited possibilities.

The health information management administrator is an expert in the world of health record systems. He/she is responsible for obtaining complete health records for use in research; for gathering statistical information on which to base long-range health planning goals; for determining the legitimacy of requests for confidential medical information; for controlling the circulation and integrity of health records; and, as department head, is responsible for efficiency of the health information department employees in the performance of daily activities.

About Health Information Management

The health information department in a medical facility has in its care all the documentation regarding patient-care, physician as well as ancillary information. Responsibility for data validity and integrity play a major role in the health information profession. He/she must be progressive, conscientious, tactful, and knowledgeable, as much work is accomplished in cooperation with other allied health professionals. Above all, the health information professional must adhere to the Code of Ethics of the American Health Information Management Association and to the appropriate institutional behavioral codes that apply.

Professional practice is scheduled at affiliated hospitals in nearby cities for a period of six hours per week during the fall and spring semesters for senior HIM majors. The management affiliation may be assigned to a hospital in a distant city for four weeks (40 hours per week) and normally occurs in the summer immediately following the senior year. Students are responsible for all transportation and lodging expenses during these assignments; however, every effort will be made to minimize such costs.

Students must make at least a "C" in each of the professional courses and demonstrate their proficiency in professional practice and management-affiliation. Upon successful completion of the program, the student is granted a Bachelor of Science degree in health information management and becomes eligible to write the national certification examination. The student already holding a baccalaureate degree may apply for the HIM program as specified in the Application Guidelines and work toward another baccalaureate degree provided the pre-professional course of study has been completed to establish eligibility to write the national certification examination. Registered health information technicians are urged to contact the Program Director for information regarding RHIA progression. The national certification examination is offered year-round by the American Health Information Management Association.

Special instructions for transfer students: transfer of courses to meet specific Health Information Management Program requirements have a grade of at Least C. Lower-level courses (numbered in the 1000's and 2000's) from other institutions cannot be transferred to meet upper-level (3000-4000) HIM course requirements; however, they may be used as general electives. Transfer of upper-level courses to meet HIM requirements is subject to validation by the HIM Program.

Program Application Guidelines

1. Application for upper level professional HIM courses must be on file with the HIM Program Director by March 15th prior to the year you wish to take HIM courses.
2. To be eligible for application interview, the following must be on file: Application, current copy of all applicable transcripts, including a cumulative GPA of 2.5 on a 4.0 scale, and COMPASS/ACT scores.
3. Applicants may be required to complete an interview with an interview team. Consideration will be given to areas such as:
 - Dedication and perseverance

- Aptitude
 - Knowledge of HIM profession
 - Professional appearance
 - Flexibility
 - Realistic career goals
 - True desire to enter HIM profession
 - Ability to finish HIM program within prescribed time
4. Candidates will be ranked based on GPA and number of prerequisite courses completed. The top twenty will be selected. A ranked order waiting list will be maintained by the HIM Program Director.
5. Candidates will be notified prior to pre-registration for the fall semester. If accepted, candidates must return a signed statement acknowledging acceptance. Candidates must register for courses indicated on the degree plan. Any change in degree plan requires approval of the student's HIM faculty advisor. Candidates must notify the program director of change in degree choice.
6. A late application deadline of August 15th will be observed if positions are available. Late applicants will be notified as soon as possible or during the week of late registration.
7. If a candidate fails a course that would preclude graduation, or does not earn at least a "C" in HIM courses, reapplication to the HIM Program will be required.

The Health Information Management Program is accredited by the Commission on the Accreditation for Health Informatics and Information Management Education (CAHIM) in cooperation with the American Health Information Management Association's Council on Accreditation.

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Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Science with Lab	4
MATH 1113 College Algebra	3	BUAD 2003 Business Information Systems	3
TECH 1001 Orientation to the University	1	COMM 2003 Public Speaking	3
AHS 1023 Basic Pharmacology with an Overview of Microbiology	3		
Total Hours	13	Total Hours	13

⊕ Sophomore

U.S. History/Government ¹	3	Social Sciences ¹	3
BDA 2003 Business Problem Solving	3	Fine Arts & Humanities ¹	6

BIOL 2004 Basic Human Anatomy and Physiology	4	COMS 2233 Introduction to Databases	3
AHS 2013 Medical Terminology or Elective	3	AHS 2013 Medical Terminology or Elective	3
		Elective	1
Total Hours	13	Total Hours	16

⊕ Junior

MGMT 3003 Management and Organizational Behavior	3	MGMT 4023 Personnel/ Human Resources Management or HA/RP 4113 Personnel Management in Parks, Recreation, and Hospitality Administration	3
PSY/SOC 2053 Statistics for the Behavioral Sciences	3	HIM 3033 Basic Coding Principles	3
HIM 3023 Introduction to Health Information Management	3	HIM 3043 Advanced Concepts in Health Information	3
HIM 3153 Current Issues in Health Information Management	3	HIM 3132 Health Data and Statistics	2
HIM 4153 Principles of Disease	3	HIM 3133 Alternative Health Records	3
Total Hours	15	Total Hours	14

Summer

HIM 4892 Seminar in Health Information	2
HIM 4895 Affiliation	5
Total Hours	7

⊕ Senior

HIM 4034 Advanced Coding Principles	4	MGMT 4013 Management Information Systems	3
HIM 4063 Organization and Administration	3	HIM 4073 Legal Concepts for the Health Fields	3
HIM 4093 Research in Health Information Management	3	HIM 4083 Health Organization Trends	3
HIM 4182 Professional Practice Experience I	2	HIM 4203 Healthcare Reimbursement	3
HIM 4983 Systems Analysis for Health Information Management	3	HIM 4292 Professional Practice Experience II	2
Total Hours	15	Total Hours	14

¹See appropriate alternatives or substitutions in "General Education Requirements".

Department of Biological Sciences

Allied Health Science Programs

Bachelor of Science in Medical Technology

Arkansas Tech University, in affiliation with approved schools of medical technology, offers a four-year program leading to the bachelor of science degree and to certification as a medical technologist. The affiliated schools of medical technology are accredited by the Council on Medical Education and Hospitals of the American Medical Association.

The first three years of the curriculum are taught on the Tech campus and the fourth (professional) year is taught at one of the affiliated schools of medical technology. Admission to the professional year is on a competitive basis, and students must meet the admission standards of the medical technology school.

Personnel with Medical Technology Affiliated Institutions

Baptist Health College, Little Rock, Arkansas: Jennie Manees, M.P.H., MT (ASCP), Program Director, School of Medical Laboratory Science.

St. John's Regional Medical Center, Joplin, Missouri: Susan O. Pintado, M.D., Medical Director, School of Medical Technology. Karen Adkins, MA ED, MT (ASCP), Program Director, School of Medical Technology.

To qualify for the bachelor of science degree, the student must satisfactorily complete at least 82 credit-hours specified in the curriculum below and be accepted by one of our affiliated schools of medical technology, listed above, for the senior year. During their senior (professional) year of residency (52 weeks of class) at one of the affiliated schools of medical technology, successful candidates will complete 38 to 40 credit hours for a total of at least 120 credit hours. This experience is an all or nothing situation where the student must satisfactorily complete the entire program to bring any of the credit toward this degree.

Tuition and fees for courses taken the senior year at one of the affiliated medical technology schools will be assessed at the current rate charged by the affiliated school and are payable to Arkansas Tech University. Financial aid and scholarship arrangements are also made by Tech; however students are also encouraged to contact the affiliated medical technology schools for possible additional opportunities.

Upon successful completion of the final year at an affiliated medical technology school, a student is eligible for a bachelor of science degree, as well as being eligible to write the National Board Examination for licensure. This examination is given at various times throughout the year by the Board of Registry of the American Society of Clinical Pathologists.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL 1011 Orientation to the Biological Sciences	1	BIOL 2004 Basic Human Anatomy and Physiology	4
BIOL 1114 Principles of Biology or BIOL 2124 Principles of Zoology	4	CHEM 2134 General Chemistry II	4
CHEM 2124 General Chemistry I	4	MATH 1203 Plane Trigonometry	3
MATH 1113 College Algebra	3		
Total Hours	15	Total Hours	14

⊕ Sophomore

U.S. History/Government ¹	3	Social Sciences ¹	6
Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
BIOL 2022 Medical Laboratory Orientation and Instrumentation, Laboratory	2	PSY 2003 General Psychology	3
BIOL 2023 Medical Laboratory Orientation and Instrumentation	3		
AHS 2013 Medical Terminology	3		
Total Hours	14	Total Hours	12

⊕ Junior

BIOL 3054 Microbiology	4
BIOL 3034 Genetics, BIOL 3064 Parasitology,	
BIOL 4023 Immunology or BIOL 4033 Cell Biology ²	7-8
CHEM 2204 Organic Physiological Chemistry,	
CHEM 3245 Quantitative Analysis,	
CHEM 3254 Fundamentals of Organic Chemistry,	
CHEM 3264 Mechanistic Organic Chemistry,	12-13
CHEM 3344 Principles of Biochemistry, or	
CHEM 4414 Instrumental Analysis ²	
Electives	2-4
Total Hours	25-27
	Total Hours

⊕ Senior

Condensed course category - final year completed off-campus at one of our affiliated schools of medical technology	
MEDT 4001-9 Medical Technology Professional Coursework	38-40

Professional coursework meeting all requirements of
the affiliated medical technology school

Total Hours	38-40	Total Hours
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¹See appropriate alternatives or substitutions in "General Education Requirements".

²Must have a total of 12-13 hours of upper-level chemistry, 7-8 hours of upper-level biology, and a total of 25 to 27 hours in the junior year to reach the total 80-82 hours required before entering the senior year off-campus. The senior year consists of 38-40 hours depending on which affiliate school program the candidate completes. Thus, a minimum of 120 hours for on and off-campus hours is required.

Department of Biological Sciences

Biology Program

The baccalaureate degree program in biology is designed to prepare students for a wide range of career opportunities. It also provides a solid foundation for those wanting to pursue specialization at the graduate level.

Arkansas Tech University is affiliated with the Gulf Coast Research Laboratory (GCRL) at Ocean Springs, Mississippi. With prior departmental approval, Arkansas Tech University students may enroll in marine biology courses at GCRL, with the credits applied toward the biology degree at Arkansas Tech. This affiliation makes possible a concentration in marine biology.

Bachelor of Science

Biology with options in:
Biomedical
General
Environmental Science
Life Science for Teacher Licensure

Minor

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Department of Biological Sciences

Biology Program

Biomedical Option

The Biomedical Option is designed for students wishing to study medicine, dentistry, physical therapy, and related fields of specialization. Thus, graduates typically apply to a medical school of some type or a graduate program such as physical therapy.

However, while the specified curriculum is well-suited to these studies, professional schools do not specify that entering students have particular majors or options. Graduates who complete the degree option yet do not enter a medical or graduate school program should be prepared for a variety of employment opportunities especially in biomedical or biotechnology-related laboratories.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra or MATH 1914 Precalculus	3-4	CHEM 2134 General Chemistry II	4
CHEM 2124 General Chemistry I	4	BIOL 2124 Principles of Zoology	4
BIOL 1011 Orientation to the Biological Sciences	1	MATH 2914 Calculus I or other MATH higher than MATH 1113 College Algebra	3-4
BIOL 1114 Principles of Biology	4		
Total Hours	15- 16	Total Hours	14- 15

⊕ Sophomore

SOC 1003 Introductory Sociology or PSY 2003 General Psychology	3	Communication	3
CHEM 3254 Fundamentals of Organic Chemistry	4	Social Sciences ¹	3
BIOL 2134 Principles of Botany	4	CHEM 3264 Mechanistic Organic Chemistry	4
COMS Elective	3	BIOL 2014 Human Anatomy	4
Biomed Elective ⁶	3	Statistics ³	3
Total Hours	17	Total Hours	17

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
PHYS 2014 Physical Principles I ^T	4	U.S. History/Government ¹	3
BIOL 3074 Human Physiology	4	PHYS 2024 Physical Principles II	4
Cellular Elective ²	3-4	BIOL 3034 Genetics	4

Total Hours	14-15	Biology Elective ⁴ Total Hours	3-4 17-18
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⊕ Senior			
BIOL 3114 Principles of Ecology or BIOL 4094 Coastal Ecology	4	BIOL 4891 Seminar in Biology	1
Biology Elective ⁴	6-8	Biology Elective ⁴	3-4
Electives ⁵ (as needed to reach a total of 120 hours for graduation)	3	Electives ⁵ (as needed to reach a total of 120 hours for graduation)	9
Total Hours	13- 15	Total Hours	13- 15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Cellular electives include: BIOL 3054 Microbiology, BIOL 4023 Immunology, BIOL 4033 Cell Biology or BIOL 4074 Molecular Genetics.

³See advisor for alternatives.

⁴See catalog to assure pre-requisites are met. See advisor to select six - eight hours from: BIOL 3054 Microbiology, BIOL 4023 Immunology, BIOL 4033 Cell Biology, BIOL 4074 Molecular Genetics, BIOL 4951-4 Undergraduate Research in Biology, CHEM 3344 Principles of Biochemistry, CHEM 3363 Metabolic Biochemistry **AND** six - eight hours from: BIOL 3024 Embryology, BIOL 3064 Parasitology, BIOL 3803 Applied Pathophysiology, BIOL 4054 Vertebrate Histology, BIOL 4083 Cancer Biology, BIOL 4951-4 Undergraduate Research in Biology, NUR 2303 Nutrition.

⁵ At least 40 of the total hours required for graduation must be 3000-4000 level courses.

⁶Select from AHS 2013 Medical Terminology, PE 2513 First Aid, PHIL 3103 Logic, PSY 3063 Developmental Psychology I, SOC 4053 Sociology of Health and Illness or SOC 4183 Social Gerontology.

Department of Biological Sciences

Biology Program

General Option

The biology general option is designed for students who wish to pursue a broadly defined degree program that emphasizes the major areas of biology and provides a solid foundation for further study in any graduate or professional program associated with the life sciences.

With guidance from their academic advisor, the general biology student can create a personalized biology degree tailored for their career goals and interests. The biology general option also encourages undergraduate research and internship opportunities to foster skills needed in a biology-oriented career. Graduates of this option have entered professional programs such as medical and pharmacy school as well as diverse graduate programs.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
MATH 1113 College Algebra	3	Physical Activity	2
Biol 1011 Orientation to the Biological Sciences	1	Biol 2124 Principles of Zoology or Biol 2134 Principles of Botany	4
Biol 1114 Principles of Biology	4	Any COMS	3
Total Hours	14	Total Hours	15

⊕ Sophomore

U.S. History/Government ¹	3	COMM 2003 Public Speaking	3
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
Biol 2124 Principles of Zoology or Biol 2134 Principles of Botany	4	BIOL 3034 Genetics	4
Math Elective ²	3	Biology Elective	4
Elective ⁵	3		
Total Hours	17	Total Hours	15

⊕ Junior

CHEM 3254 Fundamentals of Organic Chemistry	4	CHEM 3264 Mechanistic Organic Chemistry	4
PHYS 2014 Physical Principles I	4	PHYS 2024 Physical Principles II	4
Biol 3114 Principles of Ecology ³	4	Biology Elective (3000-4000 level)	4
Math Elective ²	3	Elective ⁵	4
Total Hours	15	Total Hours	16

Senior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Physiology or Cellular Elective ⁴	3-4	Physiology or Cellular Elective ⁴	3-4
Biology Elective ⁴	3-4	BIOL 4891 Seminar in Biology	1
Elective ⁵	5	Biology Elective ⁴	3-4
		Elective ⁵	2
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Six hours of mathematics above MATH 1113 College Algebra. Courses in the areas of statistics, biostatistics, and/or calculus are recommended (e.g. MATH 2163 Introduction to Statistical Methods, PSY/SOC 2053 Statistics for the Behavioral Sciences, FW 3173 Biostatistics, MATH 2243 Calculus for Business and Economics and/or MATH 2914 Calculus I).

³BIOL 4094 Coastal Ecology which is offered during the May mini-term can serve as an alternative to BIOL 3114 Principles of Ecology in the Biology major.

⁴The physiology choices include: BIOL 3074 Human Physiology, BIOL 3124 General Physiology, BIOL 3174 Physiological Ecology, BIOL 4014 Endocrinology; whereas, choices in the area of cell or molecular biology include: BIOL 4033 Cell Biology, BIOL 4074 Molecular Genetics, BIOL 3054 Microbiology, BIOL 4023 Immunology. One in each area is required. Other alternatives must be approved by your advisor and Department Head. Each 3-hour selection in one of these areas must be balanced by 4-hours (rather than 3-hours) of biology electives.

⁵Sufficient courses at 3000-4000 level to constitute a total of 40 hours. At least 2 credit-hours of biology research or internship is recommended (BIOL 4112-4 Biology Internship or BIOL 4951-4 Undergraduate Research in Biology).

Department of Biological Sciences

Bachelor of Science in Environmental Science

The Baccalaureate Degree in Environmental Science provides excellent preparation for careers in federal, state, and local government, public utilities, and nonprofit sectors and industries. Additionally, this program will prepare students for graduate study in a variety of related fields such as ecology, and environmental science. Students completing this degree will gain practical skills in animal and plant taxonomy and geographic information systems, as well as, chemical and biological assessment of water resources. They will apply their skills in advanced courses in environmental assessment including studies of federal and state policies and regulations.

Students majoring in environmental science are required to complete sixty-one semester hours in core environmental science curriculum, two additional math courses (Group A: 6-7 semester hours), an additional physical science course with a lab (Group B: 4-5 semester hours), an additional physical science without a lab (Group C: 3 semester hours), two classes from GIS or research choices (Group D: 7-8 semester hours), two classes from life science choices (Group E: 7-8 semester hours), a capstone field biology course (Group F: 4 semester hours), and two courses in social or anthropogenic choices (Group G: 6 hours). Students have the option of tailoring the remaining semester hours to best meet their future education or career goals and meet the 120 total semester hour and 40 upper division institutional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra	3	SOC 1003 Introduction to Sociology	3
BIOL/ENVS/PHSC 1004			
Principles of Environmental Science	4	U.S. History/Government ¹	3
BIOL 1011 Orientation to the Biological Sciences	1	BIOL 1114 Principles of Biology	4
GEOL1014 Physical Geology	4	MATH 2163 Introduction to Statistical Methods or SOC/PSY 2053 Statistics for Behavioral Sciences	3
Total Hours	15	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
ECON 2003 Principles of Economics I	3	COMM 2003 Public Speaking	3
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
BIOL 2124 Principles of Zoology	4	BIOL 2134 Principles of Botany	4
Total Hours	14	Total Hours	14

⊕ Junior

BIOL/FW 3114 Principles of Ecology	4	BIOL/CHEM/ENVS/GEOL 3111 Environmental Seminar	1
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BIOL/ENVS 3043 Conservation CHEM 3254 Fundamentals of Organic Chemistry	3	CHEM 3264 Mechanistic Organic Chemistry	4
FW 3173 Biostatistics or MATH 2914 Calculus I	4	PHYS 2014 Physical Principles I	4
	3-4	Life Science ²	4
		Physical Science Elective without Lab ³ or GIS and Research ^{4,8}	3
Total Hours	14- 15	Total Hours	16

⊕ Senior

Life Science ²	3- 4	ENVS 4133 Environmental Policy	3
Human Dimensions ^{7,8}	3	Human Dimensions ^{7,8}	3
Physical Science Elective with Lab ^{5,8} or Field Biology ⁶	4- 5	Field Biology ⁶ or Physical Science Elective with Lab ^{5,8}	4
Physical Science Elective without Lab ³ or GIS Research ^{4,8}	3- 4	GIS and Research ^{4,8}	4
Elective ⁸	0-4	Elective ⁸	0-4
Total Hours	13- 16	Total Hours	14- 18

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Take two Life Science Elective courses from the following: BIOL 3004: Plant Taxonomy, BIOL 3034: Genetics, BIOL 3054: Microbiology, BIOL 3064: Parasitology, BIOL/FW 3084: Ichthyology, BIOL/AGPM 3104: Introduction to Entomology, BIOL 3134: Invertebrate Zoology, BIOL/FW 3144: Ornithology, BIOL 3174: Physiological Ecology, BIOL/FW 3224: Herpetology, BIOL 4064: Evolutionary Biology, BIOL/FW 4163: Biodiversity and Conservation Biology..

³Take one Physical Science without Laboratory Elective course from the following: BIOL/CHEM 3353: Fundamentals of Toxicology, CHEM 3313: Environmental Chemistry, GEOL 3083: Hydrogeology, GEOL 3153: Environmental Geology, PHSC 3033: Meteorology.

⁴Take two GIS and Research courses from the following: ENVS 4114: Environmental Science Internship, ENVS 4884: Advanced Topics in Environmental Science, ENVS 4954: Undergraduate Research in Environmental Science, FW/GEOG 2833: Introduction to Geographic Information Systems, FW 3074: Habitat Evaluation, FW 4034: Geographic Information Systems in Natural Resources.

⁵Take one Physical Science with Laboratory Elective course from the following: CHEM 3245: Quantitative Analysis, CHEM 4414: Instrumental Analysis, PHYS 2024: Physical Principles II.

⁶Take one Field Biology course from the following: BIOL/FW 4024: Limnology, BIOL 4094: Coastal Ecology, ENVS 4124: Biological Assessment of Water Quality, FW 4014: Forest Ecology and Management, FW 4064: Wetland Ecology Management.

⁷Take two Human Dimension courses from the following: ANTH 2003: Cultural Anthropology, ANTH 2103: Ozark-Ouachita Studies, ANTH 2303: Globalization, SOC 3033: Environment and Society, SOC 3113: Social Movements and Social Change, or FW 4103: Human Dimensions of Fisheries and Wildlife Management.

⁸At least 40 upper level hours are required for the 120 hours degree.

Department of Biological Sciences

Bachelor of Science in Fisheries & Wildlife Sciences

The fisheries and wildlife science program is a professional program designed to prepare qualified field and research biologists, as well as to provide a sound foundation for those students who intend to pursue graduate studies in wildlife biology, fisheries biology or field ecology. Through selection of elective courses, graduates are required to meet certification requirements of The Wildlife Society or the American Fisheries Society.

Field biologists are employed by various state and federal agencies concerned with natural resources management including the Arkansas Game and Fish Commission, U.S. Fish and Wildlife Service, U.S. Forest Service, Arkansas Department of Environmental Quality, National Park Service, and the U.S. Army Corps of Engineers. Employment opportunities in the private sector are also available. Timber, mining, and utility companies hire field biologists for advice and management of industrial lands. Environmental consulting firms, commercial fish and game farms, and nature centers require qualified researchers, technicians, and educators.

Majors in fisheries and wildlife science must complete a minimum of 120 semester hours as specified in the following curriculum outline and no more than 12 hours of "D's" may be applied toward the degree. Note, this set of courses will also satisfy requirements for a minor in biology, but students should see their advisor to complete the associated degree audit form for the minor. Candidates for graduation are expected to complete a comprehensive series of practical and technical exams to assess mastery of program objectives.

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Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	Social Sciences ¹	3
		CHEM 1113 A Survey of Chemistry and	
MATH 1113 College Algebra	3	CHEM 1111 Survey of Chemistry Laboratory or	4
		CHEM 2124 General Chemistry I	
BIOL 1114 Principles of Biology	4	BIOL 2124 Principles of Zoology	4
FW 1001 Orientation to Fisheries and Wildlife Science	1		
Total Hours	14	Total Hours	14

⊕ Sophomore

Communication ¹	3	U.S. History/Government ¹	3
BIOL 2134 Principles of Botany	4	FW /GEOG 2833 Introduction to Geographic Information Systems	3

CHEM 2204 Organic Physiological Chemistry or CHEM 3254 Fundamentals of Organic Chemistry	4	FW 2013 Natural Resources Communications	3
Statistics ² , FW 3084			
Ichthyology, ^{3,F} or FW 3154 Mammalogy ^{3,W}	3-4	FW 3114 Principles of Ecology	4
		Statistics, ² or FW 3144 Ornithology ^{3,W}	3-4
Total Hours	14-15	Total Hours	16-17

⊕ Junior

BIOL 4044 Dendrology ^W or electives ⁴	4	Fine Arts & Humanities ¹	3
FW 3173 Biostatistics or Calculus	3	BIOL 3004 Plant Taxonomy ^{3,W} or Electives ⁴	4
FW 4014 Forest Ecology and Management ^{3,W} , FW 4064 Wetland Ecology and Management ^{3,W} or Electives ⁴	4	FW 3053 Fisheries and Wildlife Administration	3
Electives ⁴	3	FW 4024 Limnology ^{3,F} or Electives ⁴	4
		Electives ⁴	3
Total Hours	14	Total Hours	17

⊕ Senior

FW 4013 Wildlife Techniques ^{3,W} or FW 4043 Fisheries Techniques ^{3,F}	3	Fine Arts & Humanities ¹	3
FW 4103 Human Dimensions of Fisheries and Wildlife Management	3	FW 4001 Senior Seminar in Fisheries and Wildlife Biology	1
Electives ⁴	9	FW 4003 Principles of Wildlife Management	3
		FW 4083 Principles of Fisheries Management	3
		Electives ⁴	5
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements". One of the social sciences must be ECON 2003 Principles of Economics I.

²Statistics must be taken either fall or spring term.

³F and W superscripts designate courses required for certification in fisheries and wildlife, respectively. Students can choose between FW 3154 Mammalogy and FW 3144 Ornithology, FW 4014 Forest Ecology and Management and FW 4064 Wetland Ecology and Management, and BIOL 3004 Plant Taxonomy and BIOL 4044 Dendrology for wildlife certification. Meeting requirements for fisheries or wildlife certification is a requirement for graduation.

⁴Must include at least two courses from the biology group (BIOL 3174 Physiological Ecology, BIOL 3034 Genetics, BIOL 4064 Evolutionary Biology, BIOL 3064 Parasitology, AGPM 3104 Introduction to Entomology, BIOL 3184 Animal Behavior, BIOL 3004 Plant Taxonomy^F, BIOL

4044 Dendrology^F, BIOL 4094 Coastal Ecology) one W or two F courses from the physical science group (any physics course, AGSS 2014 Soils, GEOL 1014 Physical Geology, GEOL 3083 Hydrogeology), and three 3000-4000 level fisheries and wildlife courses. Sufficient additional electives to produce 120 total credit hours are required for graduation.

Department of Biological Sciences

Minor in Biology

The minor in biology is available to students who wish to add to their knowledge of this increasingly important field for personal edification or for professional purposes, but choose not to complete a major in biology.

The minor in biology requires 20 hours of courses:

- BIOL 1014 Introduction to Biological Sciences or BIOL 1114 Principles of Biology
- BIOL 2124 Principles of Zoology
- BIOL 2134 Principles of Botany
- BIOL Electives (8 hours of 3000 or 4000 level)

**No more than one credit hour can be a seminar course*

Department of Mathematics

The Department of Mathematics offers a four-year program in mathematics that leads to the bachelor of science degree and curriculum that leads to a minor in mathematics. The curriculum is designed to meet the needs of three groups of students: (1) those who plan to seek employment in business, industry, or government, (2) those who plan to attend graduate school to continue their study of mathematics or a related field, and (3) those who plan to be secondary school teachers.

Students majoring in mathematics are encouraged to use their elective hours to complete a second major, or at least a concentration of 18 hours or more, in the field of their choice. For example, students interested in computer science are advised to complete the following courses:

- COMS 1403 Orientation to Computing Information, and Technology
- COMS 2003 Microcomputer Applications
- COMS 2104 Foundations of Computer Programming I
- COMS 2203 Foundations of Computer Programming II
- COMS 2213 Data Structures

and two additional courses selected from COMS 3213 Advanced Data Structures and Algorithm Design, COMS 3503 Visual Programming, COMS 3803 Computer Applications in Accounting and Business, and COMS 4203 Database Concepts.

Students interested in business electives are advised to complete:

- BUAD 2003 Business Information Systems
- BLAW 2033 Legal Environment of Business
- ACCT 2003 Accounting Principles I
- ACCT 2013 Accounting Principles II
- and ECON 2003 Principles of Economics I and ECON 2013 Principles of Economics II.

For other areas of interest, students should consult their advisor to arrange a plan of study.

Students who plan to attend graduate school in mathematics or a related field are advised to complete additional upper-level mathematics courses beyond the minimal degree requirements.

For students interested in Mathematics for Teacher Licensure, click [here](#).

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For more information, please visit www.atu.edu/mathematics

Department of Mathematics

Bachelor of Science in Mathematics

Student interested in Mathematics for Teacher Licensure, click here.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
U.S. History/Government ¹	3	Social Sciences ¹	3
TECH 1001 Orientation to the University	1	MATH 2703 Discrete Mathematics	3
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
Elective ³	4	Elective ³	2
Total Hours	15	Total Hours	15

⊕ Sophomore

Fine Arts & Humanities ¹	3	Social Sciences ¹	3
PHYS 2114 General Physics I	4	COMS 2803 Programming in C	3
MATH 2934 Calculus III	4	PHYS 2124 General Physics II	4
MATH 3003 Foundations of Number Systems	3	MATH 3243 Differential Equations I	3
Elective ³	1	Elective ³	2
Total Hours	15	Total Hours	15

⊕ Junior

Fine Arts & Humanities ¹	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
MATH 3153 Applied Statistics I	3	MATH 3203 Introduction to Analysis	3
MATH 4003 Linear Algebra I	3	MATH 4123 Mathematical Modeling	3
Elective ³	6	Elective ³	6
Total Hours	15	Total Hours	15

⊕ Senior

MATH 4033 Abstract Algebra	3	MATH 4971 Mathematics Senior Seminar	1
MATH Elective ²	3	MATH Elective ²	3
Elective ³	9	Elective ³	11
Total Hours	15	Total Hours	15

¹See appropriate alternatives or substitutions in "General Education Requirements".

²3000 - 4000 level math elective. MATH 3033 Methods of Teaching Elementary Mathematics, MATH/ELEG 3173 Math Methods for Engineers, MATH 4703 Special Methods in Mathematics, and MATH 4772 Mathematics Teaching Practicum may not be used to satisfy this requirement. MATH 4993 Special Problems in Mathematics may not be used without prior approval of the department head.

³At least 40 of the total hours required for graduation must be 3000-4000 level courses.

Department of Mathematics

Minor in Mathematics

For several majors, a minor in mathematics is a natural and popular acquisition. The minor in mathematics requires 20 hours of courses:

- MATH 2703 Discrete Mathematics
- MATH 2914 Calculus I
- MATH 2924 Calculus II

and 9 hours selected from the following:

- MATH 2934 Calculus III
- MATH 3003 Foundations of Number Systems
- MATH 3123 College Geometry
- MATH 3153 Applied Statistics I
- MATH 3203 Introduction to Analysis
- MATH 3243 Differential Equations I
- MATH 4003 Linear Algebra I
- MATH 4033 Abstract Algebra I
- MATH 4103 Linear Algebra II
- MATH 4113 History of Mathematics
- MATH 4123 Mathematical Modeling
- MATH 4133 Abstract Algebra II
- MATH 4153 Applied Statistics II
- MATH 4173 Advanced Biostatistics
- MATH 4243 Differential Equations II
- MATH 4263 Mathematical Statistics
- MATH 4273 Complex Variables

Department of Nursing

Arkansas Tech University's nursing curriculum is designed to prepare students for beginning professional responsibilities in a variety of health-care settings and to provide the necessary foundations for graduate study.

The Bachelor of Science in Nursing program is approved by the Arkansas State Board of Nursing and the Arkansas Department of Higher Education. The program is accredited by the Accreditation Commission for Education in Nursing, Telephone: 404-975-5000.

The Department of Nursing offers undergraduate study in nursing to qualified high school graduates, graduates of diploma and associate degree programs in nursing, licensed psychiatric technician nurses, and licensed practical nurses. The baccalaureate program leads to the degree of Bachelor of Science in Nursing. Satisfactory completion of eight semesters of general education, course pre-requisites, and upper-division professional nursing courses is required.

Upon completion of degree requirements, the student may be eligible to take the national examination (NCLEX-RN) for licensure as a registered nurse. All nursing students should be aware that the State Board of Nursing requires all applicants for the NCLEX-RN to have a criminal background check performed. If the applicant has ever been convicted of a crime, the Board will review the application and make a decision as to whether the applicant is eligible to take the NCLEX-RN exam and to practice nursing in the State of Arkansas. Any student who has been convicted of a crime should notify his or her advisor before taking the prerequisite courses. This information will be kept strictly confidential. The student will be advised of the method of petitioning the Board and counseled regarding the process. A registered nurse may be subject to losing his or her license if the conviction is discovered after the license is granted.

The Department of Nursing reserves the right to make changes, without prior notice, in the curriculum and program requirements. Changes are made in keeping with the changing health needs of society and/or the best interests of the students and the department to maintain quality professional nursing education.

The Department of Nursing utilizes the clinical facilities and services of the Arkansas River Valley area; however, in order to meet the objectives of certain courses, the student should be prepared to travel out of this area. Students are required to provide their own transportation.

In addition to the on-campus program, ATU offers an RN to BSN completion program on the Web.

Admission

Admission into lower division foundation courses is open to any Arkansas Tech University student who meets the prerequisites for each course. Nursing majors are encouraged to seek academic advising from the nursing faculty immediately upon acceptance to the University.

Admission to the upper division nursing courses is competitive and subject to evaluation by the Nursing Department's Admission and Progression Committee. Students are considered for admission the spring and fall preceding the semesters they plan to enter upper division nursing courses. All transcripts and/or credentials along with an Application to Upper Division must be submitted to the Department of Nursing by March 1 for fall admission or by October 1 for spring admission. Eligible repeating students applying for readmission must submit all materials by June 30 or January 5.

Minimum requirements for acceptance into the upper division (Level 0) nursing courses are:

1. Prerequisite grade point average of 3.0 on a 4.0 scale. Students will be admitted according to the criteria for selection of upper division students.

2. Completion of the following courses with a grade of "C" or better in each: ENGL 1013 Composition I, ENGL 1023 Composition II, MATH 1113 College Algebra, BIOL 2014 Human Anatomy or BIOL 2404

Human Anatomy and Physiology I, BIOL 3054 Microbiology or BIOL 2054 Microbiology for Health Sciences, BIOL 3074 Human Physiology or BIOL 2414 Human Anatomy and Physiology II, CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory, PSY 2003 General Psychology, SOC1003 Introductory Sociology, and NUR 2303 Nutrition.

3. Completion of the following General Education courses (See General Education Requirements for specific course alternatives):

- Option 1: Social Sciences 6 hours; Fine Arts/Humanities 6 hours; Communication 3 hours
- Option 2: Social Sciences 6 hours; Fine Arts/Humanities 9 hours
- Option 3: Social Sciences 9 hours; Fine Arts/Humanities 6 hours
- TECH 1001 or CSP 1013 (1 hour only) OR 1 hour Elective (ATU requires TECH 1001 or CSP 1013 unless student is a transfer student not coming in as a freshman)
- Physical Activity 1 hour

4. Completion of the TEAS exam with a score of proficient or higher.

The Admission and Progression Committee use the following criteria to rank applicants for admission to upper division nursing courses. These criteria utilize existing admission policies.

Applicants will be ranked in groups and the criteria for selection of upper division students are as follows:

For students desiring entry to Upper Division Nursing (Level 0):

1. Student has GPA ≥ 3.0 during time of application and at the end of current semester; and Proficient or higher on the entrance exam.
2. Do not admit at this time.

The student must be enrolled or have completed a minimum of 48 hours of required prerequisite courses and have a GPA ≥ 3.0 .

Admission of college freshman who obtained Upward Bound/Advanced Placement hours while attending high school:

ATU Nursing Department wishes to offer these specific high school students the opportunity to complete their courses within a timely manner.

Criteria for consideration (Failure to meet items 4 and/or 5 will result in loss of position in Upper Division):

1. GPA > 3.70
2. Proficiency score > 72.0 on Entrance Exam
3. No more than 8 hours of courses to complete in the summer before entry into Level 0
4. Outstanding courses must be completed at ATU during summer session between spring and fall. All prerequisite courses to be complete prior to the start of Level 0
5. Grade of B or better on summer courses completed to meet prerequisite requirements.

The student must have completed a minimum of 48 hours of required general education and prerequisite courses (see curriculum plan) with a GPA ≥ 3.0 before entering level 0-preclinical nursing courses.

Applications will be ranked according to GPA with preference given to ATU students. Admission will be determined by the resulting rank order.

Applicants completing prerequisite requirements at an institution other than ATU must submit a written note from the course instructor(s) verifying the grade(s) earned in the course(s). These students will sign a form agreeing to have official transcripts on file in the registrar's office within one month from the first day of the semester.

A student position may be filled in a discretionary manner for exceptional reasons as determined by the committee and approved by the faculty.

Minimum requirements for continuation into Level 1

1. Acquisition of professional/student liability insurance, criminal background check and current certification of Basic CPR for adults, children, and infants as taught by the American Heart Association, or persons currently certified in CPR instruction. These must be renewed each year with the exception of CPR certification that is valid for two years.
2. Two of the three injections in the Hepatitis B Vaccine series.

Progression Policy

Students must achieve a "C" or better in all nursing courses.

A student in the upper division nursing courses may only repeat one nursing course. Following a second failure in any upper division nursing course the student will be dismissed from the program. Upper division nursing courses: 68 hours of course work allotted to the nursing major, inclusive of NUR 2023 Introduction to Professional Nursing, all 3000 level nursing courses and all 4000 level nursing courses (with the exception of 4903).

Students who make less than a "C" in any upper division nursing course may not progress into courses for which that course(s) is a prerequisite until the course(s) has been repeated and the required minimum grade attained.

The following Upper Division required non-clinical courses (NUR 2023 Introduction to Professional Nursing, NUR 3103 Nursing Skills I, NUR 3204 Theories and Concepts in Nursing I, NUR 3213 Care of the Older Adult, NUR 3303 Health Assessment, NUR 3402 Pharmacology I, NUR 3513 Nursing Skills II, NUR 3606 Theories and Concepts in Nursing II, NUR 3802 Pharmacology II, NUR/ BIOL 3803 Applied Pathophysiology, NUR 4206 Theories and Concepts in Nursing III, NUR 4303 Nursing Research, NUR 4606 Theories and Concepts in Nursing IV) must be completed with a grade of "C" or better to graduate. Any student who attempts any one of these courses twice (2 times) and does not achieve a final grade of "C" or better in the course, will automatically be withdrawn from the Arkansas Tech University Nursing Program and will not be eligible for readmission. An attempt is defined as "any enrollment in any course and dropping it (or changing it to an audit) after the first day of the 10th week of the semester during the Fall or Spring semester, or after the third week of either Summer session for any reason, or failure (grade of "D", "F", or "FE") of the course."

Readmission will not be considered for any student dismissed from the nursing department who obtained a "D" or "F" in two (2) upper division nursing courses. The Department Head will consider exceptions on an individual basis .

Any student who withdraws from a clinical nursing course (NUR 3404 Practicum in Nursing I - Nursing the Individual Client, NUR 3805 Practicum in Nursing II - Nursing the Family, NUR 4405 Practicum in Nursing III - Nursing Clients in Crisis, NUR 4804 Practicum in Nursing IV - Nursing in the Community) after the fifth (5th) day of clinicals must have a passing grade at the time of withdrawal in order to withdraw passing. Students failing ("D" or "F") at the time of withdrawal will receive an "F" after the 5th day of clinicals. A grade of "F" will count as a failure ("F") for progression purposes.

All seniors are required to pass the NCLEX Exit/Predictor Exam as part of NUR 4903 Synthesis of Clinical and Theoretical Nursing requirements.

Students must achieve a passing grade "C" in both the Theories and corresponding Practicum courses in order to progress within the program. Students who repeat a Theories course are required to show clinical competency in order to progress. Students who repeat Practicum are required to show theoretical competency in order to progress.

Clinical competence can be attained by:

1. Taking for credit the corresponding practicum course
2. Completing NUR 3892 Clinical Competency I or NUR 4892 Clinical Competency II with a grade of "C" or better.

Theoretical competence can be attained by:

1. Taking for credit the corresponding theory course.
2. Completing NUR 3792 Theoretical Competency I or NUR 4792 Theoretical Competency II with a grade of "C" or better.

Readmit Policy

Any student that fails an Upper Division nursing course (with the exception of nursing electives), withdraws, or has a break in enrollment must reapply for progression in the nursing program by June 30, for readmission to the fall semester, or January 5, for readmission to the spring semester. To reapply, the student must complete "Reapplication to Upper Division" form and submit a letter of intent addressing reasons for past failure and a plan of action to enhance future success within the nursing program. The reapplicant must also submit a letter of recommendation from a nursing faculty member. Reapplication will be based on the availability of positions within the repeating level, letter of intent and current GPA. Should several students reapply for the same level and there are a limited number of positions, GPA ranking, in conjunction with their letter of intent will guide the committee decision-making process.

Students who have not attended Arkansas Tech University during the past year must apply for readmission to the University.

The nursing program must be completed within four years of entry into level one of the nursing curriculum.

Advanced Placement

The different types of nursing education programs and vocational-technical school programs give rise to unique transfer problems. Each student's past education is evaluated individually. In addition, the University and the Department of Nursing have established the following policies:

1. Arkansas Tech University offers a baccalaureate degree program in nursing. Licensed registered nurses, licensed practical nurses and licensed psychiatric technical nurses may challenge, validate, or receive credit for general education and nursing courses that are included in the nursing curriculum. CLEP examinations can be used to challenge or validate the general education courses. The institution's general policy for awarding CLEP credit is followed in determining the successful challenge of courses by these examinations. Transfer credit will be given for prior challenge or validation tests of nursing content credited on official transcripts from other nursing programs. RNs are permitted to receive transfer credit for NUR 3303 Health Assessment.
2. Licensed practical nurses (LPNs) and licensed psychiatric technical nurses (LPTNs) who have met all the lower division nursing curriculum requirements and graduated from an approved Arkansas PN or PTN program or an out-of-state ACEN accredited program may receive credit for 17 hours of

nursing courses (NUR 3103 Nursing Skills I, NUR 3204 Theories and Concepts in Nursing I, NUR 3213 Care of the Older Adult, NUR 3404 Practicum in Nursing I - Nursing the Individual Client, NUR 3513 Nursing Skills II) if they meet the following specific requirements:

- a. Have a current LPN or LPTN license in Arkansas.
- b. Graduated less than 12 months prior to entry into the upper division of nursing.
- c. Have graduated within more than 12 months prior to entry into the upper division of nursing and have 1000 hours of nursing employment during the 24 months immediately prior to entry into the upper division of nursing.
- d. Have completed all nursing prerequisite courses, NUR 2023 Introduction to Professional Nursing, NUR 3303 Health Assessment, and NUR 3402 Pharmacology I with a "C" or better prior to entry into level II nursing (see Curriculum Plan for LPNs).

NURSING CREDITS WILL BE HELD IN ESCROW PENDING COMPLETION OF THE PROGRAM.
Licensed practical nurses (LPNs) and licensed psychiatric technical nurses (LPTNs) who do not meet the above criteria can challenge or validate 17 hours of nursing courses that are included in the nursing curriculum. LPNs and LPTNs may challenge or validate nursing courses NUR 3204 Theories and Concepts in Nursing I and NUR 3404 Practicum in Nursing I - Nursing the Individual Client by taking the National League for Nursing ACE I with a decision score of 75 (eight credit hours); NUR 2303 Nutrition by taking the National League for Nursing Normal Nutrition examination with a decision score of 50 (three credit hours); and NUR 3103 Nursing Skills I and NUR 3513 Nursing Skills II by taking a written and demonstration skills test developed by the Department of Nursing faculty with a decision score of 75 (six credit hours). Students must enter upper division within two academic years after passing the challenge examination or the examination will be invalid.

3. Licensed registered nurses have two options:

- a. Complete the curriculum in baccalaureate nursing, or;
- b. Complete the curriculum in baccalaureate nursing for registered nurses.

Those who have met all the lower division nursing curriculum requirements and graduated from an associate degree or diploma program that was Arkansas State Board approved or ACEN accredited at the time of graduation may receive credit for 38 hours of nursing courses (NUR 2023 Introduction to Professional Nursing, NUR 2303 Nutrition, NUR 3103 Nursing Skills I, NUR 3204 Theories and Concepts in Nursing I, NUR 3213 Care of the Older Adult, NUR 3402 Pharmacology I, NUR 3404 Practicum in Nursing I - Nursing the Individual Client, NUR 3513 Nursing Skills II, NUR 3606 Theories and Concepts in Nursing II, NUR 3802 Pharmacology II and NUR 3805 Practicum in Nursing II - Nursing the Family) if they meet the following specific requirements:

- a. Have a current RN license in the state where they are practicing.
- b. Have graduated less than 12 months prior to entry into the upper division.
- c. Have graduated within more than 12 months prior to entry into the upper division of nursing and have 1000 hours of nursing employment during the 24 months immediately prior to entry into the upper division of nursing.
- d. All nursing major prerequisite courses must be completed prior to entry into the program. Up to 6 hours of General Education courses may be outstanding. These courses must come from the following: Fine Arts, Humanities, History, or electives (see Curriculum Plan for Registered Nurses).

NURSING CREDITS WILL BE HELD IN ESCROW PENDING COMPLETION OF THE PROGRAM.
Registered nurses (RNs) who do not meet the above criteria can challenge or validate 38 hours of nursing that are included in the nursing curriculum.

RNs can challenge or validate nursing courses by taking the National League for Nursing ACE II Examination with a decision score of 100 or 50th percentile for Nursing NUR 2023 Introduction to Professional Nursing, NUR 3103 Nursing Skills I, NUR 3204 Theories and Concepts in Nursing I, NUR 3213 Care of the Older Adult, NUR 3402 Pharmacology I, NUR 3404 Practicum in Nursing I - Nursing the Individual Client, NUR 3513 Nursing Skills II, NUR 3606 Theories and Concepts in Nursing II, NUR 3802 Pharmacology II and NUR 3805 Practicum in Nursing II - Nursing the Family

for 35 credit hours; and by the National League for Nursing Normal Nutrition Examination with a decision score of 50 for Nursing 2303 for three credit hours; all of which total 38 credit hours. Students must enter the senior-level nursing courses within two academic years after passing the challenge examination or the examination will be considered invalid.

4. Students who have had health-care education or experience but are not licensed health-care professionals will be evaluated individually by the Admission and Progression Committee for advanced placement.
 5. Students transferring from another nursing program must submit a letter of good standing to the Admission and Progression Committee with the upper division application.
 6. Nursing students other than Registered Nurses must comply with the general institutional provisos; i.e., at least 30 semester hours of work toward a degree must be completed at ATU. See all Requirements for Baccalaureate Degree.
 7. Transfer students from senior colleges and universities must comply with the provisions in Item 3 above but are not subject to any credit hour limitations from those institutions.
-

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For more information, please visit www.atu.edu/nursing

Department of Nursing

BSN Pre-licensure Program

Bachelor of Science in Nursing

See the [Department of Nursing page](#) for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ⁴	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4	U.S. History/Government ¹	3
SOC1003 Introductory Sociology	3	BIOL 2014 Human Anatomy or BIOL 2404 Human Anatomy and Physiology I ^{1,2}	4
Physical Activity	1	PSY 2003 General Psychology ^T	3
TECH 1001 Orientation to the University	1		
Total Hours	15	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	6	BIOL /NUR 3803 Applied Pathophysiology	3
BIOL 3054 Microbiology or BIOL 2054 Microbiology for Health Sciences	4	PSY 3813 Lifespan Development	3
BIOL 3074 Human Physiology or BIOL 2414 Human Anatomy and Physiology II	4	NUR 2023 Introduction to Professional Nursing	3
NUR 2303 Nutrition	3	NUR 3103 Nursing Skills I	3
		NUR 3303 Health Assessment	3
Total Hours	17	Total Hours	15

⊕ Junior

NUR 3204 Theories and Concepts in Nursing I	4	NUR 3606 Theories and Concepts in Nursing II	6
NUR 3213 Care of the Older Adult	3	NUR 3802 Pharmacology II	2
NUR 3402 Pharmacology I	2	NUR 3805 Practicum in Nursing II - Nursing the Family ³	5

NUR 3404 Practicum in Nursing I -		4	
Nursing the Individual Client ³			
NUR 3513 Nursing Skills II		3	
Total Hours	16	Total Hours	13

Senior

NUR 4206 Theories and Concepts in Nursing III	6	NUR 4606 Theories and Concepts in Nursing IV	6
NUR 4303 Nursing Research	3	NUR 4804 Practicum in Nursing IV - Nursing in the Community	4
NUR 4405 Practicum in Nursing III - Nursing Clients in Crisis	5	NUR 4903 Synthesis of Clinical and Theoretical Nursing	3
Elective	1		
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Depending on previous preparation, student should recognize that prerequisites may be required before enrolling in BIOL 2014 Human Anatomy or BIOL 2404 Human Anatomy and Physiology I.

³One credit hour equals 3 contact hours.

⁴MATH 1113 College Algebra or higher level MATH course (excluding MATH 2033 Mathematical Concepts I, MATH 2043 Mathematical Concepts II, and MATH 2163 Introduction to Statistical Methods).

Department of Nursing

LPN to BSN Program

Arkansas Nursing Education Progression Model

- NUR 3103 Nursing Skills I
- NUR 3204 Theories and Concepts in Nursing I
- NUR 3213 Care of the Older Adult
- NUR 3404 Practicum in Nursing I - Nursing the Individual Client
- NUR 3513 Nursing Skills II

See the Department of Nursing page for additional requirements.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra ⁴	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory	4	U.S. History/Government ¹	3
SOC1003 Introductory Sociology	3	BIOL 2014 Human Anatomy or BIOL 2404 Human Anatomy and Physiology I ²	4
Physical Activity	1	PSY 2003 General Psychology	3
TECH 1001 Orientation to the University	1		
Total Hours	15	Total Hours	16

⊕ Sophomore

Fine Arts & Humanities ¹	6	BIOL/NUR 3803 Applied Pathophysiology	3
BIOL 3054 Microbiology or BIOL 2054 Microbiology for Health Sciences ⁵	4	PSY 3813 Lifespan Development	3
BIOL 3074 Human Physiology ⁵ or BIOL 2414 Human Anatomy and Physiology II	4	NUR 2023 Introduction to Professional Nursing	3
NUR 2303 Nutrition	3	NUR 3303 Health Assessment	3
		NUR 3402 Pharmacology I	2
Total Hours	17	Total Hours	14

⊕ Junior

NUR 3606 Theories and Concepts in Nursing II	6	NUR 4206 Theories and Concepts in Nursing III	6
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NUR 3802 Pharmacology II	2	NUR 4303 Nursing Research	3
NUR 3805 Practicum in Nursing II - Nursing the Family ³	5	NUR 4405 Practicum in Nursing III - Nursing Clients in Crisis ³	5
Total Hours	13	Total Hours	15

⊕ Senior

NUR 4606 Theories and Concepts in Nursing IV	6
NUR 4804 Practicum in Nursing IV - Nursing in the Community	4
NUR 4903 Synthesis of Clinical and Theoretical Nursing ³	3
Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Depending on previous preparation, student should recognize that prerequisites may be required before enrolling in BIOL 2014 Human Anatomy.

³One credit hour equals 3 contact hours.

⁴MATH 1113 College Algebra or higher level MATH course (excluding MATH 2033 Mathematical Concepts I, MATH 2043 Mathematical Concepts II, and MATH 2163 Introduction to Statistical Methods).

⁵If course is repeated, grades will be averaged when compiling GPA for upper division application.

Department of Nursing

RN to BSN Program

General Education Requirements

- ENGL 1013 Composition I
- ENGL 1023 Composition II¹
- MATH 1113 College Algebra or higher level MATH course (excluding MATH 2033 Mathematical Concepts I, MATH 2043 Mathematical Concepts II, and MATH 2163 Introduction to Statistical Methods).
- Science with Lab (4 hours)
- BIOL 2014 Human Anatomy or BIOL 2404 Human Anatomy and Physiology I
- PSY 2003 General Psychology
- SOC1003 Introductory Sociology
- Fine Arts & Humanities¹ (6 hours)
- Social Sciences/Fine Arts/Humanities/Communication¹ (3 hours)
- U.S. History/Government¹ (3 hours)

Additional Nursing Major Requirements

- BIOL 3054 Microbiology or BIOL 2054 Microbiology for Health Sciences
- BIOL 3074 Human Physiology or BIOL 2414 Human Anatomy and Physiology II
- PSY 3813 Lifespan Development
- NUR 3303 Health Assessment
- NUR/BIOL 3803 Applied Pathophysiology

Arkansas Nursing Education Progression Model²

- NUR 2023 Introduction to Professional Nursing
- NUR 2303 Nutrition
- NUR 3103 Nursing Skills I¹
- NUR 3204 Theories and Concepts in Nursing I
- NUR 3213 Care of the Older Adult
- NUR 3402 Pharmacology I
- NUR 3404 Practicum in Nursing I - Nursing the Individual Client
- NUR 3513 Nursing Skills II
- NUR 3606 Theories and Concepts in Nursing II
- NUR 3802 Pharmacology II
- NUR 3805 Practicum in Nursing II - Nursing the Family

See the Department of Nursing page for additional requirements.

Senior Level Nursing for Registered Nurses Courses⁴

Arkansas Tech University Nursing Courses Specific to Curriculum in Baccalaureate Nursing for Registered Nurses.

⊕ Junior (Spring Start)

NURN 4002 Nursing Informatics	2
NURN 4003 Scope of Professional Practice	3
NURN 4013 Laws, Ethics, and Issues in Professional Nursing Practice	3
NURN 4303 Nursing Research	3
Total Hours	11

Senior

NURN 4024 Community Health Nursing	4	NURN 4034 Leadership and Management in Professional Practice	4
Elective ³	3	NURN 4045 Professional Practicum Synthesis	5
		Elective ³	3
Total Hours	7	Total Hours	12

Junior (Summer Start)

NURN 4002 Nursing Informatics	2	NURN 4013 Laws, Ethics, and Issues in Professional Nursing Practice	3
NURN 4003 Scope of Professional Practice	3	NURN 4024 Community Health Nursing	4
Elective ³	3	NURN 4303 Nursing Research	3
Total Hours	8	Total Hours	10

Senior

NURN 4034 Leadership and Management in Professional Practice	4
NURN 4045 Professional Practicum Synthesis	5
Elective ³	3
Total Hours	12

¹See appropriate alternatives or substitutions in "General Education Requirements".

²Licensed registered nurses who have met all of the lower division nursing curriculum requirements and graduated from an associate degree or diploma program that was ACEN accredited at the time of graduation may receive credit for 38 hours of nursing courses if they meet specific requirements.

³Electives to be approved by Nursing advisor.

⁴All general education requirements must be completed before enrolling in Senior Level Nursing for Registered Nurses courses unless granted an exception by the department head. All additional nursing major requirements must be completed with a GPA. ≥ 2.75 prior to enrolling in Senior Level Nursing for Registered Nurses courses.

Department of Physical Sciences

The Department of Physical Sciences offers majors and minors in chemistry, engineering physics, geology, physical science, nuclear physics, and physics. Students interested in teaching science in secondary schools should follow the curriculum in science set forth in this catalog under the physical science for teacher licensure curricula, College of Education.

Note that for every degree program in this department, there is a non-course requirement involving an exit interview with the Department Head as part of the formal process for graduation.

Bachelor of Science

Chemistry with options in:

- Biochemistry
- Environmental
- General
- Professional

Chemistry Education

Geology with options in:

- Environmental
- Petroleum
- Professional

Engineering Physics

Nuclear Physics

Physical Science

Physics

Physics Education

Minors

- Chemistry
- Geology
- Engineering Physics
- Physical Science

Contact Information

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Assistant Professors

Rajib Choudhury, Michael Davis, Mariusz Gajewski, Jacob Grosskopf, Amber Harrington, Stewart Hart, Jessica Young

Instructors

Brenda Lauffart

For more information, please visit www.atu.edu/physci

Department of Physical Sciences

Bachelor of Science in Chemistry

The program and all of the degrees are certified by the American Chemical Society. The chemists of today are involved in the development of a multitude of new materials such as plastics, drugs, and agricultural products. Research chemists are conducting studies of the fundamental nature of matter which lead to expanded knowledge in medicine and biology. Each course in chemistry stresses laws, theories, and applications in the lecture portion and offers students the opportunity to gain experience in well equipped laboratories.

Major Options

- Biochemistry
- Environmental
- General
- Professional

Chemistry is one of the highly recommended courses of study for students interested in pursuing careers in a variety of professional endeavors such as the health sciences: medicine, pharmacy, dentistry, and para-medical fields.

Chemistry majors must earn a grade of "C" or better in all chemistry courses (CHEM), including transfer credits, in order to satisfy graduation requirements.

Department of Physical Sciences

Chemistry Program

Biochemistry Option

The Biochemistry option is designed to provide the background needed for students seeking entrance into professional medical or dental schools. It will also greatly benefit students seeking technical jobs that require multidisciplinary training in biology and chemistry as well as an abundance of science laboratory skills.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	BIOL 1114 Principles of Biology	4
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
Total Hours	15	Total Hours	16

⊕ Sophomore

Social Sciences ¹	3	U.S. History/Government ¹	3
PHYS 2014 Physical Principles I or PHYS 2114 General Physics I	4	PHYS 2024 Physical Principles II or PHYS 2124 General Physics II	4
COMS 2003 Microcomputer Applications or COMS 2803 Programming in C	3	CHEM 3245 Quantitative Analysis	5
CHEM 3254 Fundamentals of Organic Chemistry	4	CHEM 3264 Mechanistic Organic Chemistry	4
Total Hours	14	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	3	BIOL 2014 Human Anatomy	4
BIOL 2124 Principles of Zoology	4	BIOL 3034 Genetics	4
CHEM 3301 Chemistry Seminar	1	CHEM 3423 Descriptive Inorganic Chemistry	3
CHEM 3344 Principles of Biochemistry	4	CHEM 3363 Metabolic Biochemistry	3
Elective ²	4		
Total Hours	16	Total Hours	14

⊕ Senior

BIOL 3074 Human Physiology or BIOL 3174 Physiological Ecology	4	Fine Arts & Humanities ¹	3
CHEM 3324 Physical Chemistry I	4	Social Sciences/Fine Arts/Humanities/Communication ¹	3
CHEM 4414 Instrumental Analysis	4	BIOL 4033 Cell Biology	3
CHEM 4951 Undergraduate Research in Chemistry or CHEM 4991Special Problems in Chemistry	1	CHEM 4401 Chemistry Seminar	1
CHEM Elective (3000-4000 level)	3	CHEM 4951 Undergraduate Research in Chemistry or CHEM 4991Special Problems in Chemistry	1
		Elective ²	2
Total Hours	16	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²German, Statistics, and Technical Communications are encouraged. (Electives must include sufficient upper-division courses to result in 40 upper division hours) (upper division = 3000-4000 level).

Department of Physical Sciences

Chemistry Program

Environmental Option

The objective of the Environmental curriculum is to bring together the disciplines of chemistry, biology, and geology as applied to the environment. Emphasis will be on interdisciplinary approaches to environmental studies.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 2243 Calculus for Business and Economics	3	Social Sciences ¹	3
PHSC 1001 Orientation to Physical Science	1	ECON 2003 Principles of Economics I	3
BIOL/ENVS/PHSC 1004 Principles of Environmental Science	4	PHSC 1011 Orientation to Physical Science II	1
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
		CHEM 3313 Environmental Chemistry	3
Total Hours	15	Total Hours	17

⊕ Sophomore

U.S. History/Government ¹	3	PHYS 2024 Physical Principles II	4
MATH 2163 Introduction to Statistical Methods or PSY/SOC 2053 Statistics for the Behavioral Sciences	3	CHEM 2111 Environmental Seminar	1
COMS 2003 Microcomputer Applications or COMS 2803 Programming in C	3	CHEM 3245 Quantitative Analysis	5
PHYS 2014 Physical Principles I	4	CHEM 3264 Mechanistic Organic Chemistry	4
CHEM 3254 Fundamentals of Organic Chemistry	4		
Total Hours	17	Total Hours	14

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
ENGL 2053 Technical Writing	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
BIOL 2124 Principles of Zoology	4	BIOL 2134 Principles of Botany	4
GEOL 1014 Physical Geology	4	BIOL/ENVS 3043 Conservation	3

BIOL/CHEM 3353 Fundamentals of Toxicology	3	BIOL/CHEM/ENVS/GEOL 3111 Environmental Seminar	1
Total Hours	17	Total Hours	14

⊕ Senior

BIOL 3054 Microbiology	4	BIOL/ENVS/CHEM 4111 Environmental Seminar	1
BIOL 3114 Principles of Ecology	4	CHEM 4951-4 Undergraduate Research in Chemistry or CHEM 4991-4 Special Problems in Chemistry	1-4
GEOL 3083 Hydrogeology	3	Elective ^T	6-9
CHEM 4414 Instrumental Analysis	4		
Total Hours	15	Total Hours	11

¹See appropriate choices, alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

Department of Physical Sciences

Chemistry Program

General Option

The General option is specifically designed with a minimum of required courses so that students, in cooperation with their faculty academic advisors, can exercise a maximum degree of flexibility in tailoring programs to meet their individual aspirations. By judiciously choosing electives, individuals can enrich these minimum chemistry requirements to prepare for futures in law, technical marketing, environmental science, computer science, technical writing, toxicology, education, technical illustration, engineering, health sciences, and business.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	BIOL 1114 Principles of Biology	4
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
Total Hours	15	Total Hours	16

⊕ Sophomore

Social Sciences ¹	3	U.S. History/Government ¹	3
PHYS 2014 Physical Principles I or PHYS 2114 General Physics I	4	PHYS 2024 Physical Principles II or PHYS 2124 General Physics II	4
COMS 2003 Microcomputer Applications or COMS 2803 Programming in C	3	CHEM 3245 Quantitative Analysis	5
CHEM 3254 Fundamentals of Organic Chemistry	4	CHEM 3264 Mechanistic Organic Chemistry	4
Total Hours	14	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
CHEM 3301 Chemistry Seminar	1	CHEM 3344 Principles of Biochemistry	4
CHEM 3324 Physical Chemistry I	4	Elective ⁴	5
CHEM 3423 Descriptive Inorganic Chemistry	3		
Science Elective ²	3		
Elective ⁴	1		
Total Hours	15	Total Hours	12

Senior

CHEM 4414 Instrumental Analysis	4	Social Sciences/Fine Arts/Humanities/Communication ¹	3
CHEM Elective ³	3	CHEM 4401 Chemistry Seminar	1
Elective ⁴	9	CHEM Elective ³	3
		Elective ⁴	9
Total Hours	16	Total Hours	16

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²Science electives from BIOL, GEOL, PHYS, PHSC (excluding BIOL 1014 Introduction to Biological Science, PHSC 1013 Introduction to Physical Science, and PHSC 1021 Physical Science Laboratory), and excluding CHEM.

³Excluding CHEM 1113 A Survey of Chemistry and CHEM 1111 Survey of Chemistry Laboratory.

⁴German, Statistics, and Technical Communications are encouraged. (Electives must include sufficient upper-division courses to result in 40 upper division hours) (upper division = 3000-4000 level).

Department of Physical Sciences

Chemistry Program

Professional Option

The Professional option is especially recommended for students who plan to pursue graduate studies in chemistry or related fields or those persons wishing to seek employment in industry as chemists.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences ¹	3	BIOL 1114 Principles of Biology	4
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
Total Hours	15	Total Hours	16

⊕ Sophomore

Social Sciences ¹	3	U.S. History/Government ¹	3
PHYS 2114 General Physics I	4	PHYS 2124 General Physics II	4
MATH 2934 Calculus III	4	CHEM 3245 Quantitative Analysis	5
COMS 2003 Microcomputer Applications or COMS 2803 Programming in C ^T	3	CHEM 3264 Mechanistic Organic Chemistry	4
CHEM 3254 Fundamentals of Organic Chemistry	4		
Total Hours	18	Total Hours	16

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
CHEM 3301 Chemistry Seminar	1	Social Sciences/Fine Arts/Humanities/Communication ¹	3
CHEM 3324 Physical Chemistry I	4	CHEM 3334 Physical Chemistry II	4
CHEM 3423 Descriptive Inorganic Chemistry	3	Elective ³	6
CHEM Elective ²	3		
Total Hours	14	Total Hours	16

⊕ Senior

CHEM 3344 Principles of Biochemistry	4	CHEM 4424 Advanced Inorganic Chemistry	4
CHEM 4401 Chemistry Seminar	1	CHEM 4952-4 Undergraduate Research in Chemistry or CHEM 4992-4 Special Problems in Chemistry	2-4
CHEM 4414 Instrumental Analysis	4	Elective ³	7-5
CHEM 4433 Advanced Topics in Chemistry	3		
Total Hours	12	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²Excluding CHEM 1113 A Survey of Chemistry and CHEM 2204 Organic Physiological Chemistry.

³German, Statistics, and Technical Communications are encouraged. (Electives must include sufficient upper division courses to result in 40 upper division hours) (upper division = 3000-4000 level)

Department of Physical Sciences

Bachelor of Science in Geology

Major Options

Environmental Geology
Petroleum Geology
Professional Geology

The science of geology seeks to develop an understanding of the Earth's physical and chemical processes, environmental systems, and natural resources. Geologists work in a variety of areas, discovering new sources of fossil fuels, minerals, and economically important rocks. Volcanoes, earthquakes, landforms, surface and subsurface water, earth history, and fossils are all subjects for study.

Geologists may work as members of an interdisciplinary team in planning construction projects, sanitary landfills, mine land reclamation, and other environmentally-oriented projects. Employment opportunities for geologists exist in private industry, state and federal government agencies, and teaching at all levels.

Geology students may follow programs designed to prepare them for entry into graduate school, employment in the geotechnical field, or secondary school earth science teaching. The best opportunities exist for students who continue their education and complete the master's or doctor's degree in geology. Major oil and gas companies generally require the master's degree for an entry-level position. Also, excellent employment opportunities are available in the environmental geotechnical field.

The geology major will study for a bachelor of science degree. This degree requires a minimum of 120 semester hours with a minimum of 43 semester hours in geology (professional option), or a minimum of 36 semester hours in geology (environmental option). Students interested in teaching as a profession should follow the [Physical Science for Teacher Licensure](#) curriculum listed under teacher licensure curricula, College of Education. Additional departmental courses and related courses may be specified for geology majors following particular emphasis programs, and for some emphasis programs, substitutions of the above list may be required. Strongly recommended are calculus and/or statistics.

The geology program is fully interdisciplinary, and the student and his/her advisor can "build" an academic program through selection of appropriate electives to suit the special needs and interests of the student.

Department of Physical Sciences

Geology Program

Environmental Option

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra	3	CHEM 2124 General Chemistry I	4
PHSC 1001 Orientation to Physical Science	1	COMS 1003 Introduction to Computer Based Systems	3
BIOL/ENVS/PHSC 1004 Principles of Environmental Science	4	PHSC 1011 Orientation to Physical Science II	1
GEOL 1014 Physical Geology ^T	4	GEOL 2024 Historical Geology	4
Total Hours	15	Total Hours	15

⊕ Sophomore

ENGL 2053 Technical Writing	3	BIOL 1014 Introduction to Biological Science	4
Social Sciences/Fine Arts/Humanities/Communication ¹	3	Social Sciences ¹	3
U.S. History/Government ¹	3	COMS 2003 Microcomputer Applications	3
CHEM 2134 General Chemistry II	4	BIOL/CHEM/ENVS/GEOL 2111 Environmental Seminar	1
GEOL 3014 Mineralogy	4	GEOL 3164 Petrology	4
Total Hours	17	Total Hours	15

⊕ Junior

BIOL/ENVS 3043 Conservation or Elective (3000-4000 level) ²	3	Fine Arts & Humanities ¹	6
PHYS 2014 Physical Principles I	4	PHYS 2024 Physical Principles II	4
GEOL 3023 Geological Field Techniques	3	GEOL 3004 Structural Geology	4
GEOL 3044 Geomorphology or GEOL 3153 Environmental Geology	4-3	BIOL/CHEM/ENVS/GEOL 3111 Environmental Seminar	1
Total Hours	13-14	Total Hours	15

⊕ Senior

Social Sciences ¹	3	GEOL 3174 Computer Applications in Geology	4
BIOL/ENVS 3043 Conservation or Elective (3000-4000 level) ²	3	GEOL 4043 Geochemistry	3
FW/GEOG 2833 Introduction to Geographic Information Systems	3	BIOL/CHEM/ENVS/GEOL 4111 Environmental Seminar	1
GEOL 3153 Environmental Geology or GEOL 3044 Geomorphology	3-4	Science Elective ²	6
GEOL 3083 Hydrogeology	3		
Total Hours	15-	Total Hours	14
	16		

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.*

²Electives in Physical or Life Sciences and Mathematics (Geology, Biology, Chemistry, and Math).

Department of Physical Sciences

Geology Program

Petroleum Option

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
MATH 1113 College Algebra	3	CHEM 2124 General Chemistry I	4
PHSC 1001 Orientation to Physical Science	1	MATH 1203 Plane Trigonometry	3
BIOL1014 Introduction to Biological Science	4	PHSC 1011 Orientation to Physical Science II	1
GEOL 1014 Physical Geology	4	GEOL 2024 Historical Geology	4
Total Hours	15	Total Hours	15

⊕ Sophomore

U.S. History/Government ¹	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
CHEM 2134 General Chemistry II	4	FW/GEOG 2833 Introduction to Geographic Information Systems	3
GEOL 2001 Seminar	1	MATH 2914 Calculus I	4
GEOL 3014 Mineralogy	4	GEOL 3164 Petrology	4
GEOL 3044 Geomorphology	4		
Total Hours	16	Total Hours	14

⊕ Junior

Social Sciences/Fine Arts/Humanities ¹	6	PHYS 2024 Physical Principles II ^T	4
PHYS 2014 Physical Principles I	4	GEOL 3004 Structural Geology	4
GEOL 3001 Seminar	1	GEOL 3124 Invertebrate Paleontology or GEOL 4023 Principles of Stratigraphy and Sedimentation	3-4
GEOL 3023 Geological Field Techniques	3	GEOL 3174 Computer Applications in Geology or GEOL 4034 Subsurface Geology	4
Total Hours	14	Total Hours	15-16

⊕ Senior

Social Sciences/Fine Arts/Humanities ¹	6	GEOL 3124 Invertebrate Paleontology or GEOL 4023 Principles of Stratigraphy and Sedimentation	3-4
GEOL 3153 Environmental Geology	3	GEOL 3174 Computer Applications in Geology or GEOL 4034 Subsurface Geology	4
GEOL 4001 Seminar	1	GEOL 4043 Geochemistry	3
General Elective	4		
Total Hours	14	Total Hours	10-11

Ninth Semester - Summer (after Junior or Senior Year)

GEOL 4006 ²	6
Total Hours	6

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.*

²GEOL 4006 (6 credit hours of field geology) must be completed during the summer after Junior or Senior year

Department of Physical Sciences

Geology Program

Professional Option

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Biological Science ¹	4	CHEM 2124 General Chemistry I	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
MATH 1113 College Algebra	3	MATH 1203 Plane Trigonometry	3
GEOL 1014 Physical Geology	4	GEOL 2024 Historical Geology	4
Total Hours	15	Total Hours	15

⊕ Sophomore

U.S. History/Government ¹	3	Social Sciences/Fine Arts/Humanities ¹	9
CHEM 2134 General Chemistry II	4	GEOL 3124 Invertebrate Paleontology	4
FW/GEOG 2833 Introduction to Geographic Information Systems	3	GEOL 3164 Petrology	4
GEOL 2001 Seminar	1		
GEOL 3014 Mineralogy	4		
Total Hours	15	Total Hours	17

⊕ Junior

PHYS 2014 Physical Principles I ^T	4	PHYS 2024 Physical Principles II	4
GEOL 3001 Seminar	1	GEOL 3004 Structural Geology	4
GEOL 3023 Geological Field Techniques	3	Elective	7-8
GEOL 3044 Geomorphology	4		
MATH/COMS Elective ²	3-4		
Total Hours	15-16	Total Hours	15-16

⊕ Senior

Social Sciences/Fine Arts/Humanities ¹	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
GEOL 3153 Environmental Geology	3	GEOL 3174 Computer Applications in Geology	4

GEOL 4001 Seminar	1	GEOL 4023 Principles of Stratigraphy and Sedimentation	3
Elective	4		
Total Hours	11	Total Hours	10
Ninth Semester - Summer	(After Junior or Senior Year)		
GEOL 4006 ³	6		
Total Hours	6		

¹See appropriate choices, alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²COMS 1003 Introduction to Computer Based Systems, COMS 1103 Fortran Programming, MATH 2914 Calculus I, or MATH 2163 Introduction to Statistical Methods.

³GEOL 4006 (6 credit hours of field geology) must be completed during the summer after Junior or Senior year.

Department of Physical Sciences

Bachelor of Science in Physics

The physics curriculum is designed to serve the needs of students in the fields of engineering, medicine, and other sciences. The junior and senior courses are tailored for students who desire a concentration in physics for a bachelor of science degree in physical science and/or wish to pursue graduate study in areas such as physics, meteorology, and astronomy.

To qualify for a bachelor of science degree in physical science, the student must take eight hours in chemistry, three hours in computer and information science, 25 hours in mathematics, and a minimum of 30 hours in physics. Twenty-two semester hours in these courses must be at the 3000 or 4000 level. A minimum of 38 hours must be taken in the Department of Physical Sciences

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences/Fine Arts/Humanities/Communication ¹	3	Social Sciences ¹	3
MATH 1914 Precalculus	4	MATH 2914 Calculus I	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
Total Hours	15	Total Hours	15

⊕ Sophomore

COMS 2803 Programming in C	3	Biological Science ¹	4
Social Sciences ¹	3	U.S. History/Government ¹	3
MATH 2924 Calculus II	4	MATH 2934 Calculus III	4
PHYS 2114 General Physics I	4	PHYS 2124 General Physics II	4
Elective ³	3		
Total Hours	17	Total Hours	15

⊕ Junior

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
MATH 3243 Differential Equations I	3	ELEG 2111 Electric Circuits Laboratory	1
ELEG 2103 Electric Circuits I	3	ELEG 2113 Electric Circuits II	3
PHYS 3023 Mechanics or PHYS 3213 Modern Physics	3	PHYS 3133 Theory of Electricity and Magnetism or	3
PHYS 4113 Advanced Physics Laboratory or PHYS Elective (3000-4000) ⁴	3	PHYS 4013 Quantum Mechanics	
		PHYS Elective (3000-4000 level)	3

Total Hours	Elective³	2
15	Total Hours	15

⊕ Senior

PHYS 3213 Modern Physics or PHYS 3023 Mechanics	3	PHYS 4013 Quantum Mechanics or PHYS 3133 Theory of Electricity and Magnetism	3
PHYS 4113 Advanced Physics Laboratory or PHYS Elective (3000-4000) ⁴	3	PHYS 4951-4 Undergraduate Research in Physics or PHYS 4991-4 Special Problems in Physics and Astronomy	1- 4
MATH Elective (3000-4000 level) ²	3	MATH Elective (3000-4000 level) ²	3
Elective (3000-4000 level) ³	3	Elective(3000-4000 level) ³	6- 3
Elective ³	3		
Total Hours	15	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²Excluding MATH 3003 Foundations of Number Systems, MATH 3033 Methods of Teaching Elementary Mathematics, and MATH 4113 History of Mathematics.

³Seven hours of electives must be from physical sciences, biology, engineering, computer science.

⁴Must complete both the PHYS 4113 Advanced Physics Laboratory and 3 hours PHYS electives (PHYS course offered in alternating years).

Department of Physical Sciences

Bachelor of Science in Engineering Physics

Students graduating with an engineering physics degree will be well qualified for jobs requiring highly technical skills and theoretical knowledge. Also, the degree program will prepare students for graduate studies in the fields of physics and engineering. However, those interested in employment immediately after graduation will have numerous alternatives for career choices. Job opportunities for an engineering physics graduate could include employment in industries such as: McDonnell Douglas/Boeing, Texas Instruments, Honeywell, Microsoft, Polaroid, Union Carbide, National Institute of Standards & Technology, Entergy, Tennessee Valley Authority, and Dow Chemical. Also, government agencies such as NASA, National Bureau of Standards, Office of Naval Research, Department of Energy, etc., provide additional employment opportunities for engineering physics graduates.

To qualify for a baccalaureate degree in engineering physics, the student must complete eight hours in chemistry, three hours in computer and information science, 18 hours in mathematics, 33 hours in physics (including the core physics courses), and 26 hours in engineering.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
COMS 2803 Programming in C	3	MCEG 2023 Engineering Materials	3
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
Total Hours	15	Total Hours	15

⊕ Sophomore

Social Sciences/Fine Arts/Humanities/Communication ¹	3	Social Sciences/Fine Arts/Humanities ¹	6
PHYS 2114 General Physics I	4	PHYS 2124 General Physics II	4
MATH 2934 Calculus III	4	MATH 3243 Differential Equations I	3
Biological Science ¹	4	Elective	2
Total Hours	15	Total Hours	15

⊕ Junior

Social Sciences/Fine Arts/Humanities ¹	3	Social Sciences/Fine Arts/Humanities ¹	3
ELEG 2103 Electric Circuits I	3	ELEG 2111 Electric Circuits Laboratory	1
PHYS 3023 Mechanics or PHYS 3213 Modern Physics	3	ELEG 2113 Electric Circuits II	3

PHYS 4113 Advanced Physics Laboratory ⁴ or MATH (3000-4000 level) ² PHYS 4213 Advanced Topics in Physics and Astronomy or MCEG 3013 Mechanics of Materials ³	3	PHYS 4003 Thermodynamics and Statistical Mechanics or PHYS 3003 Optics PHYS 4013 Quantum Mechanics or PHYS 3133 Theory of Electricity and Magnetism	3
Total Hours	15	Total Hours	13

⊕ Senior

U.S. History/Government ¹	3	ELEG 4951 Undergraduate Research in Electrical Engineering or ELEG 4991/MCEG 4991 Special Problems in Engineering	1
PHYS 3213 Modern Physics or PHYS 3023 Mechanics	3	MCEG 4403 Mechanics of Fluids and Hydraulics ³	3
PHYS 4113 Advanced Physics Laboratory ⁴ or MATH (3000-4000 level) ²	3	MCEG 4443 Heat Transfer	3
PHYS 4213 Advanced Topics in Physics and Astronomy or	3	PHYS 3133 Theory of Electricity and Magnetism or PHYS 4013 Quantum Mechanics	3
MCEG 3013 Mechanics of Materials ³	1	PHYS 4003 Thermodynamics and Statistical Mechanics or PHYS 3003 Optics	3
PHYS 4951 Undergraduate Research in Physics or PHYS 4991 Special Problems in Physics and Astronomy	3	ELEG/MCEG Elective (3000-4000 level)	3
Total Hours	16	Total Hours	16

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²Excluding MATH 3003 Foundations of Number Systems, MATH 3033 Methods of Teaching Elementary Mathematics, and MATH 4113 History of Mathematics.

³PHYS 3023 Mechanics and PHYS 4003 Thermodynamics and Statistical Mechanics will satisfy the prerequisites for MCEG 3013 Mechanics of Materials and MCEG 4403 Mechanics of Fluids and Hydraulics for engineering physics majors.

⁴Must complete both the PHYS class and one MATH upper division elective (PHYS course offered in alternating years).

Department of Physical Sciences

Bachelor of Science in Nuclear Physics

The nuclear physics curriculum is designed to provide a baccalaureate degree program for persons employed or those interested in employment in the nuclear power industry. The program provides a combination of courses which form a firm theoretical foundation for those presently employed as nuclear power plant operators.

Students without nuclear power industry experience or training will, in addition to the theoretical education provided through the program, receive sufficient training to enter nuclear power plant specific training. Graduates will also be prepared to enter a graduate school in nuclear physics or nuclear engineering.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
Social Sciences/Fine Arts/Humanities/Communication ¹	3	MCEG 2023 Engineering Materials	3
MATH 2914 Calculus I	4	MATH 2924 Calculus II	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
Total Hours	15	Total Hours	15

⊕ Sophomore

Social Sciences ¹	6	U.S. History/Government ¹	3
COMS 2803 Programming in C	3	Biological Science ¹	4
MATH 2934 Calculus III	4	MATH 3243 Differential Equations I	3
PHYS 2114 General Physics I	4	PHYS 2124 General Physics II	4
Total Hours	17	Total Hours	14

⊕ Junior

ELEG 2103 Electric Circuits I	3	Fine Arts & Humanities ¹	3
MCEG 3313 Thermodynamics I	3	ELEG 2111 Electric Circuits Laboratory and ELEG 2113 Electric Circuits II	4
MCEG 3503 Basic Nuclear Engineering	3	MCEG 3523 Radiation Health Physics or PHYS 3033 Radiation Health Physics	3
PHYS 3213 Modern Physics or PHYS elective (3000-4000) ²	3	MCEG 4403 Mechanics of Fluids and Hydraulics	3
PHYS 4113 Advanced Physics Laboratory or PHYS elective (3000-4000) ²	3		

Total Hours	15 Total Hours	13
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⊕ Senior

MCEG 4323 Power Plant Systems	3	Fine Arts & Humanities ¹	3
PHYS 3143 Electronics or ELEG 3103 Electronics I	3	MCEG 4443 Heat Transfer	3
PHYS 3213 Modern Physics or PHYS elective (3000-4000) ²	3	PHYS 4951-4 Undergraduate Research in Physics or PHYS 4991-4 Special Problems in Physics and Astronomy	1- 4
PHYS 4113 Advanced Physics Laboratory or PHYS elective (3000-4000) ²	3	Engineering Elective	3
Elective	3	PHYS Elective (3000-4000 level)	6- 3
Total Hours	15	Total Hours	16

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²Must complete both the PHYS class and one PHYS upper division elective (PHYS course offered in alternating years). (upper division = 3000-4000 level courses).

Department of Physical Sciences

Bachelor of Science in Physical Science

The baccalaureate degree in physical science offers a program of study in which the student can elect a major emphasis in the physical sciences department. The curriculum is designed with enough flexibility so that students may prepare for a number of professions that require technical skills and a broad physical sciences background. It is well suited for students anticipating the teaching of science in the secondary schools and for students planning a military career as it affords a desirable general scientific background.

To qualify for a baccalaureate degree in physical science, the student must complete the following minimum number of semester hours: eight hours in biology, eight hours in chemistry, eleven hours in physics, four hours in geology, and eleven hours in mathematics. The student must also complete additional hours in four of the following subject areas: chemistry, engineering, geology, mathematics, physics, and physical science (BIOL/ENVS/PHSC 1004 Principles of Environmental Science, PHSC 1013 Introduction to Physical Science, PHSC 1021 Physical Science Laboratory, GEOL 1004 Essentials of Earth Science may not be counted in these hours).

Curriculum

The matrix below is a sample plan for all coursework required for this program.

⊕ Freshman

ENGL 1013 Composition I ¹	3	ENGL 1023 Composition II ¹	3
BIOL Elective	4	Social Sciences ¹	3
MATH 1113 College Algebra	3	MATH 2914 Calculus I ^T	4
CHEM 2124 General Chemistry I	4	CHEM 2134 General Chemistry II	4
PHSC 1001 Orientation to Physical Science	1	PHSC 1011 Orientation to Physical Science II	1
Total Hours	15	Total Hours	15

⊕ Sophomore

Fine Arts & Humanities ¹	3	Fine Arts & Humanities ¹	3
Social Sciences ¹	3	U.S. History/Government ¹	3
MATH 2924 Calculus II	4	BIOL Elective	4
PHYS 2014 Physical Principles I or PHYS 2114 General Physics I	4	PHYS 2024 Physical Principles II or PHYS 2124 General Physics II	4
GEOL 1014 Physical Geology	4		
Total Hours	18	Total Hours	14

⊕ Junior

COMS 2803 Programming in C	3	Social Sciences/Fine Arts/Humanities/Communication ¹	3
PHYS 3213 Modern Physics or Elective (3000-4000 level) ³	3	PHSC/MATH/ENGR Elective ²	3

PHSC 3053 Astronomy	3	PHSC/MATH Elective (3000-4000 level) ²	6
PHSC/MATH/ENGR Elective ²	3	Elective	3
PHSC/MATH Elective (3000-4000 level) ²	4		
Total Hours	16	Total Hours	15

⊕ Senior

PHYS 3213 Modern Physics or Elective(3000-4000 level) ³	3	PHSC 3033 Meteorology	3
Elective(3000-4000 level)	11	PHSC/MATH Elective (3000-4000 level) ² Elective	7 3
Total Hours	14	Total Hours	13

¹See appropriate alternatives or substitutions in "General Education Requirements". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²Excluding GEOL 1004 Essentials of Earth Science, MATH 3003 Foundations of Number Systems, MATH 3033 Methods of Teaching Elementary Mathematics, MATH 4113 History of Mathematics, BIOL/ENVS/PHSC 1004 Principles of Environmental Science, PHSC 1013 Introduction to Physical Science, and PHSC 1021 Physical Science Laboratory.

³Must complete both the PHYS class and one upper division elective (PHYS course offered in alternating years) (upper division = 3000-4000 level)

Department of Physical Sciences

Minors Available

Chemistry

The minor in chemistry is designed for science majors who would like to further their studies in chemistry and for students who cannot complete a major in chemistry, but for employment opportunities, would like to gain basic knowledge and competencies in chemistry. The minor in chemistry requires the core chemistry courses:

- CHEM 2124 General Chemistry I, CHEM 2134 General Chemistry II
 - CHEM 3245 Quantitative Analysis
 - CHEM 3254 Fundamentals of Organic Chemistry, CHEM 3264 Mechanistic Organic Chemistry
-

Geology

The minor in geology is primarily designed for students who are majoring in disciplines where a broader background in geology can aid in recognizing and addressing geological hazards, natural disasters, environmental issues, natural resource management, conservation, and land use planning. The minor in geology requires 20 hours of courses:

- GEOL Electives (11 hours)
- GEOL Electives (9 hours of 3000 or 4000 level)

**No more than one credit hour can be a seminar course or special problem*

Engineering Physics

The minor in engineering physics is for engineering students or physical science students wishing to obtain additional background to support their major degree and enhance their employment opportunities. The minor in engineering physics requires 20 hours of courses:

- PHYS Electives (11 hours)
- PHYS Electives (9 hours of 3000 or 4000 level)

**No more than one credit hour can be a seminar course or special problem*

Physical Science

The minor in physical science is for students wishing to obtain additional background to enhance their employment opportunities. The minor in physical science requires 20 hours of courses:

- Electives (11 hours chosen from CHEM, GEOL, PHSC, or PHYS)
- Electives (9 hours of 3000 or 4000 level chosen from CHEM, GEOL, PHSC, or PHYS)

**No more than one credit hour can be a seminar course or special problem*

Undergraduate Catalog Course Descriptions

In this section of the catalog, all undergraduate courses taught at Arkansas Tech University are listed alphabetically by subject area. Courses fulfilling subject matter requirements in more than one area are cross-listed; e.g., the listing POLS(HIST) 4043 is offered for three semester hours of credit in either political science or history. For departmental write-ups and detailed curricula of programs of study, see the appropriate division of the catalog.

Course numbers are to be interpreted as follows:

The first digit refers to the level of the course: 1-freshman, 2-sophomore, 3-junior, 4-senior; 0-designates a course that cannot be used to satisfy general education requirements nor provide credit toward any degree.

Normally, the middle two digits merely differentiate the course from others and have no meaning for the student, and the last digit refers to the number of hours of credit allowed for the course. Exceptions to this include internships, externships, practicums and variable credit classes where hours earned can be 10 or more. In these cases, the last two numbers refer to the number of hours of credit allowed for the course.

Typically an hour of credit requires one hour of classroom work per week for the duration of a semester.

(1ATU)	New Student Orientation
(ACCT)	Accounting
(AGAS)	Agriculture Animal Science
(AGBU)	Agricultural Business and Economic
(AGED)	Agricultural Education
(AGEG)	Agriculture Engr and Mechanization
(AGLE)	Agricultural Leadership
(AGPM)	Agricultural Pest Management
(AGPS)	Agriculture Plant Science
(AGSS)	Agriculture Soil Science
(AHS)	Allied Health Science
(AMST)	American Studies
(ANTH)	Anthropology
(ART)	Art
(BDA)	Business Data Analytics
(BIOL)	Biology
(BLAW)	Business Law
(BUAD)	Business Administration
(CHEM)	Chemistry
(CHIN)	Chinese
(CJ)	Criminal Justice
(COMM)	Communications
(COMS)	Computer and Information Science
(CSP)	College Student Personnel
(CUL)	Culinary
(DE)	Driver Education
(EAM)	Emergency Admin and Mgmt
(ECE)	Early Childhood Education (AS)
(ECED)	Early Childhood Education (BS)
(ECON)	Economics
(EDMD)	Educational Media

(ELED)	Elementary Education
(ELEG)	Electrical Engineering
(ELIC)	ELI Program
(ELIG)	ELI Grammar
(ELIL)	ELI Listening
(ELIR)	ELI Reading
(ELIW)	ELI Writing
(ENGL)	English
(ENVS)	Environmental Science
(FIN)	Finance
(FR)	French
(FW)	Fisheries Wildlife Biology
(GAME)	Game and Interactive Media Design
(GEOG)	Geography
(GEOL)	Geology
(GER)	German
(HA)	Hospitality Administration
(HIM)	Health Information Management
(HIST)	History
(HLED)	Health Education
(HONR)	Honors Program
(HUM)	Humanities
(IPBL)	Interdisciplinary Studies
(JOUR)	Journalism
(JPN)	Japanese
(LAT)	Latin
(LBMD)	Library Media
(MATH)	Mathematics
(MCEG)	Mechanical Engineering
(MEDT)	Medical Technology
(MGMT)	Management
(MKT)	Marketing
(MLED)	Middle Level Education
(MS)	Military Science ROTC
(MUS)	Music
(MUS)	Music - Musical Performance
(MUS)	Music - Music Ensembles
(MUSM)	Museum
(NUR)	Nursing
(NURN)	Nursing for Registered Nurses
(PE)	Physical Education - Activities
(PE)	Physical Education - Academic
(PHIL)	Philosophy
(PHSC)	Physical Science
(PHYS)	Physics
(POLS)	Political Science
(PS)	Professional Studies
(PSY)	Psychology
(RDNG)	Reading - Elementary Education

(READ)	Reading
(RP)	Recreation and Park Administration - Coeducational Activities
(RP)	Recreation and Park Administration - Academic
(RS)	Rehabilitation Science
(SEED)	Secondary Education
(SOC)	Sociology
(SPAN)	Spanish
(SPED)	Special Education
(TECH)	TECH
(TH)	Theatre
(VOBE)	Vocational Business Education
(WS)	Wellness Science - Activities
(WS)	Wellness Science - Academic

Accounting Course Descriptions

ACCT 2000: Accounting Principles I Lab

Co-requisite: ACCT 2003

Application of concepts presented in the ACCT 2003 lectures using alternative activities to demonstrate how to apply accounting concepts.

ACCT 2003: Accounting Principles I

ACTS Common Course - ACCT 2003

Prerequisites: A grade of C or higher in BUAD 2003 or COMS 2003 and a grade of C or higher in MATH 2223 or MATH 2243.

Co-requisite: ACCT 2000.

A study of fundamental processes of accounting for day to day business transactions. Includes recording business events in journal entry form and preparing adjusting entries, trial balances, financial statements, and closing entries. Introduces the basic internal control system a business must employ. Concludes with the measurement and reporting of all assets and liabilities.

Note: Accounting majors may not repeat this course to raise grade point in their major field after completing ACCT 3013.

ACCT 2013: Accounting Principles II

ACTS Common Course - ACCT 2013

Prerequisite: ACCT 2003

Addresses accounting processes applied to corporations, cash flow statements, and financial statement analysis. Manufacturing cost, managerial reports, and incremental analysis are also introduced.

Note: Accounting majors may not repeat this course to raise grade point in their major field after completing ACCT 3013.

ACCT 3003: Intermediate Accounting I

Prerequisites: ACCT 2013 with a grade of C or higher.

A comprehensive study of accounting theory governing preparation of financial statements with emphasis on conceptual framework, development of accounting standards, and the recording and reporting process. Cash, receivables, inventories, property, plant and equipment, intangible assets, and other selected topics.

ACCT 3013: Intermediate Accounting II

Prerequisites: ACCT 3003.

Continuation of ACCT 3003. Topics covered include current and long-term liabilities, contingencies, stockholders' equity, earnings per share, temporary and long- term investments, revenue recognition, accounting changes, cash flows, statement analysis, and disclosure in financial reporting.

ACCT 3023: Accounting Information Systems

Prerequisites: ACCT 3003, BDA 2003, BUAD 2053, BLAW 2033, ECON 2003, and ECON 2013.

A study of accounting information processing, the systems concept, the analysis and design of accounting information systems, and database hardware and software technology as they apply to producing accounting information to be used in decision making.

ACCT 3043: Federal Taxes I

Prerequisites: ACCT 2013 with a grade of C or higher, BDA 2003, BUAD 2053, BLAW 2033, ECON 2003, and ECON 2013.

A study of federal income tax laws and their relationship to other forms of taxation with primary emphasis on the determination of federal income tax liability and tax planning for individuals.

ACCT 3053: Federal Taxes II

Prerequisites: ACCT 3043.

A study of federal income tax laws with primary emphasis on the determination of federal income tax liability and tax planning for entities other than individuals.

ACCT 3063: Managerial Accounting

Prerequisites: ACCT 2013, BDA 2003, BUAD 2053, and ECON 2013.

A study of accounting principles, concepts and procedures as an aid to management for internal use in planning, controlling and decision making.

ACCT 4003: Advanced Accounting I

Prerequisites: ACCT 3013.

A comprehensive study of complex accounting problems involving financial statement treatment of income taxes, pensions, and leases. Problems underlying accounting for partnerships, corporate liquidations and reorganization, and estates and trusts are examined.

ACCT 4013: Advanced Accounting II

Prerequisites: ACCT 3013.

A comprehensive study of complex problems involving mergers and acquisitions, consolidated financial statements, segment and interim reporting, multinational accounting, SEC, and accounting theory.

ACCT 4023: Cost Accounting

Prerequisites: ACCT 2013 with a grade of C or better and BUAD 2053.

Basic principles of cost accounting, departmentalization, budgets, standard cost, variance analysis, job order and process costs.

ACCT 4033: Auditing

Prerequisites: ACCT 3013, ACCT 3023, and BUAD 2053.

Auditing procedures and concepts, audit working papers and reports, evaluation of internal controls, legal and ethical environment.

ACCT 4071,4072,4073: Seminar in Accounting

Prerequisites: Must have a minimum GPA of 2.5 on 75 or more earned hours and permission of the instructor.

Accounting topics of current interest will be covered. Coverage will include international accounting practices, S.E.C., and accounting ethics. Cases and small group activities will be utilized. Participants will prepare and present written and oral reports on topics under study. Credit for one to three hours may be earned depending upon the material covered.

ACCT 4083,4086: Internship in Accounting

Prerequisites: Permission of the Accounting Department internship coordinator, a minimum GPA of 2.75 on 85 or more earned hours, and completion of ACCT 3013.

A structured assignment which allows a senior accounting major to gain "real world" professional experience in an accounting position relating to an area of career interest. The student works full-time one semester in the office of a cooperating firm under the supervision of a member of management of that firm. An accounting faculty member will observe and consult with the student and the cooperating firm's management periodically during the period of internship. A term paper prepared by the student will be required.

ACCT 4093: Governmental Accounting

Prerequisites: ACCT 3013.

Study of GAAP underlying accounting for governmental/ nonprofit entities. Governmental, Proprietary, and Fiduciary funds along with Fixed Asset and Long-term Liability Account Groups are covered.

ACCT 4103: Special Topics in Accounting

Prerequisites: ACCT 3013 and permission of the instructor.

This course provides in-depth exploration of selected accounting topics. The primary topic will vary from offering to offering; thus, the course may be taken more than once.

Agriculture Animal Science Course Descriptions

AGAS 1001: Principles of Animal Science Laboratory

Study of management and the facilities used in the production of beef cattle, swine, sheep, and horses.

Note: Laboratory mandatory for all animal science majors. Optional for others.

Laboratory two hours.

AGAS 1014: Principles of Animal Science

A study of the American livestock industry and the scientific principles underlying the management and production of livestock and poultry.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGAS 2084: Feeds and Feeding

Prerequisites: CHEM 1113 and CHEM 1111, or higher level chemistry with laboratory, or consent of instructor.

Principles of animal nutrition, characteristics of feed ingredients, feeding strategies and formulation of rations for farm animals.

Lecture three hours, laboratory two hours. \$50 Laboratory fee.

AGAS 3004: Reproduction in Farm Animals

Prerequisite: AGAS 1014 or consent of instructor.

Anatomy and physiology of the reproductive system of farm animals; to include a study of the causes of reproductive failure, management to improve reproductive efficiency, and practical training in pregnancy testing and artificial insemination of cattle.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGAS 3014: Beef Cattle Management

Prerequisite: AGAS 1014 and AGAS 2084 or consent of instructor.

A study of practices in management of beef cattle including breeding, feeding, care and marketing, with emphasis on production in the South.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGAS 3021: Livestock Selection and Evaluation

Offered: Fall

Prerequisites: AGAS 1014 and AGAS 2084, or consent of instructor.

This course is offered as a study in livestock selection according to desirable characteristics for cattle, swine, sheep, goats, and poultry. Evaluation criteria are presented according to industry standards for species' breeds and expected market production. Students will be expected to develop safe handling practices with live animals.

\$20 laboratory fee.

AGAS 3104: Swine Management

Prerequisite: AGAS 1014 and AGAS 2084 or consent of instructor.

A study of current practices during the farrowing, growing, and finishing phases of swine production. Topics covered include housing, feeding, scheduling, reproduction, disease control, and waste disposal.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGAS 3113: Light Horse Production

Prerequisite: AGAS 1014 or consent of instructor.

A study of breeding, feeding, management, and disease control practices in light horse production.

AGAS 3303: Poultry Management

Prerequisite: AGAS 1014, or consent of instructor.

A study of the management practices involved in the various phases of the production of eggs, broilers, turkeys, and breeders.

AGAS 3323: Poultry Nutrition

Prerequisite: Junior standing or consent of instructor.

An introductory course in poultry nutrition. A study of the essential nutrients for poultry, available sources of these nutrients and formulation of diets that supply the nutrients in their appropriate amounts.

AGAS 3343: Regulatory Affairs of the Food Industry

Prerequisites: AGAS 1014, and junior standing or consent of instructor

Regulatory Affairs of the Food Industry course is designed to offer a combination of theory and practical training for students in the field of food regulatory affairs. In this field, rapidly evolving regulations and expansion of international markets create an increasing need to train students in the implementation of regulatory guidelines, industry's compliance with regulations, and the regulatory strategies of companies looking to create a sustainable competitive advantage in the food industry.

AGAS 3933: Animal Breeding and Genetics

Offered: Fall

Prerequisites: AGAS 3004 and BIOL 1014 or higher level biology with laboratory, or consent of instructor.

Basic principles of Mendelian and quantitative genetics as they apply to the improvement of farm animals. Selection, inbreeding, crossbreeding and their application to the improvement of beef cattle, dairy cattle, swine, horses and poultry as well as the genetic control of coloration and defects in cattle and horses are included.

AGAS 4203: Livestock and Poultry Nutrition

Prerequisites: AGAS 1014, AGAS 2084, CHEM1113, CHEM 1111, or any higher level chemistry with laboratory, or consent of instructor.

Digestion, absorption of nutrients, and metabolism of farm animals. Includes a study of the requirements for maintenance, growth, activity, and reproduction of ruminants and non-ruminants.

AGAS 4403: Poultry and Livestock Disease

Prerequisite or Co-requisite: Junior standing or consent of the instructor

A study of the diseases of poultry and livestock, particularly those common to Arkansas and surrounding

states. Emphasis will be placed on the recognition of the disease and methods to control and/or prevent the disease.

Agricultural Business and Economic Course Descriptions

AGBU 1001: Agriculture Orientation

Agriculture Orientation is a freshman course with attention given to sharing of possible solutions to individual problems. Learning experiences also include exploration of anticipated collegiate experiences for departmental majors in addition to post-graduation opportunities. Student and faculty interaction is stressed.

AGBU 1013: Principles of Agricultural Business

Overview of the economic theories associated with the production, consumption, and marketing of agricultural products, and with the policies designed to achieve efficiency and welfare goals in agriculture.

AGBU 2063: Principles of Agricultural Macroeconomics

Prerequisite: AGBU 1013

A study of macroeconomic variables that affect agriculture with emphasis on consumption, unemployment, inflation, government spending and taxes, investments, national income, and money and banking.

AGBU 2073: Principles of Agricultural Microeconomics

Prerequisite: AGBU 1013

A study of microeconomics variables that affect agriculture with emphasis on price determination, production, costs, income distribution, and perfect and imperfect competition.

AGBU 2103: A Global Perspective: Resources, Food, and Society

Prerequisites or Co-requisites: ENGL 1013 and COMM 2003 or COMM 2173

A study of food and fiber production and distribution problems, policies, and processes analyzed within social, economic, political, and cultural contexts. The course will address issues related to feeding a growing world population.

AGBU 3013: Principles of Farm Management

Prerequisite: AGBU 1014, junior standing, or consent of instructor.

A study of the principles of agribusiness including ways of doing business in a free market economic system, entrepreneurship, business start-up, business plans, management, facility needs, legal aspects and tax responsibilities, personnel, and ethics.

AGBU 3033: Legal Environment of Agriculture Business

Offered: Fall

A study of federal, state, and local legal systems as they pertain to the agricultural industry; topics of study include property law, contracts, torts, business organizations, employment law, environmental regulations, estate planning, and administrative law.

AGBU 3133: Intermediate Agricultural Macroeconomics

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013 or consent of instructor.

A study of macroeconomic theory and its application to the agriculture industry.

AGBU 3213: Career Development in Agriculture

Prerequisite: Junior standing: 60 hours or more

Study of the professional opportunities and responsibilities associated with agricultural business careers. Interaction with professionals in the chosen career along with development and improvement of written communication, oral communication, and leadership skills.

\$50 laboratory fee.

AGBU 3993: Internship I in Agriculture

Prerequisite: Approval of the department head, junior standing, and minimum of 2.5 overall gpa.

A supervised, practical experience providing undergraduate agribusiness majors with a hands-on, professional experience in a position relating to an area of career interest. The student will work in a local cooperating agribusiness establishment under the supervision of a member of management of that firm. A minimum of 300 clock hours of supervision, maintain a weekly internship log and prepare a final report.

\$100 lab fee.

Note: Only three hours of Internship I in Agriculture may be used to satisfy the curriculum requirements for a B.S. degree in Agribusiness.

AGBU 4003: Agri-Business Management

Prerequisites: AGBU 1013, Junior standing, or consent of the instructor.

A study of the managerial practices and procedures that apply to all agriculture businesses. Emphasis is placed on the use and application of management and economic principles in decision making directed toward profit maximization.

AGBU 4013: Agricultural Marketing

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013, or consent of instructor.

A study of marketing functions, practice, organizational structure, legal aspects of agricultural marketing in relation to marketing policies, analysis of consumer behavior, and market demand.

AGBU 4023: Agricultural Finance

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013 and ACCT 2003.

Designed as an economic and accounting study of the processes in agricultural businesses. Manufacturing costs, income tax, managerial reports, cash flow, and statement analysis of agricultural businesses along with capital allocation and the purpose and efficiency of agricultural lending institutions are analyzed.

AGBU 4033: Agricultural Policy

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013, or consent of instructor.

Designed as an introduction to historical and current federal governmental legislation in agriculture. Specific emphasis is placed on the logic, beliefs, attitudes and values of the American people coincident with the social, economic, and political environment, and on evaluating the objectives, means and the observed results through the criteria of resource allocation and income distribution in the agricultural sector of the economy.

AGBU 4043: Appraisal of Farm Real Estate

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013, or consent of instructor.

A practical application of principles and practices in farm real estate evaluation, emphasizing the processes of value development and uses.

AGBU 4053: Agricultural Price Analysis

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013, or consent of instructor.

Study of the trends, cycles, and seasonal patterns associated with agricultural markets and institutional arrangements. Graphical and statistical analysis of commodity data and the fundamentals of agricultural futures markets are covered.

AGBU 4063: Agricultural Investments

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013, or consent of instructor.

An in-depth analysis of investment opportunities available in the field of agriculture. Emphasis will be on investment in stocks, bonds, agricultural commodities, futures hedging, and in international currencies. Students will be required to create and maintain a diversified investment portfolio with weekly monitoring of their chosen investments.

AGBU 4073: Commodity Risk and Futures

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013, or consent of instructor

An introductory study of grain and livestock futures markets, options, and their relationship to the cash market.

AGBU 4153: Computers in Agriculture

Prerequisites: AGBU 2063 or ECON 2003 and AGBU 2073 or ECON 2013, and COMS 1003 or consent of instructor

An introduction to the use of Microsoft Office, especially Excel, and the different price information sources in the agriculture field.

AGBU 4951,4952,4953,4954: Undergraduate Research in Agricultural Business and Economics

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

AGBU 4973: Senior Seminar in Agriculture Business

Prerequisite: Senior standing

This seminar is designed as a capstone course for the Agriculture Business degree. In the capstone experience, students are coached/coaxed to bridge the gap between the structured learning of traditional classroom and the dynamic agricultural business environment - which puts a premium on motivation, initiative and creativity. Students will be challenged to integrate their accumulated knowledge and technical and social skills in order to identify and solve a problem relevant to issues encountered by professionals in their chosen discipline and to communicate the results of their efforts to their peers. In doing so, students will have the opportunity to demonstrate their ability to adapt to professional situations. It is hoped that this experience will transition students from dependent learners to self-directed learners and stimulate students' appreciation of the need for lifelong learning and initiate professional and personal liaisons.

\$20 course fee.

AGBU 4983: Internship II in Agriculture

Prerequisites: Internship I in Agriculture, approval of the department head, junior or senior standing, minimum of 2.5 GPA overall.

A supervised, practical experience providing undergraduate agribusiness majors with a hands-on, professional experience in a position relating to an area of career interest. The student will work in a local cooperating agribusiness establishment under the supervision of a member of management of that firm. A minimum of 300 clock hours of supervision, maintain a weekly internship log, prepare a final report and present at least a 15 minute seminar to the agriculture department.

\$100 lab fee.

Note: Only three hours of Internship II in Agriculture may be used to satisfy the curriculum requirements for a B.S. degree in Agribusiness.

AGBU 4991,4992,4993,4994: Special Problems in Agriculture

Prerequisite: Permission of the department.

One to four hours credit, depending on the nature and extent of the problem. This is a course designed to introduce qualified students to specific agricultural areas including Agribusiness, Animal Science, Horticulture, or Plant Science.

Note: only six hours of Special Problems in Agriculture may be used to satisfy the curriculum requirements for the B.S. degree in Agribusiness.

Agricultural Education Course Descriptions

AGED 1001: Introduction to Agricultural Education

Freshman orientation with attention given to sharing of possible solutions to individual problems. Exploration of anticipated collegiate experiences for departmental majors as well as post- graduation opportunities. Student and faculty interaction is stressed.

The class meets one day a week for the full semester or two days a week for half a semester.

AGED 1013: Agricultural Youth Organizations

A comprehensive introduction to student organizations in agriculture and career and technical education, including 4-H and FFA. Special attention is given to topics related to membership, benefits, awards, and special recognition programs. Supervised agricultural experience programs are also addressed.

AGED 2104: Introduction to Agricultural Systems Technology

Prerequisite: Sophomore standing

The purpose of this course is for the student to develop an understanding of, and be able to apply, the basic principles utilized in agricultural mechanization with emphasis in the areas of structures, power and machinery, electricity, and agricultural surveying and land measurement. Discussion of the role mechanics plays in agriculture, as well as future roles is included.

\$100 course fee.

AGED 2203: Applied Agricultural Systems Technology

Prerequisite: AGED 2104

This course is designed to prepare secondary Arkansas agriculture teachers to apply agricultural systems technology in the laboratory. Content areas include safe practices in the laboratory, metalworking, woodworking, internal combustion engines, electrical wiring, tractor mechanics, paint & preservation.

\$100 course fee.

AGED 3033: Philosophy and Foundations of Program Development

Prerequisite: AGED 1013 or consent of instructor.

This course provides a comprehensive overview of the historical and philosophical foundations of Agricultural Education programs. Based on this foundation, the course will prepare pre-service teachers for the job and responsibility of developing a local program and curriculum that incorporates local, national and international agricultural policy issues as they relate to lecture and discussion on issues related to the global food, fiber, and natural resource system.

AGED 4033: Curriculum Design and Assessment

Prerequisite: AGED 3033 or consent of instructor

This course is designed to prepare pre-service educators for the responsibility of developing philosophical approaches, designing curricular programs, planning for effective instruction, and assessing student performance. Students will be expected to communicate effectively through both written and verbal presentation of information.

AGED 4044: Methods in Teaching Agriculture

Prerequisite: AGED 4033 or consent of instructor.

Instructional methodology course focused on teaching approaches and methods, problem-solving teaching

techniques, and managing learning environments for teaching agriculture subjects in formal and non-formal educational settings.

\$50 course fee.

Agriculture Engr and Mechanization Course Descriptions

AGEG 3203: Soil, Water and Forest Conservation

Prerequisite: Junior standing or consent of instructor.

Causes and control of soil and water losses; methods of erosion control; relationship of soil and water conservation to forest, recreation, pollution and wildlife management.

Agricultural Leadership Course Descriptions

AGLE 3003: Personal Leadership Theory and Development

Prerequisite: Junior Standing

This course focuses on the knowledge, skills and attitudes that enhance personal effectiveness and professional success. Students will gain self-awareness and study leadership traits. Goal attainment, personal organization and critical thinking strategies are emphasized.

AGLE 3013: Team Leadership and Organizational Change

Prerequisite: Junior Standing

Principles and practices in planning, developing, conducting, and evaluating leadership programs for agricultural groups. The course focuses on helping students better understand themselves and others; improving group communication; becoming effective leaders and members of groups; improving leadership and personal development skills; assessing leadership situations, determining and administering appropriate leadership strategies, and evaluating results.

Agricultural Pest Management Course Descriptions

AGPM 3104: Introduction to Entomology

Cross-listed: BIOL 3104

This course will introduce the student to insect diversity and the identification of the major families of insects. Laboratory time will be spent learning family characteristics and collecting and preserving insect specimens. Lecture will consist of topics such as insect diversity, morphology and physiology.

\$25 laboratory fee.

AGPM 3124: Applied Pest Control

Prerequisites: AGPS 1003, AGPM 3104, AGPS 3053, junior standing or consent of instructor.

Advanced concepts and techniques used in modern pest control practices and the chemistry and environmental fate of pesticides.

\$50 laboratory fee.

AGPM 4103: Integrated Pest Management

Prerequisites: AGPS 1003, junior standing or consent of instructor.

A systematic approach utilizing biological, cultural and genetic control methods to suppress pest numbers in agro ecosystems.

Agriculture Plant Science Course Descriptions

AGPS 1024: Principles of Plant Science

A study of important plant practices associated with horticulture and agronomic crop production, including classification of plants, the role of soil and the environment, plant management, cropping systems, and integrated pest management and harvest methods. Principles and practices in propagation of plants and sexual and asexual reproduction methods.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGPS 1033: Introduction to Forestry

General survey of the five fields of forestry; a preview of forestry subjects; forestry resources; some emphasis on silviculture, measurement, protection, utilization, preservation and forest administration.

AGPS 3023: Forage Crops and Pasture Management

Prerequisites: Junior standing or consent of instructor.

Selection, culture, production, distribution and uses of pasture and forage plants; management problems in hay and silage; emphasis on utilization and improvement of pasture.

\$50 Laboratory Fee.

AGPS 3044: Plant Propagation

Prerequisites: AGPS 1024, junior standing or consent of instructor.

A study of the principles and practices in the propagation of herbaceous and woody indoor plants and flowers.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGPS 3053: Weed Ecology

Prerequisites: AGPS 1024 or consent of instructor.

The principles of weed ecology including weed demography and population dynamics, competition, interference, soil seed bank concept and systematic approaches to weed management.

AGPS 3064: Vegetable Growing

Prerequisites: AGPS 1024, junior standing or consent of instructor.

The application of scientific facts and principles that are involved in the successful production of vegetables under cover and/or in the open.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGPS 3074: Floriculture

Prerequisites: AGPS 1024, junior standing or consent of instructor.

Commercial production and marketing of major cut flower crops, bedding plants, and flowering pot plants under cover and/or in the open.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGPS 3083: Small Fruit and Nut Culture

Prerequisites: AGPS 1024, junior standing or consent of instructor.

A study of the factors underlying the commercial and home production of small fruits and nuts, including a study of varieties, propagation, pruning, spraying, harvesting, and marketing.

AGPS 3093: Greenhouse Operation and Management

Prerequisites: AGPS 1024, junior standing or consent of instructor.

Greenhouse construction and management of heating, cooling, moisture, fertilization, lighting, insect and disease control in the growth of major greenhouse crops.

AGPS 3244: Plant Pathology

Prerequisite: BIOL 1014 or higher level biology with laboratory.

Introductory course in plant diseases. A study of the causes, symptoms, spread and control of plant diseases. The emphasis is placed on the interaction between disease causing agents and the diseased plant and the way in which environmental conditions influence the mechanisms by which factors produce plant disease.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

AGPS 4103: Crop and Garden Insects

Prerequisites: AGPS 1024, junior standing or consent of instructor.

Anatomy, physiology, ecology, life history, and control of insects affecting crops and garden plants.

Agriculture Soil Science Course Descriptions

AGSS 2014: Soils

Prerequisites: CHEM 1113 and CHEM 1111 or higher level chemistry with laboratory, or consent of instructor.

Development, classification, and properties of soils. A review of the major areas of soil science and their application to agricultural production and the environment.

Lecture three hours, laboratory two hours. \$50 laboratory fee.

Allied Health Science Course Descriptions

AHS 1023: Basic Pharmacology with an Overview of Microbiology

Enrollment is limited to medical assistant and health information management majors. Topics to be covered in addition to introductory pharmacology will include basic chemistry as it applies to the medical laboratory and a brief overview of microbiology and immunology. Basic pharmacology as it relates to the drug interaction with each of the body systems and classifications of drugs will be covered. Students will utilize the Physicians' Desk Reference (PDR) in the course.

AHS 2013: Medical Terminology

A study of the language of medicine including word construction, definition, and use of terms related to all areas of medical science, hospital service, and the allied health specialties.

Note: Duplicate credit for AHS 2013 and 3013 will not be allowed.

AHS 2022: Medical Laboratory Orientation and Instrumentation, Laboratory

Offered: Fall

Prerequisite: a grade of "C" or higher in BIOL 1114 or BIOL 2124.

Enrollment is limited to students enrolled in BIOL 2023. Topics covered will include laboratory orientation, laboratory procedures/ techniques, introduction to clinical laboratory instrumentation (both manual and automated), quality control principles, and care of equipment.

Laboratory four hours weekly. \$40 laboratory fee.

AHS 2023: Medical Laboratory Orientation and Instrumentation

Offered: Fall

Prerequisites: Enrollment is limited to medical assistant and/or medical technology majors who have completed at least BIOL 1114 or BIOL 2124 (AHS 2013 recommended) with a grade of "C" or higher and are in the final year of their program at Tech.

This course is concerned with both the theoretical and practical application of a wide range of clinical duties performed by the medical assistant and medical technologist. Topics covered will include hematology, urinalysis, hematostatic processes, body chemistry, microbiology, and blood typing.

AHS 2032: Medical Assistant Clinical Practice Laboratory

Offered: Spring

Co-requisites: Enrollment is limited to medical assistant majors who are enrolled in AHS 2034 and in the final semester before the medical assistant externship assignment.

This course is designed to allow for practice in locale area clinics. Students will complete a two-hour laboratory in the simulated lab and will be assigned to three hours in area clinics on a weekly basis. While at the medical facility students will apply the theories and concepts covered in AHS 2023 and AHS 2034.

Laboratory five hours weekly. \$40 laboratory fee.

AHS 2033: Coding Principles for Medical Office

Prerequisites: AHS 2013, 1023, BIOL 2004, or permission of instructor.

A study of medical coding using ICD-9-CM and CPT codes in the medical office. Students will be taught to evaluate patients' medical records to correctly assign both diagnostic and procedural codes required for healthcare reimbursement in the medical office setting.

AHS 2034: Medical Assistant Clinical Practice

Offered: Spring

Prerequisites: AHS 2023 and 2022. Enrollment is limited to medical assistant majors.

Topics covered will include examination room techniques, sterilization procedures, operation and care of electrocardiograph, assisting with minor surgery, physiotherapy, pharmacology, medications and specialist assisting. Students must subscribe to malpractice liability insurance.

\$40 laboratory fee.

AHS 2044: Medical Assistant Administrative Practice

Offered: Fall

Prerequisite: AHS 2013. This course is open only to medical assistant majors in the final part of the program or by permission of the medical assistant program director.

A survey course emphasizing the business administrative duties of the medical assistant. Course content will include working with patients, medical records, medical dictation, office procedures, and office management. Student must subscribe to malpractice liability insurance.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

AHS 2053: Computers in the Medical Office with an Overview of Insurance Procedures

Offered: Spring

Prerequisites: HIM 2003, AHS 2044. This course is open only to medical assistant majors in the final part of the program or by permission of the medical assistant program director.

This course will prepare the medical assistant to work as an administrative medical assistant in a health care facility. Students are introduced to the computerization of the medical office using current operating systems. Topics covered will include recording information on patients, scheduling appointments, printing reports, producing patient statements and claim forms, and filing electronic claims.

AHS 2055: Externship

Offered: First summer term

Prerequisites: Completion of all other required courses in medical assistant curriculum.

The course is scheduled at the end of the program. It shall include the opportunity to perform various clinical and administrative procedures under supervision. The student will remain in a medical facility for a period of four weeks. Assignments may be made anywhere in Arkansas; students must assume the full financial responsibility for this assignment. A seminar will be scheduled for the fifth week. Student must subscribe to malpractice liability insurance.

AHS 2061: Medical Assistant Seminar

Offered: First summer term

Prerequisite: AHS 2055

An one week seminar scheduled for the week following the externship. Topics discussed will be based on those arising from the student's experiences while on his/her externship. Employment procedures will also be covered.

American Studies Course Descriptions

AMST 2003: American Studies

An exploration of American culture through study of significant ideas, social issues and literary texts.

Note: AMST 2003 may be used to fulfill 3 hours of the Social Sciences general education requirements.

Anthropology Course Descriptions

ANTH 1213: Introduction to Anthropology

ACTS Common Course - ANTH1013

An introduction to the sub disciplines of cultural anthropology, physical anthropology, archeology, and linguistics.

ANTH 2003: Cultural Anthropology

ACTS Common Course - ANTH2013

A study of contemporary and historical peoples and cultures of major world culture areas.

Note: May not be taken for credit after completion of ANTH 3213.

ANTH 2103: Ozark-Ouachita Studies

This course provides students with the knowledge and skills to understand changing human-environment relationships in the mountain south and to apply these understandings to the assessment of, and potential solutions to, contemporary socio-environmental issues in the area. We will explore the emergence of Mississippian societies, their transformation during prehistoric and early historic eras, the impacts of early European settlements and the regions' incorporation into the global marketplace, development and the growth of tourism and industry in the area, and current social and environmental issues in the mountain South.

ANTH 2203: Indians of North America

A study of contemporary and historical peoples and cultures of North America.

ANTH 2223: North American Archeology

The study of prehistoric peoples and cultures of North America.

ANTH 2303: Globalization

This course provides an overview of the economic, social, technological, environmental, and ideological impacts of globalization on national communities, with an emphasis on the cultural dynamics of the process. Through class discussions and lectures, readings, and student research, this course will examine the complex implications of globalization on culture change in different national settings.

ANTH 2833: Cultural Resource Management

This course explores the discipline of cultural resource management (CRM), a form of applied anthropology, which manages the impacts of the contemporary world on places (e.g., historic and archaeological sites and landscapes) and items of cultural value. Through an exploration of real-world case studies, students will gain an understanding of current federal and state laws pertinent to CRM, disciplinary best practices, and ethical issues.

ANTH 3103: Anthropology of Food

Prerequisite: ANTH 1213

This course examines the topics of food and agriculture from a broadly anthropological perspective with a significant focus on the Ozark-Ouachita region of Arkansas. The course explores the relationships among human biology, cultural diversity, social systems, politics, economics and food and agriculture. Significant emphasis is placed on how political and economic forces have created a global, industrial food system that is ecologically unsustainable, socially unjust, and detrimental to human health and well-being as well as on opportunities that exist to change this system.

ANTH 3303: Southeastern Archaeology

The course will survey the rise of chiefdom-level societies in the prehistoric Southeast, reconstruct the "Mississippian world" these chiefdoms created, document the activities of sixteenth-century Spanish explorers in the region, and trace the subsequent decline of Mississippian chiefdoms. In addition to reconstructing the landscape of the ancient South, students will explore long-term social and cultural traits of southeastern Indians and discover the secrets unearthed at famous Mississippian sites such as Cahokia, Moundville, and Etowah.

ANTH 3313: Southeastern Indians

This course is an ethnographic and historic survey of southern Indians from European contact through the era of Removal. Particular emphasis will be placed on the following subjects: the decline of chiefdom societies across the South, the Spanish mission system, the development of the deerskin and Indian slave trade, native resistance to colonial encroachment, and a detailed discussion of Removal. The course also includes ethnographic descriptions of major southern Indian groups, including the Creek, Cherokee, Catawba, Choctaw, Chickasaw, Seminole, Apalachee, and Natchez. By the end of the course students should acquire an understanding of a little known aspect of our country's heritage, be able to distinguish between the various colonial strategies at play in the region, as well as the various forms of native resistance, and gain an appreciation for the place of southern Indians within U.S. society today.

ANTH 3403: Ethnographic Methods

This course trains students in research methods in anthropology with an emphasis on qualitative research. Students learn the different uses of methodologies to address specific types of research questions, practice participant-observation and interview techniques as part of semester-long research projects, and survey anthropological theory as it relates to conducting ethnographic fieldwork.

ANTH 4403: Interpretation/Education through Museum Methods

Cross-listed: HIST 4403, MUSM 4403

Prerequisite: Senior or Graduate standing, or permission of instructor.

Museum perspectives and approaches to care and interpretation of cultural resources, including interpretive techniques of exhibit and education-outreach materials, and integrating museum interpretation/education into public school and general public programming. Class projects focus on special problems for managing interpretive materials in a museum setting.

ANTH 4853: Music of the World's Peoples

Cross-listed: MUS 4853

Open to students in all majors. A survey of predominantly non-Western world music cultures with attention to sonic structures, musicians, musical instruments, and socio-cultural contexts of music making. Listening emphasized.

ANTH 4951,4952,4953,4954: Undergraduate Research in Anthropology

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

ANTH 4983: Seminar in Anthropology

Prerequisite: Permission of instructor.

A directed seminar in an area of anthropology. The specific focus will depend upon research interests, student interest, and current developments in the field of anthropology.

ANTH 4991,4992,4993,4994: Special Problems in Anthropology

Prerequisite: Permission of instructor.

Independent work under individual guidance of staff member.

Art Course Descriptions

ART 1001: Introduction to Art

The course provides university orientation and a general introduction to the art program. Various topics that review career options, curriculum, studio concentrations, opportunities and program requirements are covered to help incoming art students prepare for their specific program of study in Fine Arts, Graphic Design, and Art Education.

\$12 course fee.

ART 1163: Basic Digital Photography

Cross-listed: JOUR 1163

Basic Digital Photography, an introduction to the medium, its history, techniques and theory. This course will teach students the basics of photographic composition, lighting, camera and lens operation, editing and printing using the digital format.

ART 1303: Introduction to Drawing

An introduction to structural and expressive responses in drawing by the study of line, volume, shape, light perspective, the media, and their interrelations.

Studio six hours. \$36 art fee.

ART 1403: Two-dimensional Design

Basic study of elements and principles of two-dimensional design employing a variety of tools and materials.

Studio six hours. \$36 art fee.

ART 1503: Introduction to Graphic Design

Prerequisites: ART 1403, ART 1303 or permission of instructor.

An introduction to fundamental graphic design principles, techniques and materials.

Studio six hours. \$36 art fee.

ART 2103: Art History I

ACTS Common Course - ARTA2003

An examination of the periods and western cultures responsible for major artistic monuments and achievements from prehistory through the Gothic period.

ART 2113: Art History II

ACTS Common Course - ARTA2103

A western art survey of the events, people, and stylistic trends involved in the development of major art forms from the era of the Italian Renaissance to the present.

ART 2123: Experiencing Art

ACTS Common Course - ARTA1003

This course is designed to provide a background in art and the related processes so that a student may develop powers of observation and thereby respond to a work of art.

ART 2213: Digital Skills for the Graphic Designer

Students will learn graphic design software which they will, in turn, use to create various projects.

Studio six hours. \$36 art fee.

ART 2223: History of Digital Art

This course will examine the contemporary history of art and focus on work created with digital technology including: new media, video, animation, video games, mobile and other interactive art forms. Through a historical, artistic, and technological framework students will gain a better understanding of the current influences that shape contemporary art.

ART 2303: Figure Drawing

Prerequisite: ART 1303.

Introduction to the study of the human figure. A major emphasis will be directed to exercises in the study of anatomy, proportion, and line as it relates to the figure.

Studio six hours. \$36 art fee.

ART 2403: Color Design

Basic application of color principles and color theory.

Studio six hours. \$36 art fee.

ART 2413: Three-dimensional Design

Prerequisite: ART 1403

Basic study of three-dimensional problems of structure, spatial organization, and introductory sculptural concerns.

Studio six hours. \$36 art fee.

ART 3001: Sophomore Review

Prerequisites: ART 1303, ART 1403, ART 2403, and ART 2413 or permission of the Department Head.

The Sophomore Review course is an academic engagement designed to provide you with an opportunity to discuss your work on a scholarly level. Faculty will give you specific feedback on the work in your portfolio, the ability to use and understand art vocabulary, and communicate effectively about art. This course must be successfully completed with a C or better before students will be permitted into Upper Division classes.

\$12 course fee.

ART 3003: Concepts in Art Education

Prerequisite: ART 3001

Introduction to theory and specialized practice in art education issues as applied to elementary art experience. Studio processes, art criticism, aesthetics, and art history methodology will be incorporated into lessons implemented as part of field experience in local elementary schools.

Studio six hours. \$36 art fee.

ART 3013: Art Education Practicum

Prerequisite: ART 3001

Curriculum design with emphasis on visual art standards, art media, and assessment as applied to teaching on the secondary level. Students will implement a unit of study in partnership with local schools.

Studio six hours. \$36 art fee.

ART 3073: Introduction to Sculpture

Prerequisite: ART 3001 or permission of Department Head

Basic techniques of sculpture and sculptural composition. Modeling, casting, carving, and constructive processes are introduced.

Studio six hours. \$100 art fee.

ART 3113: Art History, American

Prerequisite: ART 2103, ART 2113, and ART 3001.

A study of art forms in architecture, painting, sculpture and craft from Colonial times to the present.

ART 3133: Art History, Americas & Africa

Prerequisites: ART 2103, ART 2113, and ART 3001.

A study of the art of Africa, with a strong focus on African cultures south of the Sahara, along with art of native peoples of North, Central, and South America from both before and after contact with Europeans. Contemporary works by African, Latin American, and Native American artists will also be studied.

ART 3143: Art History, Asia & Pacific

Prerequisites: ART 2103, ART 2113, and ART 3001

A study of the art of South, East, and Southeast Asia, the islands of the Pacific, and the Aboriginal cultures of Australia. Contemporary works by artists from these regions will also be studied.

ART 3203: Typography and Layout

Prerequisites: ART 1503 and ART 2213

Beginning and intermediate problems in layout designs as well as the effective use of type.

Studio six hours. \$36 art fee.

ART 3223: Package Design

Prerequisites: ART 1503, ART 2213, ART 3001, and ART 3203

Studio problems in the design and presentation of 3 D advertising packaging and displays.

Studio six hours. \$36 art fee.

ART 3232: Production Design

Prerequisites: ART 1503, ART 3203, ART 3223

Course on preparing graphic design pieces for commercial printing.

Studio six hours. \$24 art fee.

ART 3243: Web Design

Prerequisites: ART 2213, 3001, and 3203

Introduce basic website planning, content editing and creation using graphic arts techniques. Screen-based color theory, web design aesthetics, use of graphic editors, and interface design are explored.

Studio six hours. \$36 art fee.*

*Fee removed effective fall 2013

ART 3253: Digital Illustration

Prerequisites: ART 2213 and ART 3001

This course will provide students with advanced conceptual skills in computer illustration and digital imaging. Students will acquire intermediate knowledge in vector and pixel-based drawing formats, digital painting effects, comic art/video game illustration, storyboarding and coloring through the completion of integrated design projects.

Studio six hours. \$36 art fee.

ART 3303: Drawing Studio I

Prerequisites: ART 3001 or permission of Department Head.

The application of the theories and techniques of drawing as they relate to the study of composition in finished works of art.

Studio six hours. \$36 art fee.

ART 3403: Introduction to Opaque Painting

Prerequisites: ART 1303, ART 1403, ART 2403, ART 3001, or permission of instructor.

The exploration of opaque painting techniques. Traditional oil, acrylic and alkyd will be studied.

Studio six hours. \$36 art fee.

ART 3503: Painting Studio I

Prerequisites: ART 3403 or ART 3533 and ART 3001.

A continued study in the opaque or transparent painting techniques. Emphasis will be directed toward the economy of conception and performance in the completion of finished works of art.

Studio six hours. \$36 art fee.

ART 3533: Watercolor Painting

Prerequisite: ART 3001 or permission of Department Head.

The exploration of transparent water painting techniques.

Studio six hours. \$36 art fee.

ART 3603: Introduction to Ceramics

Prerequisite: ART 3001 or permission of Department Head.

An introduction to ceramics, emphasizing the imaginative design and production of ceramic objects utilizing hand building and wheel throwing techniques. Exposure to the complete ceramic process through the use

of demonstrations, slides, and lectures.

Studio six hours. \$100 art fee.

ART 3703: Sculpture Studio I

Prerequisite: ART 3073

A continued study of sculptural techniques introduced in Introduction to Sculpture, allowing for student expansion and specialization on individual conceptions.

Studio six hours. \$100 art fee.

ART 3713: Sculpture Studio II

Prerequisite: ART 3703

A continued study of sculptural techniques introduced in Introduction to Sculpture, allowing for student expansion and specialization on individual conceptions.

Studio six hours. \$100 art fee.

ART 3803: Introduction to Printmaking

Prerequisite: ART 3001 or permission of Department Head.

A survey of traditional printmaking techniques will be taught including intaglio, relief, and monotype.

Studio six hours. \$100 art fee.

ART 3813: Printmaking Studio I

Prerequisites: ART 3001 and ART 3803

Printmaking activities introduced in Introduction to Printmaking will be used as a basis for the student to expand and specialize. Students will be expected to develop an individual print series in one or more print techniques.

Studio six hours. \$100 art fee.

ART 3903: Introduction to Fiber Arts

Prerequisite: ART 3001 or permission of Department Head.

An introduction to fiber arts to include historical and cultural connections, techniques and processes associated with materials studies such as weaving, papermaking, textile design, and mixed media.

Studio six hours. \$36 art fee.

ART 4113: Art History, Art After 1945

Prerequisites: ART 2103, ART 2113, and ART 3001.

A study of the artists, movements, and theories of Western art since 1945, with an emphasis on art of the United States.

ART 4163: Advanced Digital Photography

Cross-listed: JOUR 4163

Prerequisite: JOUR (ART) 1163 or consent of instructor.

Advanced techniques in digital photography are explored to expand the student's understanding of the digital processes as they relate to computer editing, manipulation and printing of digital images. Students will also study current theories of visual communication that relate to the field of digital photography.

ART 4231: Graphic Design Exhibition

Offered: spring

Prerequisites: ART 1503, ART 2213, ART 3001, ART 3203, ART 3223, ART 3232, ART 3243, ART 3253, and ART 4623

Co-requisite: ART 4243

The purpose of the course is to provide the student an opportunity to present their work in a professional manner in a public venue.

Studio two hours.

ART 4233: Illustration Studio

Prerequisite: ART 3001 or permission of Department Head.

Application of fine art drawing and painting techniques to illustration problems.

Studio six hours. \$36 art fee.

ART 4243: Professional Portfolio Preparation for Graphic Designers

Prerequisites: ART 1503, ART 2213, ART 3203, ART 3223, or permission of Department Head.

Co-requisite: ART 4231

Review. The purpose of this course is to prepare the student for entry into the professional world through the development of a resume and the presentation of their work.

Studio six hours. \$36 art fee.

ART 4313: Drawing Studio II

Prerequisites: ART 3303 and ART 3001

The further development of advanced drawing concepts and skills. This course will deal with each student on a one to one basis. The student will present a "contract of drawing projects" subject to instructor's approval.

Studio six hours. \$36 art fee.

ART 4323: Drawing Studio III

Prerequisites: ART 3001 and ART 3303

The further development of advanced drawing concepts and skills. This course will deal with each student on a one to one basis. The student will present a "contract of drawing projects" subject to instructor's approval.

Studio six hours. \$36 art fee.

ART 4503: Painting Studio II

Prerequisites: ART 3001 and ART 3503

Advanced study of the opaque/ transparent painting techniques. Emphasis will be theme oriented. Each student must submit to the instructor a "painting contract" which must be approved.

Studio six hours. \$36 art fee.

ART 4603: Ceramics Studio I

Prerequisites: ART 3001 and ART 3603

A study of advanced techniques and skills. This course will deal with each student on a one to one basis. Each student must submit a "contract of ceramics project" subject to instructor's approval.

Studio six hours. \$100 art fee.

ART 4613: Ceramics Studio II

Prerequisites: ART 3001 and ART 3603

A study of advanced techniques and skills. This course will deal with each student on a one to one basis. Each student must submit a "contract of ceramics project" subject to instructor's approval.

Studio six hours. \$100 art fee.

ART 4623: Animation Techniques

Prerequisite: ART 2213 and ART 3001 or permission of Department Head.

Introduce basic drawing/2D animation, and create movies/cartoons, motion graphics/interactive content using multimedia tools and techniques. Time-based media, animation timing, use of audio-visual editors, and effective storyboard techniques are explored.

Studio six hours. \$36 art fee.

ART 4703: Senior Project and Exhibition

Offered: Spring

Prerequisites: ART 3001 and Junior Review

This course is required for all Fine Arts majors, and elective for Graphic Design and Art Education majors.

Studio six hours.

ART 4723: Art History Seminar

Prerequisite: ART 2103, ART 2113, and ART 3001.

This course will provide a forum for in-depth examination of a particular artist, movement, theme, or period in art history.

ART 4733: Graphic Design Internship

Prerequisites: ART 1503, ART 2213, ART 3001, ART 3203, ART 3233, Junior Review, and instructor's permission.

A supervised, practical experience providing graphic design majors with professional hands-on training in a position relating to an area within their chosen field of graphic design at a cooperating business.

ART 4736: Graphic Design Internship

Prerequisites: ART 1503, ART 2213, ART 3001, ART 3203, ART 3233, Junior Review and instructor's permission.

A supervised, practical experience providing graphic design majors with professional hands-on training in a position relating to an area within their chosen field of graphic design at a cooperating business.

ART 4803: Printmaking Studio II

Prerequisites: ART 3001, ART 3813, and permission of Instructor.

A concentration on printmaking techniques which will develop additional strength and capability in the student.

Studio six hours. \$100 art fee.

ART 4823: Art Criticism and Aesthetics

Prerequisite: 3 hours of Art History or permission of Department Head

Perspectives on analyzing and interpreting works of art required for art education majors. The course may be used as an art history elective for graphics and fine arts majors.

ART 4833: Advanced Web Design

Prerequisite: ART 3243

Builds upon the fundamental concepts and skills developed in ART 3243: Web Design. Students will take an in-depth look at website development and strategies. Advanced web editing and scripting techniques will be used to complete projects and build a professional web portfolio.

Studio six hours.

ART 4883: Advanced Studio Studies

Prerequisite: Senior Status or permission of Department Head

Advanced Studio Studies is an advanced studio course with a revolving focus selected by the art faculty to provide research in particular skills, subjects, or trends in art & media.

Note: This course can be repeated for credit if course content differs.

Studio six hours. \$45 art fee.

ART 4951,4952,4953,4954: Undergraduate Research in Art

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

ART 4991,4992,4993,4994: Special Problems in Art

This course requires advance approval by the instructor, department head, and the dean of school. Designed to provide certain advanced students with further concentration in a particular area.

Fee may apply.

Business Data Analytics Course Descriptions

BDA 2003: Business Problem Solving

Prerequisites: BUAD 2003 with a C or better or COMS 2003 with a C or better or Microsoft certification in both Access and Excel or permission of instructor.

This course is designed to provide students training in solving business problems. Students will work individually and in groups on projects to learn and apply various problem solving frameworks, methods, and tools to realistic business situations. Frameworks include general problem solving, systems thinking, critical thinking, and ethical reasoning. Methods and tools include project management, communication and coordination techniques, quantitative models, and software applications.

BDA 2013: Business Spreadsheet Modeling

Offered: Fall

Prerequisites: BDA 2003 and MATH 2223 or permission of instructor.

This is an introductory course for business major undergraduate students. The main objective of the course is to teach how to solve problems arising in modern business environments using Microsoft Excel. The course will begin by teaching common tools available in Microsoft Excel. Then it will introduce the students to a variety of analytical problems arising in modern businesses and present ways in which these problems can be solved using Microsoft Excel.

BDA 3003: Data Analytics Apps Development

Offered: Fall

Prerequisites: BDA 2013 and BDA 2053 with a C or better or permission of instructor.

This course covers how business data analysts develop software applications to retrieve and analyze data and provide information and business intelligence useful to solve business problems, to support business decisions, and to determine business tactics and strategy. Students will learn how to design appropriate logic and user interfaces for business data analytic software as well as write and debug professional code in a typical production environment. The student will develop a set of standard data analysis techniques representing typical approaches to solving business intelligence problems.

BDA 3033: Data Modeling and Management

Offered: Fall

Prerequisite: BDA 2013 with a C or better or permission of the instructor

This course covers how databases are constructed and managed so that business data analysts can store, update, manage, retrieve, and process data. Students will learn to design, implement, and use databases to create information and business intelligence useful for solving problems, making business decisions, and determining business strategy and tactics. The content addresses how to design effective and efficient data models, implement data models in commonly used database management systems, retrieve and process that data, present information to clients and managers, and address the main issues and tradeoffs in database administration.

BDA 3053: Business Data Analysis

Offered: Spring

Prerequisites: BDA 2003 and BUAD 2053 with a C or better.

This course explores the development of exploratory and predictive models for managers and business decision-makers. Specific tools addressed include analysis of variance (ANOVA), multiple regression,

factor analysis, cluster analysis, logistic regression, and path analysis. Emphasis is on analyzing data using statistical software, visualizing and interpreting the results of those analyses and translating results into clear and simple insights to aid managerial decision making.

BDA 4003: Business Intelligence

Offered: Spring

Prerequisites: BDA 3003, BDA 3033, and BDA 3053 with a C or better and 90 earned hours or permission of instructor.

This course covers how data analysts can process large data sets from a variety of sources to create information by that guides leaders in crafting strategy and tactics which allow an organization to survive and thrive in a turbulent environment. Students will review how business intelligence has been created and successfully used in the past and learn appropriate processes and a variety of techniques to accomplish this transformation. The course also addresses professional and ethical conduct with respect to data mining and use of business intelligence.

BDA 4031,4032: Internship

Offered: As needed

Prerequisites: Permission of the Instructor, Associate Dean, and Dean; at least 54 earned hours with a minimum 2.5 overall GPA.

A supervised, practical experience providing undergraduate BDA majors with a hands-on professional experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A College of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make oral reports in the classroom, maintain an internship log, and prepare a final term paper.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for Business Data Analytics electives. Additional hours may be used to satisfy the curriculum requirements for general electives.

BDA 4033: Internship

Offered: As needed

Prerequisites: Permission of the Instructor, Associate Dean, and Dean; at least 54 earned hours with a minimum 2.5 overall GPA.

A supervised, practical experience providing undergraduate BDA majors with a hands-on professional experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A College of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make oral reports in the classroom, maintain an internship log, and prepare a final term paper.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for Business Data Analytics electives. Additional hours may be used to satisfy the curriculum requirements for general electives.

BDA 4071,4072,4073: Special Topics

Offered: As needed

Prerequisites: Permission of the Instructor, Associate Dean, and Dean; at least 54 earned hours with a minimum 2.5 overall GPA.

This course offers an in-depth exploration of selected business data analytics topics. The primary topic will vary from offering to offering; thus, the course may be taken more than once.

Biology Course Descriptions

BIOL 1004: Principles of Environmental Science

Cross-listed: ENVS 1004 and PHSC 1004

This course is designed to bring the student to a basic but informed awareness of and responsible behavior toward our environment and the role of the human race therein. The content will include a study of the philosophical and scientific basis for the study of ecosystems and the environment, the nature of ecosystems, the techniques used to study the environment, the origin and development of current environmental problems, the interdisciplinary nature of environmental studies, the processes of critical thinking and problem solving, and the moral and ethical implications of environmentally-mandated decisions.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

BIOL 1011: Orientation to the Biological Sciences

This course orients entering students to the biological sciences. Topics examined in this course include an overview of the Tech Department of Biological Sciences and careers in biology, managing a biology curriculum (registration procedures, student responsibilities, and study skills), requirements for professional schools and graduate education, and undergraduate research opportunities.

BIOL 1014: Introduction to Biological Science

ACTS Common Course - BIOL1004

An introduction to the major concepts of biological science, with an emphasis on the development of this scientific perspective and how it applies to humans.

Note: Duplicate credit for BIOL 1014 and BIOL 1114 will not be allowed. May not be taken for credit after completion of BIOL 1114, 2124, or 2134.

Lecture three hours, laboratory two hours. \$40 laboratory fee (Fee is not charged for online sections).

BIOL 1114: Principles of Biology

ACTS Common Course - BIOL1014

Prerequisites: scores of 19 or higher on the reading, science reasoning and mathematics portions of the enhanced ACT or completion of MATH 0903 with a grade of C or higher, or a grade of C or higher in a science course.

An in depth study of biological principles and the interrelationships of biology with other sciences. Topics included are: cellular structure, intermediary metabolism and differentiation, population genetics, ecology, and evolution.

Note: Duplicate credit for BIOL 1014 and BIOL 1114 will not be allowed.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 2004: Basic Human Anatomy and Physiology

Prerequisite: A grade of C or higher in a science course or approval of the instructor.

This course is intended for students who have a need for basic studies in functional aspects of the organ systems of the human body.

Note: This course may not be taken for credit after completion of BIOL 2014, 3074, or equivalent.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 2014: Human Anatomy

ACTS Common Course - BIOL2404

Prerequisite: A grade of C or higher in a science course or approval of the instructor.

This is an introductory course in human anatomy which should be useful to students in the biological and health oriented fields. The course is designed to present an introduction to the unified concepts and data that contribute to a basic understanding of the structure of the human body. The course will include familiarization with essential technical vocabulary; reference to general functions of organs and organ systems; and brief encounters with histology, embryology, and comparative anatomy.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 2022: Medical Laboratory Orientation and Instrumentation, Laboratory

Prerequisites: A grade of "C" or higher in BIOL 1114 or BIOL 2124. Enrollment is limited to students enrolled in BIOL 2023.

Topics covered will include laboratory orientation, laboratory procedures/ techniques, introduction to clinical laboratory instrumentation (both manual and automated), quality control principles, and care of equipment.

Laboratory four hours weekly. \$40 laboratory fee.

BIOL 2023: Medical Laboratory Orientation and Instrumentation

Prerequisites: Enrollment is limited to medical assistant and/or medical technology majors who have completed at least BIOL 1114 or BIOL 2124 (AHS 2013 recommended) with a grade of "C" or higher and are in the final year of their program at Tech.

This course is concerned with both the theoretical and practical application of a wide range of clinical duties performed by the medical assistant and medical technologist. Topics covered will include hematology, urinalysis, hematostatic processes, body chemistry, microbiology, and blood typing.

BIOL 2054: Microbiology for Health Sciences

Prerequisites: Completion of CHEM 1113 and 1111 or CHEM 2124 with a grade of C or higher

Microbiological concepts, including overviews of bacteria, viruses, fungi, protozoa, prions, and viroid and how they interact with humans. Designed to serve students in health-related majors other than biology.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 2111: Environmental Seminar

Cross-listed: CHEM 2111, GEOL 2111

A seminar for students pursuing the environmental option of biology, chemistry, or geology and other students interested in environmental sciences.

BIOL 2124: Principles of Zoology

ACTS Common Course - BIOL1054

Prerequisites: Scores of 19 or higher on the reading and science reasoning portions of the enhanced ACT; or BIOL 1014 or BIOL 1114; or approval of the instructor.

A survey of the major animal phyla: morphology, physiology, and natural history.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 2134: Principles of Botany

ACTS Common Course - BIOL1034

Prerequisites: Scores of 19 or higher on the reading and science reasoning portions of the enhanced ACT; or BIOL 1014 or BIOL 1114; or approval of the instructor.

Introduction to the structure, function, classification, and importance of nonvascular and vascular plants.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 2404: Human Anatomy and Physiology I

ACTS Common Course - BIOL 2404

Prerequisites: Grade of "C" or better in a college chemistry course or permission of instructor

This course is the first in a two semester sequence that covers the basic structure and function of human organ systems including mechanisms of homeostasis. Specific topics include: body organization, basic biochemistry, cell biology, metabolism, histology, the integumentary, skeletal, muscular, and nervous systems. Laboratory sessions involve dissection, microscopy, demonstration and/or experimental modeling of concepts.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 2414: Human Anatomy and Physiology II

ACTS Common Course - BIOL 2414

Prerequisite: Grade of "C" or better in BIOL 2404 or consent of instructor

This course is the second in a two semester sequence that covers the basic structure and function of human organ systems including mechanisms of homeostasis. Specific topics include: the Endocrine, Cardiovascular, Lymphatic, Respiratory, Digestive, Urinary, and Reproductive systems as well as principles of immunity, genetics, metabolism, fluid and electrolyte balance, and acid-base homeostasis. Laboratory sessions involve dissection, microscopy, demonstration and/or experimental modeling of concepts.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 2881,2882,2883: Special Topics in Biology

Offered: On demand

Prerequisite: Consent of the instructor.

This course offers specialized instruction in an area of biological sciences that is not otherwise covered in the curriculum. The focus of the course will vary from offering to offering, thus the course may be taken more than once.

Note: BIOL 2884 includes a \$20 laboratory fee.

BIOL 2884: Special Topics in Biology

Offered: On demand

Prerequisite: Consent of the instructor.

This course offers specialized instruction in an area of biological sciences that is not otherwise covered in the curriculum. The focus of the course will vary from offering to offering, thus the course may be taken

more than once.

Note: BIOL 2884 includes a \$40 laboratory fee.

BIOL 3004: Plant Taxonomy

Prerequisites: BIOL 1114 and 2134 or permission of instructor.

An overview of the major principles of classification, identification, naming, and collection of representatives of vascular plants.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 3034: Genetics

Prerequisites: BIOL 1114 (or equivalent) with a grade of "B" or higher, MATH 1113 (or higher) and two semesters of chemistry.

Introduction to and discussion of the principles of Mendelian, molecular and population genetics with a strong emphasis on problem solving. Laboratory exercises will involve hands-on experience with microbes, plants, animals and fungi using traditional and molecular techniques.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 3043: Conservation

Cross-listed: ENVS 3043

Prerequisite: BIOL/ENVS/PHSC 1004

A study of natural resources, their utilization in a technical society, and factors leading to their depletion.

BIOL 3054: Microbiology

Prerequisites: One semester of chemistry and one semester of biology.

An introduction to the microbial world with an emphasis on prokaryotes. Identification of bacteria based on staining, immunologic reactions, morphology and physiology. Symbionts and pathogens of human and domestic animals. Principles of control using chemical and physical agents. An overview of virology and immunology.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 3064: Parasitology

Prerequisite: BIOL 2124

A survey of parasitism in the various phyla. Special emphasis is given to parasites that affect humans.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 3074: Human Physiology

Prerequisites: BIOL 1114, 2014, and two semesters of chemistry.

An introduction to the function of vertebrate body systems, i.e., muscle action, digestion, circulation, nervous control, endocrine, metabolism and respiration, with special emphasis on the human body.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 3084: Ichthyology

Cross-listed: FW 3084

Prerequisite: BIOL 2124

Systematics, collection, identification, natural history, and importance of fishes.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 3104: Introduction to Entomology

Cross-listed: AGPM 3104

This course will introduce the student to insect diversity and the identification of the major families of insects. Laboratory time will be spent learning family characteristics and collecting and preserving insect specimens. Lecture will consist of topics such as insect diversity, morphology and physiology.

\$25 laboratory fee.

BIOL 3111: Environmental Seminar

Cross-listed: ENVS 3111, CHEM 3111, and GEOL 3111

A seminar for students pursuing the environmental option of biology, chemistry, or geology and other students interested in environmental sciences.

BIOL 3114: Principles of Ecology

Cross-listed: FW 3114

Prerequisites: BIOL 2124, BIOL 2134, and one semester of chemistry.

Responses of organisms to environmental variables, bioenergetics, population dynamics, community interactions, ecosystem structure and function, and major bio geographical patterns.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 3134: Invertebrate Zoology

Prerequisites: BIOL 1114, BIOL 2124, BIOL 2134, and two semesters of chemistry.

Morphology, physiology, natural history and taxonomy of major invertebrate phyla. Laboratory maintenance and preservation techniques.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 3144: Ornithology

Cross-listed: FW 3144

Prerequisite: BIOL 2124

An introduction to the biology of birds. The course covers aspects of anatomy, physiology, behavior, natural history, evolution, and conservation of birds. Laboratories address field identification and natural history of the birds of Arkansas.

Note: Students will be expected to participate in an extended 5-7 day field trip.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 3154: Mammalogy

Cross-listed: FW 3154

Prerequisite: BIOL 2124

Taxonomy, identification, ecology, and study natural history of the mammals.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 3174: Physiological Ecology

Prerequisites: BIOL 1114, BIOL 2124, BIOL 2134 and two semesters of chemistry.

An in-depth study of plant and animal adaptations and responses to different environmental conditions. Comparative physiology of major systems, mechanisms of adaptation and adaptations to challenging habitats will be studied.

\$40 laboratory fee.

BIOL 3184: Animal Behavior

Cross-listed: PSY 3184

Prerequisites: sophomore standing in biology or psychology, or approval of instructor.

An introductory course in animal behavior covering behavioral responses in primitive and advanced animals exposed to a wide range of environmental and social conditions. Laboratory exercises will include field as well as in-lab exercises and will focus on observational techniques and analyses of behavioral patterns in vertebrates and invertebrates.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

BIOL 3213: Science Education in the Elementary School

Cross-listed: PHSC 3213

Prerequisites: Junior standing, ECED 2001, ECED 2002, and at least six credit hours in science.

An overview of the most recent and research-based strategies and techniques for planning, teaching, and assessing elementary science. Inquiry-based methods and other constructivist approaches as described in the National Science Education Standards will be emphasized. Design and execution of learning activities for an elementary school setting are required.

Note: To enroll in an internet section (TC1 or AT1) of this course, one of these prerequisite courses is required: COMS 1003, EDMD 3013, or equivalent.

Lecture two hours, laboratory two hours; three credit hours. \$40 laboratory fee.

BIOL 3223: Science Education in the Middle Level

Cross-listed: PHSC 3223

Prerequisites: 16 hours in science and MLED 2003.

This course is designed to provide pre-service teachers with an integrated approach to the teaching of science in the middle grades. Theoretical and practical aspects of teaching science will be explored and students will develop curricular materials based on their explorations.

Lecture two hours, laboratory 2 hours. \$40 laboratory fee.

BIOL 3224: Herpetology

Cross-listed: FW 3224

Prerequisite: BIOL 2124

The phylogeny, classification, physiology, behavior, and distribution of reptiles and amphibians. The Laboratory will stress identification of the species found in Arkansas.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 3233: Science Education in the Secondary School

Cross-listed: PHSC 3233

Offered: Fall

Prerequisites: 16 hours in biology or 16 hours in physical science and SEED 2002.

This course will examine the issues of nature and history of science, developing lessons and assessments, and science education standards for the prospective secondary school teacher. Curriculum development, including assessment and planning skills, utilizing various instructional media and inquiry methodology are emphasized. Design and execution of learning activities for a secondary school setting are required.

Lecture two hours, laboratory two hours. \$40 laboratory fee.

BIOL 3243: Integrating the Three Dimensions of Science

Cross-listed: PHSC 3243

Prerequisites: Junior Standing and at least 8 hours of science.

This course integrates the three major areas of discipline in science: physical science, life science and earth science, using as a focus the processes and cross-cutting concepts of science, technology, engineering and mathematics (STEM).

\$40 laboratory fee.

BIOL 3252: The Nature and Context of Science

Cross-listed: PHSC 3252

Prerequisite: At least 12 hours of science courses.

This seminar course examines science from a holistic perspective. It will concentrate on examining how current science develops scientific knowledge including unifying concepts across scientific disciplines, the place of science within modern society, technology and its role in science and society, and current scientific methodology.

BIOL 3253: Teaching Methods for STEM

Cross-listed: PHSC 3253

Prerequisites: Junior Standing, ECED 2001, ECED 2002, PHSC 3243 and completion of at least 8 hours of science.

An overview of strategies and techniques for planning, teaching, and assessing elementary science. An emphasis will be placed on best practices, crosscutting concepts, and core ideas outlined in current National Science Frameworks developed in conjunction with the National Research Council. Current adopted standards such as the Next Generation Science Standards (NGSS) and Common Core State Standards will be emphasized in designing learning experiences that integrate science, technology, math,

and engineering (STEM) with language arts skills. Inquiry-based methods and other constructivist approaches as described in the National Science Education Frameworks will be emphasized. Design and execution of learning activities for an elementary school setting are required.

Lecture two hours, laboratory two hours; three credit hours. \$40 laboratory fee.

BIOL 3353: Fundamentals of Toxicology

Cross-listed: CHEM 3353

Offered: On demand

Prerequisite: CHEM 3254

An introduction to the science of poisons. Toxicological principles studied include structures, dose/response relationships, metabolism, mechanism of action, and gross effects of chemicals.

BIOL 3803: Applied Pathophysiology

Cross-listed: NUR 3803

Prerequisites: grade of C or better in BIOL 2014 or BIOL 2404 and BIOL 2414 or BIOL 3074

This course focuses on the mechanisms and concepts of selected pathological disturbances in the human body. Emphasis is placed on how the specific pathological condition effects the functioning of the system involved, as well as its impact on all other body systems.

BIOL 4023: Immunology

Prerequisites: Four hours each in biology and chemistry and/or consent of instructor.

An overview of the human immune system, including cellular and humoral defense mechanisms, immunity to infection, hypersensitivity, transplant rejection, and tumor destruction. Immune deficiency and autoimmune diseases. Antibody structure and the use of antibodies in medicine and research.

BIOL 4024: Limnology

Cross-listed: FW 4024

Prerequisite: BIOL (FW) 3114.

A study of physical and chemical processes in fresh water and their effects on organisms in lakes and streams. Laboratory sessions and field trips demonstrate limnological instrumentation and methodology.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 4033: Cell Biology

Prerequisites: BIOL 1114, four additional hours of biology, eight hours of chemistry, and C grade or better in one course from BIOL 3034, 3054, 3074, 4023 or CHEM 3344.

The primary goal of this course is to build on the cell and molecular component of BIOL1114, by performing an in-depth study of the molecular processes underlying cell structure and function through the directed application of energy and processing of information within the cell. Topics include methods of cell study, ultrastructure and function of cellular organelles, membrane structure and function, cell-cell communication, cell division and differentiation. Lecture three hours per week.

BIOL 4044: Dendrology

Prerequisites: BIOL 1114 and BIOL 2134.

A study of woody plants with emphasis on field recognition throughout the year.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 4054: Vertebrate Histology

Prerequisites: BIOL 1114, BIOL 2124 and an additional four hours in biology.

A study of functional/structural relationship of cells, tissues, and organs. Exercises in the preparation and observation of tissues and development of general principles of micro techniques.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

BIOL 4064: Evolutionary Biology

Prerequisites: BIOL 1114, 2124, and 2134, or permission of instructor.

This course focuses upon the principles and major concepts in evolutionary biology from a historical and contemporary viewpoint. Morphological and molecular evolution, population genetics, systematics, the fossil record, a history of life on earth, macroevolution, and adaptation are among the topics examined in this course.

Lecture 3 hours, laboratory 3 hours. \$40 laboratory fee.

BIOL 4074: Molecular Genetics

Prerequisite: BIOL 3034

This course continues the material introduced in Genetics (BIOL 3034) with a focus upon the major concepts and techniques in contemporary molecular genetics. Current viewpoints of the gene, gene regulation, developmental genetics, recombinant DNA technology, genomics, proteomics, and molecular evolution are among the topics examined in the course.

Lecture 3 hours, laboratory 3 hours. \$40 laboratory fee.

BIOL 4083: Cancer Biology

Prerequisite: BIOL 3034

An in-depth study of major areas and topics in cancer biology, including etiology and epidemiology of cancer, impact of the human genome mapping project, molecular genetics and cell biology of cancer, cancer modeling and clinical aspects of human cancer.

BIOL 4094: Coastal Ecology

Prerequisites: BIOL 2124 and BIOL 2134 and one semester of chemistry.

A focused study of coastal ecology, as represented by the Mississippi Gulf Coast. Coastal plants, animals, their interactions, and relationship to the physical environment are explored.

Note: The course includes a required field trip to the Gulf Coast. Investigations are conducted in the marshes, bays, estuaries, bogs, and barrier island systems. Students bear the cost of food and a nominal housing fee.

\$40 laboratory fee.

BIOL 4111: Environmental Seminar

Cross-listed: CHEM 4111, GEOL 4111

A seminar for students pursuing the environmental option of biology, chemistry, or geology and other students interested in environmental sciences.

BIOL 4112: Biology Internship

Prerequisites: Junior or senior standing and consent of internship program director.

A supervised, practical experience providing BIOL majors with a hands-on, professional experience related to their career interests. The course will allow students to gain experience in an occupational environment. Students will be placed in positions under the direction of the internship program director and work supervisor. The program will emphasize application of classroom knowledge to career goals. Approximately 200 clock hours, a proposal, a log book or journal, a summary letter from the employment supervisor, and a written report are required.

Note: A maximum of four credit hours is allowed for BIOL internship.

BIOL 4114: Biology Internship

Prerequisites: Junior or senior standing and consent of internship program director.

A supervised, practical experience providing BIOL majors with a hands-on, professional experience related to their career interests. The course will allow students to gain experience in an occupational environment. Students will be placed in positions under the direction of the internship program director and work supervisor. The program will emphasize application of classroom knowledge to career goals. Approximately 400 clock hours, a proposal, a log book or journal, a summary letter from the employment supervisor, and a written report are required.

Note: A maximum of four credit hours is allowed for BIOL internship.

BIOL 4124: Biological Assessment of Water Quality

Cross-listed: ENVS 4124

Offered: Spring

Prerequisites: BIOL/ENVS/PHSC 1004, BIOL/FW 3114, and three semesters of chemistry.

This course is an in-depth study of assessment of water quality by analyzing biological and chemical data.

This course may include topics and case studies from the following list:

Compare and contrast biological and chemical techniques for assessing water quality
Physical and chemical properties of water
Connecting flows and water quality
Nutrient pollution
Point and non-point sources
Effects of petroleum pollution from extraction, transportation, refining, and combustion on biological systems
SOPs, industry, and government standard practices and procedures for analyzing water quality
Species richness, species evenness, and rank abundance curves
Techniques from microbiology
Plants as assessment tools
Cladocerans and other zooplankton in laboratory or field
Macro invertebrates as indicators
Fighting Back Against Invasive Plants
Watch-dogging Wetlands Mitigation
Tackling the Dead Zone & Restoring the Mississippi

Volunteer monitoring helps identify problems and improve clean-up

Lecture 3 hours, laboratory 3 hours. This course includes several required field trips. \$40 laboratory fee.

BIOL 4163: Biodiversity and Conservation Biology

Cross-listed: FW 4163

Prerequisite: A course in ecology or permission of instructor

The concepts of, processes that produce, and factors that threaten biological diversity are introduced and examined. Further emphasis is placed on unique problems associated with small population size, management of endangered species and practical applications of conservation biology.

BIOL 4701: Special Methods in Biology

Prerequisite: Admission to student teaching phase of the teacher education program.

Co-requisite: SEED 4909

Intensive on campus exploration of the principles of curriculum construction, teaching methods, use of community resources, and evaluation as related to teaching biology.

\$40 laboratory fee.

BIOL 4881,4882,4883,4884: Advanced Topics in Biology

Offered: On demand

Prerequisites: an upper level science course and consent of the instructor.

This course offers advanced instruction in an area of biological sciences that is not otherwise covered in the curriculum. The focus of the course will vary from offering to offering, thus the course may be taken more than once.

\$40 laboratory fee.

BIOL 4891: Seminar in Biology

Prerequisite: An upper level biology course and senior standing.

Designed to integrate all aspects of biology by covering current topics in many fields of biology and to acquaint the student with fields of biology not covered in the general curriculum.

BIOL 4951,4952,4953,4954: Undergraduate Research in Biology

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$40 laboratory fee.

Business Law Course Descriptions

BLAW 2033: Legal Environment of Business

Prerequisite: Sophomore standing

A survey of the U.S. legal system, the ethical and public policy issues relevant to business, and the principles of law commonly affecting business, including Constitutional law, contract law, tort law, employment law, white-collar crime, and laws pertaining to corporations and other business organizations.

BLAW 4073: Special Topics in Law

Prerequisites: BLAW 2033. Additional prerequisites for 3000 and 4000 level courses are listed in the College of Business section of this catalog.

Course offers an in-depth exploration of selected legal issues affecting business. The primary focus of the course will vary from offering to offering; thus the course may be taken more than once.

Business Administration Course Descriptions

BUAD 1023: Keyboarding

Instruction and supervised practice in basic keyboarding skills with emphasis on alphabetic and numeric keyboard, ten-key pad, and basic applications transferable to computer terminal keyboards. The purpose of the course is to prepare Business Education majors for teaching secondary education students how to use computer keyboards. The course is required by Business Education majors, but may be taken by other majors as well.

BUAD 1111: Introduction to Business

The course provides university orientation and a general business prospective. Fundamentals of organizing and managing business enterprises and the American enterprise system. Principles and framework for analysis of business problems with a systems emphasis.

Note: This course may not be taken for credit after completion of MGMT 3003.

BUAD 2003: Business Information Systems

An introduction to business information systems with emphasis on concepts and applications utilizing spreadsheets, word processing, and database management as productivity tools; provides basic rationale for using computers in generating and managing information necessary for the business decision making process.

BUAD 2043: Principles of Word Processing

Prerequisites: BUAD 1023 or BUAD 2003 or COMS 1003

A course designed to develop technology skills using current software; application documents include letters, memos, reports, tables, desktop publishing, and graphics for business as well as personal use.

BUAD 2053: Business Statistics

ACTS Common Course - BUSI2103

Prerequisites: COMS 2003 or BUAD 2003 and MATH 2223 or any higher level math course.

This course reviews basic descriptive statistics and probability distributions. The course introduces inferential statistics and their application to business problems. Topics covered include data collection, the t-tests for one sample, matched-pairs, and independent groups, the F-test for one and two-way analysis of variance, the z-test for one and two proportions, the chi-square tests for independence and goodness of fit, the t- and F- tests as they relate to simple and multiple regression, control charts, time-series analysis, the visual display of quantitative information, and the reporting of results. Problems are addressed using technology such as statistical calculators and advanced statistical software.

BUAD 3023: Business Communications

Prerequisites: 6 hours of English Composition, BDA 2003, ACCT 2003, ECON 2003, and either COMM 2003 or COMM 2173.

Course includes principles of effective business communication using technology to generate and present documents including letters, memos, and reports; international, ethical, legal, and interpersonal topics are integrated throughout the course.

BUAD 3123: Management

A study of the basic principles of management and organizational behavior including planning, organizing, leading, controlling, staffing, decision making, ethics, interpersonal influence, and group behavior; and organizational change and development.

BUAD 3143: Marketing

This course covers marketing fundamentals, consumer behavior, the retailing and wholesaling systems, marketing functions, marketing policies, marketing costs, critical appraisal of marketing, marketing ethics and social responsibility, and the relationship between marketing, society, and the government.

BUAD 3293: International Business

This course covers all aspects of international business including, but not limited to, international politics, culture, economics, finance, technology, marketing, ethical decision-making, strategic planning and management, and human resource development in a global environment.

BUAD 3393: Small Business Firm Planning

Application of business planning principles to the creation and operation of small-scale enterprises. The emphasis for this course is on the preparation and implementation of business plans for small firms. Focus will be given to plans used for business strategy and for seeking financial investment in the firm.

BUAD 4000: College of Business College Distinction Activity

Prerequisite: Acceptance into the College of Business College Distinction program.

This course is required for all students accepted into the College of Business College of Distinction.

Note: This course may be taken a maximum of four times.

Chemistry Course Descriptions

CHEM 1111: Survey of Chemistry Laboratory

ACTS Common Course - CHEM1214 (taken with CHEM 1113)

Co-requisite: CHEM 1113.

An introduction to laboratory experiences in chemistry.

\$40 laboratory fee

CHEM 1113: A Survey of Chemistry

ACTS Common Course - CHEM1214 (taken with CHEM 1111)

Prerequisite: A score of 19 or above on the mathematics section of the ACTE exam, or completion of MATH 0903, Intermediate Algebra, with a grade of C or better.

Co-requisite: CHEM 1111

A survey of selected topics in chemistry for life science majors. A brief introduction to fundamental concepts, atomic structure, chemical bonding, and periodic law as applied in the life sciences and allied areas.

May not be taken for credit after completion of CHEM 2124 or 2134.

CHEM 2111: Environmental Seminar

Cross-listed: BIOL 2111, GEOL 2111

A seminar for students pursuing the environmental option of chemistry, biology, or geology and other students interested in environmental sciences.

CHEM 2120: General Chemistry I Lab

Co-requisite for CHEM 2124 General Chemistry I.

CHEM 2124: General Chemistry I

ACTS Common Course - CHEM1414

Prerequisite: Score of 21 or higher on the math portion of the ACTE; or MATH 1113 or equivalent; or a "C" or better in CHEM 1113 and CHEM 1111; or approval of the instructor.

Co-requisite: CHEM 2120

The first of a two semester sequence designed for science and engineering majors. Topics include qualitative and quantitative, applied and theoretical analyses of the interactions of matter; atoms, molecules, ions, the mole concept, chemical equations, gases, solutions, intermolecular forces, thermochemistry, quantum theory, periodic law, ionic and covalent bonding, molecular geometry.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

CHEM 2130: General Chemistry II Lab

Co-requisite for CHEM 2134, General Chemistry II.

CHEM 2134: General Chemistry II

ACTS Common Course - CHEM1424

Prerequisite: Completion of CHEM 2124 or equivalent.

Co-requisite: CHEM 2130

A continuation of CHEM 2124, encompassing chemical kinetics, equilibrium, acid/base systems, atmospheric chemistry, thermodynamics, electrochemistry, descriptive inorganic chemistry and nuclear chemistry.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

CHEM 2204: Organic Physiological Chemistry

ACTS Common Course - CHEM1224

Offered: Fall

Prerequisite: CHEM 1113 and CHEM 1111 or CHEM 2124.

For students who desire only one semester of organic/physiologic chemistry, such as wildlife biology and various allied health programs. A brief introduction to organic and physiological chemistry. The structures, reactions and biological aspects of organic compounds will be stressed.

Note: Will not be counted for chemistry credit toward the ACS approved BS in chemistry.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

CHEM 2991,2992,2993,3991,3992,3993: Special Problems in Chemistry

Prerequisite: Permission of instructor

One to three credits, depending on the nature and extent of the problem. This course is designed to encourage creative, independent scientific activity on the part of advanced students. Problems will be designed to fit the future aspirations of individual students and will be supervised by a faculty mentor.

\$40 laboratory fee.

CHEM 3111: Environmental Seminar

Cross-listed: BIOL 3111, ENVS 3111, and GEOL 3111

A seminar for students pursuing the environmental option of chemistry, biology, or geology and other students interested in environmental sciences.

CHEM 3245: Quantitative Analysis

Offered: Spring

Prerequisite: CHEM 2134

This is a lab intensive course, that focuses on a variety of experimental techniques that enable the chemist to characterize and quantify many types of samples.

Lecture three hours, laboratory six hours. \$40 laboratory fee.

CHEM 3254: Fundamentals of Organic Chemistry

Prerequisite: CHEM 2134

An introduction to the chemistry of covalently bonded carbon. Special emphasis will be given to descriptive

and structural aspects of Organic Chemistry.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

CHEM 3264: Mechanistic Organic Chemistry

Prerequisite: Completion of CHEM 3254 or equivalent.

A continuation of CHEM 3254 with special emphasis on theory and mechanisms of organic reactions.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

CHEM 3301: Chemistry Seminar

Offered: Fall

Participants will prepare written reviews, present oral reports, and defend their reports. Emphasis will be on the use of the library and current chemical research.

CHEM 3313: Environmental Chemistry

Offered: Spring

Prerequisite: Chemistry 3254

An examination of the chemistry of the environment including the origins, natural processes, and anthropogenic influences.

CHEM 3324: Physical Chemistry I

Offered: Fall

Prerequisites: CHEM 3254, PHYS 2114, and MATH 2924

A junior-level chemistry course required of all chemistry majors. Course content includes ideal and non-ideal gases, laws of thermodynamics, enthalpy, entropy, heat capacity, free energy, Maxwell's relations, activities, phase and chemical equilibria, electrochemistry, colligative properties, kinetic theory of gases, statistical mechanics, classical kinetics and mechanisms.

Lecture 3 hours, laboratory 3 hours. \$40 laboratory fee.

CHEM 3334: Physical Chemistry II

Offered: Spring, alternating years

Prerequisite: CHEM 3324

Continuation of CHEM 3324. Early and modern quantum theory, wave mechanics and the Schrodinger wave equation, valence bond theory, molecular orbital (MO) theory, computational chemistry, group theory and molecular symmetry, vibrational and rotational spectroscopy.

Lecture 3 hours, laboratory 3 hours. \$40 laboratory fee.

CHEM 3344: Principles of Biochemistry

Prerequisites: CHEM 3264 and BIOL 1014 or 1114

The chemistry of metabolism of carbohydrates, lipids, and proteins. Basic concepts of the biochemistry of DNA, vitamins, enzymes, biological oxidations, and bioenergetics with introduction to biochemical

laboratory techniques.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

CHEM 3353: Fundamentals of Toxicology

Cross-listed: BIOL 3353

Offered: On demand

Prerequisite: CHEM 3254

An introduction to the science of poisons. Toxicological principles studied include structures, dose/response relationships, metabolism, mechanism of action, and gross effects of chemicals.

CHEM 3363: Metabolic Biochemistry

Offered: Spring

Prerequisite: grade of C or better in CHEM 3344

The study of metabolism of carbohydrates, lipids, proteins, and nucleic acids, and the study of biological information flow in organisms. Metabolic pathways and genetic informational flow in plants and animals will be addressed.

CHEM 3423: Descriptive Inorganic Chemistry

Offered: Fall

Prerequisite: CHEM 2134

Basic descriptive inorganic chemistry dealing in a systematic way with the elements and the structures, properties and reactions of their inorganic compounds. Topics range from coordination chemistry to organometallic chemistry to bioinorganic chemistry.

CHEM 4111: Environmental Seminar

Cross-listed: BIOL 4111, GEOL 4111

A seminar for students pursuing the environmental option of chemistry, biology, or geology and other students interested in environmental sciences.

CHEM 4401: Chemistry Seminar

Offered: Spring

Prerequisite: CHEM 3301 and senior status

Participants will prepare written reviews, present oral reports, and defend their reports. Emphasis will be on the use of the library and current chemical research.

CHEM 4414: Instrumental Analysis

Offered: Fall

Prerequisite: CHEM 3245

This course is designed for chemistry majors. It will focus on the understanding of the instrumental methods used in analytical chemistry. A variety of spectrometric, chromatographic, and electrometric

techniques will be covered in the lecture and laboratory.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

CHEM 4424: Advanced Inorganic Chemistry

Offered: Spring, alternating years

Prerequisite: CHEM 3423

CHEM 4424 is a senior level inorganic chemistry course. The course gives an overview of some of the many advanced areas of study in inorganic chemistry including atomic and molecular structure, acid-base chemistry, symmetry and group theory, coordination chemistry and organometallic chemistry.

Lecture three hours, laboratory three hours. \$40 laboratory fee

CHEM 4433: Advanced Topics in Chemistry

Offered: On demand

Prerequisite: Permission of instructor.

Various advanced topics in any specialty area of chemistry, e.g., polymers, coordination chemistry, and nuclear chemistry.

CHEM 4951,4952,4953,4954: Undergraduate Research in Chemistry

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$40 laboratory fee.

CHEM 4991,4992,4993,4994: Special Problems in Chemistry

Prerequisite: Permission of instructor.

One to four credits, depending on the nature and extent of the problem. This course is designed to encourage creative, independent scientific activity on the part of advanced students. Problems will be designed to fit the future aspirations of individual students and will be supervised by a faculty mentor.

\$40 laboratory fee.

Chinese Course Descriptions

CHIN 1013: Beginning Chinese I

Emphasis on conversation; introduction to basic grammar, reading, writing, and culture.

Three hours of applied class work and one hour of foreign language lab per week is required.

CHIN 1023: Beginning Chinese II

Continued emphasis on conversation and fundamental language skills.

Three hours of applied class work and one hour of foreign language lab per week is required.

CHIN 2013: Intermediate Chinese I

Prerequisite: CHIN 1023 or equivalent.

Instruction designed to develop communication skills and knowledge of grammar, reading, writing, and culture.

Three hours of applied class work and one hour of foreign language lab per week is required.

CHIN 2023: Intermediate Chinese II

Prerequisite: CHIN 2013 or equivalent.

Instruction designed to enhance communication skills and knowledge of grammar, reading, writing, and culture.

Three hours of applied class work and one hour of foreign language lab per week is required.

Criminal Justice Course Descriptions

CJ 2003: Introduction to Criminal Justice

ACTS Common Course - CRJU1023

Cross-listed: SOC 2003

An overview of the criminal justice system and the workings of each component. Topics include the history, structure, and functions of law enforcement, judicial and correctional organizations, their interrelationship and effectiveness, and the future trends in each.

CJ 2033: Social Problems

ACTS Common Course - SOCI2013

Cross-listed: SOC 2033

Prerequisite: SOC 1003

A sociological analysis of contemporary social problems including inequalities, deviance, population changes, and troubled institutions.

CJ 2043: Crime and Delinquency

Cross-listed: SOC 2043

Prerequisite: SOC 1003 or CJ(SOC) 2003

A study of the major areas of crime and delinquency; theories of crime, the nature of criminal behavior and the components of the criminal justice system. Topics include: crime statistics, criminology research, theories of crime and delinquency, criminal typologies and operations of the criminal justice system.

CJ 3023: Judicial Process

Cross-listed: POLS 3023

The structure and operations of the state and national court systems. Emphasis is upon the role of the criminal courts in the political system and the consequences of judicial policy making.

CJ 3033: The Criminal Mind

Cross-listed: PSY 3033

Prerequisites: PSY 2003

The course familiarizes students with various models, theories, and research regarding criminality from a psychological perspective. Genetic, constitutional, and biological factors will be emphasized and some practical applications to dealing with criminals will be considered.

CJ 3083: Social Deviance

Cross-listed: SOC 3083

Prerequisite: SOC 1003 or SOC (CJ) 2003

An introduction to the sociological and criminological study of human deviance. Various theories of deviance will be examined and applied to real life examples.

CJ 3103: The Juvenile Justice System

Cross-listed: SOC 3103

Prerequisite: CJ(SOC) 2003 or permission of instructor

An in-depth look at the juvenile justice system including the structure, statuses and roles as well as current issues, problems, and trends.

CJ 3153: Prison and Corrections

Cross-listed: SOC 3153

Prerequisites: SOC 1003 and SOC (CJ) 2033

An introduction to and analysis of contemporary American corrections. Emphasis will be on current and past correctional philosophy, traditional and modern correctional facilities, correctional personnel and offenders, new approaches in corrections, and the relationship of corrections to the criminal justice field.

CJ 4013: Drugs in Society

Cross-listed: SOC 4013

Prerequisite: SOC 1003 or CJ 2003

This course presents a comprehensive study of the history and prohibition of drug use in the United States, as well as the effects of drugs on society in the form of crime, prison and treatment. The main focus of this class is on the history of drug use, how certain drugs become illegal, and the intended and unintended consequences of drug prohibition for communities and society.

CJ 4023: Law and the Legal System

A comprehensive study of judicial process and behavior in criminal and civil law.

Note: May not be taken for credit after completion of POLS 5023 or equivalent.

CJ 4141,4142,4143,4144: Seminar in Criminal Justice

Prerequisites: CJ 2003 and consent of instructor.

This course is a directed seminar in an area of criminal justice selected by both the student and supervising faculty member. Topics will vary depending on the research underway, community or student need, and the unique educational opportunity available.

This course may be repeated for course credit if the content differs.

CJ 4206: The Law in Action

Cross-listed: SOC 4206

Offered: Summer only

Prerequisites: CJ (SOC) 2043, 9 hours of Criminal Justice coursework, senior classification, and instructor permission.

An examination of sociological theories of law and main currents of legal philosophy is followed by participant observation of actual community legal agencies, including police, courts, and others as available.

Note: Requires insurance fee.

CJ 4951,4952,4953,4954: Undergraduate Research in Criminal Justice

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

CJ 4991,4992,4993,4994: Special Problems in Criminal Justice

Prerequisite: Prior approval of instructor and department.

Content is to be determined by faculty student conference and based on student background and interest.

Communications Course Descriptions

COMM 1003: Introduction to Speech - Communication

ACTS Common Course - SPCH 1003

The purpose of this course is to develop within each individual an understanding of the utilitarian and aesthetic dimensions of speech communication and to increase ability to function effectively with others in a variety of communication situations.

COMM 1111: Individual Events Practicum

Prerequisite: Consent of instructor.

Preparation and performance of a variety of public speaking events.

COMM 1121: Individual Events Practicum

Prerequisite: Consent of instructor.

Preparation and performance of a variety of public speaking events.

COMM 2003: Public Speaking

Prerequisites: ENGL 1013 or equivalent.

Fundamentals of composition, delivery, and logical reasoning. Effective utilization of basic visual aids will be included.

COMM 2013: Voice and Diction

A course for majors and non-majors. A study of the effective use of the voice, improvement of diction, development of vocabulary, use of the dialects, techniques of radio television announcing, recognition of basic speech disorders.

COMM 2023: Communication Research and Writing

This course teaches majors the fundamentals of conducting scholarly research, accepted citation standards, and effective writing techniques for the communication discipline. Course includes a survey of the sub-areas of the discipline and lecture, discussion, research, presentations, and writing scholarly papers.

COMM 2111,2121: Debate Practicum

Prerequisite: Consent of instructor.

Case research and participation in public debate.

COMM 2173: Business and Professional Speaking

An oral communication course for individuals in business, industry and the professions. Human communication theories and behavioral research are used as a framework for generating competencies in interviewing, briefings, conference leadership, and intergroup coordination.

COMM 3003: Interpersonal Communication

This course emphasizes interpersonal aspects of communication. Central topics are choice making, personal knowledge, creativity and interpersonal relationships. Increased self awareness, understanding of interpersonal relationships and improvement of interpersonal skills are primary goals.

COMM 3013: Intercultural Communication

An examination of communication variables in different cultures and how to better understand and more effectively communicate across diverse cultures.

COMM 3023: Introduction to Linguistics

Cross-listed: ENGL 3023, FR 3023, GER 3023, SPAN 3023

Offered: Fall

Prerequisite: ENGL 1023 or equivalent.

A study of basic concepts of language, comparative characteristics of different languages, and the principles of linguistic investigation.

COMM 3033: Interviewing Principles and Practices

Prerequisite: COMM 2003 or consent of instructor.

A course for both majors and non-majors that uses interviewing theory as a framework for developing skills in preparing for and practicing various types of interviews.

COMM 3043: Advanced Public Speaking

Prerequisite: COMM 2003 or consent of the instructor.

Focuses on enhanced preparation and delivery of advanced forms of public address. Critical analysis of various forms of public discourse and effective utilization of multi-media speech aids will be stressed.

COMM 3063: Oral Interpretation

Theory and practice of intelligent and effective oral reading of prose and poetry.

COMM 3073: Group Communication

Examines theory and procedures used when communicating in groups and teams. Areas of inquiry include principles of group formation and development, working in teams, leadership, conflict management, and discussion methods involving decision-making and policy implementation.

COMM 3111,3121: Debate Practicum

Prerequisite: Consent of instructor.

Case preparation, brief writing, and participation in public debate.

COMM 3123: Argumentation

Prerequisites: COMM 1003, COMM 2003 or equivalent, or consent of instructor.

Designed to develop research, critical thinking, and persuasive speaking ability. Includes lecture, discussion, research, study of debates, classroom debates, and presentations.

COMM 3163: Writing for Performance

Students will learn to communicate orally through the medium of aesthetic texts such as monologues and plays. This course teaches skills necessary to all forms of dramatic writing, with emphasis on plot structure, character development, and dialogue.

COMM 3223: Nonverbal Communication

This course provides an examination of the various methods in which nonverbal communication is utilized in the communication process. Included in the examination will be historical contexts, as well as the effects of physical appearance, touch, proxemics, eye contact, kinesics, and voice.

COMM 4003: Human Communication Theory

Prerequisite: COMM 1003, 2003, and 2023, or consent of instructor.

This capstone theory class integrates learning about speech communication in various contexts. It is an in-depth study of contemporary and traditional perspectives of human communication, and synthesizes major concepts in human communication theory development.

COMM 4053: Speech Communication Seminar

Prerequisite: Junior standing

A course for both majors and non-majors who want to investigate the relationship between human communication and contemporary social, political, and economic issues.

COMM 4063: Organizational Communication

Theories of organizational communication are examined in terms of their practical application to various organizational contexts, including social, political, profit, and nonprofit organizations. Includes lecture, discussion, research, and group projects.

COMM 4111,4121: Individual Events Practicum

Prerequisite: Consent of instructor.

Preparation and performance of a variety of interpretive events.

COMM 4123: Rhetorical Criticism

This course will provide the principles of rhetorical theories as they have developed throughout history, and apply them to the critical analysis of various communication events.

COMM 4153: Persuasive Theory and Audience Analysis

Survey of classical and social science theories of persuasion. Particular emphasis is given to analysis of persuasive strategies, preparation of persuasive appeals, ethics of persuasion, and audience analysis. A consideration of social movements and persuasive campaigns is also included.

COMM 4173: Internship in Speech Communication

Prerequisites: Fifteen semester hours of Communications and COMM 4063, which can be taken concurrently; university grade point average of at least 2.50.

A course that focuses on career goals of students through classroom discussions and places students in communication positions within public and private organizations.

COMM 4701: Special Methods in Speech

Prerequisites: Admission to student teaching phase of the teacher education program.

Co-requisite: SEED 4909

Intensive on campus exploration of the principles of curriculum construction, teaching methods, use of community resources, and evaluation as related to teaching speech.

COMM 4951,4952,4953,4954: Undergraduate Research in Communications

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

COMM 4991,4992,4993,4994: Special Problems in Communications

A course for majors only. Students are accepted by invitation of the instructor.

Computer and Information Science Course Descriptions

COMS 1003: Introduction to Computer Based Systems

ACTS Common Course - CPSI1003

Provides students with both computer concepts and hands-on applications. Although little or no prior computer experience is required for this course, keyboarding proficiency is assumed. Topics include PC basics, file maintenance, and hardware and software components. Students will gain experience in the use of Windows, e-mail, the Internet, word processing, spreadsheets, databases, and presentation packages. The integration of software packages will also be covered.

Note: This course may not be taken for credit after completion of COMS 2003 or BUAD 2003.

Note: Credit by examination is offered to students who have notable experience with computers and MS Office applications. Information regarding this examination can be found at cs.atu.edu/coms1003.

COMS 1333: Web Publishing I

Prerequisites: COMS 1003 or BUAD 2003

This course focuses on how to develop web pages for display on the World Wide Web. Topics covered include standards-based coding, hyperlinks, images, tables, forms, design issues, and other topics as appropriate. Students will learn how to publish a web site to a server and maintain the site.

COMS 1403: Orientation to Computing, Information, and Technology

Co-requisite: MATH 1113 and COMS 1411

An overview of hardware, software, technology, and information systems concepts and terms as well as ethics and opportunities within the three fields.

Note: Required of all students who have declared a major in Computer Science, Information Systems, or Information Technology.

COMS 1411: Computer and Information Science Lab

Co-requisite: COMS 1403

An introduction to the computing resources of the department and the university.

COMS 2003: Microcomputer Applications

Prerequisite: COMS 1003 or BUAD 2003

This course provides hands-on experience with several software applications. Topics include intermediate and advanced word processing; spreadsheet design, formulas, and charts; database design principles and implementation; presentation design and techniques; and integration among these applications. Students will be required to apply each package on a semester project related to their major.

COMS 2104: Foundations of Computer Programming I

Prerequisites: MATH 1113, and either COMS 1403 and 1411 or consent of instructor

An introduction to the foundational concepts of programming using structured programming concepts of C++ as an implementation tool. Programming principles covered in lecture are practiced in lab. Major topics include sequential, selection, and iterative control structures, functions, parameter passing, and file processing. Arrays are introduced as a structured data type.

COMS 2163: Scripting Languages

Prerequisite: Minimum of 3 hour programming course.

This course introduces the student to script writing in several languages. The primary categories of scripts will be UNIX shell, text processing, and Perl. CGI Scripts, using Perl, will be introduced.

COMS 2203: Foundations of Computer Programming II

Prerequisites: MATH 1113 or equivalent with a grade of C or better and completion of COMS 2104 with a grade of C or better.

This course is a continuation of Foundations of Programming I. Topics include multi-dimensional arrays, functions, string processing, classes, and records. Students are introduced to object oriented programming using C++.

COMS 2213: Data Structures

Prerequisites: COMS 2203, and COMS 2903

This course involves a study of abstract data structures and the implementation of these abstract concepts as computer algorithms.

COMS 2223: Computer Organization and Programming

Prerequisites: COMS 2203 and ELEG 2134

Introduction to organizing and structuring hardware components of computers. Topics include internal data representation, data transfer and control, I/O, memory hierarchy, and programming in assembly.

COMS 2233: Introduction to Databases

Prerequisite: COMS 1003 or COMS 1403

This course develops a detailed understanding of a database software package developed for microcomputer applications. Topics include how to design, implement, and access a personal database. Entity relationship diagrams are emphasized in design. The use of macros, data conversion operations, linking, and complex selection operations are used in implementation. Advanced report generation mechanisms are covered along with custom-designed menus and user interfaces.

COMS 2333: Web Publishing II

Prerequisite: COMS 1333 or consent of instructor.

This course is a continuation of COMS 1333. Students are introduced to multimedia design concepts and software. Multimedia applications and design tools are used to create and maintain multimedia products such as dynamic graphics, animation, interactive websites, and video.

COMS 2700: Networking and Architecture Laboratory

Co-requisite: COMS 2703

Laboratory exercises repairing and networking computers.

COMS 2703: Computer Networks and Architecture

Prerequisites: COMS 1411 and COMS 1403

Co-requisite: COMS 2700

This course covers how to install and administer a local area network and connect it to the Internet. Topics

include network architecture, hardware, and software, along with popular protocols for establishing connectivity for sharing resources such as printers and files. Participation in a designated lab outside of the regularly scheduled meeting time is required.

COMS 2713: Survey of Operating Systems

Prerequisites: COMS 1411; COMS 1003 or COMS 1403

Several Operating Systems (such as Unix, Microsoft, IBM) will be examined with regard to the user's view of the system. This view includes the types of files supported, the kinds of operations that can be performed on files (from the shell and from programs), the mechanisms for starting and controlling processes (i.e. running programs), and some basic utility programs that a beginning or intermediate level administrator would need to use.

COMS 2733: Introduction to Computer Forensics and Security

Prerequisite: COMS 2703

Co-requisite: COMS 2713

An introduction to the fundamentals of computer forensic technology. The course emphasizes techniques for identifying and minimizing the threats to, and vulnerabilities of computer systems. These techniques include methods and tools for tracking suspicious activity, for recovering and preserving digital media, and for doing post-mortem analysis.

COMS 2803: Programming in C

Co-requisite: MATH 1113

Not for majors. This course involves the design, coding, debugging, and implementation of programs using the C language. The UNIX operating system is introduced.

Note: May not be taken for credit after the successful completion of COMS 2104.

COMS 2853: Business Application Programming using COBOL

Prerequisite: COMS 2203

This course involves the analysis, design, development, testing, implementation, and maintenance of business application programs using the COBOL language. Topics include traditional data file organization, access, and processing methodologies. Additional topics include data validation, tables, sorting, searching, screen I/O, and report-based output. Programs are developed in PC and IBM mid-range computing environments.

COMS 2903: Discrete Structures for Technical Majors

Prerequisites: MATH 1113 and a C or better In COMS 2104 or equivalent

Fundamental mathematical concepts related to computing, including logic and proof techniques; sets, sequences, relations, and functions; combinatorics; algebraic structures and Boolean algebra ; trees and graphs.

COMS 2981,2982,2983,2984: Special Topics

Prerequisite: Permission of the department.

This course will be offered on an "as-needed" basis to cover those topics and subject areas in computing that are emerging in a technological sense, but that do not yet warrant the addition of a new course to the curriculum.

Note: This course may be repeated for credit if course content differs.

COMS 3053: Implications of Technology on Society

Prerequisite: Junior standing in IS, IT, or CS

This course explores ethical issues faced by members of a complex technological society and by professionals in a technology-related field. Topics covered include professional ethics, ethical decision making, privacy issues, intellectual property, and technology issues relating to software development, productivity, and computer crime. Extensive research on current issues is expected.

COMS 3163: Web Programming

Prerequisites: COMS 2213 and COMS 3233

Topics include features of web forms and CGI processing via a scripting language. Basic database interaction and Server-Side Includes (SSI), client-side implementation of pop-up windows, form validation, cookies, security, and other concepts will also be discussed.

COMS 3213: Advanced Data Structures and Algorithm Design

Prerequisites: COMS 2213 and 3913

Concepts, implementation, and application of trees, hashing, graphs, and other advanced data structures will be studied.

COMS 3233: Database Design and Implementation

Prerequisites: COMS 2003, COMS 2203 and COMS2903

This course focuses on the design and implementation of relational database systems. Fundamental principles of databases such as relational model, conceptual design and normalization are covered. Students will also gain experience in database and query implementation using a DBMS and SQL.

COMS 3243: Data Mining

Prerequisites: COMS 3233 and 3 hours statistics

Introduction to knowledge discovery from large databases: terminology, algorithms, methodologies, software, limitations, implications, and current trends. Students will implement and evaluate data mining techniques.

COMS 3413: App Development

Prerequisites: COMS 1333 and COMS 2213

Development of native and web applications for mobile devices with an emphasis on security.

Note: May be repeated for credit if platform changes.

COMS 3503: Visual Programming

Prerequisites: COMS 2003 (or equivalent) and COMS 2213

This course covers the design and development of event-driven programs using an object-oriented visual programming language such as Visual Basic, Visual C#, or Visual C++.

COMS 3513: Administering and Using the IBM Platform

Prerequisites: COMS 2104 or consent of instructor.

This course is an introduction to the operations of the IBM midrange computer system. Topics include

architecture, system security, user interface, and work management. Coverage will also extend to applications and programming using an introduction to DB2 and RPG.

COMS 3523: Human Factors in Information Technology

Prerequisite: Junior standing in a computing major or instructor consent.

A study of the major factors involved in Human-Computer Interaction. A system- oriented, multi-disciplinary approach to understanding the human considerations in the design, testing, implementation, and administration of computer-based systems and information technology.

COMS 3603: Principles of Management Science

Prerequisites: BUAD 2053 and junior standing.

An introduction to management science analytical techniques, including such topics as the simplex method of linear programming, dual problem and sensitivity analysis, and integer programming. Emphasis is placed on the application of these methods using case studies and examples from the area of finance, marketing, and production. Applicable management science software will be used.

COMS 3703: Operating Systems

Prerequisites: COMS 2213 and COMS 2223

This course explores the fundamental concepts upon which modern operating systems are based. Topics include CPU, memory, file and device management, concurrent processes, protection mechanisms, and distributed systems. Several important algorithms will be implemented by the student.

COMS 3903: Systems Software and Architecture

Prerequisites: COMS 2703, COMS 2104 and junior standing

This course covers the implementation of production operating systems, the fundamentals of digital logic, and machine architecture.

Note: This course does not count as credit toward a degree in Computer Science.

COMS 3913: Advanced Discrete Structures

Prerequisites: COMS 2203, COMS 2903 and MATH 2914

Advanced topics in discrete mathematics applicable to modeling, analysis, and computer theory. Topics include relations, graphs, analysis of algorithms, and computability.

COMS 4013: Quality Management in Information Technology

Prerequisites: BUAD 2053 and COMS 3233

The study of quality management and quality assurance with regard to the analysis, design, development, and implementation of information systems and information technology. Topics include measurement techniques and standards, including ISO 9001 and other associated best practices regarding process management and process improvement.

COMS 4033: Systems Analysis and Design I

Prerequisite: COMS 3233

The application of concepts, tools, procedures, and techniques involved in the development of information systems. Emphasis is placed on the systems approach to problem solving, user involvement, the management of quality, project control, and teamwork.

COMS 4043: Systems Analysis and Design II

Prerequisites: COMS 4033

A continuation of COMS 4033, with emphasis on the application of the theory and techniques covered in the previous course. Students will research, analyze, design, implement, test and document a complete system. Students, working as a team, will analyze, plan, implement, document, and present a complete system in a real world environment.

COMS 4053: Information Systems Resource Management

Prerequisites: Junior standing in information systems, information technology, or computer science.

A study of the principles and concepts involved in the management of organizational maintenance of all information resources, including hardware, software, and personnel. Includes coverage of departmental functions within computer/information services, as well as legal, ethical, and professional issues, quality management, and the strategic impact of information systems.

COMS 4063: IT Project Administration

Prerequisite: Junior standing in information technology, information systems, or computer science.

This course provides a thorough introduction to the art and science of Project Management, as applied in the domain of information technology. Theories, best practices, and tools of project management are studied in relation to the completion of a successful project life cycle.

COMS 4103: Organization of Programming Languages

Prerequisites: COMS 2213, COMS 2223, and COMS 3913

This course emphasizes the comparative structures and capabilities of several programming languages. Major emphasis will be placed on language constructs and the run-time behavior of programs.

COMS 4133: Application Program Development

Prerequisites: COMS 2213

Object-oriented application development. Topics include OO Programming, three-tier design, and model-driven development. The course involves a major individual programming project. Students will develop and present their own large-scale application program.

COMS 4163: Personal Software Engineering

Prerequisite: COMS 3213

Formal methods for software specification. Program analysis, verification, and testing. Principles of software design. Object-oriented program implementation. Personal software process and product measurements. Program documentation. Software tools. Each student will implement a large application.

COMS 4203: Database Concepts

Prerequisites: COMS 2003, COMS 2203 and COMS 2903

Problems associated with common data processing systems, reasons for database system development; objectives such as data, device, user, and program independence; hierarchical, network, and relational models; data structures supporting database systems; operational considerations such as performance, integrity, security, concurrency, and reorganization; characteristics of existing database systems.

COMS 4213: Database Administration

Prerequisite: COMS 3233

This course develops a comprehensive foundation in the planning, implementation and execution of database management policies and procedures. Topics include installation, storage and replication implementation, security management, indexing and performance tuning, and backup and recovery.

COMS 4303: Client/Server Systems

Prerequisites: COMS 2213 and COMS 3233

This course provides in- depth coverage of client/server concepts. The student will use object-oriented visual programming tools and SQL in the construction of client/server programs. Emphasis will be placed on the proper design of server databases and on programming techniques used in event- driven environments.

COMS 4313: Server Administration

Prerequisites: COMS 2703 and COMS 2713

The tools and techniques needed to administer a server. Installation, configuration, and administration of a variety of servers on different platforms.

COMS 4353: Artificial Intelligence

Prerequisites: COMS 2213 and junior standing

General concepts, wide overview of AI history, and development and future of AI. Implementation of AI techniques using the LISP and or PROLOG languages. Additional topics include pattern recognition, natural language processing, learning process, and robotics.

COMS 4403: Compiler Design

Prerequisites: COMS 2223, COMS 3213 and COMS 4103

This course covers syntax translation, grammars and parsing, symbol tables, data representation, translating control structures, translating procedures and functions, processing expressions and data structures, and multipass translation. Students will design a computer language and implement the compiler.

COMS 4700: Data Communications and Networking Lab

Co-requisite: COMS 4703

Students will complete network lab exercises in support of COMS 4703.

COMS 4703: Data Communications and Networks

Prerequisites: COMS 2703, COMS 2903; COMS 2223 or COMS 3903.

Co-requisite: COMS 4700

Basic elements and functional aspects of the hardware and software required to establish and control data communications in a stand-alone or network environment. Topics include communication protocols, media, network topologies, and system support software. Participation in a designated lab outside of the regularly scheduled meeting time is required.

COMS 4710: Heterogeneous Networks Lab

Co-requisite: COMS 4713

Students will complete network lab exercises in support of COMS 4713.

COMS 4713: Heterogeneous Networks

Prerequisite: COMS 4703

Co-requisite: COMS 4710

The student will design, develop, implement and manage numerous heterogeneous networking operating system environments. Required policies and procedures are examined and developed. Networking tools required for the development of a seamless heterogeneous networking environment are studied and applied.

COMS 4801: Special Methods in Computer Science Education

Prerequisite: Admission to student teaching phase of the teacher education program.

Co-requisite: SEED 4809

Intensive on-campus exploration of the principles of curriculum construction, teaching methods, use of resources, and evaluation as related to teaching computing. Professional internship will be supervised by a qualified departmental instructor.

COMS 4803: System Simulation

Prerequisites: COMS 2213 and 3 hours of Statistics.

Three hour programming course and junior/senior classification. An introduction to simulation methodology as it applies to the analysis and synthesis of systems. Design of simulation experiments and the analysis of data generated therefrom. Random sampling of the Monte Carlo method are used to develop computer procedures for simulated sampling. A broad range of applications is discussed.

COMS 4813: Teaching Methods in Computer Science Education

Offered: Fall

Prerequisites: Admission into Stage II of teacher education program and minimum 75% of required COMS courses completed.

A methods course designed to prepare beginning educators for effective teaching in a computer science (or related) program.

COMS 4951,4952,4953,4954: Undergraduate Research in Computer and Information Science

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

COMS 4981,4982,4983: Seminar in Computer and Information Science

Prerequisite: Permission of department

A directed seminar in an area of computer and information science. Seminars will focus on topics relating to emerging technologies which are beyond the scope of other computer and information science courses.

Note: This course may be repeated for credit if course content differs.

COMS 4991,4992,4993,4994: Special Problems in Computer and Information Science

Prerequisite: Permission of department

This course will allow the student to work individually or as part of a small team to study and design practical computerized systems in order to solve problems of particular interest. This course may be used to offer a variety of subjects that strengthen the student's knowledge in areas not covered by other course offerings.

College Student Personnel Course Descriptions

CSP 1013: Principles of Collegiate Success

This course is designed specifically to enhance student adjustment to college life, student adaptation to the higher education learning experience, student comprehension of personal responsibility, and student advancement regarding career pathways.

Culinary Course Descriptions

CUL 1011: Sanitation Safety

Cross-listed: HA 1011

This course provides knowledge of food safety, potable water, bioterrorism and risk management particularly in the areas of food service and storage. The student will gain knowledge on safe food handling form; receiving and storage through preparing and serving food. This course will also analyze ethical considerations with regards to food and safety and food service. ServSafe certification from the NRAEF will result upon successful completion of standardized exam. This course is graded Pass/Fail.

CUL 1923: Introduction to Food and Beverage Management

This course introduces the practical skills and knowledge necessary for the effective management of food and beverage operations encompassing the historical timeline of food and beverage, non-alcoholic beverages, the identification of meats, fishes, fruits, vegetables, dairy products and proteins. This course also introduces the front-of-the-house essentials for food and beverage operations encompassing glassware, service ware and other front-of-the-house equipment.

CUL 2003: Cost Controls

Prerequisite: MATH 1003 or MATH 1113

This course will study the role of cost control management on overall profitability of hospitality entities. Basic principles of purchasing food, beverage, and non-food items with regards to maintaining an operation's competitive advantage within the industry will be covered.

CUL 2023: Hospitality Leadership and Ethics

Cross-listed: HA 2023

This course will develop student skills necessary to lead and manage hospitality organizations in an ethically, environmentally, economically, and socially acceptable manner. It will include analysis of organizational work environments and critical situations. Students will explore their existing leadership styles, build foundational principles, and commit to their own moral compass in relation to the codes of conduct, core values, and best practices relative to the professional world.

CUL 2053: Work Experience

Cross-listed: HA 2053

Prerequisite: HA/CUL major or HA minor.

Sophomore standing or permission of instructor. Placement in selected hospitality settings as a student worker under professional guidance of both agency and faculty. Students are given the opportunity to take part in meaningful work experiences in actual work situations and managerial observation.

Minimum of 200 clock hours of work experience.

CUL 2063: Guest Service Management

Cross-listed: HA 2063

The analysis and development of guest services management skills including leadership behavior, motivation, communication, training, staffing, etiquette, and professional service.

Lecture two hours, lab minimum of four hours depending on the special event requirements.

Note: \$200 lab fee which helps to cover your meal costs.

CUL 2813: Basic Human Nutrition in Hospitality Administration

Cross-listed: HA 2813

Study of the relationship between nutrition and health as a basis for food choices of all ages; the application of nutrient functions in human life processes and cycles; how balanced eating promotes healthy lifestyles. Current concepts and controversies are highlighted.

CUL 2903: Introduction to Garde Manger

Prerequisites: CUL (HA) 1013 and CUL (HA) 2913

This course is an introduction to three main areas of the cold kitchen: reception foods, plated appetizer and buffet arrangements. Students will learn to prepare canapes, hot and cold hors d'oeuvre, appetizers, forcemeats, pates, galantine, terrines, roulades, salads and sausages. Curing and smoking techniques for meat, seafood and poultry items will be covered. Cheese identification, production, presentation and service will be studied. The student will also explore contemporary styles of presenting foods and buffet preparation.

Lecture 1 hour, lab 3 hour minimum.

Note: \$200 lab fee required. Additional Costs: professional uniforms are required and are to be considered additional out-of-pocket expenses to the student.

CUL 2914: Principles of Food Preparations

Cross-listed: HA 2914

Prerequisite: CUL (HA) 1011, CHEM 1113 and CHEM 1111

Upon completion of this course the student should be able to demonstrate skills in basic cooking techniques and methods, recipe conversion, and professional food preparation and handling. Additionally, the student should be able to recognize and safely operate common foodservice equipment used in commercial kitchens and demonstrate proficient culinary knife skills.

This course is 2 hours lecture and a 4 hour lab depending upon special event requirement(s).

Note: \$200 lab fee required. Additional costs: professional uniforms are required and are to be considered additional out-of-pocket expenses to the student.

CUL 2923: Stock, Sauces, and Soups

Prerequisite: CUL (HA) 2913

This course is an introduction to the basic stocks, sauces and soups and is based on the classical model by Escoffier. Fundamental elements covered include the entire classic French repertoire of hot sauces; the five leading sauces; bechamel, veloute, espagnole (also known as brown), tomato and hollandaise as well as small compound sauces, cold sauces, compound butter, court bouillon and marinades, roux and other thickening agents. Clear soups, thick soups and specialty soups will be introduced and expanded upon.

Lecture 1 hour, lab 3 hour minimum.

Note: \$200 lab fee required. Additional costs: professional uniforms are required and are to be considered additional out-of-pocket expenses to the students.

CUL 2933: Advanced Food Preparations

Prerequisite: CUL (HA) 2913

This course reviews basic cooking methods and techniques and refines the understanding of/and application of culinary terminology, proper care and use of tools and equipment as well as safety and

sanitation techniques. Students will gain an advanced knowledge of the correct procedures for the following methods: poach, fry, bake, broil, boil, roast, stew, saute, grill and steam. Students will gain an advanced knowledge of vegetable, pasta, grain, and potato cookery as well as preparation of game, fish, shellfish, lamb, and veal.

Lecture 1 hour, lab 3 hour minimum.

Note: \$200 lab fee required. Additional costs: professional uniforms are required and are to be considered additional out-of-pocket expenses to the student.

CUL 2943: Introduction to Baking & Pastry

Prerequisite: CHEM 1113 and CHEM 1111

This course introduces basic methods used in baking and pastry. Methods introduced include, creaming, thickening for custards, pre-cooked, foaming, cut-in/rubbing, straight dough, blending and lamination. This course will focus on the range of baking ingredients in original, modified, and prepared forms as well as the theory and operation of large and small equipment used in bakeries and pastry shops. Through preparing, tasting and testing, students will learn to identify and select quality grains, dairy products, baking spices, flours, chocolates, fats, and oils used in baking.

Lecture 1 hour, lab 3 hour minimum.

\$200 lab fee required. Additional costs: professional uniforms are required and are to be considered additional out-of-pocket expenses to the student.

CUL 2996: Externship

Prerequisite: Culinary major, sophomore standing, current certifications in CPR, Standard and Advanced First Aid, consent of the department head and completion of all other courses applicable to degree.

This course provides industry experience for students in cooperating businesses, agencies and organizations under professional guidance of both agency supervisor and faculty. While enrolled in this course, a student must work a minimum of 400 hours and a minimum of 10 weeks in an approved position in the hospitality industry. Student cannot document more than 40 hours of work experience per week. No prior experience credit will be given. A written report is required within two weeks of externship completion.

\$100 supervisor travel fee is required.

Driver Education Course Descriptions

DE 4543: Driver and Traffic Education II

Prerequisites: A valid driver's license, admission to teacher education program, a driving record free from frequent and unusual violations.

This course is designed to prepare teachers to organize and teach driver education and traffic safety programs in secondary schools. It includes administration, supervision of personnel, design of facilities, and a research project.

Note: May not be repeated for credit as DE 5543 or equivalent.

DE 4613: Driver and Traffic Education I

Prerequisites: A valid driver's license, admission to teacher education program, and a driving record free from frequent and unusual violations.

This course is designed to prepare teachers to organize and teach driver education and traffic safety programs in secondary schools. This course provides a survey of materials and methods of instruction plus evaluation of textbooks and in car training of a student driver.

Two hour lecture, two hours laboratory.

Note: May not be repeated for credit as DE 5613 or equivalent.

Emergency Admin and Mgmt Course Descriptions

EAM 1003: Living in a Hazardous Environment

Overview of emergency management systems with analyses of the causes, characteristics, nature and effects of natural and technological hazards. Required for major.

EAM 1013: Aim and Scope of Emergency Management

Prerequisite: EAM 1003 or consent of the department head.

Provides a broad overview of Emergency Management in the context of Mitigation, Preparedness, Response, and Recovery. Required for major.

EAM 2033: Citizen/Family/Community Disaster Preparedness Education

Prerequisites: EAM 1003 and 1013 or consent of department head.

The course covers the need for citizen disaster preparedness; research findings on the subject; program design models; team and coalition building, materials and approaches, effective presentation skills, overcoming disaster denial and apathy; preparedness with children, the elderly, and other high-risk populations.

EAM 3003: Developing Emergency Management Skills

Prerequisites: EAM 1003 and 1013 or consent of the department head.

Provides practical and fundamental skills for individuals entering the emergency management profession. Required for major.

EAM 3013: Public Policy and Politics in Emergency Management

Prerequisites: EAM 1003 and 1013 or consent of the department head.

Analyzes the role of public policy and politics within emergency management. Required for major.

EAM 3023: Principles of Preparedness and Response Operations

Prerequisites: EAM 1003, 1013, and 3003 or consent of the department head.

Examines topics of preparedness and response operations. Required for major.

Note: May not be taken for credit after completion of EAM 1023 and 2023.

EAM 3033: The Social Dimension of Disaster

Prerequisites: EAM 1003 and 1013 or consent of department head.

Overview of empirical vs. theoretical approaches; human behavior in disaster, myths and reality; group disaster behavior; community social systems and disaster; cultures, demographics and disaster behavior distinctions, and model-building in sociological disaster research.

EAM 3053: Introduction to Ethical and Legal Issues in Emergency Management

Offered: Spring

Prerequisites: EAM 1003 and 1013 or consent of the department head.

Explores ethical and legal issues in emergency management.

EAM 3063: Emergency Management Doctrine

Offered: Fall

Prerequisites: EAM 1003 and 1013 or consent of the department head.

Provides a basic understanding of doctrine associated with comprehensive emergency management.
Required for major.

EAM 3123: Public Information Skills for Emergency Managers

This course provides the student with experience in dealing with the media before, during and after a crisis or disaster. The student will be able to demonstrate presentation skills using a variety of communication styles, graphics integration, informational brochures, and electronic resources.

Note: Much of the course will involve working at onsite locations with actual media contact.

EAM 3143: The Economics of Disaster

Prerequisites: EAM 1003 and 1013 or consent of department head.

The course concentrates on the implications of disaster on state, regional, national, and international economies; case studies in false economies; economics of disaster modeling; and current issues in state, federal, and global economic disaster policy.

EAM 3206: Externship

Prerequisites: EAM 1003 and 1013 or consent of department head.

Students will enroll in this course, pay the regular tuition and fees, and complete an assessment portfolio documenting their experience and training totaling 200 contact hours. No more than 100 contact hours of FEMA study courses can be applied. At least 100 hours of training or related activities must be included. This courses is graded Pass/Fail.

EAM 3243: Introduction to Terrorism and Anti-Terrorism

This course is an overview of terrorism in which students will explore various aspects of terrorism in a Post 9/11 world leading to a basic understanding of a global phenomenon. Subject matter will include the history of terrorism, its strategies, and why those strategies are effective. The student will examine the psychology of fundamentalist religious movements and extreme political organizations. While studying the effects of terrorism the student will examine governmental concerns, preparedness, response, and defensive operations of dealing with terrorism.

EAM 4003: Principles of Disaster Relief and Recovery

Prerequisites: EAM 1003, 1013, and 3003 or consent of the department head.

Studies recovery issues at different phases of emergency management. Required for major.

EAM 4013: Mitigation and Continuity of Operations

Prerequisites: EAM 1003, 1013, and 3003 or consent of the department head.

Explores continuity of business and government operations, including risk assessment, hazard analysis, and resumption of operations with an emphasis of disaster mitigation. Required for major.

EAM 4023: Information Technology and Emergency Management

Prerequisites: EAM 1003 and 1013 or consent of the department head.

Introduces location-based computer technology emphasizing geographic information systems (GIS) as it applies to emergency management. Required for major.

EAM 4033: Emergency Management Research Methods/Analysis

Prerequisites: EAM 1003, 1013 and ENGL 2053 or consent of the department head.

Covers basic research to be utilized for decision-making and policy development in emergency management. Required for major.

EAM 4043: Disaster and Emergency Management Ethics

Prerequisites: EAM 1003, 1013, and 3053 or consent of the department head.

Examines a variety of ethical theories and principles foundational to emergency management. A review of specific ethical dilemmas per disaster phase is examined in light of professional ethics, overcoming biases, avoiding discrimination, and developing sensitivity.

EAM 4053: Community Management of Hazardous Materials

Prerequisites: EAM 1003 and 1013 or consent of department head.

The course addresses chemical properties of hazardous materials and wastes; legal requirements for their handling, storage, transportation, and disposal; and methods for protecting employees, facilities, and the community.

EAM 4063: Leadership

Offered: Spring

Prerequisites: EAM 1003 and 1013 or consent of the department head.

Provides a basic introduction to leadership by emphasizing planning for a potential disaster and coordination during a crisis.

EAM 4083: Legal Issues in Emergency Management

Prerequisites: EAM 1003, 1013, and 3053 or consent of the department head.

Provides an in-depth study of legal issues in each phase of emergency management and addresses interaction between the government, private, and volunteer sectors from a legal perspective.

EAM 4106: Internship/Practicum

Prerequisites: EAM 4206 or consent of the department head.

Provides practical experience in the emergency management field and applies emergency management theory to actual problems in a non-classroom situation. A minimum of 400 hours of relevant work experience must be completed in an approved internship site OR for those currently working in an emergency management related position, a practicum with a minimum of 150 hours must be completed. The student will work with an advisor to have a site approved by the internship coordinator prior to course enrollment. Required for major.

\$100 course fee.

EAM 4606: Capstone

Prerequisites: EAM 1003, 1013, 3003, 3013, 3023, 3053, 3063, 4003, 4013, and 4033, or consent of department head.

Provides the opportunity to synthesize knowledge of previous undergraduate coursework and to link service learning experience to future goals. Required for major.

EAM 4951,4952,4953,4954: Undergraduate Research in Emergency Administration and Management

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

EAM 4991,4992,4993: Special Problems and Topics

Prerequisites: EAM 1003 and 1013 or consent of department head.

The topics will vary to reflect the continual changes in the emergency management field. This course may also serve as an independent study course upon recommendation of the advisor and approval by the dean.

Early Childhood Education (AS) Course Descriptions

Associate Degree Program

ECE 2113: Basic Child Growth and Development

A study of the various developmental principles affecting the individual from the prenatal period through early adolescence. The course includes observational experiences in settings for young children.

ECE 2313: Foundations and Theories in Early Childhood Education

An introduction to the profession including historical and social foundations, awareness of value issues, ethical and legal issues, staff relations, and the importance of becoming an advocate for children and families.

ECE 2513: Curriculum for Early Childhood Education

Prerequisite or Co-requisite: ECE 2113

A study and application in the field of the theoretical base for early learning. Covers curriculum for young children based on research and theory.

ECE 2613: Methods and Materials Using Developmentally Appropriate Practices and Activities for Young Children

Prerequisite or Co-requisite: ECE 2113

A combination of classroom and field based experiences stressing developmentally appropriate techniques and materials fostering successful development and learning in young children.

ECE 2991,2992,2993,2994,2995,2996,2997,2998,2999: Practicum in Early Childhood Education

Prerequisites: Completion of 12 hours of ECE courses taken for meeting assessment requirements for the Child Development Associate credential.

Variable credit available for documented early childhood training related to the principles and procedures which support the development and operation of an effective early childhood education program. Credit may also be awarded for portfolio development for the Child Development Associate assessment.

Equivalencies for awarding credit will be determined by the advisor in accordance with guidelines of the National Association for the Education of Young Children (NAEYC). Additional coursework approved by the advisor may be applied toward any balance of credit needed to complete the nine hours.

Early Childhood Education (BS) Course Descriptions

Bachelor Degree Program

ECED 2003: Introduction to Early Childhood Education

This course studies the social, historical, and philosophical foundations of American Education. Special emphasis will be placed on Early Childhood Education.

ECED 3023: Foundations of Early Childhood Education

Co-requisite: ECED 3033

An introduction to the field of early childhood education, including a history of the movement, influencing concepts and theories, and relevant issues.

ECED 3033: Child Development

Co-requisite: ECED 3023

A study of the physical, cognitive, and psychosocial development of the individual beginning with the prenatal period and continuing through early adolescence. This course includes an on-site field experience in settings for young children.

ECED 3043: Developmentally Appropriate Practice

Prerequisites: ECED 3023 and ECED 3033 and admission to Stage II.

Co-requisite: ECED 3053

A study of developmentally appropriate practice for young children, birth through age 9. This exploration is an integrated curricular study of appropriate early childhood curriculum, materials, environments, assessments, expectations, instructional strategies, and considerations for early childhood educators. Appropriate field observations and experiences are an integral part of this course, and will be integrated with course content.

ECED 3053: Children and Families in a Diverse Society

Prerequisites: ECED 3023 and ECED 3033 and admission to Stage II.

Co-requisite: ECED 3043

A study of the characteristics of young children with developmental disabilities in the contexts of family theory and intervention. Particular emphasis will be placed on how these characteristics impact the child's family and educational needs.

ECED 3113: Integrated Curriculum I (3-5 years)

Prerequisites: ECED 3043 and ECED 3053 and admission to Stage II.

Co-requisites: ECED 3122. ECED 3162, ECED 3172, ECED 3183, ECED 3192

In this course, pre-service teachers build a working knowledge of curriculum strategies and techniques on which to base wise curriculum decision making for children ages 3-5. This course is connected to the ECED 3122 Practicum.

ECED 3122: Practicum I

Prerequisites: ECED 3043 and ECED 3053 and admission to Stage II.

Co-requisites: ECED 3113, ECED 3162, ECED 3172, ECED 3183, ECED 3192

Practicum I is designed to provide pre-service teachers with field-based experiences for children age 3-5 years.

ECED 3162: Diagnosis and Assessment of Young Children I (3-5 years)

Prerequisites: ECED 3043 and ECED 3053 and admission to Stage II.

Co-requisites: ECED 3113, ECED 3122, ECED 3172, ECED 3183, ECED 3192

A study of observational and developmentally appropriate tools and methods of collecting data for decision making. Emphasis is on qualitative assessment techniques that are specific to 3-5 year-old children. This course is connected to the ECED 3122 Practicum.

ECED 3172: Guiding Young Children I (3-5 years)

Prerequisites: ECED 3043 and ECED 3053 and admission to Stage II.

Co-requisites: ECED 3113, ECED 3122, ECED 3162, ECED 3183, ECED 3192

Emphasis is placed on the guidance and management, individually and in groups, of young children ages 3-5 years. The course focuses on developmentally appropriate practices in early childhood settings. Creation of learning environments that foster social competence, build self-esteem in young children, and assist them in the exploration of ways to independently solve problems and gain self-control are emphasized. This course is connected to the ECED 3122 Practicum.

ECED 3183: Language and Literacy I (3-5 years)

Prerequisites: ECED 3043 and ECED 3053 and admission to Stage II.

Co-requisites: ECED 3113, ECED 3122, ECED 3162, ECED 3172, ECED 3192

A study of teaching strategies and support systems for encouraging the various areas of literacy in the 3-5 year-old child. This course is connected to the ECED 3122 Practicum.

ECED 3192: Children's Literature I (3-5 years)

Prerequisites: ECED 3043 and ECED 3053 and admission to Stage II.

Co-requisites: ECED 3113, ECED 3122, ECED 3162, ECED 3172, ECED 3183

Study of sources and types of reading materials available for 3-5 year old children and ways to use them to enhance learning. This course is connected to the ECED 3122 Practicum.

ECED 3213: Integrated Curriculum II (6-9 years)

Prerequisites: ECED 3113 and admission to Stage II.

Co-requisites: ECED 3222, ECED 3262, ECED 3272, ECED 3283, ECED 3292

ECED 3213 builds on the concepts presented in ECED 3113 and emphasizes developmentally appropriate curriculum for children ages 6-9; mandated curriculum; and contemporary issues related to curriculum. This course is connected to the ECED 3222 Practicum.

ECED 3222: Practicum II

Prerequisites: ECED 3122 and admission to Stage II.

Co-requisites: ECED 3213, ECED 3262, ECED 3272, ECED 3283, ECED 3292

Practicum II is designed to provide pre-service teachers with field- based experiences for children age 6-9 years.

ECED 3262: Diagnosis and Assessment of Young Children II (6-9 years)

Prerequisites: ECED 3162 and admission to Stage II.

Co-requisites: ECED 3213, ECED 3222, ECED 3272, ECED 3283, ECED 3292

A study of fundamental observation, assessment, and evaluation concepts and tools. Emphasis on both qualitative and quantitative methods of measuring and reporting student progress and learning. Designed to give the beginning teacher a background in the collection and interpretation of data with the goal of making valid data-driven decisions. This course is connected to the ECED 3222 Practicum.

ECED 3272: Guiding Young Children II (6-9 years)

Prerequisites: ECED 3172 and admission to Stage II.

Co-requisites: ECED 3213, ECED 3222, ECED 3262, ECED 3283, ECED 3292

Emphasis is on the guidance and management, individually and in groups, of primary-aged children, 6-9 years. The course focuses on developmentally appropriate practices in multi-cultural school settings that encourage children to become self- regulated learners. Creation of a context for positive discipline and a guidance approach for an encouraging classroom are explored. This course is connected to the ECED 3222 Practicum.

ECED 3283: Language and Literacy II (6-9 years)

Prerequisites: ECED 3183 and admission to Stage II.

Co-requisites: ECED 3213, ECED 3222, ECED 3262, ECED 3272, ECED 3292

A study of teaching strategies and support systems for encouraging the various areas of literacy in the 6-9 year-old child. This course is connected to the ECED 3222 Practicum.

ECED 3292: Children's Literature II (6-9 years)

Prerequisites: ECED 3192 and admission to Stage II.

Co-requisites: ECED 3213, ECED 3222, ECED 3262, ECED 3272, ECED 3283

Study of sources and types of reading materials available for 6-9 year old children and ways to use them to enhance learning. This course is connected to the ECED 3222 Practicum.

ECED 4915: Early Childhood Education Internship

Prerequisite: Admission to Internship.

(Fifteen hour course.) An intensive field experience and campus seminar class which culminates the early childhood program. Students will spend time in early childhood environments and in campus seminars applying their knowledge and skills in reflective decision making with children and families.

\$100 course fee.

Economics Course Descriptions

ECON 2003: Principles of Economics I

ACTS Common Course - ECON2103

Macroeconomic analysis of output, income, employment, price level, and business fluctuations, including the monetary system, fiscal and monetary policy, and international economics.

ECON 2013: Principles of Economics II

ACTS Common Course - ECON2203

Prerequisite: ECON 2003

Microeconomic analysis of consumer and producer behavior. Includes theory of production and cost, the effects of market structure on resource allocation, distribution of income, and welfare economics.

ECON 2103: Honors Principles of Economics I

Prerequisite: Admission to University Honors or permission of Honors Director.

Macroeconomic analysis of output, income, employment, price level, and business fluctuations, including the monetary system, fiscal and monetary economics, and international economics.

ECON 3003: Money and Banking

Prerequisites: ACCT 2013, ECON 2003 and 2013, BDA 2003, and BUAD 2053. Additionally, must have a minimum GPA of 2.0 on 54 or more earned hours.

Nature, principles and functions of money, macroeconomic theory, development and operation of financial institutions in the American monetary system, with emphasis on processes, problems, and policies of commercial banks in the United States.

ECON 3013: Economics of Labor Relations

Prerequisites: ACCT 2013, ECON 2003 and 2013, BDA 2003, and BUAD 2053. Additionally, must have a minimum GPA of 2.0 on 54 or more earned hours.

An overview of U.S. labor sector including demographic trends, labor unions, human capital issues and work-leisure values. A brief review of neo-classical wage theory with critiques. Selected labor sector issues such as global labor developments, public sector employment, migration/mobility and discrimination.

ECON 3073: Intermediate Microeconomic Theory

Prerequisites: ACCT 2013, ECON 2003 and 2013, BDA 2003, and BUAD 2053. Additionally, must have a minimum GPA of 2.0 on 54 or more earned hours.

An examination of the theories of consumer behavior and demand, and the theories of production, cost and supply. The determination of product prices and output in various market structures and an analysis of factor pricing.

ECON 3093: Econometrics

Prerequisites: ECON 2003, ECON 2013, BDA 2003, choice of BUAD 2053 or PSY 2053 or MATH 2163, and 54 earned hours or permission of the instructor.

This course develops the theory and applications of regression analysis, which is the primary tool for empirical work in economics. Emphasis is placed on techniques for estimating economic relationships, economic modeling, inference, and testing economic hypotheses in the context of real world problems. Students will also be exposed to other empirical techniques to prepare them for further studies.

ECON 4003: Readings in Economic Theory

Offered: On demand

Prerequisites: ACCT 2013, ECON 2003, ECON 2013, BDA 2003, and BUAD 2053. Additionally, must have a minimum GPA of 2.0 on 54 or more earned hours.

Advanced study on an individual basis is offered in money and banking, public finance, general economics, international trade, labor relations, transportation.

ECON 4033: Current Economic Problems

Prerequisites: ACCT 2013, ECON 2003 and 2013, BDA 2003, and BUAD 2053. Additionally, must have a minimum GPA of 2.0 on 54 or more earned hours.

Emphasis is on a "way of thinking" about current economic problems including a conceptual context, critical thinking and problem solving approaches. Major domestic and global economic trends are reviewed. Current economic issues are selected for evaluation.

ECON 4073: World Economic Systems

Offered: On demand

Prerequisites: ACCT 2013, ECON 2003 and 2013, BDA 2003, and BUAD 2053. Additionally, must have a minimum GPA of 2.0 on 54 or more earned hours.

A study of the institutional framework of an economic system selected by the instructor. The course includes a visit to the country being studied.

ECON 4093: International Economics and Finance

Prerequisites: ACCT 2013, ECON 2003 and 2013, BDA 2003, and BUAD 2053. Additionally, must have a minimum GPA of 2.0 on 54 or more earned hours.

A course designed specifically for economics and finance majors desiring an understanding of the interplay of economic and financial forces between nations. While developing the theoretical base underlying these forces, the course will emphasize practical aspects of cross border flows of goods, services, and capital from the point of view of the firm. Lecture and discussion will be supplemented by analysis of cases and current events where appropriate. The content of the course should be readily applicable to any private or public sector policy making situation involving an international dimension in which students find themselves.

Educational Media Course Descriptions

EDMD 3013: Integrating Instructional Technology

An instructional technology course for pre-service teachers introducing students to the incorporation of technology into instructional situations. Students will become familiar with classroom computer utilization for instructional and classroom management technology, state and national standards for technology and curriculum areas, and create lessons centered upon those standards.

Elementary Education Course Descriptions

ELED 2003: Educational Research and the Teacher as a Lifelong Learner

This course provides potential teacher education candidates with the knowledge base and practice in the skills needed to locate educational research information; analyze, synthesize, and evaluate the compiled materials; professionally communicate these findings to others; and examine, observe, and reflect upon research applications in the school setting.

ELED 3113: Human Development and Learning Theories

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course is a study of the physical, cognitive, and psychosocial development of the individual beginning with the early childhood period and continuing through early adolescence. This course also provides lateral entry teachers an introduction to learning theory, various styles of learning, and motivational factors involved in the learning process. Emphasis is placed on the development of cognitive skills using the eight types of intelligence and applying these to practical classroom situations. Upon completion, students should be able to describe theories and styles of learning. This course includes an on-site field experience.

ELED 3123: Diagnosis and Assessment of Elementary Students

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course is designed to develop pre-service teachers with who can successfully implement the design and implementation of current best practices in assessment and who can utilize assessment data to plan, evaluate and promote instructional achievement in a 21st Century standards-based classroom.

ELED 3133: Integrated Curriculum

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course is designed to provide teacher candidates with an overview of how to develop teaching/learning strategies and to integrate curriculum in the elementary classroom. Emphasis is placed on helping teachers adapt techniques, choose materials, and design units that integrate multiple content areas across a student-centered curriculum.

ELED 3143: Teaching Methods K-6 Social Studies

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course is an introduction to teaching powerful social studies in the elementary classroom. Based on current theory and research and with particular emphasis on active citizenship and diversity, the course develops instructional decision-makers who will utilize innovative and effective practice and resources for teaching meaningful social studies. This course also informs about best practice in the field.

ELED 4033: Classroom and Behavior Management

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course is designed to provide elementary teacher candidates a foundation for operating an effective and efficient 21st Century classroom. Best practices in creating a respectful and responsive culture for learning will be presented. Emphasis will be placed on establishing high expectations for learning, achievement and behavior, including ways to manage the classroom environment and organizational approaches that encourage elementary students to take responsibility for their own learning and their own behavior. Strategies for classroom management, classroom organization and behavior management will be analyzed.

ELED 4912: Internship in Elementary Education

Prerequisite: Admission to Internship.

(Twelve hour course.) An intensive field experience which culminates the elementary education program. Students will spend time in elementary education (K-6) environments applying their knowledge and skills in reflective decision making with children and families.

\$100 course fee.

Electrical Engineering Course Descriptions

ELEG 1011: Introduction to Electrical Engineering

Prerequisites: Math ACTE score of 24 or higher, or a grade of C or higher in MATH 1113, or MATH 1914, or MATH 1203, or consent of the instructor.

An introductory lecture/lab course to acquaint students with the fundamental techniques in the field of electrical engineering. Topics include technical aspects of electrical engineering including an introduction to computational techniques/software, basic introduction to computer-aided drafting (CAD), an introduction to programming, and basic circuit prototyping.

\$20 freshman level - curriculum content fee.

ELEG 2103: Electric Circuits I

Co-requisite: MATH 3243 or consent of instructor.

An introduction to circuit theory and electrical devices. Topics include resistive circuits, independent and dependent sources; analysis methods, network theorems; RC and RL first order circuits, and RLC second order circuits.

\$15 sophomore level - curriculum content fee.

ELEG 2111: Electric Circuits Laboratory

Co-requisite: ELEG 2113

Report writing; use of basic electrical measurement devices; voltmeters, ammeters, R meters, wattmeters, and oscilloscopes. Computer modeling and data analysis of AC and DC circuits. Emphasis on developing laboratory techniques through experiments paralleling topics in ELEG 2103 and ELEG 2113.

Laboratory three hours per week. \$40 laboratory fee. \$15 sophomore level - curriculum content fee.

ELEG 2113: Electric Circuits II

Prerequisites: ELEG 2103 or consent of instructor

A continuation of ELEG 2103 covering phasor analysis, steady state power, complex network functions, frequency response, transformers, Laplace methods.

\$15 sophomore level - curriculum content fee.

ELEG 2130: Digital Logic Design Lab

Co-requisites: ELEG 2134 and COMS 2104 or consent of instructor.

Laboratory must be taken during the same semester as the lecture, ELEG 2134. A study of basic digital logic circuit design and implementation. Circuit schematic development utilizing computerized automated design tools. Computer modeling and simulation of digital systems. Emphasis will be placed on proper laboratory techniques, including data collection, data reduction, and report preparation.

Laboratory three hours. \$40 laboratory fee. \$15 sophomore level - curriculum content fee.

ELEG 2134: Digital Logic Design

Co-requisites: ELEG 2130 and COMS 2104 or consent of instructor.

Binary numbers and codes, Boolean algebra, combinational and sequential logic including: minimization

techniques, memory systems, register transfers, control logic design, and state machines.

\$15 sophomore level - curriculum content fee.

ELEG 3000: Engineering Internship/Research Experience

Cross-listed: MCEG 3000

Offered: As needed

Prerequisite: A minimum of 60 hours applicable toward the ATU Electrical/Mechanical engineering program requirements with a minimum 3.5 GPA; and acceptance in an Engineering Internship or Research Experience for Undergraduates Program.

A minimum of six weeks of supervised on-the-job training with a university research program, engineering firm, manufacturer, municipality, or company employing engineers. A written report is required within one week of internship completion. Students will also present their internship experience to an engineering class or at a student engineering RSO meeting.

\$10 junior level - curriculum content fee.

Note: Satisfies College of Distinction requirement.

ELEG 3003: Engineering Modeling and Design

Cross-listed: MCEG 3003

Prerequisites: COMS 2803 or MCEG 2203 and MATH 3243

Reduction of engineering systems to mathematical models; methods of analysis using computers; interpretation of numerical results; optimization of design variables. Examples are drawn from various engineering disciplines.

\$10 junior level - curriculum content fee.

ELEG 3103: Electronics I

Prerequisites: ELEG 2111 and ELEG 2113

Physics and electrical characteristics of diodes, bipolar transistors, and field effect transistors, behavior of these devices as circuit elements; common electronic circuits in discrete and integrated form; digital circuits including standard IC gates and flip flops, linear circuits including standard discrete and integrated amplifier configurations and their characteristics.

\$10 junior level - curriculum content fee.

ELEG 3123: Signals and Systems

Prerequisites: MATH 3243 and ELEG 2113

Signal and system modeling, time and frequency domain analysis, singularity functions, the Dirac Delta function, impulse response, the superposition integral and convolution, Fourier series and Fourier and Laplace transformations.

\$10 junior level - curriculum content fee.

ELEG 3133: Microprocessor Systems Design

Prerequisites: ELEG 2134 and ELEG 2130 or consent

Digital design using microprocessors. Microcomputer architecture, memory structures, I/O interfaces,

addressing modes, interrupts, assembler programming, and development tools. This course should also attract computer science students interested in hardware.

\$10 junior level - curriculum content fee.

ELEG 3143: Electromagnetics

Prerequisites: MATH 2934 and PHYS 2124

Prerequisite or Co-requisite: ELEG 3123

An introduction to static and dynamic electromagnetic fields using vector methods. Transmission lines, electrostatic fields, magnetostatic fields, Maxwell's equations, plane electromagnetic wave propagation, reflection, refraction, attenuation, antennas, reciprocity, and gain.

\$10 junior level - curriculum content fee.

ELEG 3153: Electrical Machines

Prerequisite: ELEG 2113

Steady state analysis of single phase and polyphase transformers, direct current machines, synchronous machines, induction machines, and special purpose machines. Special emphasis will be given to the modeling and control of these machines.

\$10 junior level - curriculum content fee.

ELEG 3163: Electric Power Systems

Prerequisites: ELEG 2113 and PHYS 2124

Introduction to power system analysis and operation. Topics included: mathematical modeling of power system components, power flow analysis, symmetric and asymmetric faults and economic operation of power systems.

\$10 junior level - curriculum content fee.

ELEG 3173: Math Methods for Engineers

Offered: Annually

Cross-listed: MATH 3173

Prerequisite: MATH 3243

This course is designed to give the undergraduate student an introduction to a variety of advanced mathematical techniques used in solving engineering problems. The course will cover linear algebra, complex variables, discrete mathematics, and applied statistics.

\$10 junior level - curriculum content fee.

ELEG 3203: Renewable Energy Technology

Prerequisite: ELEG 2113

An introduction and comprehensive overview of renewable energy technology. Topics include distributed generations and renewable energies including wind power, solar power, fuel cells and hydropower. Emphasis will be placed on basic concepts, operation principles and economics of existing and emerging renewable energy technologies.

\$10 junior level - curriculum content fee.

ELEG 4103: Electronics II

Prerequisite: ELEG 3103

A continuation of ELEG 3103 specializing in characteristics and applications of both linear and digital integrated circuits; amplifiers, feedback analysis, frequency response, oscillators, amplifier stabilization, microprocessors, memory systems, emphasis on design.

\$5 senior level - curriculum content fee.

ELEG 4113: Digital Signal Processing

Prerequisites: ELEG 3123 and ELEG(MCEG) 3003

The study of discrete-time signals and systems, convolution, correlation, z-transform, discrete-time Fourier transform, analysis and design of digital filters.

\$5 senior level - curriculum content fee.

ELEG 4122: Electrical Systems Lab

Offered: Spring

Prerequisite: ELEG 3103

Co-requisite: ELEG 4103

The course presents advanced topics in electrical engineering system design. Topics include discrete components, ICs, PLCs, and data acquisition systems.

\$40 laboratory fee. \$5 senior level - curriculum content fee.

ELEG 4133: Advanced Digital Design

Prerequisite: ELEG 2134

Principles of digital systems design and the use of hardware description languages (HDL) are targeted toward the development of programmable logic devices in this project oriented course. The basic tenets of HDL will be presented including design flow, structural and behavioral descriptions, data types, concurrent and sequential statements, processes, procedures, functions, and packages. Approximately one hour per week will be devoted to supervised project development.

\$5 senior level - curriculum content fee.

ELEG 4143: Communication Systems I

Prerequisite: ELEG 3123

An introduction to design and analysis of analog and digital communication systems. Amplitude and angle modulation and demodulation, bandwidth, frequency division multiplexing, sampling and pulse- code modulation, detection error statistics in digital communication.

\$5 senior level - curriculum content fee.

ELEG 4153: Communication Systems II

Prerequisite: ELEG 4143

Continuation of ELEG 4143. Design and analysis of analog and digital communication systems, taking into account the effects of noise. Random variables, random processes, analog and digital communication

systems in the presence of noise.

\$5 senior level - curriculum content fee.

ELEG 4191: Electrical Design Project I

Co-requisite: MCEG/ELEG 4202

First of a two part sequence of courses to complete an independent or group project in electrical engineering design. Emphasis will be placed on designing an electrical system or subsystem with due regard for Safety, environmental concerns, reliability, longevity, ease of manufacture, maintainability, and cost effectiveness. A written and oral report are required.

\$5 senior level - curriculum content fee.

ELEG 4192: Electrical Design Project II

Prerequisite: ELEG 4191 and MCEG/ELEG 4202

Second of a two part sequence of courses to complete an independent or group project in electrical engineering design. Emphasis will be placed on designing an electrical system or subsystem with due regard for Safety, environmental concerns, reliability, longevity, ease of manufacture, maintainability, and cost effectiveness. A written and oral report are required.

\$50 course fee. \$5 senior level - curriculum content fee.

ELEG 4202: Engineering Design

Cross-listed: MCEG 4202

Prerequisites: ELEG major, senior standing

Co-requisite: ELEG 3103

This course serves as the first part of a two course sequence in which the student completes a senior design project. Design methodologies and tools including real world design considerations such as environmental impact, engineering ethics, economics, safety, product costing and liability are introduced. Design for manufacture, project management, scheduling and proposal writing will be covered. Successful completion of this course shall require completion of a proposal for a senior design project being accepted by the faculty design project review process.

\$5 senior level - curriculum content fee.

ELEG 4303: Control Systems

Prerequisites: ELEG (MCEG) 3003 and ELEG 2113

An introduction to the field of control system engineering. Topics include: open and closed loop systems; mathematical modeling of electrical and mechanical systems; linearization; stability; block diagram reduction; signal flow graphs; transient analysis; stability analysis; root locus analysis; frequency analysis; and an introduction to compensator design.

\$5 senior level - curriculum content fee.

ELEG 4313: Modern Control Systems

Prerequisite: ELEG 4303

A continuation of ELEG 4303 Control Systems. Topics include: frequency response design, state space

analysis, controllability, observability, state space design, robustness, and an introduction to digital control.

\$5 senior level - curriculum content fee.

ELEG 4951,4952,4953,4954: Undergraduate Research in Electrical Engineering

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$5 senior level - curriculum content fee.

ELEG 4991,4992,4993,4994: Special Problems in Engineering

Prerequisite: Minimum of three hours at the junior level in area of study.

Individual study in advanced area of the student's choice under the direction of a faculty advisor.

\$5 senior level - curriculum content fee.

ELI Program Course Descriptions

ELIC 0100: ELI Program Core

Co-requisite for each ELI level.

ELI Grammar Course Descriptions

ELIG 0103: Level 1 Grammar

Prerequisite: ITP Score of 333 - 353

Level 1 Grammar is a course for low beginner students which focuses on very basic grammatical functions and prepares students for Level 2 courses.

ELIG 0203: Level 2 Grammar

Prerequisite: ITP Score of 357 - 383 or Completion of Level 1

Level 2 Grammar is a course for higher beginner students which focuses on basic grammatical functions and prepares students for Level 3 courses.

ELIG 0303: Level 3 Grammar

Prerequisite: ITP Score of 387 - 417 or Completion of Level 2

Level 3 Grammar is a course for low intermediate students which develops grammar at the sentence and paragraph level which prepares students for Level 4 courses.

ELIG 0403: Level 4 Grammar

Prerequisite: ITP Score of 420 - 447 or Completion of Level 3

Level 4 Grammar is a course for intermediate students which develops grammar at the paragraph level which prepares students for Level 5 courses.

ELIG 0503: Level 5 Grammar

Prerequisite: ITP Score of 450 - 497 or Completion of Level 4

Level 5 Grammar is a course for high intermediate students which develops grammar at the paragraph and essay level which prepares students for university or Level 6 courses.

ELIG 0603: Level 6 Grammar

Prerequisite: ITP Score of 500-547 or Completion of Level 5

Level 6 Grammar is a course for graduate students which develops grammar for the essay level which prepares students for graduate level courses.

ELI Listening Course Descriptions

ELIL 0102: Level 1 Listening / Speaking

Prerequisite: ITP Score of 333 - 353

This course provides foundational listening and speaking skills for low beginner students so they can proceed to Level 2.

ELIL 0202: Level 2 Listening / Speaking

Prerequisite: ITP Score of 357 - 383 or Completion of Level 1

This course provides conversational listening and speaking skills for high beginner students so they can proceed to Level 3.

ELIL 0302: Level 3 Listening / Speaking

Prerequisite: ITP Score of 387 - 417 or Completion of Level 2

This course provides conversational listening and speaking skills for low intermediate students so they can proceed to Level 4.

ELIL 0402: Level 4 Listening and Note Taking

Prerequisite: ITP Score of 387 - 417 or Completion of Level 3

This course provides academic listening and note taking skills for intermediate students so they can proceed to Level 5.

ELIL 0502: Level 5 Listening / Speaking

Prerequisite: ITP Score of 450 - 497 or Completion of Level 4

This course provides academic listening and note taking skills for high intermediate students so they can proceed to university or Level 6.

ELIL 0602: Level 6 Listening / Speaking

Prerequisite: ITP Score of 500 - 547 or Completion of Level 5

This course provides academic listening and note taking skills for advanced students so they can proceed to graduate level courses.

ELI Reading Course Descriptions

ELIR 0102: Level 1 Reading

Prerequisite: ITP Score of 333 - 353

A course designed to develop very basic reading skills for low beginner students so they can proceed to Level 2.

ELIR 0202: Level 2 Reading

Prerequisite: ITP Score of 357 - 383 or Completion of Level 1

A course designed to develop basic reading skills for high beginner students so they can proceed to Level 3.

ELIR 0302: Level 3 Reading

Prerequisite: ITP Score of 387 - 417 or Completion of Level 2

A course designed to develop reading skills for low intermediate students so they can proceed to Level 4.

ELIR 0402: Level 4 Reading

Prerequisite: ITP Score of 387 - 417 or Completion of Level 3

A course designed to develop academic reading skills for intermediate students so they can proceed to Level 5.

ELIR 0502: Level 5 Reading

Prerequisite: ITP Score of 450 - 497 or Completion of Level 4

A course designed to develop academic reading skills for high intermediate students so they can proceed to university or Level 6.

ELIR 0602: Level 6 Reading

Prerequisite: ITP Score of 500 - 547 or Completion of Level 5

A course designed to develop graduate level reading skills for advanced students so they can proceed to graduate studies.

ELI Writing Course Descriptions

ELIW 0103: Level 1 Writing

Prerequisite: ITP Score of 333 - 353

A course for low beginner students which focuses on very basic writing functions and prepares students for Level 2.

ELIW 0203: Level 2 Writing

Prerequisite: ITP Score of 357-383 or Completion of Level 1

A course for high beginner students which focuses on basic writing functions and prepares students for Level 3.

ELIW 0303: Level 3 Writing

Prerequisite: ITP Score of 387 - 417 or Completion of Level 2

A course for low intermediate students which develops writing skills at the sentence and paragraph level which prepares students for Level 4.

ELIW 0403: Level 4 Writing

Prerequisite: ITP Score of 387 - 417 or Completion of Level 3

A course for intermediate students which develops writing skills at the paragraph level which prepares students for Level 5.

ELIW 0503: Level 5 Writing

Prerequisite: ITP Score of 450 - 497 or Completion of Level 4

A course for high intermediate students which develops writing skills at the paragraph and essay level which prepares students for university or Level 6 courses.

ELIW 0603: Level 6 Writing

Prerequisite: ITP Score of 500-547 or Completion of Level 5

A course for graduate students which develops writing skills and prepares students for graduate level courses.

English Course Descriptions

ENGL 0203: English as a Second Language

A course in basic English grammar, composition, reading, aural comprehension, and oral communication designed to prepare speakers of English as a second language for the six hour, college level composition sequence.

Note: The grade in this course will be computed in semester and cumulative grade point averages, but the course may not be used to satisfy general education requirements nor provide credit toward any degree.

Students who are placed in ENGL 0203 must earn a grade of C or better in the course before enrolling in ENGL 1013. A student who makes a D or F in ENGL 0203 must repeat the course in each subsequent semester until he or she earns a grade of C or better.

ENGL 0303: Foundational Composition

A course in basic grammar and writing to prepare students for the required six hour composition sequence.

Note: The grade in the course will be computed in semester and cumulative grade point averages, but the course may not be used to satisfy general education requirements nor provide credit toward any degree.

A student who is placed in ENGL 0303 must earn a grade of C or better in the course before enrolling in ENGL 1013. A student who makes a D or F in ENGL 0303 must repeat the course in each subsequent semester until he or she earns a grade of C or better.

ENGL 0404: Developmental Reading and Writing

A course in basic reading and writing skills designed to prepare students for success in the six-hour composition sequence.

Note: The grade in ENGL 0404 will be computed in semester and cumulative grade point average, but the course may not be used to satisfy general education requirements nor provide credit toward any degree.

A student who makes a "D" or "F" in ENGL 0404 must repeat the course in each subsequent semester until he or she earns a grade of "C" or better.

ENGL 1013: Composition I

ACTS Common Course - ENGL 1013

Prerequisite: Score of 19 or above on English section of the Enhanced ACT, 450 or above on the quantitative portion of the SAT, 40 or above on the TSWE, 80 or above on the COMPASS writing section, 83 or above on ACCUPLACER sentence skills section, or a grade of C or better in ENGL 0203 or 0303 or 0404.

A review of grammar, introduction to research methods, and practice in writing exposition using reading to provide ideas and patterns.

Note: A grade of C or better must be earned in each of the two composition courses used to satisfy the general education requirement of English/Communication.

Note: May not be taken for credit after successful completion of ENGL 1043.

ENGL 1023: Composition II

ACTS Common Course - ENGL1023

Prerequisite: Minimum grade of C in ENGL 1013 or 1043.

A continuation of ENGL 1013 with readings in poetry, fiction, and drama.

Note: A grade of C or better must be earned in each of the two composition courses used to satisfy the general education requirement of English/Communication.

Note: May not be taken for credit after successful completion of ENGL 1053.

ENGL 1043: Honors Composition I

Prerequisite: Admission to the Tech Honors Program or permission of the Honors Program Director.

An honors course that concentrates on advanced reading and writing skills.

Note: A grade of C or better must be earned in each of the two composition courses used to satisfy the general education requirement of English/Communication.

ENGL 1053: Honors Composition II

Prerequisites: Successful completion of ENGL 1013 or ENGL 1043 and admission to the Tech Honors Program or permission of the Honors Program Director.

An honors writing course that includes the study of poetry, fiction, and drama.

Note: A grade of C or better must be earned in each of the two composition courses used to satisfy the general education requirement of English/Communication.

ENGL 2003: Introduction to World Literature

ACTS Common Course - ENGL2113

Prerequisite: ENGL 1013 or equivalent.

An exploration of significant authors and themes in world literature.

Note: ENGL 2003 may be used to fulfill the general education humanities requirements.

ENGL 2013: Introduction to American Literature

ACTS Common Course - ENGL2653

Prerequisite: ENGL 1013 or equivalent.

An exploration of significant authors and themes in American literature.

Note: ENGL 2013 may be used to fulfill the general education humanities requirement.

ENGL 2023: Honors World Literature

Prerequisites: Successful completion of ENGL 1013 or 1043 and admission to the Tech Honors Program, or permission of the Honors Program Director.

An honors course that explores significant authors and themes in world literature.

Note: ENGL 2023 may be used to fulfill the general education humanities requirement.

ENGL 2043: Introduction to Creative Writing

ACTS Common Course - ENGL2013

Prerequisite: ENGL 1023 or equivalent

Introduction to techniques of writing both fiction and poetry.

ENGL 2053: Technical Writing

ACTS Common Course - ENGL2023

Prerequisite: ENGL 1023 or equivalent

Practice in composing abstracts, instructions, visuals, proposals, questionnaires, letters, memos, and a variety of informal and formal reports.

ENGL 2063: Advanced Composition: Practice and Theory

Prerequisite: ENGL 1023 or equivalent

Practice with several types of expository writing. An introduction to research techniques and composition theory.

ENGL 2173: Introduction to Film

Cross-listed: Jour 2173

Prerequisite: ENGL 1013 or equivalent

A study of film as an art form with particular attention given to genres, stylistic technique and film's relation to popular culture.

Note: ENGL 2173 may be used to fulfill the General Education fine arts requirement.

Note: ENGL 2173 may not be repeated for credit after the completion of JOUR 2173.

ENGL 2183: Honor Introduction to Film

Prerequisites: Successful completion of ENGL 1013 or ENGL 1043 and admission to the Tech Honors Program or permission of the Honors Program Director.

A study of film as an art form with particular attention given to genres, stylistic technique and film's relation to popular culture.

ENGL 2213: Introduction to Drama

Prerequisite: ENGL 1013 or equivalent

A study of drama as literature; a study of terminology and elements of drama and the reading of selected works, including both classic and contemporary.

ENGL 2223: Introduction to Poetry

Prerequisite: ENGL 1013 or equivalent

A study of basic form, terminology and specific works.

ENGL 2233: Introduction to Fiction

Prerequisite: ENGL 1013 or equivalent

A study of form, terminology, and specific works of fiction.

ENGL 2263: Mythology

Prerequisite: ENGL 1013 or equivalent

An introduction to the Western mythologies and a study of their influence on Western literature.

ENGL 2283: Science Fiction and Fantasy

Prerequisite: ENGL 1013 or equivalent

A survey course which covers classics of the science fiction and fantasy genres. Approach to the works is both historical and thematic.

ENGL 2881: Practicum-Literary Journal Publication

Prerequisite: ENGL 1013 or equivalent

Students will work as staff members of NEBO: A Literary Journal.

Note: May be repeated for a maximum of five semester hours. Cumulative hours in ENGL 2881 and ENGL 4881-4 may not exceed nine.

ENGL 3013: Systems of Grammar

Prerequisite: ENGL 1023 or equivalent

Students are recommended to complete ENGL 3023 before enrolling in this course. A synthesis of the most useful elements of traditional, transformational, and structural grammar.

ENGL 3023: Introduction to Linguistics

Cross-listed: COMM 3023, FR 3023, GER 3023, and SPAN 3023

Prerequisite: ENGL 1023 or equivalent

A study of basic concepts in language, comparative characteristics of different languages, and the principles of linguistic investigation.

ENGL 3043: Literary Editing and Publishing

Prerequisite: ENGL 2043

A study of literary editing and publishing in print and online.

ENGL 3083: Fiction Workshop

Prerequisite: ENGL 2043.

Concentration in the writing and evaluation of fiction.

Note: May be repeated once for credit as ENGL 3083.

ENGL 3093: Poetry Workshop

Prerequisite: ENGL 2043

Concentration in the writing and evaluation of poetry.

Note: May be repeated once for credit as ENGL 3093.

ENGL 3103: Literary Theory

Prerequisite: ENGL 1023 or equivalent

A study of contemporary critical approaches to literature.

ENGL 3173: Studies in Film

Prerequisite: ENGL 1023 or equivalent

A focused study of selected films. Course content will vary.

Note: May be repeated for credit as ENGL 3173 if course content differs.

ENGL 3183: Studies in Television

Prerequisite: ENGL 1023

A focused study of selected television shows. Course content will vary.

Note: This course may be repeated for credit as ENGL 3183 if course content differs.

ENGL 3203: Modern Novel

Prerequisite: ENGL 1023 or equivalent

Reading in representative novels written since 1900.

ENGL 3223: Young Adult Literature

Prerequisite: ENGL 1023 or equivalent

A survey of young adult literature.

ENGL 3243: Early Novel

Prerequisite: ENGL 1023 or equivalent

Reading in representative novels written before 1900.

ENGL 3293: Studies in Literature and Language

Prerequisite: ENGL 1023 or equivalent

A focused study of selected literary works or selected language topics. Course content will vary.

Note: May be repeated for credit as ENGL 3293 if course content differs.

ENGL 3303: Literature of the South

Prerequisite: ENGL 1023 or equivalent

Reading in representative works by writers in the South since the Civil War.

ENGL 3313: American Literature to 1900

Prerequisite: ENGL 1023 or equivalent

Readings in the works of colonial and nineteenth century American authors.

ENGL 3323: Modern American Literature

Prerequisite: ENGL 1023 or equivalent

Readings in the works of twentieth century American authors.

ENGL 3413: British Literature to 1800

Prerequisite: ENGL 1023 or equivalent

Readings in the works of selected early British authors.

ENGL 3423: British Literature since 1800

Prerequisite: ENGL 1023 or equivalent

Readings in the works of nineteenth-and twentieth-century British authors.

ENGL 3453: Chaucer

Prerequisite: ENGL 1023 or equivalent

A study of representative works.

ENGL 3463: Shakespeare

Prerequisite: ENGL 1023 or equivalent

A study of selected comedies, histories, and tragedies.

ENGL 3513: Methods of Research

Prerequisite: ENGL 2063, equivalent, or consent.

A study of techniques for research.

ENGL 4013: History of the English Language

Prerequisite: ENGL 3023, equivalent, or consent.

The development of English sounds, inflections and vocabulary.

ENGL 4023: Second Language Acquisition

Prerequisite: ENGL 1023, equivalent, or permission of the instructor.

An investigation and analysis of the theoretical foundations of learning a second language as a guide to the effective teaching of English to limited English proficiency (LEP) students.

Note: ENGL 4023 may be used toward fulfilling the ESL endorsement in Arkansas.

ENGL 4083: Seminar: English Language

Prerequisite: ENGL 1023 or equivalent

Course content will vary.

Note: May be repeated for credit as ENGL 4083 or ENGL 5083 if course content differs.

ENGL 4093: Seminar in Creative Writing

Prerequisite: ENGL 2043

Course content will vary.

Note: May be repeated for credit as ENGL 4093 if course content varies.

ENGL 4173: Seminar in Film Studies

Prerequisite: ENGL 1023 or equivalent

Course content will vary.

Note: May be repeated for credit as ENGL 4173 or ENGL 5173 if course content differs.

ENGL 4213: American Folklore

Prerequisite: ENGL 1023 or equivalent

A study of the forms and subjects of American folklore, folklore scholarship and bibliography; field work in collecting folklore.

Note: May not be repeated for credit as ENGL 5213.

ENGL 4283: Seminar: World Literature

Prerequisite: ENGL 1023 or equivalent

Course content will vary.

Note: May be repeated for credit as ENGL 4283 or ENGL 5283 if course content differs.

ENGL 4383: Seminar: American Literature

Prerequisite: ENGL 1023 or equivalent

Course content will vary.

Note: May be repeated for credit as ENGL 4383 or ENGL 5383 if course content differs.

ENGL 4483: Seminar: British Literature

Prerequisite: ENGL 1023 or equivalent

Course content will vary.

Note: May be repeated for credit as ENGL 4483 or ENGL 5483 if course content differs.

ENGL 4683: Seminar in Gender Studies

Prerequisite: ENGL 1023 or equivalent

Course content will vary.

Note: May be repeated for credit as ENGL 4683 or ENGL 5683 if course content differs.

ENGL 4703: Teaching English as a Second Language

Prerequisite: ENGL 1023, equivalent, or consent.

An investigation and practice in teaching different levels of English grammar, oral communication,

comprehension skills, reading, and composition to foreign students.

Note: ENGL 4703 may be used toward fulfilling the ESL endorsement in Arkansas.

ENGL 4713: ESL Assessment

Prerequisite: ENGL 1023, equivalent, or consent.

An introduction to the tools, techniques, and procedures for evaluating the English proficiency and language development of ESL students.

Note: ENGL 4713 may be used toward fulfilling the ESL endorsement in Arkansas.

ENGL 4723: Teaching People of Other Cultures

Prerequisite: ENGL 1023, equivalent, or consent.

An examination of cultural diversity in Arkansas and the United States, designed for prospective ESL teachers.

Note: ENGL 4723 may be used toward fulfilling the ESL endorsement in Arkansas.

ENGL 4733: Teaching English in the Secondary School

Prerequisite: COMM 2003, ENGL 2003, and admission to Stage II of the teacher education program.

To be taken within one year before student teaching. An introduction to methods and materials used to teach secondary English.

ENGL 4813: Senior Project in Creative Writing

Prerequisites: Completion or concurrent enrollment in ENGL 3083 and ENGL 3093.

Completion of a significant creative writing project approved by the instructor.

ENGL 4881,4882,4883,4884: Practicum-Editing Literary Journal

Prerequisites: ENGL 3083, 3093, or consent.

To select and edit writing for publication and to direct staff members in the production of NEBO: A Literary Journal. Candidates for editorial positions must apply to the English Department at the start of the spring semester.

Note: May be repeated for a maximum of six semester hours. Cumulative hours in ENGL 2881 and ENGL 4881-4 may not exceed nine.

ENGL 4951,4952,4953,4954: Undergraduate Research in English

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

ENGL 4991,4992,4993,4994: Special Problems in English

Prerequisites: English major or minor and consent of instructor and department head.

Course content and credit are designed to meet the needs of the student.

Environmental Science Course Descriptions

ENVS 1004: Principles of Environmental Science

Cross-listed: BIOL 1004 and PHSC 1004

This course is designed to bring the student to a basic but informed awareness of and responsible behavior toward our environment and the role of the human race therein. The content will include a study of the philosophical and scientific basis for the study of ecosystems and the environment, the nature of ecosystems, the techniques used to study the environment, the origin and development of current environmental problems, the interdisciplinary nature of environmental studies, the processes of critical thinking and problem solving, and the moral and ethical implications of environmentally-mandated decisions.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

ENVS 3043: Conservation

Cross-listed: BIOL 3043

Prerequisite: BIOL/ENVS/PHSC 1004.

A study of natural resources, their utilization in a technical society, and factors leading to their depletion.

ENVS 3111: Environmental Seminar

Cross-listed: BIOS 3111, CHEM 3111, and GEOL 3111

A seminar for students pursuing the environmental option of biology, chemistry, or geology and other students interested in environmental sciences.

ENVS 4112: Environmental Science Internship

Prerequisite: Consent of biology program director.

A supervised, practical experience providing ENVS majors with a hands-on, professional experience related to their career interests. Approximately 200 clock hours, a proposal, a log book, and a written and oral report are required.

ENVS 4114: Environmental Science Internship

Prerequisite: Consent of biology program director.

A supervised, practical experience providing ENVS majors with a hands-on, professional experience related to their career interests. Approximately 400 clock hours, a proposal, a log book, and a written and oral report are required.

ENVS 4124: Biological Assessment of Water Quality

Cross-listed: BIOL 4124

Offered: Spring

Prerequisites: BIOL/ENVS/PHSC 1004, BIOL/FW 3114, and three semesters of chemistry.

This course is an in-depth study of assessment of water quality by analyzing biological and chemical data.

This course may include topics and case studies from the following list:

Compare and contrast biological and chemical techniques for assessing water quality

Physical and chemical properties of water,

Connecting flows and water quality

Nutrient pollution,
Point and non-point sources
Effects of petroleum pollution from extraction, transportation, refining, and combustion on biological systems
SOPs, industry, and government standard practices and procedures for analyzing water quality
Species richness, species evenness, and rank abundance curves
Techniques from microbiology
Plants as assessment tools
Cladocerans and other zooplankton in laboratory or field
Macro invertebrates as indicators
Fighting Back Against Invasive Plants
Watch-dogging Wetlands Mitigation
Tackling the Dead Zone & Restoring the Mississippi
Volunteer monitoring helps identify problems and improve clean-up

Lecture 3 hours, laboratory 3 hours. This course includes several required field trips. \$40 laboratory fee.

ENVS 4133: Environmental Policy

Offered: Spring

Prerequisites: BIOL/ENVS/PHSC 1004 and BIOL/ENVS 3043

This course is an in-depth study of environmental policy and law, including federal and state regulations, federal and state agencies, policies, enforcement, historic legal actions, and important procedures for compliance.

This course may include topics and case studies from the following list:

Introduction to the Clean Water Act Water Quality Standards
Pollution Discharge Permits
Storm water Pollution Discharge Permits Identifying Impaired Waters
Restoring Impaired Waters
Water Quality Certification Dredge & Fill Permits
Non-point Source Control State Revolving Funds Enforcement
Other Laws
Phosphorus Pollution Controls
Kentucky Waterways Alliance antidegradation case
Using the Clean Water Act to Restore Flows: Fay Creek
Watershed-based approach to storm water permits
Creative ways to use Section 319 funds
Hard infrastructure dollars pay for stream restoration
An industrial success in Oregon
Pursuing alternatives to wetland destruction
Using 401 to protect stream flow in the Dosewallips River

ENVS 4881,4882,4883,4884: Advanced Topics in Environmental Science

Prerequisites: an upper level science course and consent of the instructor.

This course offers advanced instruction in an area of biological sciences that is not otherwise covered in the curriculum. The focus of the course will vary from offering to offering, thus the course may be taken more than once.

ENVS 4951,4952,4953,4954: Undergraduate Research in Environmental Science

Prerequisites: an upper level science course and consent of the instructor.

Advanced students carry out independent research activity relating to a significant problem in a major field of study and supervised by faculty member. Formal report and presentation required. One to four credits

depending on problem selected and effort made.

\$40 laboratory fee.

Finance Course Descriptions

FIN 2013: Personal Finance

A course designed to provide students with the fundamental skills of personal financial planning and goal achievement. Topics covered include financial planning, cash and credit management, insurance, investment, and retirement and estate planning.

FIN 3043: Investments I

Prerequisite: FIN 3063

This course provides the fundamental concepts of the investment area including markets, stocks, bonds, investment environments, economic, industry and security analysis.

FIN 3063: Business Finance

Prerequisites: ACCT 2013, ECON 2003, ECON 2013, BUAD 2053, BDA 2003, and BLAW 2033. Additionally, must have a minimum GPA of 2.0 on 54 or more earned hours.

Nature of business finance and its relation to economics, accounting, and law; role of the financial manager and financial markets; financial forecasting, planning, and budgeting; securities valuation, capital budgeting, and cost of capital; capital structure and working capital management; international finance.

FIN 4023: Investments II

Prerequisites: FIN 3043. Additionally, must have a minimum GPA of 2.0.

This course provides further work with investment concepts involving mutual funds, derivative securities, specialized investment products, internal investing, real estate, and portfolio concepts.

FIN 4043: Principles of Risk and Insurance

Prerequisites: FIN 3063. Additionally, must have a minimum GPA of 2.0.

A course designed to provide an understanding of the insurance field. Course content includes a survey of the extent and types of risk in business; ways of dealing with business risk; and a survey of insurance for risk-bearing purposes.

FIN 4053: Internship I in Economics/Finance

Prerequisites: Permission of the Instructor and Department Head; Junior Standing; minimum 2.5 overall GPA.

A supervised, practical experience providing undergraduate ECON/FIN majors with a hands-on, professional experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A College of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make a classroom presentation, maintain an internship log, and prepare a final term paper.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for economics and finance electives. Additional hours may be used to satisfy the curriculum requirements for general electives.

FIN 4103: Special Topics in Finance

Prerequisites: FIN 3063. Additionally, must have a minimum GPA of 2.0.

This course provides in-depth exploration of selected finance topics. The primary topic will vary from offering to offering; this, the course may be taken more than once.

French Course Descriptions

FR 1013: Beginning French I

ACTS Common Course - FR 1013

Training in the elements of French communication (speaking and writing) and comprehension (listening and reading) within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied French.

FR 1023: Beginning French II

ACTS Common Course - FR 1023

Prerequisite: FR 1013 or equivalent

Continued training in basic French communication (speaking and writing) and comprehension (listening and reading) skills to increase proficiency in the language within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied French.

FR 2013: Intermediate French I

ACTS Common Course - FR 2013

Prerequisite: FR 1023 or equivalent

Development of the language skills necessary for communication (speaking and writing) and comprehension (listening and reading) skills to increase proficiency in the language at the intermediate level within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied French.

FR 2023: Intermediate French II

ACTS Common Course - FR 2023

Prerequisite: FR 2013 or equivalent

Further development of the language skills necessary for communication (speaking and writing) and comprehension (listening and reading) skills to provide mastery of the fundamental tools in a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied the language.

FR 3003: Conversation and Composition I

Prerequisite: FR 2023 or permission of instructor

Development of advanced control of French communication and comprehension through conversation and composition based on analysis of authentic short texts and media.

Three hours of applied course work.

Note: Advanced placement and credit by examination are available to students who have previously studied or are proficient in French.

FR 3013: Conversation and Composition II

Prerequisite: FR 3003 or permission of instructor

Continuation of FR 3003. Further development of advanced proficiency of French communication and comprehension through conversation and composition based on analysis of authentic short texts and media.

Three hours of applied course work.

Note: Advanced placement and credit by examination are available to students who have previously studied or are proficient in French.

FR 3023: Introduction to Linguistics

Cross-listed: COMM 3023, ENGL 3023, GER 3023, and SPAN 3023

Prerequisites: ENGL 1023 or equivalent and FR 2023 or equivalent.

A study of basic concepts in language, comparative characteristics of different languages, and the principles of linguistic investigation.

FR 3113: Culture and Civilization

Prerequisite: FR 3013 or permission of instructor.

Development of an understanding of French life through study and analysis of French history and geography texts, film, advertising, and mass media.

FR 3143: Study Abroad

Prerequisite: Enrollment in a Tech-sanctioned study program in a French-speaking country, completion of FR 2023 or equivalent, and permission of the Study Abroad supervisor.

Study of the contemporary language and culture in a French speaking country.

Note: May substitute for FR 3003 or FR 3013, depending on the student's proficiency level.

FR 4701: Foreign Language Pedagogy

Cross-listed: GER 4701, SPAN 4701

Prerequisite: Admission to student teaching phase of the teacher education program.

Co-requisite: SEED 4909

Intensive on-campus exploration of the principles of curriculum construction, applied methods, professional collaboration, and evaluation as related to teaching French, German, or Spanish, followed by professional internship application of these principles under the supervision of a qualified departmental instructor.

FR 4703: Foreign Language Teaching Methods

Cross-listed: GER 4703, SPAN 4703

Prerequisites: FR 3013 and FR 3113 or equivalent; admission to Stage II of the Secondary Education sequence or equivalent.

Survey of instructional methods with discussions and demonstrations of practical techniques for the teaching of foreign language.

FR 4801: Cultural Immersion and Research

Prerequisites: Enrollment in French Immersion Weekend and permission of instructor.

Intensive study of French cultural topics followed by individual research projects. May be repeated for credit if content varies.

FR 4951,4952,4953,4954: Undergraduate Research in French

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

FR 4993: Special Problems in French

Prerequisites: FR 2023 and consent of the instructor and the department head.

Designed to provide advanced students with a course of study in an area not covered by departmental course offerings.

Fisheries Wildlife Biology Course Descriptions

FW 1001: Orientation to Fisheries and Wildlife Science

Offered: Fall

An introduction to professions in fisheries and wildlife science. Required of fisheries and wildlife students during their first fall term on the Tech campus.

FW 2003: Elements of Fish and Wildlife Management

Offered: Fall

Principles of fish and wildlife management for the non-major, including fish and wildlife identification and the role of various natural resource organizations in conservation.

\$40 laboratory fee.

FW 2013: Natural Resources Communications

Offered: Spring

Prerequisite: ENGL 1023 or alternate

An investigation and practice of effective communication techniques typically used in natural resources management. The focus of this course is to teach students to effectively communicate complex scientific messages to diverse audiences. Specific types of communication explored will include construction of figures, graphs and tables, power point presentations, abstracts and technical reports specific to the natural resources discipline.

FW 2833: Introduction to Geographic Information Systems

Cross-listed: GEOG 2833

An introductory course dealing with computer organized spatial and attribute data. GIS is a system of specialized computer programs with the capability to manipulate and analyze data for problem solving.

FW 3053: Fisheries and Wildlife Administration

Offered: Fall of even years

Prerequisites: FW 1001 and junior standing, or permission of instructor.

Administration of fish and wildlife agencies, including organizational designs and policies, planning, directing, budgeting, personnel management, and public relations. Special consideration will be given to public, scientific, and economic considerations in the decision making process.

FW 3074: Habitat Evaluation

Offered: Fall of even years

Introduction to aquatic and terrestrial habitat mensuration and evaluation for field biologists, with emphasis on the description and demonstration of evaluation procedures and software.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

FW 3084: Ichthyology

Cross-listed: BIOL 3084

Prerequisite: BIOL 2124

Systematics, collection, identification, natural history, and importance of fishes.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

FW 3114: Principles of Ecology

Cross-listed: BIOL 3114

Prerequisites: BIOL 2124, BIOL 2134, and one semester of chemistry.

Responses of organisms to environmental variables, bioenergetics, population dynamics, community interactions, ecosystem structure and function, and major bio geographical patterns.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

FW 3144: Ornithology

Cross-listed: BIOL 3144

Prerequisite: BIOL 2124

An introduction to the biology of birds. The course covers aspects of anatomy, physiology, behavior, natural history, evolution, and conservation of birds. Laboratories address field identification and natural history of the birds of Arkansas.

Note: Students will be expected to participate in an extended 5-7day field trip.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

FW 3154: Mammalogy

Cross-listed: BIOL 3154

Prerequisite: BIOL 2124

Taxonomy identification, ecology, and study natural history of the mammals.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

FW 3173: Biostatistics

Offered: Fall

Prerequisite: one semester of statistics.

An analysis and interpretation of fisheries and wildlife data including descriptive statistics, hypothesis testing, analysis of variance, simple linear regression, correlation, goodness of fit, and contingency tables.

FW 3204: Aquaculture

Offered: Spring

Prerequisite: BIOL 2124 or permission of instructor.

Course is designed to provide students with the essentials of successful warm water aquaculture including crayfish and alligators. Basics of cool and cold water aquaculture are also covered. Emphasis ranges from maintenance of brood stock and culture of fingerlings to production of market size fish.

Lecture three hours, laboratory two hours plus several full-day field trips that may involve weekend or overnight travel. \$40 laboratory fee.

FW 3224: Herpetology

Cross-listed: BIOL 3224

Prerequisite: BIOL 2124.

The phylogeny, classification, physiology, behavior, and distribution of reptiles and amphibians. The Laboratory will stress identification of the species found in Arkansas.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

FW 4001: Senior Seminar in Fisheries and Wildlife Biology

Offered: Fall

Prerequisite: Senior fisheries and wildlife biology major or by consent of instructor.

Designed to integrate various aspects of fisheries and wildlife biology by covering current topics and to acquaint students with areas not covered elsewhere in the curriculum.

FW 4003: Principles of Wildlife Management

Offered: Spring

Prerequisite: FW (BIOL) 3114 or permission of instructor.

Principles of managing wildlife resources with emphasis on the history of wildlife resources in the United States, population ecology, wildlife values, and the administration of wildlife resources and resources agencies.

FW 4013: Wildlife Techniques

Offered: Fall

Prerequisite: FW (BIOL) 3114 or permission of instructor.

Instruction in current wildlife techniques including habitat evaluation and manipulation, estimation of wildlife abundance, capturing and marking, identification, aging, and scientific writing. Course is structured around a research project that requires use of popular wildlife techniques.

Lecture one hour, laboratory four hours. \$40 laboratory fee.

FW 4014: Forest Ecology and Management

Offered: Fall

Prerequisite: FW (BIOL) 3114

An in-depth coverage of ecological interactions in forested ecosystems. Lectures cover biotic and abiotic factors that influence development and species compositions of forest stands. Wildlife habitat relationships in forested ecosystems will also be discussed. Laboratories will familiarize students with field techniques and management activities important in the major forest types of Arkansas.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

FW 4024: Limnology

Cross-listed: BIOL 4024

Prerequisite: FW (BIOL) 3114.

A study of physical and chemical processes in fresh water and their effects on organisms in lakes and streams. Laboratory sessions and field trips demonstrate limnological instrumentation and methodology.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

FW 4034: Geographic Information Systems in Natural Resources

Offered: Spring

Prerequisite: a course in GIS or permission of instructor

Use of GIS technology in wildlife and fisheries management and research. Emphasis placed on creation, maintenance, and analysis of spatially explicit data.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

FW 4043: Fisheries Techniques

Offered: Spring

Prerequisites: FW (BIOL) 3114 and a computer science elective, or permission of instructor.

The techniques and practices of warm water fish management. Major emphasis will be placed on survey techniques, data collection, and data analysis techniques.

Lecture one hour, laboratory four hours. \$40 laboratory fee.

FW 4054: Waterfowl Ecology and Management

Offered: Spring

Prerequisite: BIOL (FW) 3114.

Ecology and management of North American waterfowl and their habitats. Laboratory exercises will focus on identification, life histories, sex and age determination, and abundance survey methods. Lectures and discussions will cover behavioral ecology, reproductive ecology, winter ecology, harvest management, and habitat management and conservation.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

FW 4064: Wetland Ecology and Management

Offered: Fall of even years

Prerequisite: A course in ecology or permission of instructor

An in-depth coverage of wetlands including occurrence, morphology, hydrology, soils, ecology, and regulation. The types of wetlands and their functions are discussed, as are local, state and federal regulations pertaining to their use, management and protection. Laboratory focuses on identification of common wetland vegetation, delineation of wetland boundaries, as well as field techniques and management activities commonly used in Arkansas wetlands.

Lecture two hours, laboratory four hours. \$40 laboratory fee

FW 4083: Principles of Fisheries Management

Offered: Fall

Prerequisites: FW (BIOL) 3114, one semester of statistics, and one semester of calculus, or permission of instructor.

The principles and theory of warm water fish management with major emphasis on the human dimension in fisheries management, fishery assessment, population dynamics, and common management practices.

FW 4103: Human Dimensions of Fisheries and Wildlife Management

Offered: Spring

Prerequisite: BIOL (FW) 3114 or permission of instructor.

Exploration of the complex interactions of social, political, institutional, economic and ecological processes that contribute to natural resource use and management. The primary focus is on interactions and conflict resolution among various stakeholders, resource management agencies, and wildlife and fisheries resources. Topics covered include public attitudes and expectations; agency structure and policy; values of fishes, wildlife; and public relations.

FW 4112: Internship

Prerequisite: Consent of program director.

A supervised, practical experience providing FW majors with a hands-on, professional experience related to their career interests. Approximately 200 clock hours, a proposal, a log book, and a written report are required.

Note: A maximum of four credit hours is allowed for FW internship.

FW 4114: Internship

Prerequisite: Consent of program director.

A supervised, practical experience providing FW majors with a hands-on, professional experience related to their career interests. Approximately 400 clock hours, a proposal, a log book, and a written and oral report are required.

Note: A maximum of four credit hours is allowed for FW internship.

FW 4163: Biodiversity and Conservation Biology

Cross-listed: BIOL 4163

Prerequisite: a course in ecology or permission of instructor

The concepts of, processes that produce, and factors that threaten biological diversity are introduced and examined. Further emphasis is placed on unique problems associated with small population size, management of endangered species and practical applications of conservation biology.

FW 4881,4882,4883,4884: Advanced Topics

Offered: On demand

Prerequisite: Consent of instructor. Open to junior and senior students only.

Offers special instruction on fisheries and wildlife topics that are not otherwise covered in the curriculum. The primary focus of the course will vary from offering to offering, thus the course may be taken more than once.

\$40 laboratory fee.

FW 4951,4952,4953,4954: Undergraduate Research in Fisheries and Wildlife

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$40 laboratory fee.

Game and Interactive Media Design Course Descriptions

GAME 3013: Game Development I

Offered: Fall

Prerequisite: ART 2213

This course is an introduction to the fundamentals of game design and development.

\$45 course fee.

GAME 3023: Game Development II

Offered: Spring

Prerequisite: GAME 3013

This course is a continuation of the fundamentals of game design and development through the design and production of more complex games and utilization of game engines.

\$45 course fee.

GAME 4013: Senior Game Project I

Offered: Fall

Prerequisites: GAME 3023, GAME 4263, and GAME 4633.

Senior Game Project I is the first course of the senior capstone experience of the Game Design Major. Students will work in teams to design and develop their project in preparation for the production phase, simulating the "real world" experience of the game and interactive media industry.

\$45 course fee.

GAME 4023: Senior Game Project II

Offered: Spring

Senior Game Project II is the second capstone course of the Game Design and Interactive Media Major, and develops the team projects created in Senior Game Project I into fully functioning finished video games further simulating the "real world" experience in working in the interactive media field.

\$45 course fee.

GAME 4263: 3D Modeling

Offered: Spring

Prerequisites: ART 3253 and GAME 3013.

This course introduces the fundamentals of object and character creation using 3D modeling software such as Autodesk's Mud Box and Maya.

\$45 course fee.

GAME 4633: 3D Animation

Offered: Spring

Prerequisite: Art 4623 and GAME 3013.

This course introduces the fundamental 3D theories and principles of computer modeling and animation using software such as Autodesk's Mud Box and Maya.

\$45 course fee.

GAME 4803: Game Design Theory

Offered: Fall

Prerequisites: ART 2223 and GAME 3023.

This course will serve as an introduction to the interdisciplinary study of commercial videogames as texts, examining their cultural, educational, and social functions in contemporary settings.

GAME 4901: Professional Portfolio

Offered: Spring

Prerequisite: GAME 4013

The Game and Interactive Media Design course prepares the student for entry into the professional world through the development of a resume, portfolio, and the presentation of their work.

Geography Course Descriptions

GEOG 2013: Regional Geography of the World

ACTS Common Course - GEOG2103

A survey of major regions with particular emphasis upon Europe, the Commonwealth of Independent States, the Orient, the Mid East, Africa, and Latin America.

GEOG 2023: Human Geography

ACTS Common Course - GEOG1113

A systematic treatment of the major concepts of human geography and their application to modern problems, consideration of population, cultural patterns and processes, political organization of space, agricultural and rural land use, industrialization and economic development, and cities and urban land use.

GEOG 2833: Introduction to Geographic Information Systems

Cross-listed: FW 2833

An introductory course dealing with computer organized spatial and attribute data. GIS is a system of specialized computer programs with the capability to manipulate and analyze data for problem solving.

GEOG 3033: Physical Geography

A description and interpretation of the physical features of the surface zone of the earth and how man interrelates with this complex natural environment.

GEOG 3113: Geography of the United States and Canada

A regional study emphasizing the physical and cultural aspects of Anglo America.

GEOG 3303: Geography of Latin America

A regional study of the lands and people of Latin America and their interrelationships. Particular attention will be given to Mexico, Brazil, and Argentina.

GEOG 3403: GIS II - Planning Applications

A GIS mapping course specializing in the collection and manipulation of spatial data in support of metropolitan planning and community development. Emphasis will be placed on techniques in editing, raster methods, spatial analysis, and GIS modeling.

GEOG 3413: Geography of Europe

A regional study of the physical and cultural aspects of Europe (including the C.I.S.) and their interrelationships.

GEOG 3703: Geography of Asia

A regional study of the lands and peoples of Asia and their interrelationships with particular emphasis on India, China, and Japan.

GEOG 3803: Historical Geography

A study of how space and place is transformed through time. Through a focus on the geographies of the past throughout North America, this course examines the ways humans interact with the environment to create a material-cultural landscape.

GEOG 4023: Economic Geography

A study of the resources at man's disposal and his economic activities in utilizing these resources. Special attention is given to industrial and agricultural resources of leading nations.

Note: May not be repeated for credit as GEOG 5023 or equivalent.

GEOG 4203: Place and Collective Memory

An examination of the way society remembers the past and portrays this collective memory through socially constructed monuments.

GEOG 4803: Seminar in Global Studies

A seminar on current world geographic influences that affect the nations of the world, such as demographics, complex environmental and physical changes, and political and economic relationships.

GEOG 4951,4952,4953,4954: Undergraduate Research in Geography

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

GEOG 4983: Geography Seminar:

A directed seminar in an area of cultural geography. The specific focus will depend upon research under way, community or student need, and the unique educational opportunity available.

May be repeated for a maximum of six credit hours if course content changes.

GEOG 4993: Special Problems in Geography

Admission requires consent of department head.

Geology Course Descriptions

GEOL 1004: Essentials of Earth Science

ACTS Common Course - PHSC1104

An introduction to the fundamental topics of earth science including physical and historical geology, oceanography, and meteorology. Laboratory exercises include the study of minerals, rocks, fossils, topographic and geologic maps, and oceanographic and meteorological phenomena. Laboratory work will stress the use of the scientific method of problem solving. This course is designed as a general education science requirement and for prospective early childhood and middle level school teachers.

Note: Duplicate credit for GEOL 1004 and GEOL 1014 will not be allowed.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

GEOL 1014: Physical Geology

ACTS Common Course - GEOL1114

A survey of the earth's features and forces which modify its surface and interior. Laboratory exercises include the study of minerals, rocks, and landforms through the use of topographic maps and aerial photography.

Note: Duplicate credit for GEOL 1014 and GEOL 1004 will not be allowed.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

GEOL 2001,3001: Seminar

Offered: Fall

Prerequisites: GEOL 1014 and GEOL 2001

Participants will prepare oral and written reports and participate in discussions of the reports. Topics for the seminar will be determined by the instructors but will be subjects which are beyond the scope of other geology courses.

GEOL 2024: Historical Geology

ACTS Common Course - GEOL1134

Offered: Spring

Prerequisite: GEOL 1014

A survey of the physical and biological history of the earth. Laboratory exercises include the study of fossils, geologic maps, and cross sections.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

GEOL 2111: Environmental Seminar

Cross-listed: BIOL 2111, CHEM 2111

Offered: Spring of odd years

A seminar for students pursuing the environmental option of geology, biology, or chemistry and other students interested in environmental sciences.

GEOL 3004: Structural Geology

Offered: Spring

Prerequisites: GEOL 1014 and GEOL 2024

A study and analysis of the structural features of the earth's crust.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

GEOL 3014: Mineralogy

Offered: Fall

Prerequisites: GEOL 1014, CHEM 1113, CHEM 1111 or CHEM 2124. GEOL 2024 recommend.

A study of crystallography, physical and chemical properties, origin, occurrence, and structure theory of minerals.

Lecture two hours, laboratory four hours. \$40 laboratory fee.

GEOL 3023: Geologic Field Techniques

Offered: Fall

Prerequisites: GEOL 1014, GEOL 2024 and GEOL 3004

Interpretation of aerial photographs; mensuration techniques using the Brunton compass, hand level, and Jacob's staff, measurement and description of stratigraphic sections; construction of and geologic maps; collecting, sampling, and collation procedures.

Lecture/laboratory four hours. \$40 laboratory fee.

GEOL 3044: Geomorphology

Offered: Fall

Prerequisites: GEOL 1014, GEOL 2024, GEOL 3004

A study of land forms and the processes which shape the earth's surface. Special emphasis will be placed on slope forming and fluval processes.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

GEOL 3053: Geology of Ore Deposits

Offered: Fall of even years

Prerequisites: GEOL 1014, GEOL 3014, and GEOL 3164

A study of the principal earth materials essential to local and national economies. Location, genesis, methods of extraction, and primary utilization and conservation are emphasized.

GEOL 3083: Hydrogeology

Offered: Fall of odd years

Prerequisites: MATH 1113 and GEOL 1014 or permission of the instructor.

The earth's hydrologic system is studied in terms of both empirical and quantitative aspects of the steady-state condition of groundwater and its interaction with surface water, as well as transient behavior from the influence of wells. Basic water chemistry is also covered along with transport and fate of pollutants in groundwater.

GEOL 3111: Environmental Seminar

Cross-listed: BIOL 3111, ENVS 3111, and CHEM 3111

Offered: Spring of odd years

A seminar for students pursuing the environmental option of geology, biology, or chemistry and other students interested in environmental sciences.

GEOL 3124: Invertebrate Paleontology

Offered: Spring of odd years

Prerequisite: GEOL 2024

A systematic study of invertebrate fossils and their geologic significance.

Lecture laboratory six hours. \$40 laboratory fee.

GEOL 3153: Environmental Geology

Offered: Fall

Prerequisite: GEOL 1014

A study of the geological factors which influence the pollution of land, water, and biological resources; the role of rock and soil in the geobiological community; hydrology; land sliding and faulting in the human environment, natural resource problems; urban and land use planning based on geological data.

GEOL 3164: Petrology

Offered: Spring

Prerequisite: GEOL 3014

A study of the classification, origin, geologic occurrence, physical and chemical properties of igneous, sedimentary, and metamorphic rocks.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

GEOL 3174: Computer Applications in Geology

Offered: Spring of odd years

Prerequisites: GEOL 1014, GEOL 2024, FW/GEOG 2833, COMS 1003

Participants will focus on mastering common geotechnical, oil and gas, and Geographic Information Systems (GIS) software utilized throughout the geologic profession. Course will include techniques on GIS analysis; generating stratigraphic sections, cross-sections, structure contours, fence diagrams, rose diagrams, and other geologic documents; geologic data management.

\$40 course fee.

GEOL 4001: Seminar

Offered: Fall

Prerequisites: GEOL 1014 and GEOL 2001

Participants will prepare oral and written reports and participate in discussions of the reports. Topics for the seminar will be determined by the instructors but will be subjects which are beyond the scope of other

geology courses.

\$100 exam fee.

GEOL 4006: Field Geology

Offered: Each summer by arrangement

Prerequisites: GEOL 1014, GEOL 2024, GEOL 3004, GEOL 3014, GEOL 3023, GEOL 3124, and GEOL 3164

A six week summer course of instruction in the use of geologic mapping instruments, interpretation of aerial photographs and their use in the construction of geologic maps, development of techniques necessary in geological field work, recognition and interpretation of geologic phenomena, and potentially in environmental evaluation. The course is offered through arrangements with various universities. Students have the option of picking the field camp that best meets their interest from a list of pre-approved camps.

Note: Field camp expenses will vary, but the average cost for room/board and tuition is \$3,000.

\$40 laboratory fee.

GEOL 4023: Principles of Stratigraphy and Sedimentation

Offered: Spring of even years

Prerequisites: GEOL 3124 and GEOL 3164

A study of sedimentary rocks and their stratigraphic relationships.

GEOL 4034: Subsurface Geology

Offered: Spring of even years

Prerequisites: GEOL 3004, GEOL 3164, GEOL 4023, MATH 1113

A study of analytic procedures in selected topics in geophysics, well logging, and subsurface geological relationships.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

GEOL 4043: Geochemistry

Prerequisites: GEOL 3164 and CHEM 2124

Co-requisite: CHEM 2134

Primarily low-temperature geochemistry with some high-temperature geochemical principles: aqueous geochemistry (including carbonate equilibria), biogeochemical cycles, basic organic chemistry, thermodynamics, phase diagrams, major and trace-element geochemistry, stable and radiogenic isotopic geochemistry (as applied primarily to low-, but also to high-temperature geochemistry). Applications to fresh surface water, ground water, oceans, air (climate), interactions with solid rock, as well as geochemical evolution of the Earth.

GEOL 4111: Environmental Seminar

Cross-listed: BIOL 4111, CHEM 4111

Offered: Spring of odd years

A seminar for students pursuing the environmental option of geology, biology, or chemistry and other students interested in environmental sciences.

GEOL 4433: Advanced Topics in Geology

Prerequisite: Consent of Instructor

Various advanced topics from any specialty area in geology.

Note: May be repeated for credit if course content differs.

GEOL 4951,4952,4953,4954: Undergraduate Research in Geology

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$40 laboratory fee.

GEOL 4991,4992: Special Problems in Geology

Open to geology majors with the approval of the department head.

\$40 laboratory fee.

German Course Descriptions

GER 1013: Beginning German I

ACTS Common Course - GERM 1013

Training in the elements of German communication (speaking and writing) and comprehension (listening and reading) within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied German.

GER 1023: Beginning German II

ACTS Common Course - GERM 1023

Prerequisite: GER 1013 or equivalent

Continued training in basic German communication (speaking and writing) and comprehension (listening and reading) skills to increase proficiency in the language within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied German.

GER 2013: Intermediate German I

ACTS Common Course - GERM 2013

Prerequisite: GER 1023 or equivalent

Development of the language skills necessary for communication (speaking and writing) and comprehension (listening and reading) skills to increase proficiency in the language at the intermediate level within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied German.

GER 2023: Intermediate German II

ACTS Common Course - GERM 2023

Prerequisite: GER 2013 or equivalent

Further development of the language skills necessary for communication (speaking and writing) and comprehension (listening and reading) skills to provide mastery of fundamental tools in a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied German.

GER 3003: Conversation and Composition I

Prerequisite: GER 2023 or permission of instructor

Development of advanced control of German communication and comprehension through conversation and composition based on analysis of authentic short texts and media.

Three hours of applied course work.

Note: Advanced placement and credit by examination are available to students who have previously studied or are proficient in German.

GER 3013: Conversation and Composition II

Prerequisite: GER 3003 or permission of instructor

Continuation of GER 3003. Further development of advanced proficiency of German communication and comprehension through conversation and composition based on analysis of authentic short texts and media.

Three hours of applied course work.

Note: Advanced placement and credit by examination are available to students who have previously studied or are proficient in German.

GER 3023: Introduction to Linguistics

Cross-listed: COMM 3023, ENGL 3023, FR 3023, and SPAN 3023

Prerequisites: ENGL 1023 or equivalent and GER 2023 or equivalent

A study of basic concepts in language, comparative characteristics of different languages, and the principles of linguistic investigation.

GER 3113: Culture and Civilization

Prerequisite: GER 3013 or permission of instructor

Study of the geography, history, arts, institutions, customs, and contemporary life of the German speaking peoples.

GER 3143: Study Abroad

Prerequisites: Enrollment in a Tech-sanctioned study program in a German-speaking country, completion of GER 2023 or equivalent, and permission of the Study Abroad supervisor.

Study of the contemporary language and culture in a German speaking country.

Note: May substitute for GER 3003 or GER 3013, depending on the student's proficiency level.

GER 3213: Advanced Grammar and Usage

Prerequisite: GER 3013 or permission of instructor.

The course is designed to build writing competence and strengthen grammatical competence. Grammar will be studied within the context of writing assignments. The course will deepen the knowledge of the language through the usage of applied linguistics, syntax, grammar, and semantics.

GER 3223: Short Story

Prerequisite: GER 3013 or permission of instructor.

An introductory study of German short stories. Students will analyze short texts to strengthen their reading

and text interpretation skills and to increase their knowledge of vocabulary.

GER 4003: Oral Communication

Prerequisite: GER 3013 or permission of instructor.

This course is designed to strengthen students' oral communication skills by enabling them to converse easily with native speakers on everyday topics in preparation for the oral proficiency interview (OPI).

GER 4213: German Literature to 1832

Prerequisite: GER 3223 or permission of instructor.

A survey of major writers and representative works from early Middle Ages through the Age of Goethe.

GER 4223: German Literature since 1832

Prerequisite: GER 3223 or permission of instructor.

A survey of major writers and representative works since the Age of Goethe.

GER 4701: Foreign Language Pedagogy

Cross-listed: FR 4701, SPAN 4701

Prerequisite: Admission to student teaching phase of the teacher education program.

Co-requisite: SEED 4909

Intensive on-campus exploration of the principles of curriculum construction, applied methods, professional collaboration, and evaluation as related to teaching French, German, or Spanish, followed by professional internship application of these principles under the supervision of a qualified departmental instructor.

GER 4703: Foreign Language Teaching Methods

Cross-listed: FR 4073, SPAN 4703

Prerequisites: GER 3013 and GER 3113 or equivalent; admission to Stage II of the Secondary Education sequence or equivalent.

Survey of instructional methods with discussions and demonstrations of practical techniques for teaching of foreign language.

GER 4951,4952,4953,4954: Undergraduate Research in German

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

GER 4991,4993: Special Problems in German

Prerequisites: GER 2023 and consent of the instructor and the department head.

Designed to provide advanced students with a course of study in an area not covered by departmental course offerings.

Hospitality Administration Course Descriptions

HA 1001: Orientation to Hospitality Administration

Orientation to the university and hospitality administration as a profession. Exploration of successful student and career paths.

HA 1011: Sanitation Safety

Cross-listed: CUL 1011

This course provides knowledge of food safety, potable water, bioterrorism and risk management particularly in the areas of food service and storage. The student will gain knowledge on safe food handling form; receiving and storage through preparing and serving food. This course will also analyze ethical considerations with regards to food and safety and food service. ServSafe certification from the NRAEF will result upon successful completion of standardized exam. This course is graded Pass/Fail.

HA 1043: Introduction to Hospitality Management

The history and development of the hospitality industry which comprises food, lodging, and tourism management, an introduction to management principles and concepts used in the service industry, and career opportunities in the field.

HA 2023: Hospitality Leadership and Ethics

Cross-listed: CUL 2023

This course will develop student skills necessary to lead and manage hospitality organizations in an ethically, environmentally, economically, and socially acceptable manner. It will include analysis of organizational work environments and critical situations. Students will explore their existing leadership styles, build foundational principles, and commit to their own moral compass in relation to the codes of conduct, core values, and best practices relative to the professional world.

HA 2043: Lodging Operations Management I

A survey of the lodging industry to include its history, growth and development, and future direction. Emphasis on front office procedures and interpersonal dynamics from reservations through the night audit.

HA 2053: Work Experience

Cross-listed: CUL 2053

Prerequisites: HA/CUL major or HA minor; sophomore standing or permission of instructor.

Placement in selected hospitality settings as a student worker under professional guidance of both agency and faculty. Students are given the opportunity to take part in meaningful work experiences in actual work situations and managerial observation.

Minimum of 200 clock hours of work experience.

HA 2063: Guest Service Management

Cross-listed: CUL 2063

The analysis and development of guest services management skills including leadership behavior, motivation, communication, training, staffing, etiquette, and professional service.

Lecture two hours, lab minimum of four hours depending on the special event requirements.

Note: \$200 lab fee which helps to cover your meal costs.

HA 2073: Introduction to Event Management

Offered: Spring

This course will offer an introduction to the principles of event management. The student will learn how to formulate event strategies across diverse contexts. The planning, development, management and implementation of events will be the focus of study. Opportunities for participation in on and off campus events will be an element of the course.

HA 2133: Introduction to Travel and Tourism

Cross-listed: RP 2133

The introduction to travel and tourism, its components and relationship to the recreation and hospitality industry. The course will explore the current and future trends in travel and tourism and the effects on the economy, as well as the social and political impacts of travel and tourism.

HA 2813: Basic Human Nutrition in Hospitality Administration

Cross-listed: CUL 2813

Study of the relationship between nutrition and health as a basis for food choices of all ages; the application of nutrient functions in human life processes and cycles; how balanced eating promotes healthy lifestyles. Current concepts and controversies are highlighted.

HA 2914: Principles of Food Preparations

Cross-listed: CUL 2914

Prerequisite: CUL (HA) 1011, HA 1043, CUL/HA 2813, CHEM 1113 and CHEM 1111

Upon completion of this course the student should be able to demonstrate skills in basic cooking techniques and methods, recipe conversion, and professional food preparation and handling. Additionally, the student should be able to recognize and safely operate common foodservice equipment used in commercial kitchens and demonstrate proficient culinary knife skills.

This course is 2 hours lecture and a 4 hour lab depending upon special event requirement(s).

Note: \$200 lab fee required. Additional costs: professional uniforms are required and are to be considered additional out-of-pocket expenses to the student.

HA 3013: Hospitality Marketing and Sales

The organization of the marketing function and its role and responsibility in developing an integrated marketing program. Special attention to convention sales and management, and the role of travel related services to the marketing function.

HA 3113: Human Resource Management in Parks, Recreation, and Hospitality Administration

Cross-listed: RP 3113

Prerequisites: Junior standing and nine hours of RP or HA courses.

An overview of personnel considerations in various Recreation and Park agencies and the Hospitality industry. Laws, legal issues, structure, staffing, motivation, training, conduct, policies and other aspects of agency/industry personnel relations will be examined using case-studies, as well as other methods.

HA 3143: Lodging Operations Management II

Prerequisite: HA 2043

This course evaluates the role of housekeeping, the planning and organization of various organizing tasks, and the importance of maintaining and training quality housekeeping staff. This course will evaluate managing inventories, controlling expenses and monitoring safety and security functions.

This class is 3 hours lecture and additionally will require students to have a minimum of 15 contact hours throughout the semester under supervision in a hotel housekeeping environment.

HA 3163: Hospitality Technology

Prerequisites: HA 1043 and COMS 1003

This course provides a foundation in information technology (IT) and how it relates to everyday business computing in the hospitality industry. Topics include: fundamental IT concepts; understanding the issues related to systems selection, standardization and efficiency; integration or applications; and recognizing the importance of management information systems such as PMS and POS.

HA 3173: Hospitality Managerial Accounting

Offered: Fall

Prerequisite: ACCT 2003

The purpose of HA 3173 focuses on the use of accounting information for management decision making and control. Topics include product costing, budgeting, management decision making, and statement analysis.

HA 3183: Catering and Event Management

Offered: Spring

Prerequisites: HA 1011, 2063, 2073, and 2914

This course will focus on-site and off-site catering for social and business functions and event management for large-scale events, such as sporting events, festivals, and conferences. Topics to be discussed include organizational structure, product and service development, event planning and execution, staff and volunteer recruitment/training, and post-event analysis.

\$200 laboratory fee.

HA 4001: Internship Preparation

Cross-listed: RP 4001

Prerequisites: PRHA major, senior standing, and completion of RP 3043 or HA 2053 or permission of department head.

Preparation for the internship experience. This course is graded Pass/Fail.

HA 4023: Hospitality Facilities Management and Design

Prerequisites: Junior standing plus nine hours of HA courses or by permission.

The fundamental principles of facilities planning, facilities management, and maintenance for all segments of the hospitality industry. Application principles in the preparation of a typical layout and design.

HA 4033: Legal Aspects of Hospitality Administration

Prerequisites: Senior standing or permission of instructor.

Examination of the laws regulating the hospitality industry. Development of an appreciation of the interrelationship between the law and the hospitality industry. Exploration of how legal principles apply in the global environment of the hospitality industry.

HA 4053: Meetings and Conventions Management

Prerequisites: Junior standing plus nine hours of HA courses or by permission.

Planning and managing meetings and conventions in the hospitality industry.

HA 4063: Beverage Management

Prerequisites: 21 years of age, HA major or permission of the instructor.

Selection, storage, and service of beverages with emphasis on controls, merchandising, pricing, history, social and legal concerns. Successful completion of standardized exam results in Serv Safe Alcohol certification from the National Restaurant Association Educational Foundation.

Lecture two hours, lab two hours. \$100 Lab fee required.

HA 4073: Hospitality Financial Analysis

Prerequisites: ACCT 2003 and 2013

Accounting principles and procedures for the Hospitality Industry as an aid in management planning, decision making and control, financial statements, statement analysis, flow of funds, cash analysis, accounting concepts, cost accounting budgets, capital expenditures, and pricing decisions.

HA 4093: Resort and Club Management

Cross-listed: RP 4093

Prerequisites: Junior standing and nine hours of RP or HA courses or by permission.

An in-depth study of resorts and clubs with respect to their planning, development, organization, management, marketing, visitor characteristics, and environmental consequences.

HA 4116: Internship

Prerequisites: Hospitality Administration major; senior standing; current certifications in CPR; Standard and Advanced First Aid; consent of department head and completion of all other courses applicable to degree.

Placement in selected agency settings as a student intern under professional guidance of both agency supervisor and faculty. Emphasis will be placed on application of classroom theory to agency requirements which fulfill student's individual career interest. No prior experience credit will be granted. Minimum of 400 clock hours during a minimum of 10 weeks of supervised internship is required. Student cannot document more than 40 hours of work experience per week. A written report is required within one week of internship completion.

\$100 supervisor travel fee required.

HA 4203: Hospitality Strategic Management

Prerequisites: HA major, senior standing, and completion of 30 hours of HA courses.

The purpose of this course is to focus on analyzing, evaluating, and developing strategies internally and externally using a case-based approach. Strategic management draws upon all previously completed hospitality administration courses including: marketing, accounting, operations management, human resources, and technology.

HA 4243: Advanced Lodging Operations Management

Prerequisites: HA 3143 and HA 4113

An in-depth study of hotel and lodging operations management. The analysis of competitive strategies, leadership styles, teamwork, technology and creativity in the hotel and lodging industry.

\$50 course fee.

HA 4951,4952,4953,4954: Undergraduate Research in Hospitality Administration

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

HA 4986: Purchasing and Advanced Food Preparation

Offered: Fall

Prerequisites: HA 1011, 2813, 2914, and 2063.

This course provides for development and implementation of an effective food and non-food purchasing program and focuses on product identification, supplier selection, ordering, receiving, storing and issuing processes. Also, this course is designed to build knowledge and experience in quantity food production in a foodservice operation. Student should be able to demonstrate advanced level cooking techniques, recipe conversion, menu planning, professional food preparation and handling as well as managerial competencies.

This course is one hour and 20 minutes of purchasing lecture, 50 minutes of advanced food production lecture and a minimum of six hour lab.

\$200 laboratory fee.

HA 4991,4992,4993: Special Problems and Topics

Offered: On demand

Investigative studies and special problems and topics related to hospitality administration.

Health Information Management Course Descriptions

HIM 1001: Health Information Management Orientation

Offered: Fall

An introductory course with emphasis on the basics of health information management as related to career choices, giving the student a better understanding of opportunities in the field. The course will also focus on helping the student develop good study skills, career goals, and understand policies and information needed for a successful college career.

HIM 2033: Coding Principles Medical Office

Prerequisites: AHS 2013, 1023, BIOL 2004, or permission of instructor.

A study of medical coding using ICD-9-CM and CPT codes in the medical office. Students will be taught to evaluate patients' medical records to correctly assign both diagnostic and procedural codes required for healthcare reimbursement in the medical office setting.

HIM 3023: Introduction to Health Information Management

Offered: Fall

Prerequisite: Admission to the HIM Program.

A study of the history of health records, professional ethics, the functions of a health information department, retention of records, medical forms, health information practices, and responsibilities to healthcare administration, medical staff, and other medical professionals.

HIM 3033: Basic Coding Principles

Offered: Fall

Prerequisites: BIOL 2004, AHS 2013, or permission of instructor.

An in depth study of the principles of disease and procedural coding using the ICD 9 CM classification system. Areas emphasized during the course include: the purpose of coding, the definition of key terms, accurate application of coding principles, methods to assure quality data, and a review of the impact of prospective reimbursement on the function of coding.

HIM 3043: Advanced Concepts in Health Information

Offered: Fall

Prerequisite: HIM 3023

A study of such advanced concepts as quality improvement, utilization review, licensure and accreditation standards, medical staff, and interdisciplinary relationships.

HIM 3132: Health Data and Statistics

Offered: Spring

Prerequisite: HIM 3023 or permission of instructor.

A study of the methods of recording diagnoses and operations by recognized systems of disease, procedural and pathological nomenclatures and classification systems, manual and computerized systems of indexing and abstracting, research and statistical techniques, and health information data handling.

HIM 3133: Alternative Health Records

Offered: Spring

Prerequisite: HIM 3023

A study of health record requirements in non-traditional settings such as cancer programs, ambulatory care facilities, mental health centers, and long term care facilities.

HIM 3153: Current Issues in Health Information Management

Prerequisite: HIM 3023

An in-depth study of the latest issues affecting the field of health information management. Specific topics will vary to reflect emerging technology including such topics as eHIM, electronic health records, personal health records and HIPAA privacy concepts.

HIM 4034: Advanced Coding Principles

Offered: Spring

Prerequisite: HIM 3033

A continuation of HIM 3033, dealing with advanced principles of coding using ICD-9-CM and CPT-4. Experience with coding of health records as well as DRG grouping and the administrative aspects of coding will be emphasized.

Note: May not be taken for credit after completion of HIM 4032.

\$40 laboratory fee.

HIM 4063: Organization and Administration

Offered: Fall

Prerequisites: HIM 3023 and senior standing.

A study of the application of the principles of organization, administration, supervision, human relations, work methods, and organizational patterns in the health information department. The duties and relationships of the health information manager and the social forces affecting the department and current trends in hospital and medical care are investigated.

HIM 4073: Legal Concepts for the Health Fields

Offered: Spring

Prerequisites: HIM 3023 and senior standing, or permission of instructor.

A study of the principles of law as applied to the health field. Consideration is given to the importance of health records as legal documents as well as a general introduction to the law, administration of the law, legal aspects of healthcare facility and medical staff organization, release of information, confidential communication and consents and authorizations.

HIM 4083: Health Organization Trends

Offered: Spring

Prerequisites: HIM 3023 and senior standing, or permission of instructor.

A comprehensive review of the trends and changes in the healthcare field. Historical aspects of healthcare organization and governmental health agencies are reviewed. Emphasis is placed on current events in the healthcare arena.

HIM 4093: Research in Health Information Management

Offered: Spring

Prerequisites: HIM 3023 and senior standing.

A study of the specific research methodology used in a health information management setting. Emphasis will be given to hands on performance of research in conjunction with area health care facilities and agencies. Formal presentation of research will also be a component of the course.

HIM 4153: Principles of Disease

Offered: Spring

Prerequisites: AHS 2013, BIOL 2004, and permission of instructor.

An introduction to medical science, including the etiology, treatment and prognosis of various diseases. Emphasis is given to the medical information as viewed from the standpoint of a health information management professional.

HIM 4182: Professional Practice Experience I

Offered: Fall

Prerequisites: HIM 3023, HIM 3043, HIM 3133, HIM 3132 and HIM 3033

Active participation within an actual health information management department providing a supervised learning experience through which the student develops insight, understanding, and skills in health information procedures, accepts responsibilities and recognizes the need for confidentiality.

\$40 laboratory fee.

HIM 4203: Healthcare Reimbursement

Prerequisites: HIM 3033 and HIM 4034

This course covers the various systems used for reimbursement methods in a range of healthcare facility types. A review of the regulations and role of coding systems surrounding healthcare reimbursement will also be investigated.

HIM 4292: Professional Practice Experience II

Offered: Spring

Prerequisite: HIM 4182

A supervised learning experience through which the student learns to recognize the contribution of and learns to work with other professional and non professional personnel, learns to recognize and deal with personnel problems in a health information department.

\$40 laboratory fee.

HIM 4892: Seminar in Health Information

Offered: First summer term

Co-requisite: HIM 4895

A seminar, utilizing the case method approach, on problem situations encountered in the field of health information management. This course includes discussion of problems that arise during their affiliation experience.

HIM 4895: Affiliation

Offered: First summer term

Prerequisites: Successful completion of all required HIM courses except HIM 4892.

Provides the student with a four-week management experience in the activities and responsibilities of the health information management professional. Augments theoretical instruction received during previous courses. Student is actively involved in the management process while under direct supervision of a qualified health information management professional.

Note: Although every effort is made to secure a convenient locale, the student must assume full financial responsibility for this assignment.

\$40 laboratory fee.

HIM 4951,4952,4953,4954: Undergraduate Research in Health Information Management

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

HIM 4983: Systems Analysis for Health Information Management

Offered: Fall

Prerequisites: COMS 1003, COMS 2003, HIM 3023, and senior standing.

A course designed to provide a detailed study of the relationship between health information management departments and computerized information systems. Students will learn from a variety of projects related directly to the clinical setting.

HIM 4991,4992,4993,4994: Special Problems in Health Information Management

Open to health information management senior students only. The problems will vary to fit the needs of the student and reflect the continual changes in the allied health field.

History Course Descriptions

HIST 1503: World History to 1500

ACTS Common Course - HIST1113

The history of humanity from prehistoric times to the sixteenth century.

HIST 1513: World History since 1500

ACTS Common Course - HIST1123

The history of humanity from the sixteenth century to the present.

HIST 1543: Honors World History to 1500

Prerequisite: Admission to University Honors or permission of Honors Director.

The history of humanity from prehistoric times to the sixteenth century with an emphasis on the critical analysis of primary source documents and the methods by which historians and other scholars interpret historical evidence.

HIST 1903: Survey of American History

Survey of American History. An overview of American history from the pre-colonial period to the present.

Note: May not be taken for credit after completion of HIST 2003 or 2013.

HIST 2003: United States History to 1877

ACTS Common Course - HIST2113

The study of the development of the American nation to the Civil War and Reconstruction Era.

HIST 2013: United States History since 1877

ACTS Common Course - HIST2123

The study of the development of the American nation since the Civil War and Reconstruction Era.

HIST 2043: Honors United States History to 1877

Prerequisite: Admission to University Honors or permission of Honors Director.

History 2043 concentrates on the development of the American nation with emphasis upon the winning of independence, the origin of the Constitution, the rise of Jeffersonian Democracy, European influence up America, Jacksonian Democracy, westward expansion, the emergence of sectionalism, and the Civil War.

HIST 2153: Introduction to Arkansas History

An introductory course on the history of Arkansas. Lectures, discussions, and applied activities will be central to this course.

Note: This course is a professional education requirement for Early Childhood and Middle Level Education majors, and may not be counted toward the History degree, the Public History degree, or the Social Studies for teacher licensure degree.

Note: Students may not take this course after completion of HIST 4153.

HIST 2203: Introduction to Public History

An introduction to the theory and disciplines of public history, including museum studies, historic preservation, archive and manuscript management, and historical editing. The course also explores the current theoretical and practical issues confronting public historians.

HIST 2513: Sources and Methods in History

This course is designed as an introduction to the field of historical research. This course introduces techniques and methods of historical research, basic historiography, bibliographical aids, and the study and writing of history. It is a hands-on course where students will use the skills learned to evaluate social science research

HIST 3013: Colonial America

The European background, the settlement of British colonies, the development of provincial institutions, and the emergence of an American civilization in the seventeenth and eighteenth centuries.

HIST 3023: The Era of the American Revolution

The deterioration of empire relationships from 1763 to 1776, with an examination of the causes and consequences of the American Revolution and the post war problems leading to the establishment of a new government under the Constitution in 1789.

HIST 3033: The Early American Republic

The social, cultural, economic, and political climate in which Jeffersonian Jacksonian democracy developed.

HIST 3043: Civil War and Reconstruction

The social, political, economic, and intellectual backgrounds of the war; the military operations; analysis of Reconstruction.

HIST 3063: The Gilded Age/Progressive Era, 1877-1914

Explores the major issues associated with Gilded Age America (immigration, industrialization, urbanization, imperialism, rise of organized labor) and examines the origins, goals, and legacies of the Populist and Progressive reform movements.

Note: May not be taken for credit after completion of HIST 3053.

HIST 3073: The United States: 1914-1945

Examines the American entry and contribution in World War One; the post-war settlement; the various social, economic, and political trends of the 1920s; the Great Depression; the New Deal; American foreign policy in the inter-war era; and the American role in World War Two, and its effects on American society and culture.

HIST 3083: The United States: 1945-Present

Explores the origins of and American responses to the Cold War, the rise of various reform movements in the 1950s-60s, the New Frontier and Great Society programs, the Vietnam War, and the rise of the New Right.

Note: May not be taken for credit after completion of HIST 4003.

HIST 3103: The Old South

A survey of the political, social, and economic development of the American South before the Civil War.

HIST 3123: The New South

A survey of the political, social, and economic development of the American South from the end of the Civil War to the present.

HIST 3223: Local and Oral History

The course has two main, inter-related themes, local history and oral history. This course examines the nature and practice of local history and explores the various methods and approaches central to local history research. In addition, this course introduces students to the literature and theory of oral history and trains them in related fieldwork methodologies.

HIST 3243: Archive and Manuscript Management

An introduction to the administration of archival and manuscript collections in various types of institutions. This course explores the basic theoretical principles and archival practices of appraisal, acquisition, accessioning, arrangement, description, preservation, and user services. Topics will include: records management programs, collecting archives programs, legal and ethical issues, public programming and advocacy, and the impact of the new information technologies for preservation and access.

HIST 3281: Grant Writing for Historians

An introductory course designed to provide students with the basic tools necessary to successfully compete for external grant funds. The focus of the course is public history grants, although the skills and knowledge presented will also benefit historians who propose professional development proposals on research and study plans.

HIST 3283: Historical Editing

An introduction to historical editing in both print and electronic applications. Students will gain practical experience by editing documents and surveying the relevant literature.

HIST 3291: Practicum in Public History

Practicum facilitating the integration, synthesis, and application of theories, concepts, and skills associated with public history.

Note: Course requires 75 clock hours of supervision in the museum.

HIST 3313: Colonial Latin America

A survey of the political, economic, social and cultural aspects of Latin America to 1825. Emphasis is on cross-cultural accommodation and the role of indigenous, African, and European cultures in shaping Latin American development.

HIST 3323: Modern Latin America

A survey of the political, economic, social and cultural aspects of Latin America since 1825. Emphasis is on cultural values and structures from the colonial period, continuing patterns of authoritarianism, the struggle to establish democratic institutions, and Latin America's role in world affairs.

HIST 3413: History of Classical Greece and Rome

The origins and development of Classical civilization in ancient Greece, the rise of the Roman Republic, and the ascendancy and decline of the Roman Empire.

HIST 3423: History of the Middle Ages, 300-1300

Decline of the ancient Roman civilization; rise, ascendancy, and decline of medieval civilization; emphasis upon the Christian church and the rise of national monarchies.

HIST 3433: The Renaissance and European Expansion, 1300-1550

Fuelled by a growing urban economy and despite the setbacks of the Black Death, Europeans during the Renaissance revived and adapted models of classical learning, created new forms of artistic and vernacular expression, forged national identities, opened up new trade routes, and encountered a New World.

HIST 3443: The Reformation and Early Modern Europe, 1500-1688

A study of the social, political, intellectual and cultural impact of the Protestant Reformation, the Roman Catholic response, the sixteenth and seventeenth- century Wars of Religion, the development of confessional cultures, and the continued rise of the European nation-state in both its absolutist and constitutional forms.

HIST 3463: The Enlightenment, French Revolution, and Napoleonic Eras

This upper-division course will address the intellectual, social, and political events of the turbulent eighteenth century in Europe, a period known for the Enlightenment, as well as for the French Revolution and the rise and fall of Napoleon's Empire. Historians often argue that this period ushered in many of the hallmarks of the modern world, including nationalism, open class conflict, and popular democracy. The intent of this course is to examine the period in the context of its long-lasting influence upon world events.

HIST 3483: Reaction and Reform, 1815-1871

A study of the changes in the political, cultural, intellectual, and social environments which characterized Europe during the period between the Congress of Vienna through the rise of the modern nation states.

HIST 3493: The Age of Empire, 1871-1919

A study of the changes in the political, cultural, intellectual, and social environments which characterized Europe during the period between the rise of the modern nation states to the end of the First World War.

HIST 3503: Europe between the Wars, 1919-1939

A study of the changes in the political, cultural, intellectual, and social environments which characterized Europe during the period between the end of the First World War to the beginning of the Second World War.

HIST 3513: Europe Since 1939

A study of the changes in the political, cultural, intellectual, and social environments which characterized Europe during the period between the beginning of the Second World War to the present.

HIST 3533: History of Russia

A study of the cultural and political history of Russia from the reign of Peter the Great to the present, emphasizing trends in the nineteenth century which culminated in the Bolshevik Revolution.

Note: May not be repeated for credit as HIST 5463 or equivalent.

HIST 3563: History of England

A study of the history of England from national origins to modern times.

HIST 3573: History of Eastern Europe

A study of the cultural and political history of Eastern Europe from the Napoleonic Wars to the present.

HIST 3603: History of Modern East Asia

This course deals with the history of East Asia after 1800. The major stress is placed upon the history of China, Korea, and Japan.

HIST 3613: History of Japan

The History of Japan with an emphasis on the social, cultural, and political roots of Modern Japan.

HIST 3623: History of India

The History of India and the South Asian subcontinent with an emphasis on the social, cultural, and political development leading to modern India.

HIST 3633: History of China

The History of China with an emphasis on the social, cultural, and political roots of Modern China.

HIST 3703: History of Modern Africa

A treatment of African history since 1600, dealing with the development of African states in sub Saharan Africa up to present African nations.

Note: May not be repeated for credit as HIST 5703 or equivalent.

HIST 3803: History of the Middle East

Political, social, and cultural survey of the history of the Middle East from the rise of Islam to modern times.

HIST 4013: American Military History

A study of the American military from its colonial origins to the present, including the development of the military establishment and its relationship with American society.

Note: May not be repeated for credit as HIST 5013 or equivalent.

HIST 4023: Vietnam War

A study of the American involvement in Vietnam, from 1945 until 1975. Emphasis will rest on the actual period of war in Vietnam.

Note: May not be taken for credit after completion of the equivalent course under HIST/POLS 4983 nor be repeated for credit as HIST 5023.

HIST 4033: The Frontier in American History

Study of the American frontier as a place, as a process, and as a state of mind influential in shaping institutions and attitudes during the expansion of this nation westward from Atlantic to Pacific.

Note: May not be repeated for credit as HIST 5033 or equivalent.

HIST 4053: U.S. Business History

A study of the major economic forces which have helped influence, and been influenced by, United States history. Particular emphasis will be given to the development of agriculture, business, industry, and labor in their American setting.

Note: May not be repeated for credit as HIST 5053 or equivalent.

HIST 4073: American Diplomatic History, 1776-1912

This course is a study of America's diplomatic relationships with other nations and peoples from 1776 to 1912. Of particular emphasis will be the changes in international affairs brought about by the evolving economic and political conditions. This course follows the United States' early struggles in diplomacy through its expansion and eventual emergence as a world power.

HIST 4083: American Diplomatic History, 1912 to the Present

This course is a study of America's diplomatic relationships with other nations and peoples from 1912 to the present. Of particular emphasis will be the changes in international affairs brought about by the evolving economic and political conditions. This course follows the United States from its emergence as a world power through two world wars, a cold war, and a war on terrorism.

HIST 4093: American Culture Since 1800

The history and development of American regional and national culture from the early republic to the present. Topics include antebellum nationalism and regional cultures, slave and slaveholding culture, the rise of consumerism, popular and intellectual aesthetic and artistic development, and the evolution of American mass, commercial, and popular culture through the nineteenth and twentieth centuries.

HIST 4103: American Political Ideas

The background and development of American political ideas from the colonial period to the present. Emphasis is placed on colonial political theory, the Founding, conflict and consensus prior to the Civil War, the response to industrialization, the rise of the positive state, nationalism, the New Left and New Right, and current trends.

HIST 4123: African American History

This course examines the unique role and contribution of African Americans in the overall development of American history from the colonial era to the present. Topics include African societies; black colonial life; the institution of slavery, and African American responses to slavery; the free black community; African American cultural, political, and economic development; issues of assimilation, separatism, and African American responses to institutional racism; the Civil Rights Movement, and recent developments.

Note: May not be repeated for credit as HIST 5123.

HIST 4133: Latinos in the United States

This course is an analysis of the historical and cultural heritage of Latinos who have lived or are currently living in the United States. This course includes the colonial origins of Latino groups and their general migration patterns to the United States. This course also explores the development of Latino communities as well as the relationship between Latinos and social institutions.

Note: May not be repeated for credit as HIST 5133 or equivalent.

HIST 4143: Native American History

A survey of Native American history from the Archaic period to the present. This course will present an interpretation of the historical experience of the diverse nations native to North America utilizing an ethno-historical approach. Some emphasis will be placed on the formation and operation of United States government policy regarding Native Americans in both the 19th and 20th centuries.

Note: May not be repeated for credit as HIST 5143.

HIST 4153: History of Arkansas

A study of the history of Arkansas from prehistoric times to the present, noting political, social, economic, and cultural trends.

Note: May not be repeated for credit as HIST 5153 or equivalent.

HIST 4163: American History through Film

This course examines 20th century American history through the study of American film, and film as cultural and historical text. Subjects for analysis include the Great Depression, World War II, the Cold War and Cold War culture, the 1960s, Vietnam, and the Reagan era. Emphasis will be on the uses of film as

both primary and secondary source material for the study of history.

HIST 4173: History of American Disasters

A comparative examination of the greatest disasters in American history, the response to them, and how they affected the future of the nation.

HIST 4183: American Legal History

This course concerns the history and development of law, legal institutions, and legal culture in the United States from its colonial origins to the present day, with emphasis on constitutional case law and the interaction of law with the overall development of American society.

HIST 4193: American Labor History

This course examines the history of working people-men and women, paid and unpaid, of various racial and ethnic groups, in diverse geographic regions-primarily from the Early Republic to the present. This study will include a review of changes in work environments due to industrialization, unionization, and legal decisions.

HIST 4203: Women in American History

A treatment of women in Western and American social history in their lifestyles and economic and family roles.

Note: May not be taken for credit after completion of HIST 3203 nor repeated for credit as HIST 5203 or equivalent.

HIST 4213: Southern Women's History

A social history of the lives of women in the American South from approximately 1700 to the present which examines their lifestyles, economic, and family roles. This study includes, but is not limited to, experiences of Arkansas women.

HIST 4223: American Philosophy

Cross-listed: PHIL 4093

An examination of the main currents of American philosophical and religious thought from the earliest times to the present.

HIST 4293: Historic Preservation

Upper-level survey of historic preservation in the United States. Course examines the theory, philosophy, and methods of maintaining the culture of the past. An introduction to the wide range of ideas underpinning the practice of preservation is covered through readings, discussions, presentations, class projects and field trips.

HIST 4403: Interpretation/Education through Museum Methods

Cross-listed: ANTH 4403, MUSM 4403

Prerequisite: Senior or Graduate standing, or permission of instructor.

Museum perspectives and approaches to care and interpretation of cultural resources, including interpretive techniques of exhibit and education outreach materials, and integrating museum interpretation/education into public school and general public programming. Class projects focus on special problems for managing interpretive materials in a museum setting.

HIST 4483: History of Capitalism

World Economic History traces the development of the modern global economy from the late middle ages to the present. Special attention is given to the emergence of capitalism in Europe and its migration to other parts of the world.

Note: May not be repeated for credit as HIST 5483 or equivalent.

HIST 4503: History of Christianity

A study of Christianity, from its beginnings to the present day, focusing especially on ancient Mediterranean, medieval European, and modern American Christian traditions. Emphasis will be on the interaction between individual beliefs, group identity, and institutional forces, how each have been shaped by broader social, political and cultural contexts, and finally how these interactions have resulted in profound changes for the Christian religion.

HIST 4513: History of Science

A study of the origins, nature, and development of Western science and its social, economic, and cultural context.

Note: May not be repeated for credit as HIST 5513.

HIST 4714: Social Studies Methods for Secondary Teachers

Prerequisites: SEED 2002 and the completion of 36 hours in the Social Sciences.

A course in subject-matter applications for secondary teacher education candidates (grades 7-12) in social studies. The course will incorporate a variety of instructional models, activities, and examples, as well as the integration of traditional and non-traditional resource materials.

Note: Must be completed prior to student teaching.

HIST 4813: World War II

A study of World War II, 1939 through 1945, in its origins and spread through world theaters.

Note: May not be taken for credit after completion of the equivalent course under HIST/POLS 4983 nor repeated for credit as HIST 5813.

HIST 4823: Nationalism

The course looks at the development of the idea of nation in European and World history in the last two centuries. By using historical examples the course will introduce the students to the current theoretical debate on ethnicity and nationalism. The special attention will be placed on the relationship between state power and the nation. The course will look at ethnicity in history before and after the emergence of effective means of communication, such as the printing press, radio, and television. It will also look at the role culture plays in the formation of national consciousness and how the past was used and abused to drum-up political support.

HIST 4951,4952,4953,4954: Undergraduate Research in History

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

HIST 4963: Senior Seminar

Prerequisites: HIST 1503, 1513, 2003, and 2013

Required course for History and Social Studies Education majors. Course content will cover a directed seminar in specified American or European History. Research techniques will be emphasized.

HIST 4971: Internship

Cross-listed: POLS 4971

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/ trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

HIST 4972: Internship

Cross-listed: POLS 4972

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/ trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

HIST 4973: Internship

Cross-listed: POLS 4973

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/ trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

HIST 4974: Internship

Cross-listed: POLS 4974

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/ trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

HIST 4975: Internship

Cross-listed: POLS 4975

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/ trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

HIST 4976: Internship

Cross-listed: POLS 4976

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/ trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

HIST 4983: History Seminar

A directed seminar in an area of historical study. The specific focus will depend upon research underway, community or student need, and the unique educational opportunity available.

Note: May be repeated for credit if course content changes.

HIST 4991,4992,4993,4994: Special Problems in History

Prerequisite: Consent by department head.

A course for majors and minors only.

Health Education Course Descriptions

HLED 1513: Personal Health and Wellness

ACTS Common Course - HEAL1003

The course is designed to motivate students toward an individual responsibility for their health status and an improved quality of life. An introspective study of personal lifestyle behavior is encouraged. The interrelationship of the multi causal factors which directly affect health status and the various dimensions of personal health are addressed.

Note: A grade of C or better is required for Health and Physical Education Majors.

HLED 3203: Consumer Health Programs

A study of current health services and the products offered by health providers to the health consumer and an examination of various diseases and disorders.

Note: A grade of C or better is required for Health and Physical Education Majors.

HLED 4303: Methods and Materials in Health for Grades K-12

Exploration of teaching methods and strategies, use of school and community resources, and evaluation related to teaching health in grades K-12.

Note: A grade of C or better is required for Health and Physical Education Majors.

HLED 4403: Nutrition and Physical Fitness

Prerequisite: PE 2653

A health education course which is designed to familiarize students with food as it relates to optimal health and performance. Focus is on nutrition as it affects the physical work capacity of humans from resting states to high output performance.

Note: A grade of C or better is required for Health and Physical Education Majors.

HLED 4991,4992,4993: Special Problems in Health

Prerequisite: Consent of department head

Independent work on approved health topics under the individual guidance of a faculty member.

Honors Program Course Descriptions

HONR 1003: Freshman Honors Seminar

Prerequisite: Acceptance into the honors program, approval of Honors Program Director.

An introductory course to the honors program, teamwork and multidisciplinary problem solving.

HONR 4093: Senior Honors Project

Prerequisites: Approval of the Director of Honors Program (if used for departmental requirement, all applicable prerequisites also apply).

A team or individual independent research project will be completed. Projects will include some aspect of academic investigation appropriate to the subject area chosen. Presentation of project findings at annual Senior Honors Symposium will be required.

Humanities Course Descriptions

HUM 2001,2002,2003: Topics in Arts and Humanities

This course offers instruction in an area of the arts and humanities not otherwise covered in the curriculum.

Note: The focus of the course will vary from semester to semester, thus the course may be repeated.

Interdisciplinary Studies Course Descriptions

IPBL 4893: Collaborative Solutions

Offered: Spring

Prerequisites: upper division standing

This is a problem-solving course in which students from a variety of disciplines will be engaged in a high impact exercise of exploring a contemporary problem and proposing a solution. Each year the contemporary problem to be explored will change.

Journalism Course Descriptions

JOUR 1163: Basic Digital Photography

Cross-listed: ART 1163

Basic Digital Photography, an introduction to the medium, its history, techniques and theory. This course will teach students the basics of photographic composition, lighting, camera and lens operation, editing and printing using the digital format.

JOUR 1411,1421,2411,2421,3411,3421,4411: Print Practicum

Students will learn practical skills in the areas of writing, layout and design and photography while working an assigned number of hours each week for the student newspaper.

JOUR 1811,1821,2811,2821: Broadcast Practicum

Practical work experience in the studios of KXRJ FM and Tech television productions.

Note: Only four hours count for the journalism major.

JOUR 1911,1921,2911,2921,3911,3921,4911,4921: Multimedia Practicum

Practical work experience in the multimedia lab including work as Web news manager, producer, Web content director.

JOUR 2133: Introduction to Mass Communication

An introduction to the mass communication process and industry.

JOUR 2143: Media Writing

A study of and practice in writing news stories.

JOUR 2153: Introduction to Telecommunication

A study of the technical, legal, programming, advertising and journalistic aspects of the telecommunication industry with practical exercises in radio, television and the Internet.

JOUR 2163: Introduction to Multimedia

Prerequisite: JOUR 2133

Introduction to Digital Multimedia is designed to teach fundamental principles of multimedia to give students a working understanding of digital media formats and their applications.

JOUR 2173: Introduction to Film

Cross-listed: ENGL 2173

Prerequisite: ENGL 1013 or equivalent.

A study of film as an art form with particular attention to genres, stylistic technique and film's relation to popular culture.

Note: JOUR 2173 may be used to fulfill the fine arts General Education requirement.

Note: JOUR 2173 may not be repeated for credit after the completion of ENGL 2173.

JOUR 3111,3121: Editorial Conference

Prerequisite: Permission of instructor.

Student news executives meet regularly with faculty to critique publication and broadcast products.

JOUR 3133: Media Management and Diversity

An analysis of the problems in managing newspapers, magazines and other mass media.

JOUR 3143: News Reporting

Prerequisite: ENGL 1013 or 1043 and JOUR 2143

A study of news gathering and writing techniques.

JOUR 3153: Feature Writing

Prerequisite: Permission of the instructor.

A study of and practice in writing of newspaper features and magazine articles.

JOUR 3163: News Photography

Prerequisite: ENGL 1013 or 1043

A study of the use of the camera, communication through pictures, news value in pictures, and the history of photojournalism.

JOUR 3173: Public Relations Principles

A study of public opinion and the role of the mass media in shaping it, including practice in public opinion research, communications techniques and solving public relations problems.

JOUR 3183: Broadcast News Writing

Prerequisite: JOUR 2143 or 3143

Principles and techniques of writing and production of radio and television news.

Two hour class, two hour laboratory.

JOUR 3193: New Media News Gathering

Prerequisite: JOUR 2143, JOUR 3183 or consent of instructor.

Study and practice in producing news packages, including training and experience in new and traditional news gathering, preparing scripts and digital video, and operating cameras, editing decks, and other studio and field equipment.

JOUR 3273: Public Relations Writing

Prerequisites: JOUR 3173.

Provides the knowledge and skill training for students to become effective public relations writers. The course will focus on style and content of writing news releases, speeches, newsletters, brochures, annual reports and other public relations communications.

JOUR 3714: Copy Editing

Prerequisites: JOUR 2143 and 3143.

A study of copy reading, headline writing, design, and problems and policies of editing the news.

Three hours lecture, two hours laboratory arranged.

JOUR 3811,3821: Broadcast Practicum

Practical work experience in the studios of KXRJ FM and Tech television productions, including work as manager, producer, or director.

Note: Only four hours count for the journalism major.

JOUR 4011,4012,4013: Practical Editing

Actual experience editing news. Arranged with an instructor.

Note: May be taken for a maximum of three hours.

JOUR 4023: Social Media

This course offers students a solid understanding of social media, its roots and how to effectively utilize this culture from personal and corporate perspectives.

JOUR 4033: Community Journalism

A study of journalism as practiced in weeklies, small dailies, and broadcast stations in small towns and cities, including the relationship of the media to the community.

Note: For majors and non-majors.

JOUR 4043: Journalism Ethics

A study of ethical theory and basic principles needed in solving ethical challenges facing media professionals.

JOUR 4053: Mass Communication Seminar

Prerequisite: Permission of instructor.

Studies of the relationship of mass communication to social, political, technical, and economic issues. Course content will vary.

Note: May be repeated for credit as JOUR 4053 or 5053 when course content changes.

JOUR 4073: Graphic Communication

Prerequisites: JOUR 3173 and JOUR 3273

Presents the elements of effective print design as well as the other decision making processes involved with creating an effective visual communication (type, art and illustration, basic design principles, paper and ink, printing processes, etc.). Students will create visually appealing projects using the industry standard design and photo manipulation software programs.

JOUR 4083: Computer Mediated Communication

A study of communication processes in the Digital Age. Discussions and content will include contemporary emerging communication technologies and exploration into the impact those technologies have and will likely have on an individual and diverse social communities.

JOUR 4091,4092,4093,4094: Internship

Credit for work in professional journalistic settings. Credit hours will be based on hours on the job.

Note: May be taken for a total of four hours.

JOUR 4111,4121: Editorial Conference

Prerequisite: Permission of instructor.

Student news executives meet regularly with faculty to critique publication and broadcast product.

JOUR 4113: History of American Journalism

Prerequisite: Permission of instructor.

A survey of the history of American journalism and mass media and their relationships to technical, economic, political, and other aspects of American society.

Note: May not be repeated for credit as JOUR 5113.

JOUR 4123: Laws of Communication

A study of the development of freedom of press and speech, laws of libel, contempt, privacy and copyright in their relation to press, radio, television, and films.

JOUR 4133: Television News Production

Prerequisite: JOUR 3193 or consent of instructor.

Study and practice in shooting, writing, editing, and producing news, sports and feature packages. Stories will be aired during live news programming on Tech TV and placed in student video portfolios. Practical experience will focus on operating field and studio gear, including digital cameras and editing decks, and use of new media news gathering equipment.

JOUR 4143: Advanced Reporting

Prerequisites: JOUR 2143 and 3143 or permission of instructor.

Study of advanced news gathering techniques and practice in researching and writing difficult types of stories.

JOUR 4153: Editorial, Column, and Review Writing

Study of and practice in writing editorials, columns, and reviews. Includes research and discussion of the function of opinion writing in the mass media.

JOUR 4163: Advanced Digital Photography

Cross-listed: ART 4163

Prerequisite: JOUR (ART) 1163 or consent of instructor.

Advanced techniques in digital photography are explored to expand the student's understanding of the digital processes as they relate to computer editing, manipulation and printing of digital images. Students will also study current theories of visual communication that relate to the field of digital photography.

JOUR 4173: Public Relations Project

Prerequisites: JOUR 3173, JOUR 3273, JOUR 4073, or consent of instructor.

Planning, preparation and execution of a public relations program for a specific project.

JOUR 4193: Communication Research Methods

Introduction to the methodologies of behavioral science applied to communication research including design, measurement, data collection, and analysis. Explores the use of surveys, content analysis, focus groups, and experiments in studies of communication processes and effects.

JOUR 4243: Journalism Writing Seminar

A concentrated fundamentals writing course that deals with traditional techniques and various formats for journalistic writing such as editorials, feature stories, columns, reporting, press releases, and interviews.

JOUR 4421: Print Practicum

Students will learn practical skills in the areas of writing, layout and design and photography while working an assigned number of hours each week for the student newspaper.

JOUR 4811,4821: Broadcast Practicum

Practical work experience in the studios of KXRJ FM and Tech television productions, including work as manager, producer, or director.

Note: Only four hours count for the journalism major.

JOUR 4883: Mass Communication Theory

Prerequisite: 15 semester hours of Journalism.

This course provides an examination of the major theories and domains of mass communication research, emphasizing mass media effects. Students are acquainted with the assumptions, propositions, and empirical research foundations of these theories. The course covers the historical evolution and recent trends in mass communication theory as well as the application of theories to specific contexts such as marketing or organizational communication.

JOUR 4951,4952,4953,4954: Undergraduate Research in Journalism

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

JOUR 4991,4992,4993,4994: Special Problems in Journalism

This course, for majors only, requires advanced approval by the instructor and is restricted to second semester juniors and seniors. It is designed to provide certain advanced students with further concentration in a particular area. One, two, three, or four hours may be taken as appropriate.

Japanese Course Descriptions

JPN 1013: Beginning Japanese I

Training in the elements of Japanese communication (speaking and writing) and comprehension (listening and reading) within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied Japanese.

JPN 1023: Beginning Japanese II

Prerequisite: JPN 1013 or equivalent

Continued training in basic Japanese communication (speaking and writing) and comprehension (listening and reading) skills to increase proficiency in the language within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied Japanese.

JPN 2013: Intermediate Japanese I

Prerequisite: JPN 1023 or equivalent

Development of language skills necessary for communication (speaking and writing) and comprehension (listening and reading) skills to increase proficiency in the language at the intermediate level within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied Japanese.

JPN 2023: Intermediate Japanese II

Prerequisite: JPN 2013 or equivalent

Further development of the language skills necessary for communication (speaking and writing) and comprehension (listening and reading) skills to provide mastery of fundamental tools in a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied Japanese.

JPN 3003: Conversation and Composition I

Prerequisite: JPN 2023 or permission of instructor.

Development of advanced control of Japanese communication and comprehension through conversation and composition based on analysis of authentic short texts and media.

Three hours of applied course work.

Note: Advanced placement and credit by examination are available to students who have previously studied or are proficient in Japanese.

JPN 3013: Conversation and Composition II

Prerequisite: JPN 3003 or permission of instructor

Continuation of JPN 3003. Further development of advanced proficiency of Japanese communication and comprehension through conversation and composition based on analysis of authentic short texts and media.

Three hours of applied course work.

Note: Advanced placement and credit by examination are available to students who have previously studied or are proficient in Japanese.

JPN 3113: Culture and Civilization

Prerequisite: JPN 2023 or equivalent.

Study of the economic, political, and social structure of Japan and an introduction to Japanese history and culture.

JPN 3143: Study Abroad

Prerequisites: Enrollment in a Tech-sanctioned study program in Japan, completion of JPN 2024 or equivalent, and permission of the Study Abroad supervisor and Department Head.

Study of the contemporary language and culture in Japan. May substitute for JPN 3003 or JPN 3013, depending on the student's proficiency level.

JPN 4903: Foreign Language Internship

Prerequisites: Advanced foreign language proficiency; permission of the instructor and the department head.

The Foreign Language Internship is intended primarily for majors in foreign languages or international studies. It is designed to provide outstanding students the opportunity to perfect their language proficiency and to acquire specific training and skills overseas. The overseas sponsor and the foreign language instructor of record will supervise the intern. Performance evaluations and a research paper will be required.

JPN 4991,4992,4993,4994: Special Problems in Japanese

Prerequisite: completion of JPN 2023 or equivalent, permission of the instructor and Department Head.

This course is designed to provide advanced Japanese students with a course of study in an area not covered by the departmental course offerings.

Latin Course Descriptions

LAT 1013: Beginning Latin I

Instruction in the fundamentals necessary to read and write the language.

Note: Advanced placement and credit by examination are available to students who have previously studied Latin.

LAT 1023: Beginning Latin II

Prerequisite: LAT 1013 or equivalent.

A continuation of LAT 1013.

Library Media Course Descriptions

LBMD 2001: Introduction to Library Resources

An introduction to the organization and function of resource collections, with practical experience in location, retrieval, and use of reference and research materials; emphasis placed on subject materials.

Note: Course will not count toward licensure.

Mathematics Course Descriptions

(A grade of "C" or better must be earned in the course used to satisfy the general education mathematics requirement.)

MATH 0803: Foundations of College Mathematics

The purpose of this course is to prepare for college level mathematics those students whose mathematics background is inadequate. This course is a review of solving basic equations, operations, exponents, formulas, basic numeracy, statistics, percentages, scientific notation, conversions, and other mathematical skills. This course prepares students through a focus on problem solving, working with data, and emphasis on thinking critically.

Note: The grade in the course will be computed in semester and cumulative grade point averages, but the course may not be used to satisfy general education requirements nor provide credit toward any degree.

Note: A student who makes a D or F in MATH 0803 must repeat the course in each subsequent semester until he or she earns a grade of C or better. Students who make a grade of C or better in MATH 0803 must enroll in MATH 1003 the following semester.

MATH 0903: Beginning and Intermediate Algebra

The purpose of this course is to prepare for college level mathematics those students whose mathematics background is inadequate. Content of the course is the language of algebra, fundamental operations, signed numbers, various equations, problem solving, special products and factoring, fractions, functions, graphs, exponents, and systems of linear equations.

Note: The grade in the course will be computed in semester and cumulative grade point averages, but will not be calculated in earned hours. The course may not be used to satisfy general education requirements nor provide credit toward any degree.

Note: The course is repeatable allowing hours for financial aid purposes. All attempts of the course will be included in the semester and cumulative grade point average. Students earning the grade of D*, F*, or FE may repeat the course and petition the Registrar's Office to have the quality hours and quality points removed from the in semester and cumulative grade point averages.

Note: A student must achieve a grade of A*, AQ*, B*, BQ*, C*, or CQ* to satisfy the requirements to enroll in MATH 1003. A student must achieve a grade of A*, B*, or C* to satisfy the requirements to enroll in MATH 1113. A student earning a grade of AN*, BN*, CN*, D*, F*, or FE will be required to reenroll in MATH 0903.

MATH 1003: College Mathematics

ACTS Common Course - MATH1113

Prerequisites: Score of 19 or above on the mathematics sub score of the Enhanced ACT, score of 460 or above on the quantitative portion of SAT, score of 41 or above on the quantitative portion of the COMPASS mathematics section, 42 or above on ACCUPLACER college algebra section, or make a grade of A*, AQ*, B*, BQ*, C*, or CQ* in MATH 0803 or MATH 0903.

The course focuses upon the mathematics of contemporary life. Topics include Planning and Scheduling schemes from Management Science, Data Analysis, Probability and Inference from Statistics, Voting Systems and Division Schemes from the science of Social Choice, and various Growth Models.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 1113: College Algebra

ACTS Common Course - MATH1103

Prerequisites: Score of 19 or above on the mathematics portion of the ACTE exam, or score of 460 or

above on the quantitative portion of SAT, or score of 41 or above on the COMPASS mathematics section, 42 or above on ACCUPLACER college algebra section, or grade of A*, B*, or C* in MATH 0903.

Exponents and radicals, introduction to quadratic equations, systems of equations involving quadratics, ratio, proportion, variation, progressions, the binomial theorem, inequalities, logarithms, and partial fractions.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

Note: May not be taken for credit after completion of MATH 2703 or any higher level mathematics course.

MATH 1203: Plane Trigonometry

ACTS Common Course - MATH1203

Prerequisite: Math ACTE score of 22 or higher, MATH 1113, or consent of Mathematics Department.

A study of the properties of the trigonometric functions and their graphs, solution of right and oblique triangles, formulas and identities, inverse functions, and trigonometric equations.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 1914: Precalculus

ACTS Common Course - MATH1305

Prerequisites: Completion of high school algebra I and II with a grade of C or better and a score of 19 or above on the mathematics portion of the ACTE exam, or score of 460 or above on the quantitative portion of the SAT, or score of 41 or above on the COMPASS mathematics section, 42 or above on ACCUPLACER college algebra section, or a grade of A*, B*, or C* in MATH 0903.

This course is designed to provide additional mathematical background before enrolling in the calculus sequence.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2033: Mathematical Concepts I

Prerequisite: MATH 1113, elementary education major

Elementary set theory, numeration systems, elementary number theory and the real number system.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2043: Mathematical Concepts II

Prerequisites: MATH 2033, elementary education major

A continuation of MATH 2033, including a study of the elementary concepts of probability and statistics, and an informal study of geometry.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2163: Introduction to Statistical Methods

ACTS Common Course - MATH2103

Prerequisites: MATH 1003, MATH 1113, or consent of the instructor.

Descriptive statistics, random variables, probability and sampling distributions, estimation, hypothesis testing, regression, analysis of variance, non-parametric techniques.

Note: May not be taken for credit after completion of MATH 3153.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2223: Quantitative Business Analysis

Prerequisites: Completion of high school algebra I and II with a grade of "C" or better and a score of 22 or higher on the mathematics portion of the ACTE exam or MATH 1113.

This course is designed to develop the ability to use quantitative methods in accounting, business, and economics; it includes models of cost, revenue, and profit, linear programming, and probability.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2243: Calculus for Business and Economics

ACTS Common Course - MATH2203

Prerequisites: Completion of high school algebra I and II with a grade of C or better and a score of 22 or higher on the mathematics portion of the ACTE exam or MATH 1113.

An introduction to the concepts of differentiation and integration. Emphasis will be placed on applications of calculus in business, economics, accounting, social sciences, and life sciences.

Note: May not be taken for credit after completion of MATH 2914 or equivalent.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2703: Discrete Mathematics

Prerequisite: MATH 1113

A study of graph theory, trees, combinatorics, logic, and Boolean Algebra.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2914: Calculus I

ACTS Common Course - MATH2405

Prerequisites: Math ACTE score of 24 or higher, or a grade of C or higher in MATH 1914 or MATH 1203 or consent of instructor.

This is the first of two courses covering the calculus of functions of a single variable. The content covers differentiation of all single variable functions and introduces integration of functions.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2924: Calculus II

ACTS Common Course - MATH2505

Prerequisite: MATH 2914 or equivalent

This is the second of two courses covering the calculus of functions of a single variable.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 2934: Calculus III

ACTS Common Course - MATH2603

Prerequisite: MATH 2924 or equivalent

This is the third course in the elementary calculus sequence. It covers the calculus of functions of several variables.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 3003: Foundations of Number Systems

Prerequisite: MATH 2703

A brief review of elementary set theory, followed by the construction of the natural numbers, the integers, the rational numbers, the real numbers and the complex numbers accompanied by a development of the order and field properties.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 3033: Methods of Teaching Elementary Mathematics

Prerequisite: MATH 2043 and admission to Stage II.

A course on methods of teaching the mathematics of the elementary school using mathematical concepts and principles taught in these grades.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 3123: College Geometry

Prerequisite: MATH 2924

A formal approach to plane geometry with coordinates; sets, points, lines, planes, distance, and coordinate systems, angles, congruence, parallelism, and similarity.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 3153: Applied Statistics I

Prerequisite: MATH 2924

A balanced approach emphasizing both theory and applications will be taken. Topics include descriptive statistics, exploratory data analysis, probability and probability models, discrete and continuous random variables, confidence intervals, hypothesis testing, and control charts. Students will be required to collect data, use a current statistical software package to analyze the data, and make inferences based upon the data analysis as part of an individual and/ or group project.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 3173: Math Methods for Engineers

Offered: Annually

Cross-listed: ELEG 3173

Prerequisite: MATH 3243

This course is designed to give the undergraduate student an introduction to a variety of advanced mathematical techniques used in solving engineering problems. The course will cover linear algebra, complex variables, discrete mathematics, and applied statistics.

MATH 3203: Introduction to Analysis

Prerequisite: MATH 3003

A careful development of the real number system and the theory of calculus on the real line.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 3243: Differential Equations I

Prerequisite: MATH 2924

A study of differential equations of the first order; linear equations of higher order including the methods of undetermined coefficients and variation of parameters; linear equations with constant coefficients; special equations of order two and systems of linear first-order differential equations using matrices.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4003: Linear Algebra I

Prerequisite: MATH 2924

Matrices and matrix algebra, systems of linear equations, determinants, eigenvalues, eigenvectors, general vector spaces, linear transformations.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4033: Abstract Algebra I

Prerequisite: MATH 3003

A study of Groups and other algebraic structures. Topics include sub-groups, normal sub-groups, abelian groups, groups of permutations, homomorphisms, kernels, and range.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4103: Linear Algebra II

Prerequisites: MATH 4003 or the consent of the Department of Mathematics.

A continuation of MATH 4003 with emphasis on abstract vector spaces, inner product spaces, linear

transformations, kernel and range, and applications of linear algebra.

Note: MATH 5103 may not be taken for credit after completion of MATH 4103 or equivalent.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4113: History of Mathematics

Prerequisite: MATH 2934

A study of selected topics from the history and nature of mathematics from ancient to modern times. Emphasis will be placed on the historical development of mathematics through a study of biographies of prominent mathematicians and the evolution of some important mathematical concepts. The fundamental role of mathematics in the rise, maintenance, and extension modern civilization will be considered.

Note: MATH 5113 may not be taken for credit after completion of this course.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4123: Mathematical Modeling

Prerequisites: MATH 2703 and MATH 3243

This course provides an introduction to the mathematical modeling process and applies this process to problems that may be modeled with pre senior level mathematics. Emphasis will be placed on connections of mathematics to application areas such as business, industry, economics, physical sciences, biological sciences, medicine and social sciences.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4153: Applied Statistics II

Prerequisite: MATH 3153

This course is a continuation of MATH 3153 with emphasis on experimental design, analysis of variance, and multiple regression analysis. Students will be required to design and carry out an experiment, use a current statistical software package to analyze the data, and make inferences based upon the analysis.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4173: Advanced Biostatistics

Prerequisites: An introductory statistics course or permission of instructor.

This course will include analysis of variance, one factor experiments, experimental design with two or more factors, linear and multiple regression analysis, and categorical data analysis.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4203: Advanced Logic

Cross-listed: PHIL 4103

Prerequisites: COMS 2903 or MATH 2703 or PHIL 3103

A study of selected topics in advanced logic. Emphasis will be placed on proof theory, quantification theory, semantic tableaux, logicism, theories of completeness and consistency, and some consideration of the logical foundations of mathematics.

MATH 4243: Differential Equations II

Prerequisites: MATH 3243 and MATH 4003 or consent of the instructor.

A continuation of MATH 3243 with emphasis on higher order and systems of differential equations.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4263: Mathematical Statistics

Prerequisite: MATH 3153

This is an introductory course in mathematical statistics. Topics include distribution functions (both discrete and continuous), multivariate distributions, distributions of functions of random variables, and statistical inference.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4273: Complex Variables

Prerequisite: MATH 2934

An introduction to complex variables. This course will emphasize the subject matter and skills needed for applications of complex variables in science, engineering, and mathematics. Topics will include complex numbers, analytic functions, elementary functions of a complex variable, mapping by elementary functions, integrals, series, residues and poles and conformal mapping.

Note: MATH 5273 may not be taken for credit after completion of this course.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4343: Introduction to Partial Differential Equations

Prerequisites: MATH 2934 and MATH 3243

This course is an introduction to partial differential equations with emphasis on applications to physical science and engineering. Analysis covers the equations of heat, wave, diffusion, Laplace, Dirichlet and Neumann equations. Course is suitable for senior level or first year graduate students in Mathematics, Physics, and Engineering.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4703: Special Methods in Mathematics

Prerequisites: SEED 2002 and junior standing or permission of the instructor.

This course, designed for prospective junior and senior high mathematics teachers, will provide the student with knowledge of current research and practice in mathematics education, a setting in which to apply that knowledge, and the opportunity to assess their teaching performance and formulate a plan for improvement.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4772: Mathematics Teaching Practicum

A course designed to provide mathematics education majors with experience in teaching mathematics and assessing student performance.

Note: A grade of C or better must be earned in the course used to satisfy the general education mathematics requirement.

MATH 4951,4952,4953,4954: Undergraduate Research in Mathematics

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

MATH 4971: Mathematics Senior Seminar

Prerequisites: MATH 3203 or MATH 4033, or departmental approval.

Students will engage in a research project under the guidance of faculty research advisors. The research area will depend on the interests of the students and available expertise of faculty advisors. The students will present their findings before their peers, faculty advisors, and members of the Mathematics Department Assessment Committee.

MATH 4991,4992,4993,4994: Special Problems in Mathematics

The content and credit for this course will be designed to meet the needs of the student.

Note: A grade of C or better must be earned in this course if being used to satisfy the general education mathematics requirement.

Mechanical Engineering Course Descriptions

MCEG 1002: Engineering Graphics

General course in the most important types of engineering drawings. A foundation course in lettering, geometrical exercises, orthographic projections, including auxiliary views, sections, pictorial representation. The computer is introduced as a drafting tool.

Lecture and laboratory four hours. \$20 freshman level course - curriculum content fee.

MCEG 1011: Introduction to Mechanical Engineering

Prerequisites: Math ACTE score of 24 or higher, or grade of C or higher in MATH 1113, MATH 1914, or MATH 1203, or consent of instructor.

An introductory lecture/lab course to acquaint students with the technical aspects of mechanical engineering and professional responsibility.

\$20 freshman level course - curriculum content fee.

MCEG 2013: Statics

Prerequisites: MATH 2924 and PHYS 2114

Principles of statics, resultants, equilibrium, and analysis of force systems. Structure analysis, forces in space, friction, centroids, and moments of inertia.

\$15 sophomore level course - curriculum content fee.

MCEG 2023: Engineering Materials

Prerequisite: CHEM 2124

A study of the mechanical and physical properties, micro structure, and the various testings of engineering materials (metals, plastics, woods, and concrete) from the viewpoint of manufacture and construction.

\$15 sophomore level course - curriculum content fee.

MCEG 2033: Dynamics

Prerequisite: MCEG 2013

A continuation of MCEG 2013. Study of problems of unbalanced force systems. Kinematics and kinetics of rigid bodies. Work and energy, impulse and momentum.

\$15 sophomore level course - curriculum content fee.

MCEG 2203: Computational Methods in Engineering

Prerequisites: MCEG 1012 and MATH 2914

An introduction to common computational methods, tools, and procedures used in the solution of common engineering problems. A standard solution methodology is introduced along with instruction in units systems, spreadsheet and calculator computations and the use of engineering software.

\$15 sophomore level course - curriculum content fee.

MCEG 3000: Engineering Internship/Research Experience

Cross-listed: ELEG 3000

Offered: As needed

Prerequisite: A minimum of 60 hours applicable toward the ATU Electrical/Mechanical engineering program requirements with a minimum 3.5 GPA; and acceptance in an Engineering Internship or Research Experience for Undergraduates Program.

A minimum of six weeks of supervised on-the-job training with a university research program, engineering firm, manufacturer, municipality, or company employing engineers. A written report is required within one week of internship completion. Students will also present their internship experience to an engineering class or at a student engineering RSO meeting.

\$10 junior level course - curriculum content fee.

Note: Satisfies College of Distinction requirement.

MCEG 3003: Engineering Modeling and Design

Cross-listed: ELEG 3003

Prerequisites: COMS 2803 or MCEG 2203 and MATH 3243

Reduction of engineering systems to mathematical models; methods of analysis using computers; interpretation of numerical results; optimization of design variables. Examples are drawn from various engineering disciplines.

\$10 junior level course - curriculum content fee.

MCEG 3013: Mechanics of Materials

Prerequisite: MCEG 2013

Fundamental stress and strain relationships, torsion, shear and bending moments, stresses and deflections in beams; introduction to statically indeterminate beams, columns, combined stresses, and safety factors.

\$10 junior level course - curriculum content fee.

MCEG 3023: Manufacturing Processes

Prerequisites: MCEG 2023 and 3013

Morphological aspects of manufacturing processes, testing of engineering metals, metal working processes, metal forming processes, machining, non-destructive inspection methods, statistical process control, control charts, and total quality management concepts.

\$10 junior level course - curriculum content fee.

MCEG 3313: Thermodynamics I

Prerequisites: MATH 2924 and PHYS 2114

An introduction to thermodynamics, including thermodynamic properties of pure substances, heat and work, the first and second laws of thermodynamics, and entropy with applications to power and refrigeration cycles.

\$10 junior level course - curriculum content fee.

MCEG 3333: Alternative Energy Systems

A study of the design and implementation of alternative energy sources in power production and other applications. Renewable sources are emphasized.

\$10 junior level course - curriculum content fee.

MCEG 3403: Machine Dynamics

Prerequisite: MCEG 2033 and MATH 3243

The study of the relative motion of machine components, force systems applied to these components, the motions resulting from these forces, and their effect on machine design criteria.

\$10 junior level course - curriculum content fee.

MCEG 3413: Fundamentals of Mechanical Design

Prerequisites: MCEG 2033, 3013, and MATH 3243

Analysis of machines and components through application of basic fundamentals and principles.

\$10 junior level course - curriculum content fee.

MCEG 3442: Mechanical Laboratory I

Prerequisites: MCEG 2023 and MCEG 3013

A study of the basic materials testing procedures and instrumentation. Emphasis will be placed on proper laboratory techniques including data collection, data reduction, and report preparation.

Lecture one hour, laboratory three hours. \$10 junior level course - curriculum content fee.

MCEG 3503: Basic Nuclear Engineering

Prerequisites: MATH 2924, CHEM 2124 and PHYS 2114

An introduction to atomic and nuclear processes and to nuclear science and engineering fundamentals, including the nature of nuclear radiation, the nuclear chain reaction, criticality, power reactor types, and applications of nuclear technology.

\$10 junior level course - curriculum content fee.

MCEG 3512: Radiation Detection Laboratory

Prerequisites: MATH 2914, CHEM 2124 or consent.

A study of each of the common kinds of nuclear radiation, including the detection and analysis methods and applications to nondestructive assays. Use of computers in analyses.

Lecture one hour, laboratory three hours. \$10 junior level course - curriculum content fee.

MCEG 3523: Radiation Health Physics

Prerequisites: MATH 2914, CHEM 2124, or consent.

A study of the protection of individuals and population groups against the harmful effects of ionizing radiation. Included in the study is: (1) radiation detection and measurement, (2) relationships between exposure and biological damage, (3) radiation and the environment, (4) design criteria for processes, equipment, and facilities so that radiation exposure is minimized, and (5) environmental impact of nuclear power plants.

\$10 junior level course - curriculum content fee.

MCEG 3991,3992,3993,3994: Special Problems in Engineering

Prerequisite: Minimum of three hours at the junior level in area of study.

Individual or specialized study in advanced area under the direction of a faculty advisor.

\$10 junior level course - curriculum content fee.

MCEG 4042: Metallurgy Laboratory

Co-requisite: MCEG 4043

Laboratory experiments in heat treating, phase transformation, plastic deformation, work hardening and creep. Concepts and topics from MCEG 4043 are emphasized in the lab exercises. Failure analysis modes and examples are included.

Lecture one hour, lab three hours. \$5 senior level course - curriculum content fee.

MCEG 4043: Physical Metallurgy

Prerequisites: MCEG 2023, 3013, 3313

This course provides the student with an in-depth background to the mechanisms and applications of dislocation motion, crystal plasticity, phase transformations and solidification processes. Common industrial and experimental processes are studied for both ferrous and non-ferrous materials.

\$5 senior level course - curriculum content fee.

MCEG 4053: Corrosion Principles

Prerequisites: MCEG 2023, 3013, 3313

A study of the fundamental causes of corrosion and corrosion damage in metals and metallic components. Electrochemistry is used to explore the basic reactions governing environmental corrosion while thermodynamics and kinetics are used to investigate the rate of controlling steps of environmental attack. Includes an overview of techniques commonly used to control corrosion damage in industry and architecture.

\$5 senior level course - curriculum content fee.

MCEG 4202: Engineering Design

Cross-listed: ELEG 4202

Prerequisites: MCEG major, senior standing and MCEG 3413.

This course serves as the first part of a two course sequence in which the student completes a senior design project. Design methodologies and tools including real world design considerations such as environmental impact, engineering ethics, economics, safety, product costing and liability are introduced. Design for manufacture, project management, scheduling and proposal writing will be covered. Successful completion of this course shall require completion of a proposal for a senior design project being accepted by the faculty design project review process.

\$5 senior level course - curriculum content fee.

MCEG 4323: Power Plant Systems

Prerequisite: MCEG 3313 or consent.

Co-requisite or Prerequisite: MCEG 4403

A study of the design and operation of steam electric power plant components and systems. Fossil and renewable energy plants are emphasized.

\$5 senior level course - curriculum content fee.

MCEG 4332: Thermal Systems Laboratory

Prerequisites: MCEG 3313, 4403

Co-requisites: MCEG 4433, 4443

Advanced laboratory experiments in heat transfer and thermal systems. Conduction, convection and radiation heat transfer phenomena, power and refrigeration cycle operation, psychrometrics.

Lecture one hour, laboratory three hours. \$5 senior level course - curriculum content fee.

MCEG 4343: Internal Combustion Engines

Prerequisites: MCEG 3313 and MCEG 4403

A study of the operating and design principles of internal combustion engines. The course will cover combustion cycles, emissions, and performance analysis and testing.

Lecture three hours with lab exercises. \$5 senior level course - curriculum content fee.

MCEG 4403: Mechanics of Fluids and Hydraulics

Prerequisites: MCEG 2033 and 3313

A study of statics and dynamics of incompressible fluids. Major topics include the basic fluid flow concepts of continuity, energy and momentum, dimensional analysis, viscosity, laminar and turbulent flows, and flow in pipes.

\$5 senior level course - curriculum content fee.

MCEG 4413: Finite Element Analysis

Prerequisites: ELEG 2103, MCEG (ELEG)3003, and MCEG 3013

Introduction to approximate methods using finite elements. Development of the finite element method using variational formulations. Applications include machine design, mechanical vibrations, heat transfer, fluid flow and electromagnetics.

\$5 senior level course - curriculum content fee.

MCEG 4423: Machine Component Design

Prerequisites: MCEG 3413

Design and analysis of specific machine components including gears, clutches, springs, and bearings.

\$5 senior level course - curriculum content fee.

MCEG 4433: Thermodynamics II

Prerequisites: MATH 2934, 3243 and MCEG 3313

A continuation of MCEG 3313. The study of thermodynamics is extended to the investigation of relations for simple substances, non-reacting mixtures, reacting mixtures, chemical reactions and a study of

availability analysis. Power and refrigeration cycles are studied in more depth.

\$5 senior level course - curriculum content fee.

MCEG 4442: Mechanical Laboratory II

Prerequisite: MCEG 4403

A study of fluid mechanics and thermodynamics experimentation techniques. Laboratory projects will be assigned with student responsibility for procedure development and test program implementation. Formal laboratory reports will be required.

Lecture one hour, laboratory three hours. \$5 senior level course - curriculum content fee.

MCEG 4443: Heat Transfer

Prerequisite: MCEG 4403

Basic thermal energy transport processes, conduction, convection, and radiation, and the mathematical analysis of systems involving these processes in steady state and time dependent cases.

\$5 senior level course - curriculum content fee.

MCEG 4453: Energy Management

Prerequisite: MCEG 3313

Energy management in commercial building and industrial plants. Utility rate structures. Sources of primary energy. Energy conversion devices. Prime movers of energy. Heat. Electricity. Lighting. HVAC Equipment. Building envelope. Electric motors. Estimating energy savings. Economic justification. Energy auditing.

\$5 senior level course - curriculum content fee.

MCEG 4463: Heating, Ventilating, and Air-Conditioning Design

Prerequisites: MCEG 3313 or permission of instructor

A study of the principles of human thermal comfort including applied psychometrics and air-conditioning processes. Fundamentals of analysis of heating and cooling loads and design of HVAC systems.

\$5 senior level course - curriculum content fee.

MCEG 4473: Mechanical Vibrations

Prerequisites: MCEG 2033, MATH 3243

The study of free and forced vibration of single degree-of-freedom systems, response to harmonic, periodic and non-periodic excitations. Multi-degree-of-freedom systems and matrix methods are explored. Computational techniques for predicting system response continuous systems are introduced.

\$5 senior level course - curriculum content fee.

MCEG 4491: Mechanical Design Project I

Co-requisite: MCEG/ELEG 4202

First of a two part sequence of courses to complete an independent or group project in mechanical engineering design. Emphasis will be placed on designing a mechanical system or sub-system with due regard for: safety, environmental concerns, reliability, longevity, ease of manufacturing, maintainability, and

cost effectiveness. Both a written and oral report are required.

\$5 senior level course - curriculum content fee.

MCEG 4492: Mechanical Design Project II

Prerequisites: MCEG 3003, MCEG/ELEG 4202, MCEG 4491, senior standing, and consent of instructor.

Second of a two part sequence of courses to complete an independent or group project in mechanical engineering design. Where appropriate, a team approach will be employed. Emphasis will be placed on designing a mechanical system or sub-system with due regard for: safety, environmental concerns, reliability, longevity, ease of manufacturing, maintainability, and cost effectiveness. Both a written and oral report are required.

\$50 course fee. \$5 senior level course - curriculum content fee.

MCEG 4503: Nuclear Power Plants I

Prerequisites: MCEG 3503, MCEG 4403

A study of the various types of nuclear reactor plants including the methods used for energy conversion. Relative advantages/disadvantages of various plant types investigated.

\$5 senior level course - curriculum content fee.

MCEG 4991,4992,4993,4994: Special Problems in Engineering

Prerequisite: Minimum of three hours at the junior level in area of study.

Individual study in advanced area of the student's choice under the direction of a faculty advisor.

\$5 senior level course - curriculum content fee.

Medical Technology Course Descriptions

(Medical Technology courses are offered at affiliated institutions.)

MEDT 4001,4002,4003,4004,4005,4006,4007,4008,4009: Medical Technology Professional Coursework

Prerequisite: Acceptance by one of our affiliated MEDT schools for the senior year of professional courses.

This generalized course designation is used to represent specific coursework offered by affiliated schools of medical technology in areas such as clinical chemistry and instrumentation, bodily fluids, microbiology, hematology, immuno-hematology, serology, parasitology, and associated lectures and seminars.

MEDT 4012: Clinical Microscopy and Body Fluids

(Medical Technology courses are offered at affiliated institutions.)

Use of the microscope in laboratory diagnostic procedures and introduction to body fluid chemistry, particularly blood, urine and spinal fluids. Emphasis on pathological conditions resulting from abnormal concentrations of substances.

MEDT 4029: Hematology

(Medical Technology courses are offered at affiliated institutions.)

Consideration of typical and atypical medical laboratory procedures in hematology with emphasis on principles, methodology, sources of error, and clinical application. Supervised training in standard and special laboratory techniques.

MEDT 4035: Immuno-hematology

(Medical Technology courses are offered at affiliated institutions.)

Consideration of typical and atypical medical laboratory procedures in immuno-hematology and blood banking with emphasis on principles, methodology sources of error, and clinical application. Supervised training in standard and special laboratory techniques.

MEDT 4048: Clinical Chemistry and Instrumentation

(Medical Technology courses are offered at affiliated institutions.)

Consideration of methods of determining chemical composition of body fluids and analysis using standard and special laboratory instruments. Study of design, construction, and operation of instruments such as balances, centrifuges, pH meters, auto analyzers, null balances, others.

MEDT 4057: Microbiology

(Medical Technology courses are offered at affiliated institutions.)

Consideration of typical and atypical medical laboratory procedures in microbiology with emphasis on diagnostic medical bacteriology virology, and mycology. Supervised training in standard and special laboratory techniques.

MEDT 4064: Parasitology

(Medical Technology courses are offered at affiliated institutions.)

Consideration of typical and atypical medical laboratory procedures in parasitology with emphasis on methodology and clinical application. Supervised training in standard and special laboratory techniques.

MEDT 4073: Serology

(Medical Technology courses are offered at affiliated institutions.)

Consideration of typical and atypical medical laboratory procedures in serology with emphasis on methodology, sources of error, and clinical application. Supervised training in standard and special laboratory techniques.

MEDT 4082: Special Topics

(Medical Technology courses are offered at affiliated institutions.)

Subject matter may include the following: hospital orientation, laboratory management, radioisotope techniques, laboratory safety, special projects, special techniques, quality control procedures, and seminars on various subjects deemed necessary by hospital personnel.

Management Course Descriptions

MGMT 3003: Management and Organizational Behavior

Prerequisites: ACCT 2013, ECON 2003, ECON 2013, BDA 2003, BLAW 2033, and at least 54 earned hours with a minimum GPA of 2.0, or permission of the instructor.

Basic principles of management and organizational behavior including planning, organizing, leading, controlling, staffing, decision making, ethics, interpersonal influence, and group behavior; conflict management; job design; and organizational change and development.

MGMT 3103: Operations Management

Prerequisites: MGMT 3003 and at least 54 earned hours with a minimum GPA of 2.0.

A study of the overall operations management task. Critical issues include its integration of market issues, the development of operations strategies, and the management of people. Specific attention is given to the design and development of services and products and the systems by which they are produced and delivered. Factors central to the operations management task include capacity, technology, scheduling and execution, quality, inventory, the significant role of managing the supply chain, and process and delivery system reliability and maintenance.

MGMT 3113: Managerial Process Analysis

Prerequisites: MGMT 3003, BUAD 2053 and at least 54 earned hours with a minimum GPA of 2.0 or permission of the instructor.

This course is a study of the analysis, mapping, and improvement of business processes using standard symbols, popular software tools, metrics, and general systems theory. Examples of sample business processes and topics include customer service, sales management, scheduling, manufacturing, supply chain management, logistics, hiring/job search, process mapping diagrams, organizational charts, workflow and environment layout, cause and effect analysis, systems analysis and design, collection and analysis of process data, and optimization. Software tools are used for process diagramming, concept mapping, physical facilities layout, project planning and management, and data filtering and analysis.

MGMT 3123: Business Ethics

Prerequisites: ACCT 2013, ECON 2013, BLAW 2033, and at least 54 earned hours.

This course is an interdisciplinary study of business ethics and the social responsibility of business organizations in society. The course will consider professional and applied ethics, law and organizational behavior. The focus of the course is on the individual managerial decision making process in response to ethical issues arising in the business context. Students will explore the role of business in society; discuss general theories of ethics; explain and apply key ethical theories in business; and develop and defend their own ethical positions.

MGMT 4013: Management Information Systems

Prerequisites: MGMT 3003, MGMT 3103, MKT 3043, and at least 90 earned hours.

A study of information processing, the systems concept, the analysis and design of information systems, and database hardware and software technology as they apply to producing information to be used in business decision making. Emphasis will be given to practical application for business.

MGMT 4023: Personnel/Human Resource Management

Prerequisites: MGMT 3003 and at least 54 earned hours.

A study of that function performed in organizations which facilitates the most effective use of people (employees) to achieve organizational and individual goals. Topics covered include the law and

personnel/human resource management, personnel analysis, planning, and staffing; performance evaluation and compensation, training and developing of human resources; labor relations, employee safety and health; work scheduling; evaluation of personnel/ human resources management.

MGMT 4033: Internship I in Management

Prerequisites: Permission of the Instructor, Associate Dean, and Dean and at least 60 earned hours with a minimum 2.5 overall GPA.

A supervised, practical experience providing undergraduate MGMK majors with a hands-on professional management/ marketing experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A College of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make oral reports in the classroom, maintain an internship log, and prepare a final term paper.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for management or marketing electives. Additional hours may be used to satisfy the curriculum requirements for general electives.

MGMT 4043: Internship II in Management

Prerequisites: MGMT 4033, permission of the Instructor, Associate Dean and Dean and at least 60 earned hours with a minimum 2.5 overall GPA.

To be taken after completion of Internship I. A supervised, practical experience providing undergraduate MGMK majors with a hands-on professional management/marketing experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A College of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make oral reports in the classroom, maintain an internship log, and prepare a final term paper.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for management or marketing electives. Additional hours may be used to satisfy the curriculum requirements for general electives.

MGMT 4053: Small Business Management

Prerequisites: MGMT 3003, MKT 3043, ACCT 3063 and at least 90 earned hours.

Application of business management principles to the creation and operation of small scale enterprises. Emphasis on the preparation and implementation of business plans for such enterprises.

MGMT 4063: Entrepreneurial Development

Prerequisites: MGMT 4053 and approval from instructor.

The course is designed to increase the students' understanding of critical entrepreneurial and venture creation concepts through practical applications and through textual readings. Specifically, students will take preliminary small business plans and develop and formalize plans that will be submitted for competition consideration at the annual Donald W. Reynolds Governor's Cup business plan competitions.

MGMT 4073: Special Topics in Management

Prerequisite: MGMT 3003 and 54 earned hours or permission of the instructor.

In-depth exploration of selected management topics. The primary topic will vary from offering to offering; thus, the course may be taken more than once.

MGMT 4080: College of Business College of Distinction Enhanced Capstone

Prerequisite: Acceptance into the College of Business College of Distinction program.

Co-requisite: MGMT 4083

This course is required for all students accepted into the College of Business College Distinction program as a marker for student participation in approved College of Business College of Distinction activities.

MGMT 4083: Business Policy

Prerequisites: BUAD 3023, ECON 3003, MGMT 3003, MGMT 3103, MKT 3043, and ACCT 4023 or ACCT 3063.

As the capstone course in the College of Business core, this course examines the application of strategic management processes, including top management's role in situational analysis, strategy selection, strategy implementation, and strategic control, under conditions of uncertainty.

MGMT 4093: Human Behavior in Organizations

Prerequisites: MGMT 3003 and 54 earned hours or permission of the instructor.

A study of individual and group behavior in organizations. Topics covered include personality and individual differences, personal systems, values and ethics, perception, attribution theory, goal setting, reinforcement theory, theories of motivation and leadership, group systems, power and social influence, and organizational structure.

MGMT 4113: Managerial Issues in Electronic Commerce

Prerequisites: MGMT 3003, MKT 3043, ACCT 3063, and FIN 3063 or permission of the instructor.

A study of managerial issues and strategies involved in Internet-based buying and selling activities. The course examines appropriate business models and best practices in generating revenue, market share, and profit from wholesaling and retailing activities in business-to-consumer, business-to-business, and consumer-to-consumer venues. Topics include initiation and management of electronic commerce operations, technological infrastructure and tools, marketing, customer relationship management, electronic payment, security, staffing, social impacts, ethics, regulation, and international markets.

MGMT 4203: Project Management

Prerequisites: MGMT 3003, MGMT 3103, and 90 earned hours or permission of the instructor.

Project Management is studied from a practical perspective. In this course, students explore techniques of organizing the three main elements of project management: cost, schedule and scope, as well as how to manage the most important aspect of Project Management: PEOPLE. Students will learn to utilize software that aids in the visualization of the project management process. The emphasis of this special topic in management will be aimed toward an understanding of Project Management for future business leaders and engineers. The course will culminate with a month- long, graded, practical exercise with industry where students will be organized into teams or as individual developers and sent to explore all aspects of a problem, conduct a project initiation workshop, and then present a project management plan to the leadership of that participating industry.

MGMT 4213: Business Leadership

Prerequisites: MGMT 3003 and at least 54 earned hours.

The course is an overview of the concepts and issues associated with contemporary leadership. It outlines the challenges, methods, and responsibilities of leading in our society. It covers what every informed citizen should know about leading in a variety of settings: the processes, styles, and pitfalls. We will address leader development, and discuss ethical issues related to leading. Guest speakers and student

presentations will provide real world contemporary experiences for comparison to the text materials. Students are expected to be active participants in class. The final paper will serve as a roadmap for leadership development for each student for the next ten years.

MGMT 4223: Leadership: Ideas and Images in Art, Film, History, and Literature

Prerequisites: MGMT 3003 and at least 54 earned hours or permission of the instructor.

This course probes the definition, meaning, practice, and paradox of leadership by exploring ideas and images found in diverse domains such as film, art, literature, and history. These ideas and images are used as a platform for examining leadership challenges and for developing personal insights into leadership practice, issues and values.

Marketing Course Descriptions

MKT 3043: Principles of Marketing

Prerequisites: ECON 2013.

Marketing fundamentals, the ultimate consumer, the retailing and wholesaling systems, marketing functions, marketing policies, marketing costs, critical appraisal of marketing, marketing and the government.

MKT 3163: Consumer Behavior

Prerequisites: MKT 3043.

A study of the development of consumer decision making processes and the factors which influence them. Psychological, sociological, economic, cultural, and situational factors are examined. Their impact on marketing formulation, both domestic and international, is emphasized.

MKT 4033: Internship in Marketing I

Prerequisites: MKT 3043 and permission of instructor.

A supervised, practical experience providing undergraduate MGMK majors with a hands-on professional management/ marketing experience in a position relating to an area of career interest. The student will work in a local cooperating business establishment under the supervision of a member of management of that firm. A College of Business faculty member will observe and consult with the students and the management of the cooperating firm periodically during the period of the internship. Students will be required to make oral reports in the classroom, maintain an internship log, and prepare a final term paper.

Note: Only three hours of internship may be used to satisfy the curriculum requirements for management or marketing electives. Additional hours may be used to satisfy the curriculum requirements for general electives.

MKT 4053: Sport and Event Marketing

Prerequisites: MKT 3043.

To apply marketing concepts to sporting, cultural, historical, and charitable activities and events. To examine the performance, production, and promotional segments of the sport and event markets.

MKT 4063: Advertising

Prerequisites: MKT 3043.

The "how" and "why" of advertising: principal problems faced by advertisers and advertising agencies, approaches, policies, and procedures as related to successful marketing techniques.

MKT 4093: International Marketing

Prerequisites: MKT 3043.

Analysis of opportunities, distinctive characteristics and emerging trends in foreign markets, including exploration of alternative methods and strategies for entering foreign markets; organizational planning and control; impact of social, cultural, economic and political differences; and problems of adapting American marketing concepts and methods.

MKT 4103: Special Topics in Marketing

Prerequisites: MKT 3043.

In-depth exploration of selected marketing topics. The primary topic will vary from offering to offering, thus,

the course may be taken more than once.

MKT 4143: Marketing Management

Offered: Fall

Prerequisites: MKT 3043, MGMT 3003, and at least 90 earned hours.

Advanced study of decisions facing a marketing executive. Topics covered include product planning, consumer behavior, promotion, sales management, and pricing.

MKT 4153: Research Methods

Offered: Spring

Prerequisites: BUAD 2053 and MKT 3043.

A study of the development of the basic methodology in research design for primary and secondary data, including requirements for collection, analysis, editing, coding, and presentation of data to support marketing decisions.

Middle Level Education Course Descriptions

MLED 2003: Introduction to Education

Prerequisites: Stage I course and will be taken before admittance to the Middle Level Teacher Education Program.

Introduction to philosophy of education and to the concept of education as a career with an emphasis on middle-level education. The format will include a weekly lecture and on-site field experiences in a public school setting. This course will also provide potential middle-level teachers with an overview of the social and historical aspect of the American Education System.

MLED 3012: Research Foundations

Prerequisite: Admission of Stage II to the Middle Level Teacher Education Program.

Presentation of the knowledge base and practice in the skills needed to locate educational research information; analyze, synthesize, and evaluate the compiled materials; and write a professional research report based on the composite findings.

MLED 3024: Psychological Foundations for the Nature and Needs of Middle Level Students

Prerequisite: Admission to Stage II of the Middle Level Teacher Education Program.

General principles of the physical, social, emotional, intellectual, and moral development of early adolescents and the developmental implications on curriculum and instruction, learning, the learner's potentialities with attention to individual differences, the environment of effective learning, application of psychology to educational problems.

MLED 3034: Literacy Development in the Middle Grades

Prerequisite: Admission to Stage II of the Middle Level Teacher Program.

Presentation of the knowledge base and methodology needed to guide students in the middle grades toward competency and maturity as readers and writers and practice in the teaching/learning strategies related to reading in all content area disciplines.

MLED 3041: School to Home Communication

Prerequisites: Admission to Stage II of the Middle Level Teacher Education Program.

Presentation of methods of communication between the home and school for the classroom teacher will be explored. The use of classroom management software for school reports, student information sheets, newsletters, electronic mail, and letters to home as well as telephone skills will be practice. Exploration of the use of community resources and evaluation as related to meeting the needs of middle level students and families.

MLED 3062: Tests & Educational Measurements

Prerequisites: Admission to Stage II of the Middle Level Program.

A survey of test theory with particular emphasis upon the use of assessment techniques in the middle level classroom as an educational decision-making tool.

MLED 3072: Diversity in the Classroom

Prerequisites: Admission to Stage II of the Middle Level Teacher Education Program.

A study of the major areas of exceptionalities including the learning disabled, mentally retarded, physically handicapped, and the gifted, and their special needs in a school program.

MLED 3102: Reading through Literature in the Middle Ages

Prerequisites: Admission to Stage II of the Middle Level Teacher Education Program.

A study of the development and source of literature for the middle childhood/early adolescent student. Emphasis will be on integrating literature across the curriculum and on methods of encouraging reading as a lifelong pleasurable pursuit.

MLED 4004: Middle Level Curriculum and Pedagogy

Prerequisites: Admission to Stage II of the Middle Level Teacher Program.

A study of the developmental curriculum, instruction and pedagogy for teaching the middle level student. Emphasis will be on an interdisciplinary approach to curriculum design.

MLED 4023: Guided Field Experiences

Prerequisites: Admission to Stage II of the Middle Level Teacher Education Program.

Co-requests: MLED 3012 and MLED 3034

MLED 4023 Guided Field Experiences is a series of 45 hours of observation, participation, and teaching experiences ranging from individual to large group settings conducted in selected middle level settings designed to prepare the teacher candidate for a smooth transition to internship in a clinical setting. A survey of school law designed to give teacher candidates an awareness of legal rights and responsibilities of teachers, students, and public schools is presented at the beginning of the course before students begin practicum hours.

MLED 4912: Internship

Prerequisites: Admission to and Internship.

(Twelve hour course) MLED 4912 Internship is a minimum of fifteen weeks of reflective clinical internship at the middle level. In a select setting under supervision of experienced middle level professionals, teacher candidates will prepare, facilitate, and evaluate an appropriate curriculum experience for instruction of the early adolescent.

\$100 course fee.

Military Science ROTC Course Descriptions

(For further information concerning military science courses, contact CPT Michael Bennett at (479) 498-6066.)

MS 1101: Leadership I

Offered: Fall

Introduces cadets to the personal challenges and competencies that are critical for effective leadership. Cadets learn how the personal development of life skills such as critical thinking, goal setting, time management, physical/mental fitness (resiliency training) related to leadership, officership, and the Army profession. Focus is on developing basic knowledge and comprehension of Army leadership dimensions while gaining a big picture of understanding the ROTC program, its purpose in the Army, and its advantages for the student.

Lecture/Laboratory

MS 1111: Leadership II

Offered: Spring

Overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Cadets explore dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises. Continued emphasis is placed on recruitment and retention of Cadets. Cadre role models and the building of stronger relationships among the Cadets through common experience and practical interaction are critical aspects of the MS 1111 experience.

Lecture/Lab

MS 2312: Military Organization/Tactics I

Offered: Fall

Explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework (trait and behavior theories). Cadets practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs. Focus is on continued development of the knowledge of leadership attributes and core leader competencies through an understanding of Army rank, structure, duties and basic aspects of land navigation and squad tactics. Case studies provide tangible context for learning the Soldier's Creed and Warrior Ethos.

Lecture/Lab

MS 2402: Military Organization/Tactics II

Offered: Spring

Examines the challenges of leading tactical teams in the operational environment. The course highlights dimensions of terrain analysis, patrolling, and operation orders. Further study of the theoretical basis of the Army Leadership Requirements Model explores the dynamics of adaptive leadership in the context of military operations. MS 2402 prepares Cadets for MS 3503. Cadets develop greater self awareness as they assess their own leadership styles and practice communication and team building skills. Case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios.

Lecture/Lab

MS 3503: Advanced Leadership and Tactics I

Offered: Fall

Challenges Cadets to study, practice, and evaluate adaptive leadership skills as they are presented with challenging scenarios related to squad tactical operations. Cadets receive systematic and specific feedback on their leadership attributes and actions. Based on such feedback, as well as their own self-evaluations, Cadets continue to develop their leadership and critical thinking abilities. Focus is on developing Cadets' tactical leadership abilities to enable them to succeed at ROTC's summer Leadership Development and Assessment Course (LDAC).

Lecture/Lab.

MS 3603: Advanced Leadership and Tactics II

Offered: Spring

Continuation of MS 3503. Course uses increasingly intense situations applying team leadership challenges to build Cadet awareness and skills in leading tactical operations at the small unit level. Cadets review aspects of full spectrum operations. They also conduct military briefings and develop proficiency in the operation orders process. Focus is on exploring, evaluating, and developing skills in decision-making, persuading, and motivating team members in the contemporary operating environment (COE). MS 3603 Cadets are evaluated on what they know and do as leaders as they prepare to attend the ROTC summer Leader Development Assessment Course (LDAC).

Lecture/Lab

MS 4013: United States Military History

A study of the American military from its colonial origins to the present, including the development of the military establishment and its relationship with American society.

MS 4703: Applied Leadership and Management I

Offered: Fall

Transitions the focus of student learning from being trained, mentored and evaluated as an MS III Cadet, to learning how to train, mentor and evaluate underclass Cadets. MS IV Cadets will learn the duties and responsibilities of an Army staff officer and apply the Military Decision Making Process (MDMP), the Army Writing Style and the Army's Training Management and METL Development processes during weekly Training Meetings to plan execute and assess battalion training events. Cadets will learn how to safely conduct this training by understanding and employing the Composite Risk Management Process. MS IV Cadets will learn how to use the Comprehensive Soldier Fitness (CSF) program to reduce and manage stress. Cadets will learn about the special trust proposed by the U.S. Constitution to Army Officers - a trust above and beyond other professions. Cadets will learn Army Values and Ethics and how to apply them to everyday life as well as in Operating Environments. The MS IV Cadet will learn about the officer's role in the Uniform Code of Military Justice, with Counseling Subordinates, Administrative Discipline and Separations, and methods for Officer Career Management.

Lecture/Lab

MS 4803: Applied Leadership and Management II

Offered: Spring

Continuation of MS 4703. Explores the dynamics of leading Soldier's in Full Spectrum Operations in the Contemporary Operating Environment (COE). Cadets examine differences in Customs and Courtesies, Principles of War, and Rules of Engagement in the face of Terrorism. They also explore aspects of interacting with Non-Government Organizations, Civilians on the Battlefield, and Host Nation Support and explore Counterinsurgency Operations. Cadets will learn what Support Services are available to assist Soldiers and their families in times of need such as; Red Cross, CFC, AER, etc. MS IVs will develop and present a Battle Analysis and participate in a Staff Ride at an historic military site. The course places significant emphasis on preparing Cadets for their first unit of assignment. It uses case studies, scenarios,

and "What Now, Lieutenant?" exercises to prepare Cadets to face the complex ethical and practical demands of leading as commissioned officers in the United States Army.

Lecture/Lab

MS 4903: Advanced Officership I

Prerequisites: MS 3503 or MS 4703 and approval of the Professor of Military Science.

Advanced Officership I is a special problems course on professional military related topics. The course will emphasize personal and professional goals for officers and related tactics involved in military history.

MS 4913: Advanced Officership II

Prerequisites: MS 3503 or MS 4703 and approval of the Professor of Military Science.

Advanced Officership II is a special problems course on professional military topics specifically related to the branches of the US Army. The course will emphasize personal and professional goals for each officer by enhancing their knowledge of their assigned branch and component.

Music Course Descriptions

MUS 1000: Recital Attendance

Offered on a pass/fail basis. Students are required to attend a specified number of recitals each semester and must pass at least six semesters to receive the B.A. degree in music or bachelor of music education.

\$20 freshman level - curriculum content fee.

MUS 1151: Class Guitar I

Prerequisite: Music major

Introductory class instruction in folk and popular styles of guitar playing with emphasis on guitar as a teaching tool for classroom music instruction.

\$20 freshman level - curriculum content fee.

MUS 1321: Jazz Piano

Offered: As needed

Prerequisites: MUS 1713, MUS 1201 or 1441, or instructor approval.

Materials and practices for typical jazz keyboard playing.

One hour per week. \$20 freshman level - curriculum content fee.

MUS 1431: Class Piano

Non music majors. For students who have little or no music reading skills, this course concentrates on basic piano skills while learning to read music. At the end of the course students will play pieces using a chord based approach in several keys and styles.

\$10 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1441: Class Piano I, II, III, and IV

Prerequisite: Music major

A development of the fundamental skills of the piano, emphasizing those aspects most useful to non piano majors. A knowledge of chords is stressed, as is sight reading, improvising, playing in all keys and harmonizing melodies. The second year of class piano extends these skills adding the reading of multiple score parts, modulation, harmonizing with secondary chords, improvising in various composers' styles, playing a wide variety of literature, and accompanying.

\$10 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1713: Theory I

Co-requisites: MUS 1731, 1741

Study of scales, triads, seventh chords, diatonic harmonies, simple modulation. Introduction to small forms.

\$20 freshman level - curriculum content fee.

MUS 1723: Theory II

Co-requisites: MUS 1731, 1741

Study of scales, triads, seventh chords, diatonic harmonies, simple modulation. Introduction to small forms.

\$20 freshman level - curriculum content fee.

MUS 1731: Ear Training I

The elements of music fundamentals, both written and aural.

\$20 freshman level - curriculum content fee.

MUS 1741: Ear Training II

The elements of music fundamentals, both written and aural.

\$20 freshman level - curriculum content fee.

MUS 2003: Introduction to Music

ACTS Common Course - MUSC1003

An overall view of music history from Medieval to Contemporary times with a focus on relating musical happenings and concepts to the other arts.

\$15 sophomore level - curriculum content fee.

MUS 2201: Accompanying Seminar

Prerequisites: Piano major or permission of instructor.

Development of basic accompanying techniques. Class coaching and presentation one hour weekly, plus assigned accompanying responsibilities in a variety of media.

\$15 sophomore level - curriculum content fee.

Note: May be repeated three times.

MUS 2441: Class Voice

Offered: Fall

Prerequisite: Music major

Development of basic vocal techniques through group participation and solo singing. Emphasis is placed on understanding of vocal pedagogy.

Supervised practice two hours per week. \$15 sophomore level - curriculum content fee.

MUS 2451: Class Voice

Offered: Fall

(Non music majors) Development of basic vocal techniques through group participation and solo singing.

Supervised practice two hours per week. \$15 sophomore level - curriculum content fee.

MUS 2713: Theory III

Co-requisites: MUS 2731, 2741

More advanced harmonic concepts, modulation, chromatic harmonies. Further study of larger forms.

\$15 sophomore level - curriculum content fee.

MUS 2723: Theory IV

Co-requisites: MUS 2731, 2741

More advanced harmonic concepts, modulation, chromatic harmonies. Further study of larger forms.

\$15 sophomore level - curriculum content fee.

MUS 2731: Ear Training III

Further work in more advanced ear training and sight singing.

\$15 sophomore level - curriculum content fee.

MUS 2741: Ear Training IV

Further work in more advanced ear training and sight singing.

\$15 sophomore level - curriculum content fee.

MUS 3000: Recital Attendance

Offered on a pass/fail basis. Students are required to attend a specified number of recitals each semester and must pass at least six semesters to receive the B.A. degree in music or bachelor of music education.

\$10 junior level - curriculum content fee.

MUS 3281: Secondary Instrumental Methods and Materials I

Laboratory experience in conducting and performance of materials appropriate to teaching band in the public school.

\$10 junior level - curriculum content fee.

MUS 3321: Practice of Improvisation

Prerequisites: Successful completion of MUS 3332 or instructor approval.

Laboratory experience in improvisation in all jazz styles.

\$10 junior level - curriculum content fee.

Note: This course may be repeated for credit.

MUS 3322: Theory of Improvisation (Jazz)

Prerequisites: MUS 1713, 1723, 1441, and/or instructor approval.

Music theory, materials and practices for improvising or extemporaneous playing.

Note: May not be repeated for credit. May not be taken for credit after completion of MUS 3332.

One hour class, two hour laboratory per week. \$10 junior level - curriculum content fee.

MUS 3332: Theory of Improvisation (Jazz)

Prerequisite: Successful completion of MUS 3322

Advanced music theory, materials and practices for improvising or extemporaneous playing.

Note: May not be repeated for credit.

One hour class, two hour laboratory per week. \$10 junior level - curriculum content fee.

MUS 3401: Brass Instruments

Prerequisite: Music major

A study of the instruments of the brass family to the extent that scales and grade one and two solos can be played on selected instruments.

Class two hours, practice two hours. \$10 junior level - curriculum content fee.

MUS 3421: Woodwind Instruments, Double Reeds

Prerequisite: Music major

A study of playing and teaching techniques of the woodwind family (oboe, bassoon). Playing of selected instruments will be developed through major scales and grade one and two solos or methods.

\$10 junior level - curriculum content fee.

MUS 3431: Woodwind Instruments, Single Reeds

Prerequisite: Music major

A study of playing and teaching techniques of the woodwind family (flute, clarinet, saxophone). Playing of selected instruments will be developed through major scales and grade one and two solos or methods.

\$10 junior level - curriculum content fee.

MUS 3441: Instrumental Concepts

Prerequisites: Vocal or Keyboard major

A study designed to give non-instrumental music education majors functional knowledge of band and orchestral instruments.

\$10 junior level - curriculum content fee.

MUS 3442: Piano Pedagogy

Offered: Spring

A study of pedagogical principles involved in the teaching of private and class piano, with emphasis on outside reading, class discussion, and observation of actual lessons and classes.

\$10 junior level - curriculum content fee.

MUS 3481: Stringed Instruments

Prerequisite: Music major

A study of instruments of the string family (violin, viola, cello, and string bass) with emphasis on the fundamentals of good tone production and bowing techniques to the extent that scales and grade one and two orchestra music can be played on selected instruments.

\$10 junior level - curriculum content fee.

MUS 3692: History of Music III

Prerequisite: MUS 2723, music major or permission of instructor.

A study of 20th century music. Includes one unit of non- western music.

\$10 junior level - curriculum content fee.

MUS 3702: Music Educational Technology

Prerequisites: Music major with junior standing.

Applications of Technology in Music Education. An overview of current technologies to enhance music instruction, assessment, and productivity by the music educator.

\$10 junior level - curriculum content fee.

MUS 3712: Counterpoint

Offered: As needed

Prerequisite: MUS 2723

The contrapuntal techniques and forms of the Baroque era. Analysis of Canons, two and three part Inventions, and fugues of J.S. Bach plus written exercises in two voice counterpoint.

\$10 junior level - curriculum content fee.

MUS 3762: Instrumental and Choral Arranging

An introduction to scoring for instrumental and choral groups to meet the needs of adapting music to meet the needs and ability levels of school performing groups and classroom situations.

\$10 junior level - curriculum content fee.

MUS 3771,3772: Composition

Offered: As needed

Prerequisites: 16 hours of music theory and senior standing or consent of instructor.

The study of basic compositional techniques of twentieth-century works and completion of composition project.

\$10 junior level - curriculum content fee.

MUS 3773: History of Music I

Offered: Fall

Prerequisites: MUS 2723 (Theory IV) or permission of instructor.

A study of Western Art music from ancient civilization to A.D. 1750.

\$10 junior level - curriculum content fee.

MUS 3783: History of Music II

Prerequisite: MUS 2723 or permission of instructor.

A study of classical and 19th century music.

\$10 junior level - curriculum content fee.

MUS 3802: Principles of Conducting

Offered: Fall

Principles and practices of conducting; a study of music terminology and transpositions; development of baton techniques based on the practice of outstanding choral and instrumental conductors.

\$10 junior level - curriculum content fee.

MUS 3821: Secondary Choral Methods and Materials I

Choral conducting techniques, tone and diction styles and interpretation, rehearsal techniques, programs and concerts, planning and organization, and service information. Conducting of student ensembles and organizations. Methods and materials I will include review of literature for large and small ensembles appropriate for middle school, junior high, and smaller high school teaching situations.

\$10 junior level - curriculum content fee.

MUS 3853: Music in the Elementary Classroom

Prerequisites: MUS 2723, successful completion of Keyboard Exit Exam, and SEED 2002 or permission of instructor.

A study of current practices, methods, and materials for teaching general music to elementary school children with emphasis on curriculum development and diversity in the classroom.

\$10 junior level - curriculum content fee.

MUS 4001: Senior Recital

Prerequisite: Six semesters of major applied study.

Required of all music education majors.

\$175 applied music fee. \$5 senior level - curriculum content fee.

MUS 4201: Accompanying Seminar

Prerequisite: Two semesters of MUS 2201 and/or permission of instructor.

Advanced accompanying techniques for piano majors. Class coaching and presentation one hour weekly, plus assigned responsibilities in a variety of media.

\$5 senior level - curriculum content fee.

Note: May be repeated three times.

Note: May substitute for required 3000 level hour of major ensemble enrollment with assignment by instructor to successfully accompany major ensemble or recital.

MUS 4281: Secondary Instrumental Methods and Materials II

Laboratory experience in conducting and performance of materials appropriate to teaching band in the public school.

\$5 senior level - curriculum content fee.

MUS 4461: Percussion Instruments

Prerequisite: Music major

A study of the instruments of the percussion family to the extent that scales and/or rudiments and grade one and two solos can be played on selected instruments. Designed as a practical preparation for public school teachers.

Two hours weekly. \$5 senior level - curriculum content fee.

MUS 4701: Special Methods in Music

Offered: Spring

Prerequisites: Admission to Stage II of the Teacher Education program.

Intensive on campus exploration of the principles of curriculum construction, teaching methods, use of community resources, evaluation as related to teaching music, and dealing with diversity in the classroom.

\$5 senior level - curriculum content fee.

MUS 4712: Form and Analysis

Offered: Fall

Prerequisite: MUS 2723

A study of the standard forms of the Classical period with emphasis on instrumental forms and genres developed in the period 1750-1825 and the continuation and expansion of those forms in the nineteenth century.

\$5 senior level - curriculum content fee.

MUS 4803: History of American Music: Jazz and Folk

Open to all students. An in-depth study of folk music and the relationship between these forms and American life. Research, aural activity, and analysis are used to explore a variety of musical forms, composers, and performers.

\$5 senior level - curriculum content fee.

MUS 4811: Keyboard Literature

Offered: Fall

A survey of piano or organ literature with emphasis on historical development, analysis of selected compositions, and listings of suitable pedagogical materials.

\$5 senior level - curriculum content fee.

MUS 4821: Secondary Choral Methods and Materials II

Choral conducting techniques, tone and diction styles and interpretation, rehearsal techniques, programs and concerts, planning and organization, and service information. Conducting of student ensembles and organizations. Methods and materials II will include a review of historically important choral works and the music of the master composers of each musical epoch. Sight singing methods for group sight reading will be reviewed.

\$5 senior level - curriculum content fee.

MUS 4832: Vocal Pedagogy

Offered: Spring

Prerequisites: Pass Vocal Sophomore Barrier and Keyboard Barrier

A study of pedagogical principles involved in the teaching of singing, with emphasis on outside reading, class discussion, and laboratory teaching of actual voice students.

\$5 senior level - curriculum content fee.

MUS 4853: Music of the World's Peoples

Cross-listed: ANTH 4853

Open to students in all majors. A survey of predominantly non-Western world music cultures with attention to sonic structures, musicians, musical instruments, and socio-cultural contexts of music making. Listening emphasized.

\$5 senior level - curriculum content fee.

MUS 4951,4952,4953,4954: Undergraduate Research in Music

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$5 senior level - curriculum content fee.

MUS 4991,4992,4993: Special Problems in Music

Offered: As needed

Prerequisites: Senior standing and permission of the instructor.

Additional work in an area of the student's choice under the direction of the faculty member competent in that area.

\$5 senior level - curriculum content fee.

Music Course Descriptions

In numbering ensemble courses, the first digit, numeral 1, is used for freshman and sophomore level courses, the numeral 3 for junior and senior-level courses.

MUS 1301: Opera Workshop

Prerequisite: Permission of instructor

The course of study will involve selected scenes from standard opera literature prepared for dramatic presentation. Research will be required pertaining to the historical setting, appropriate costumes, and mannerisms of the period being studied. Staging techniques and set building will be included as deemed necessary to each presentation.

\$20 freshman level - curriculum content fee.

MUS 1311: Jazz Ensemble

Membership selected by audition. Study and performance of big band jazz styles from the 1930's to present.

\$25 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1501: Band

Open to students who can satisfy audition requirements. Marching Band, fall semester, or permission of instructor is a prerequisite for Concert Band, spring semester. Fall semester stresses marching band. Spring semester stresses symphonic and concert bands in the study and performance of quality literature.

\$25 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1511: Brass Choir

Membership selected by audition. Study and performance of representative brass literature.

Rehearsal 3 hours weekly. \$20 freshman level - curriculum content fee.

MUS 1521: Woodwind Ensembles

Open to all students. Membership selected by audition.

Two hours weekly. \$20 freshman level - curriculum content fee.

MUS 1531: Brass Ensembles

Open to all students. Membership selected by audition.

Two hours weekly. \$20 freshman level - curriculum content fee.

MUS 1541: Percussion Ensembles

Open to all students. Membership selected by audition.

Two hours weekly. \$20 freshman level - curriculum content fee.

MUS 1551: String Ensembles

Open to all students. Membership selected by audition.

Two hours weekly. \$20 freshman level - curriculum content fee.

MUS 1571: University Choir

Open to all students. A select vocal group of approximately sixty members selected by audition. Study and performance of choral literature of all periods.

\$25 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1581: Chamber Choir

Open to all students by audition. A select choral ensemble of approximately sixteen voices specializing in the performance of chamber choral music from all historical periods.

Note: Two or three concerts are presented on campus each semester. Off-campus performances include tours and public relations functions for the university.

\$25 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1611: Music Theatre Workshop

Prerequisite: Permission of instructor

Selected songs from standard musical theatre literature will be prepared for public performance with an emphasis on popular professional performance techniques.

Note: Credit will be given for one leading part or for a series of supporting parts.

Two hours weekly.\$20 freshman level - curriculum content fee.

MUS 1621: Music Theatre Practicum

Offered: As needed

Prerequisite: Permission of instructor

Credit will be given for participation that results in a public performance of a major production. Vocal, instrumental, and/or audiovisual technological participation will be accepted.

A minimum of 28 hours participation is required. \$20 freshman level - curriculum content fee.

MUS 1631: Symphonic Wind Ensemble

Prerequisite: Audition

The Symphonic Wind Ensemble is the premiere wind-performing ensemble at Arkansas Tech University performing a balanced mix of traditional and new repertoire. Emphasis is placed on the highest artistic standards, professionalism in performance excellence while offering pedagogy for the advanced musician.

Note: Membership is determined by an annual audition and is open to all majors.

\$25 applied music fee.\$20 freshman level - curriculum content fee.

MUS 1681: Concert Chorale

Open to all students by audition. A select choral ensemble of choral music from all historical periods.

Two or three major concerts are presented each semester.

\$25 applied music fee. \$20 freshman level - curriculum content fee.

MUS 3301: Opera Workshop

Prerequisite: Permission of instructor

The course of study will involve selected scenes from standard opera literature prepared for dramatic presentation. Research will be required pertaining to the historical setting, appropriate costumes, and mannerisms of the period being studied. Staging techniques and set building will be included as deemed necessary to each presentation.

\$10 junior level - curriculum content fee.

MUS 3311: Jazz Ensemble

Membership selected by audition. Study and performance of big band jazz styles from the 1930's to present.

\$25 applied music fee. \$10 junior level - curriculum content fee.

MUS 3501: Band

Open to students who can satisfy audition requirements. Marching Band, fall semester, or permission of instructor is a prerequisite for Concert Band, spring semester. Fall semester stresses marching band. Spring semester stresses symphonic and concert bands in the study and performance of quality literature.

\$25 applied music fee. \$10 junior level - curriculum content fee.

MUS 3511: Brass Choir

Membership selected by audition. Study and performance of representative brass literature.

Rehearsal 3 hours weekly. \$10 junior level - curriculum content fee.

MUS 3521: Woodwind Ensembles

Open to all students. Membership selected by audition.

Two hours weekly. \$10 junior level - curriculum content fee.

MUS 3531: Brass Ensembles

Open to all students. Membership selected by audition.

Two hours weekly. \$10 junior level - curriculum content fee.

MUS 3541: Percussion Ensembles

Open to all students. Membership selected by audition.

Two hours weekly. \$10 junior level - curriculum content fee.

MUS 3551: String Ensembles

Open to all students. Membership selected by audition.

Two hours weekly. \$10 junior level - curriculum content fee.

MUS 3571: University Choir

Open to all students. A select vocal group of approximately sixty members selected by audition. Study and performance of choral literature of all periods.

\$25 applied music fee. \$10 junior level - curriculum content fee.

MUS 3581: Chamber Choir

Open to all students by audition. A select choral ensemble of approximately sixteen voices specializing in the performance of chamber choral music from all historical periods.

Note: Two or three concerts are presented on campus each semester. Off-campus performances include tours and public relations functions for the university.

\$25 applied music fee. \$10 junior level - curriculum content fee.

MUS 3611: Music Theatre Workshop

Prerequisite: Permission of instructor

Selected songs from standard musical theatre literature will be prepared for public performance with an emphasis on popular professional performance techniques.

Note: Credit will be given for one leading part or for a series of supporting parts.

Two hours weekly. \$10 junior level - curriculum content fee.

MUS 3621: Music Theatre Practicum

Offered: As needed

Prerequisite: Permission of instructor

Credit will be given for participation that results in a public performance of a major production. Vocal, instrumental, and/or audiovisual technological participation will be accepted.

A minimum of 28 hours participation is required.

\$10 junior level - curriculum content fee.

MUS 3631: Symphonic Wind Ensemble

Prerequisite: Audition

The Symphonic Wind Ensemble is the premiere wind-performing ensemble at Arkansas Tech University performing a balanced mix of traditional and new repertoire. Emphasis is placed on the highest artistic standards, professionalism in performance excellence while offering pedagogy for the advanced musician.

Note: Membership is determined by an annual audition and is open to all majors.

\$25 applied music fee. \$10 junior level - curriculum content fee.

MUS 3681: Concert Chorale

Open to all students by audition. A select choral ensemble of choral music from all historical periods.

Two or three major concerts are presented each semester.

\$25 applied music fee. \$10 junior level - curriculum content fee.

Museum Course Descriptions

MUSM 4403: Interpretation/Education through Museum Methods

Cross-listed: ANTH 4403, HIST 4403

Prerequisites: Senior or Graduate standing, or permission of instructor.

Museum perspectives and approaches to care and interpretation of cultural resources, including interpretive techniques of exhibit and education-outreach materials, and integrating museum interpretation/education into public school and general public programming. Class projects focus on special problems for managing interpretive materials in a museum setting.

MUSM 4951,4952,4953,4954: Undergraduate Research in Museum

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

Music Course Descriptions

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior-level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

MUS 1001: Applied Music - Trumpet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1002: Applied Music - Trumpet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1011: Applied Music - French Horn

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1012: Applied Music - French Horn

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1021: Applied Music - Trombone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1022: Applied Music - Trombone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1031: Applied Music - Euphonium

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1032: Applied Music - Euphonium

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music

majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education. To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1041: Applied Music - Tuba

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1042: Applied Music - Tuba

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1051: Applied Music - Clarinet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1052: Applied Music - Clarinet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied

music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1061: Applied Music - Oboe

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1062: Applied Music - Oboe

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1071: Applied Music - Flute

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1072: Applied Music - Flute

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1081: Applied Music - Saxophone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1082: Applied Music - Saxophone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1091: Applied Music - Bassoon

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1092: Applied Music - Bassoon

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1101: Applied Music - Violin

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration

area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1111: Applied Music - Viola

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1121: Applied Music - Cello

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1131: Applied Music - Bass

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1141: Applied Music - Percussion

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied

music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1142: Applied Music - Percussion

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1201: Applied Music - Piano

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1202: Applied Music - Piano

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1211: Applied Music - Harpsichord

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1212: Applied Music - Harpsichord

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1221: Applied Music - Organ

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1222: Applied Music - Organ

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1231: Applied Music - Voice

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1232: Applied Music - Voice

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music

majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education. To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$20 freshman level - curriculum content fee.

MUS 1601: Orchestral Repertoire

Prerequisite: Permission of instructor

A study of the landmarks of orchestral repertoire for winds and percussion sections through the preparation and rehearsal of the literature.

\$20 freshman level - curriculum content fee.

Note: Each course may be repeated three times.

MUS 3001: Applied Music - Trumpet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3002: Applied Music - Trumpet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3003: Applied Music - Trumpet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3011: Applied Music - French Horn

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3012: Applied Music - French Horn

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3013: Applied Music - French Horn

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3021: Applied Music - Trombone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3022: Applied Music - Trombone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music

majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education. To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3023: Applied Music - Trombone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3031: Applied Music - Euphonium

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3032: Applied Music - Euphonium

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3033: Applied Music - Euphonium

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied

music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3041: Applied Music - Tuba

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3042: Applied Music - Tuba

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3043: Applied Music - Tuba

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3051: Applied Music - Clarinet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3052: Applied Music - Clarinet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3053: Applied Music - Clarinet

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3061: Applied Music - Oboe

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3062: Applied Music - Oboe

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3063: Applied Music - Oboe

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music

majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education. To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3071: Applied Music - Flute

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3072: Applied Music - Flute

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3073: Applied Music - Flute

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3081: Applied Music - Saxophone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied

music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3082: Applied Music - Saxophone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3083: Applied Music - Saxophone

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3091: Applied Music - Bassoon

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3092: Applied Music - Bassoon

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3093: Applied Music - Bassoon

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3141: Applied Music - Percussion

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3142: Applied Music - Percussion

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3143: Applied Music - Percussion

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3201: Applied Music - Piano

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music

majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education. To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3202: Applied Music - Piano

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3203: Applied Music - Piano

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$180 applied music fee. \$10 junior level - curriculum content fee.

MUS 3211: Applied Music - Harpsichord

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3212: Applied Music - Harpsichord

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied

music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3221: Applied Music - Organ

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3222: Applied Music - Organ

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3231: Applied Music - Voice

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$60 applied music fee. \$10 junior level - curriculum content fee.

MUS 3232: Applied Music - Voice

Musical performance includes private study, class piano, class voice, and ensembles. In numbering applied music courses, the first digit, numeral 1, is used for freshman and sophomore level courses; the numeral 3 for junior and senior level courses. The second and third digits indicate applied concentration area (e.g. 20 = piano) and the final digit indicates hours of semester credit.

Applied Music (private instruction) requires permission of the department head and is required of all music majors. Applied music students may be assigned participation in designated ensembles in addition to required ensembles. Ensembles are given in the curricula in Music and Music Education.

To qualify for three hours per semester, a student must have a minimum 3.50 cumulative GPA in applied music, a 3.00 cumulative GPA in total hours, junior standing and recommendation of the instructor.

\$120 applied music fee. \$10 junior level - curriculum content fee.

MUS 3601: Orchestral Repertoire

Prerequisite: Permission of instructor

A study of the landmarks of orchestral repertoire for winds and percussion sections through the preparation and rehearsal of the literature.

\$10 junior level - curriculum content fee.

Note: Each course may be repeated three times.

Nursing Course Descriptions

NUR 1001: Orientation to Nursing

A one hour elective course for students interested in pursuing nursing as a professional career. The student is introduced to the history of nursing, issues and trends, basic nursing education, advanced education for nurses, and nursing career opportunities. Students interested in nursing or a career in science are encouraged to take this course during the fall semester of their freshman year.

\$5 course fee. \$20 freshman level - curriculum content fee.

NUR 2023: Introduction to Professional Nursing

Prerequisite: MATH 1113 and permission of Admission and Progression Committee.

A non-clinical, three hour course which introduces the student to selected basic concepts in professional nursing. Purpose of the course is to introduce nursing concepts to nursing majors. The course focuses on nursing as a caring profession, nurses' roles and functions, ethics, standards, legal aspects, holism, wellness, health care settings, communication, teaching/learning, critical thinking, and the nursing process. The Conceptual Framework and Philosophy of Tech's Department of Nursing will be explored.

\$122 testing fee. \$15 course fee. \$15 sophomore level - curriculum content fee.

NUR 2303: Nutrition

Principles of normal nutrition at all stages of the life cycle are emphasized. Growth and development needs are incorporated into the maintenance, restoration of nutritional health, and in the prevention of nutritional deficit. Exploration is conducted of the social, religious, and cultural factors which affect the family's nutritional health.

\$15 course fee. \$15 sophomore level - curriculum content fee.

NUR 3103: Nursing Skills I

Prerequisite: Admission into upper division nursing courses.

The course provides the student with theory and guided practice of basic psychomotor and math nursing skills in a multimedia simulated laboratory setting.

Lecture 2 hours, laboratory 3 hours equal to one credit hour. \$100 testing fee. \$15 course fee. \$10 junior level - curriculum content fee.

NUR 3204: Theories and Concepts in Nursing I

Prerequisites: NUR 2023, 3103, 3303, 3803 and admission into upper level junior nursing courses.

Co-requisite: NUR 3404

This course is an introduction to the cognitive framework of the curriculum which emphasizes holistic man, environment, and nursing as an interacting system. The course focuses on bio psycho social and spiritual behaviors as indicators of health throughout the life cycle. The nursing process and the scientific method of problem solving are presented as systematic approaches to nursing care. Further emphasis is placed on assessment of health needs and health practices of individuals in structured episodic health care settings. Beginning concepts of professionalism and care of clients with self-limiting alterations to health are integral parts of this course.

Lecture four hours. \$120 testing fee. \$20 course fee. \$10 junior level - curriculum content fee.

NUR 3213: Care of the Older Adult

Prerequisites: NUR 3103, NUR 2023, and PSY 3813

This course will include a study of communication with individuals, families and groups. It will also provide the foundational basis for the professional care of older adults and their families. Care of the older adult introduces trends, theories and multidimensional changes of aging and addresses issues related to wellness, health promotion, and disease prevention in older adults.

\$15 course fee. \$10 junior level - curriculum content fee.

NUR 3303: Health Assessment

Prerequisite: Departmental permission or admission to upper division.

The student uses the nursing process to assess the client by the utilization of observation, palpation, percussion, and auscultation skills. The language of Health Assessment is taught and methods of proper documentation are emphasized. The course provides guidance in specific assessment techniques and enables the student to recognize normal findings throughout the life cycle. The student collaborates with members of the healthcare team in the sharing of health findings in order to make a specific nursing diagnosis.

Lecture 2 hours, laboratory 3 hour. \$15 course fee. \$10 junior level - curriculum content fee.

NUR 3402: Pharmacology I

Prerequisites: NUR 2023 and 3103

This course focuses on the relationships between the action of drugs, their effects and the contraindications for their administration. The relationship between specific patient needs and the type of drugs that would be effective to meet those needs will be analyzed. The nursing care related to each type of drug and the rationales for care will be included.

\$10 course fee. \$10 junior level - curriculum content fee.

NUR 3404: Practicum in Nursing I - Nursing the Individual Client

Prerequisites: NUR 2023, NUR 3103, and NUR 3303

Co-requisite: NUR 3204

Practicum facilitating the integration, synthesis, and application of theories, concepts, and psychomotor nursing skills taught in NUR 3103, 3204, 3304 and 3513. The student uses maintenance nursing behaviors to assist individuals to reach functional adaptation.

12 Clinical hours equal to 4 credit hours. \$20 course fee. \$10 junior level - curriculum content fee.

NUR 3503: End-of-Life Care

This course is designed to offer basic skills and knowledge needed to recognize and intervene with a client at the end of life. Emphasis is to implement the nursing process with clients at the end of life. Students will apply concepts, theories, principles and techniques gained from their general education and previous nursing courses.

\$15 course fee. \$10 junior level - curriculum content fee.

NUR 3513: Nursing Skills II

Prerequisite: NUR 3103

A continuation of NUR 3103. A guided practice of intermediate level theory and skills in a multimedia simulation laboratory.

Lecture 1 hour, laboratory 3 hours equal to one credit hour. \$15 course fee. \$10 junior level - curriculum content fee.

NUR 3606: Theories and Concepts in Nursing II

Prerequisites: NUR 3204, 3402, 3404, 3513

Co-requisite: NUR 3805

This course, utilizing the nursing process, builds upon NUR 3204 and includes the bio psycho social and spiritual needs of the family. The course emphasizes family development, the childbearing experience, and the child's unique response to the internal and external environment.

Lecture six hours. \$120 testing fee. \$30 course fee. \$10 junior level - curriculum content fee.

NUR 3792: Theoretical Competency I

Prerequisite: Departmental permission

This course is a theory course designed to enable a student to prove theoretical competence. Students who have failed a junior level practicum course but have passed the accompanying theories and concepts course must prove theoretical competence in order to progress to the next level. For the student who has failed, NUR 3792 would be taken the same semester the student is repeating the accompanying practicum course. Students who have been absent from the upper division of the nursing curriculum must prove theoretical competence at the level of the corresponding theory class.

\$10 course fee. \$10 junior level - curriculum content fee.

NUR 3802: Pharmacology II

Prerequisites: NUR 3204, NUR 3402, NUR 3404

This course is a continuation of Pharmacology I and focuses on the relationships between the action of drugs, their effects and the contraindications for their administration. the relationship between specific patient needs and the type of drugs that would be effective to meet those needs will be analyzed. The nursing care related to each type of drug and the rationales for the care will be included.

\$10 course fee. \$10 junior level - curriculum content fee.

NUR 3803: Applied Pathophysiology

Cross-listed: BIOL 3803

Prerequisites: BIOL 2014 or BIOL 2404 and BIOL 2414 or BIOL 3074

This course focuses on the mechanisms and concepts of selected pathological disturbances in the human body. Emphasis is placed on how the specific pathological condition effects the functioning of the system involved, as well as its impact on all other body systems.

\$15 course fee. \$10 junior level - curriculum content fee.

NUR 3805: Practicum in Nursing II - Nursing the Family

Prerequisites: NUR 3204, 3402, 3404, 3513

Co-requisites: NUR 3606

A practicum course which facilitates the integration, synthesis, and application of the theories, concepts,

and skills taught in NUR 3103, NUR 3513, NUR 3606 and NUR 3703.

15 clinical hours equal to 5 credit hours. \$25 course fee. \$10 junior level - curriculum content fee.

NUR 3892: Clinical Competency I

This course is required to demonstrate competence for practicum/laboratory courses as described in the progression policy of the Department of Nursing. For students requiring demonstration of competence, NUR 3892 would be taken the same semester the student is repeating an accompanying theoretical course. Students who have been absent from the upper division of the nursing curriculum must prove clinical/laboratory competence at the level of the last practicum/laboratory course they successfully completed before they can re-enter upper division.

\$10 course fee. \$10 junior level - curriculum content fee.

NUR 4206: Theories and Concepts in Nursing III

Prerequisites: NUR 3606, 3802, 3805

The course focuses on the prevention of illness, maintenance of health and the restoration of wellness in the care of clients and families experiencing major dysfunctions in adaptation. The nursing process is the methodology used to assist clients and families toward achieving optimal health. Principles of growth and development throughout the life cycle, utilization of research findings, principles of communication in crisis, and the role of the nurse in crises situations are included in the course. Psycho social theories and concepts relevant to the care of the emotionally disturbed client and family are explored in depth.

Lecture six hours. \$120 testing fee. \$30 course fee. \$5 senior level - curriculum content fee.

NUR 4303: Nursing Research

Prerequisites: Admission to upper division nursing, senior standing or consent of instructor.

This introductory research course focuses on the validity and applicability of research findings for the improvement of nursing practice. Emphasis is on scientific inquiry and the role of the nurse as an intelligent consumer of research.

\$15 course fee. \$5 senior level - curriculum content fee.

NUR 4405: Practicum in Nursing III -- Nursing Clients in Crisis

Prerequisites: NUR 3606, 3802 and 3805

Co-requisites: NUR 4206

This is a clinical nursing course which provides the opportunity for the integration of theories and concepts in the application of the nursing process in the care of the emotionally and/or physically dysfunctional client, family or group who are undergoing adaptation difficulties due to major deviations from wellness. The health care is delivered according to scientific principles, research findings, and accepted standards of care. Nursing behaviors and nursing roles are emphasized which are appropriate to the level of the students. Learning experiences are gained through caring for clients.

15 clinical hours equal to 5 credit hours. \$25 course fee. \$5 senior level - curriculum content fee.

NUR 4502: Principles of ACLS

Prerequisite: Departmental permission or consent of the instructor.

This course is designed to offer the student the knowledge and skills necessary to provide appropriate early treatment for cardiopulmonary arrest in the adult patient utilizing current ACLS protocols as

guidelines for emergency care.

\$10 course fee. \$5 senior level - curriculum content fee.

NUR 4606: Theories and Concepts in Nursing IV

Prerequisites: NUR 4206, 4303, and 4405

The course focuses on the prevention of illness, maintenance of health, and the restoration of wellness of individuals, families, and communities. Concepts of epidemiology, prevention, decision making, and collaboration are utilized to organize and deliver distributive nursing care in complex situations. Theories and techniques of management are studied which relate to self, team members, and care of groups of clients. The emerging role of the professional nurse is explored.

Lecture six hours. \$120 testing fee. \$30 course fee. \$5 senior level - curriculum content fee.

NUR 4792: Theoretical Competency II

Prerequisite: Departmental permission

This course is a theory course designed to enable a student to prove theoretical competence. Students who have failed a senior level practicum course but have passed the accompanying theories and concepts course must prove theoretical competence in order to progress to the next level. For the student who has failed, NUR 4792 would be taken the same semester the student is repeating the accompanying practicum course. Students who have been absent from the upper division of the nursing curriculum must prove theoretical competence at the level of the corresponding theory class.

\$10 course fee. \$5 senior level - curriculum content fee.

NUR 4804: Practicum in Nursing IV - Nursing in the Community

Prerequisites: NUR 4206 and 4405

Co-requisites: NUR 4606 and 4903

A clinical course which integrates theories and concepts from all nursing courses and provisions for practice in predominantly distributive healthcare settings. Emphasis is on the utilization of the nursing process, the prevention of illness, maintenance of health, and the restoration of wellness of individuals, families, and communities, experiencing adaptation to complex health problems. Management skills and techniques are utilized in the delivery of holistic nursing care. Activities are provided which facilitate the role transition from student to professional nurse. Clinical experiences occur in a variety of distributive healthcare settings.

12 clinical hours. \$65 testing fee. \$20 course fee. \$5 senior level - curriculum content fee.

NUR 4892: Clinical Competency II

This course is required to demonstrate competence for practicum/laboratory courses as described in the progression policy of the Department of Nursing. For students requiring demonstration of competence, NUR 4892 would be taken the same semester the student is repeating an accompanying theoretical course. Students who have been absent from the upper division of the nursing curriculum must prove clinical/laboratory competence at the level of the last practicum/laboratory course they successfully completed before they re-enter upper division.

\$10 course fee. \$5 senior level - curriculum content fee.

NUR 4903: Synthesis of Clinical and Theoretical Nursing

Synthesis of clinical and theoretical nursing knowledge occurs throughout the course. Students will be required to use all previously learned clinical and theoretical knowledge in the management of a diverse client population for which they are planning and providing a full-range of needed health care. Theory and

clinical application of nursing knowledge must be integrated in order to prioritize, delegate, and ensure the delivery of comprehensive health care to clients in a variety of institutional and community-based settings. Students work closely with designate professional nurse preceptors and faculty in carrying out these learning activities.

\$50 testing fee. \$15 course fee. \$5 senior level - curriculum content fee.

NUR 4951,4952,4953,4954: Undergraduate Research in Nursing

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$5 course fee per credit hour. \$5 senior level - curriculum content fee.

NUR 4971: Pharmacology Review

Prerequisite: Admission to upper division nursing

One hour credit course that reviews basic pharmacology, medication administration and drug calculations utilizing dimensional analysis.

\$5 course fee. \$5 senior level - curriculum content fee.

NUR 4981: Introduction to Oncology

Prerequisite: Admission to upper division nursing

This course is an overview of the different aspects of treatment of patients with cancer. It will include a short synopsis on the cellular changes that occur with cancer, the different preventives and diagnostics that are done, the modalities of treatment and management of side effects, as well as the emotional and psychological impact of cancer on the patient and their significant others. This course builds upon and expands core knowledge of human anatomy, physiology, and psychology.

\$5 course fee. \$5 senior level - curriculum content fee.

NUR 4983: Nursing Perspectives on Aging

Prerequisite: Admission to upper division nursing

As the "baby boom" generation turns 65 the percentage of older Americans will increase to over 30% of the population by 2030. This course will prepare nurses to meet the needs of this increasing population in Arkansas and the U.S. Content will focus on preserving health and promoting wellness in aging individuals. The course will also build a knowledge base for nurses' participation in managing health care problems and developing strategies for promoting well ness in aging individuals.

\$15 course fee. \$5 senior level - curriculum content fee.

NUR 4991,4992,4993,4994: Independent Study

Prerequisites: Departmental permission or NUR 4303

Faculty and student collaborate on the selection, development, and evaluation of an individual project or topic in an area of nursing or health.

15 clock hours per credit hour. \$5 course fee per credit hour. \$5 senior level - curriculum content fee.

Nursing for Registered Nurses Course Descriptions

NURN 4002: Nursing Informatics

Prerequisite: Admission to Upper Division or consent of instructor.

This course will enable the RN-BSN student to examine the field of informatics and its impact on healthcare within a professional nursing context. Emphasis is on usage of technology and recognizing legal implications of technology in healthcare and education. Students will become familiar with communication software, databases, and applications utilized in healthcare and education to enhance the role of the nurse.

\$10 course fee.

NURN 4003: Scope of Professional Practice

Prerequisite: Admission to Upper Division or consent of instructor.

This course will enable the RN-BSN student to recognize how history and modern economic forces have shaped current professional practice. The student will examine the development of Nurse Practice Acts and how states use these Acts to manage professional licenses and scope of professional practice. The student will examine the variety of roles and setting in which the professional nurse can work.

\$15 course fee.

NURN 4013: Laws, Ethics, and Issues in Professional Nursing Practice

Prerequisite: Admission to Upper Division or consent of instructor.

This course will enable the RN-BSN student to examine the legal, ethical, and policy-making traditions that frame the health care industry. This course will emphasize the integration of personal values, institutional cultures, law, and ethical decision-making in professional practice.

\$15 course fee.

NURN 4024: Community Health Nursing

Prerequisite: Admission to Upper Division or consent of instructor.

This course will introduce the RN-BSN student to the concepts and principles relevant to the promotion, support, and restoration of health for clients of all ages in a variety of settings with particular emphasis upon the health of populations or groups. The student will perform a community assessment which involves the collection and analysis of data from a selected community to plan appropriate educational interventions.

\$20 course fee.

NURN 4034: Leadership and Management in Professional Practice

Prerequisite: Admission to Upper Division or consent of instructor.

This course will enable the RN-BSN student to recognize the principles and concepts of change theory and leadership/management strategies in professional practice. The student will examine how current leadership and management strategies are implemented within the health care settings and how effective and efficient these strategies are to health care delivery and consumer health. Management and leadership issues significant to nurse managers will be examined and discussed.

\$20 course fee.

NURN 4045: Professional Practicum Synthesis

Prerequisite: NURN 4024 and admission to Upper Division or consent of instructor.

This practicum course enables the RN-BSN student to integrate the skills and insights gained from this program in a population or group-based application. This capstone course demonstrates the cognitive and affective growth achieved while in the RN-BSN Completion Program.

\$25 course fee.

NURN 4303: Nursing Research

This introductory research course focuses on the validity and applicability of research findings for the improvement of nursing practice. Emphasis is on scientific inquiry and the role of the nurse as an intelligent consumer of research.

\$15 course fee.

Physical Education Course Descriptions

Activites

The activities service program of the Department of Health and Physical Education is designed for the individual who is not majoring in health and physical education. The courses are designed to develop physical skills, physical fitness, and aesthetic value for movement and experience, and to learn the rules and strategy of the activities.

Students enrolled in activity classes must furnish their own clothing for the class. The proper dress attire for the class will be shirts, shorts, and gym shoes. Students enrolled in bowling classes will pay a \$77.50 bowling fee.

PE 1051: Volleyball

Designed for beginning volleyball players. The student will learn the fundamental skills, knowledge of the rules, and terminology associated with volleyball.

PE 1101: Folk and Square Dance

Course content will include the origin and factors which influence development of folk and square dance. Basic steps, basic positions, and dance movements will be introduced to the students.

PE 1121: Social Dance

Techniques of leading and following, basic positions, and a variety of dance steps will be introduced throughout the course.

PE 1301: Beginning Ballet I

These courses are designed for those students that have little or no ballet training but have an interest in pursuing dance. Ballet forms the basis for all dance arts and offers specific training in all muscle groups of the body. These courses offer students beginning-level technical and performance training in ballet. Flexibility, strength, body alignment and coordination lay a foundation for the introduction of more advanced aspects of dance artistry including more difficult steps, musicality, mobility, and balance.

PE 1311: Beginning Ballet II

These courses are designed for those students that have little or no ballet training but have an interest in pursuing dance. Ballet forms the basis for all dance arts and offers specific training in all muscle groups of the body. These courses offer students beginning-level technical and performance training in ballet. Flexibility, strength, body alignment and coordination lay a foundation for the introduction of more advanced aspects of dance artistry including more difficult steps, musicality, mobility, and balance.

PE 1321: Intermediate Ballet I

These courses offer intermediate level training in ballet technique and performance for proficient dancers. It stresses the physical and mental skills necessary to make the transition to more advanced dance work. These include physical stamina, strength, flexibility, articulation, coordination, musicality, and phrasing; an understanding of basic physical concepts underlying clear and efficient movement; the capacity to assimilate new movement material; and an awareness of the center of gravity and its role in the mobilization and control of the body.

PE 1331: Intermediate Ballet II

These courses offer intermediate level training in ballet technique and performance for proficient dancers. It stresses the physical and mental skills necessary to make the transition to more advanced dance work. These include physical stamina, strength, flexibility, articulation, coordination, musicality, and phrasing; an

understanding of basic physical concepts underlying clear and efficient movement; the capacity to assimilate new movement material; and an awareness of the center of gravity and its role in the mobilization and control of the body.

PE 1341: Intermediate Ballet III

These courses offer intermediate level training in ballet technique and performance for proficient dancers. It stresses the physical and mental skills necessary to make the transition to more advanced dance work. These include physical stamina, strength, flexibility, articulation, coordination, musicality, and phrasing; an understanding of basic physical concepts underlying clear and efficient movement; the capacity to assimilate new movement material; and an awareness of the center of gravity and its role in the mobilization and control of the body.

PE 1361: Advanced Ballet I

These courses are a continuation and refinement of the skills achieved in Intermediate Ballet I-IV. The courses offer advanced level training in ballet technique and performance for proficient dancers. They stress the physical and mental skills necessary to make the transition to professional dance work. These include physical stamina, strength, flexibility, articulation, coordination, musicality, and phrasing; an understanding of basic physical concepts underlying clear and efficient movement; the capacity to assimilate new movement material; and an awareness of the center of gravity and its role in the mobilization and control of the body.

PE 1401: Archery and Recreational Games

The student will learn the fundamental skills in archery, including care and selection of archery tackle. Recreational games will include table tennis, giant volleyball, three way volleyball, box hockey, pin ball, scooter soccer, variety ball, indoor soccer, and horse shoes.

PE 1411: Badminton

Designed for beginning badminton players. The student will learn the fundamental skills and a knowledge of the rules and terminology associated with badminton.

PE 1431: Bowling

The bowling classes are structured for the beginning bowler. Fundamental skills and general bowling knowledge and etiquette will be introduced to the student.

\$77.50 course fee.

PE 1481: Tennis

Constructed to aid the beginning tennis player to learn the fundamental skills for tennis. The student will gain a knowledge of the rules and strategy in tennis.

PE 1851: Tennis and Basketball

Designed for the average student. Fundamentals in basketball and tennis will be introduced along with knowledge of the rules and strategies of play.

PE 1991: Racquetball

Designed to introduce the rules and strategy of racquetball and develop the basic skills needed to play racquetball successfully.

PE 2301: Beginning Golf

Designed for individuals who wish to learn the basic fundamentals in golf. Course includes the fundamentals of the full swing and the fractional swing in golf. It also includes the knowledge of rules and courtesies of golf.

PE 2861: Rhythmic Aerobic Activities

This course will include motor skills put to music, rope jumping, step aerobics, kickboxing, senior fitness, children's fitness, sport aerobics, sculpting, and aerobic dance activities.

Note: A grade of C or better is required for HPE majors

Physical Education Course Descriptions

Academic

PE 1201: Orientation to Health, Physical Education, and Wellness Science

This course provides an introduction to the HPE/WS curriculum, as it affects the student. Emphasis will be given to resources, services and opportunities available to the student through the University, which will help him or her grow as a professional. This is a pass or fail class.

PE 2101: Methods of Teaching Team Activities

This course is designed to assist in teaching students to be skilled and knowledgeable in selected team activities. Emphasis will be placed on developing and evaluating the student's skills and knowledge.

Laboratory three hours (includes a skill lab scheduled outside of class meeting times).

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 2111: Methods of Teaching Individual Activities

This course is designed to assist in teaching students to be skilled and knowledgeable in selected individual activities. Emphasis will be placed on developing and evaluating the student's skills and knowledge.

Laboratory three hours (includes a skill lab scheduled outside of class meeting times).

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 2513: First Aid

Standard and advanced course in first aid. This course includes CPR instruction.

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 2523: Foundations in Health and Physical Education

A study of history, philosophy, and principles of health and physical education in grades K 12 as applied to each area.

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 2653: Anatomy and Physiology

Prerequisite: BIOL 1014, must earn a grade of C or better.

The structure and function of the human body with emphasis on the bodily systems important to teachers and practitioners of wellness, fitness, and physical education.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 3051: Methods of Teaching Fitness and Wellness Concepts

This course is designed to provide the student with knowledge needed to implement a sound fitness and wellness program that will yield the desired results. The emphasis is on teaching students how to take control of their own personal health and lifestyle habits so that they can make a deliberate effort to stay healthy and achieve the highest potential for well-being.

Laboratory three hours (includes a skill lab scheduled outside of class meeting times). \$25 Tech Fit fee.

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 3101: Methods of Teaching Rhythmic and Gymnastic Movements

Methods and activities to develop rhythm, folk dance, and gymnastic skills related to teaching physical education.

Laboratory two hours.

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 3103: Methods of Teaching Movement Patterns and Activities for Children

Prerequisite: Admission to Stage II or permission of department head.

Methods and activities to develop basic movement patterns, primary and lead-up game skills, and knowledge related to teaching elementary physical education.

Lecture one hour, laboratory four hours.

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 3413: Coaching Theory

The course exposes students to the theory of coaching, relevant to athletics. Emphasis is placed on organization, management, and content involved in coaching a variety of sports.

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 3512: Coaching Strategies: Football & Baseball

Principles of coaching football and baseball, including off-season training programs, team organization, offense, defense, scouting, and use of visual aids.

One hour lecture and one hour laboratory.

Note: A grade of C or better is required for Health and Physical Education Majors.

PE 3522: Coaching Strategies: Basketball & Track and Field

Principles of in-season and off-season training programs and team organization for track and field. Additionally, the course is designed to provide a systematic process for teaching basketball skill development and team strategies. Emphasis on fundamental skills and drills, rules and evolution of the game, offensive and defensive strategies used by various successful coaches are introduced. Extensive use of floor demonstrations and video presentations enhance the course content.

One hour lecture and one hour laboratory.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 3532: Coaching Strategies: Softball and Volleyball

This course will offer information relative to the following topics for both volleyball and softball: in-season and off-season training programs, team organization, offense, defense, special situations, scouting, and use of visual aids.

One hour lecture and one hour laboratory.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 3573: Prevention and Care of Athletic Injuries

Prerequisites: PE 2653, 3663

Development of techniques in prevention and treatment of athletic injuries.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 3583: Methods and Materials in Physical Education and Recreation for Kindergarten and Elementary Grades

Prerequisite: PE 3103

Methods, materials, supervision, school problems, rhythmical activities, movements exploration, and group games for kindergarten and elementary teachers.

Lecture two hours, laboratory two hours. Lecture, activity, and a field experience scheduled outside of class meeting times.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 3593: Methods of Teaching Health and Physical Education for K-6 Teachers

Develop knowledge of concepts of motor development and motor learning that includes manipulative skills and movement. Knowledge of activities to develop basic movement patterns, primary lead-up game skills, leisure activities, rhythmic skills and fitness in K-6 grades. Basic knowledge of safety and injury prevention including knowledge of health concepts, physical education development and how to integrate other subjects found in the K-6 curriculum into physical education activities.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 3603: Methods and Materials in Physical Education for Secondary Schools

Prerequisites: PE 2101, PE 2111 and admission to Stage II.

A course in program planning and techniques of teaching physical education in the secondary schools, critical analysis of methods now in use in physical education, and criteria for evaluation of programs.

Lecture two hours, laboratory two hours. Lecture, activity, and a field experience scheduled outside of class meeting times.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 3661: Laboratory Experiences in Anatomy/Physiology and Kinesiology

Prerequisite: PE 2653 or permission of department head.

The laboratory experience supplements Anatomy/Physiology and Kinesiology by providing practical experiences which enable students to bridge the gap between theory and practice.

Laboratory two hours.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 3663: Kinesiology

Prerequisite: PE 2653

Study of human movement and the physical and physiological principles upon which it depends. Body mechanics, posture, motor efficiency and the influence of growth and development upon motor

performance.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 4033: Basic Exercise Physiology

Prerequisites: PE 2653, 3663, and 3661, or permission of the department head.

Introduction to the basic effects of exercise on physiology of the systems of the body, and the principles of exercise prescriptions and programs.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 4103: Principles of Adapted Physical Activity

Principles and methods of teaching special students with various types of physical and mental disabilities which require adapting the learning process.

Lecture two hours, laboratory two hours (includes activity), and a field experience scheduled outside of class meeting times.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 4203: Methods of Teaching Adapted Physical Education in the Schools

Prerequisites: PE 3103, PE 3583 or permission of the department head.

Principles and methods of teaching students with disabilities in the schools.

Lecture two hours, laboratory two hours. Lecture, activity, and a field experience schedule outside of class meeting times.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 4513: Organization and Administration of Health and Physical Education

Organization and administration problems in grades K 12 to be treated as a single administrative unit.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 4523: Measurement and Evaluation in Health and Physical Education

Prerequisite: Admission to Stage II or permission from department head.

Research methods, measurement, and evaluation in health, physical education, and recreation with an analysis of their practical application.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 4701: Special Methods in Health and Physical Education

Prerequisites: Admission to student teaching phase of the teacher education program.

Co-requisite: Enrollment in SEED 4503 and SEED 4809

Intensive on campus exploration of the principles of curriculum construction, teaching methods, use of community resources, and evaluation as related to teaching health and physical education.

Note: A grade of C or better is required for Health and Physical Education majors.

PE 4991,4992,4993: Special Problems in Health and Physical Education

Prerequisite: PE 4523

Open to physical education majors and minors of outstanding ability. Course content will include readings and research and the setting up and carrying out of a piece of research which will include review of literature, the problem, and conclusion.

Philosophy Course Descriptions

PHIL 2003: Introduction to Philosophy

ACTS Common Course - PHIL1103

A survey of basic problems in the major areas of philosophical inquiry-metaphysics, epistemology, ethics, esthetics, and philosophy of religion.

PHIL 2013: Religions of the World

An examination of the major historical religions according to their basic scripture, their historical development, and their contemporary ideas and practices.

PHIL 2043: Honors Introduction to Philosophy

Prerequisites: Admission to University Honors or permission of University Honors Director.

A survey of basic problems in the major areas of philosophical inquiry-metaphysics, epistemology, ethics, esthetics, and philosophy of religion. Special emphasis will be placed on critical thinking and in-class discussion.

PHIL 3003: Ancient Philosophy

An examination of the thought of the leading philosophers of ancient Greece and Rome - the Pre Socratics, Socrates, Plato, Aristotle, and representatives of the Stoic and Epicurean traditions.

PHIL 3013: Modern Philosophy

A survey of the history of philosophical thought and its impact upon western civilization from the Renaissance to the twentieth century.

PHIL 3023: Ethics

An introduction to the problems of formulating and validating principle definitive of "the good" in respect to ends, means, and norms of human behavior.

PHIL 3033: Esthetics

An investigation of representative historical theories of beauty, the nature and social significance of art, standards of criticism, and epistemological aspects of the creative process.

PHIL 3053: Philosophy of Religion

A consideration of historical and contemporary studies in religious thought, including basic conceptions of the divine, the human engagement with the divine, and the nature and destiny of man within diverse eschatological perspectives.

PHIL 3063: Modern Political Thought

Cross-listed: POLS 3063

An examination of the major contributions to political thought during the Modern Era.

Note: Completion of POLS 2253 recommended.

PHIL 3103: Logic

A study of the principles of deductive reasoning. Topics include immediate inference, the syllogism, truth functions, natural deduction, quantification, and fallacies.

PHIL 3113: Contemporary Philosophy

A survey of some of the major philosophical trends of the twentieth century.

PHIL 3203: Medieval Philosophy

Historical study of the main philosophical ideas of the period from St. Augustine to the Renaissance.

PHIL 3253: Classical Political Thought

Cross-listed: POLS 3253

An examination of the major contributions to political thought during the Classical Age, the Medieval Era, and the Renaissance.

Note: Completion of POLS 2253 recommended.

PHIL 4093: American Philosophy

Cross-listed: HIST 4223

An examination of the main currents of American philosophical and religious thought from the earliest times to the present.

PHIL 4103: Advanced Logic

Cross-listed: MATH 4203

Prerequisites: COMS 2903 or MATH 2703 or PHIL 3103

A study of selected topics in advanced logic. Emphasis will be placed on proof theory, quantification theory, semantic tableaux, logicism, theories of completeness and consistency, and some consideration of the logical foundations of mathematics.

PHIL 4951,4952,4953,4954: Undergraduate Research in Philosophy

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

PHIL 4991,4992,4993,4994: Special Problems In Philosophy

Admission requires consent of department head.

Physical Science Course Descriptions

PHSC 1001: Orientation to Physical Science

Offered: Fall

Introduction to vital university affairs, department and university resources and curriculum. The course emphasizes information and skills that increase a student's likelihood of a successful college career. All students majoring in programs within the Department of Physical Sciences are strongly encouraged to take this course during their first fall semester on the Arkansas Tech University campus.

PHSC 1004: Principles of Environmental Science

Cross-listed: BIOL 1004 and ENVS 1004

This course is designed to bring the student to a basic but informed awareness of and responsible behavior toward our environment and the role of the human race therein. The content will include a study of the philosophical and scientific basis for the study of ecosystems and the environment, the nature of ecosystems, the techniques used to study the environment, the origin and development of current environmental problems, the interdisciplinary nature of environmental studies, the processes of critical thinking and problem solving, and the moral and ethical implications of environmentally-mandated decisions.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

PHSC 1011: Orientation to Physical Science II

Offered: Spring

Continuation of PHSC 1001. Introduction to programs of study and employment opportunities for students of the physical sciences. All students majoring in programs within the Department of Physical Sciences are strongly encouraged to take this course during their spring semester on the Arkansas Tech University campus.

PHSC 1013: Introduction to Physical Science

ACTS Common Course - PHSC1004 (when taken with PHSC 1021)

Prerequisite: A score of 19 or above on the mathematics section of the ACTE exam or completion of MATH 0903, Intermediate Algebra, with a grade of "C" or better.

An introduction to the natural laws governing the physical world, with emphasis upon the discovery and development of these laws and their effect upon man. Includes topics in physics and chemistry and may include other topics from other disciplines in physical science such as astronomy, meteorology, and/or geology.

Note: May not be taken for credit after completion of two laboratory courses in the physical science disciplines.

Note: To enroll in an internet section (TC1) of this course, the prerequisite COMS 1003 or equivalent is required.

PHSC 1021: Physical Science Laboratory

ACTS Common Course - PHSC1004 (when taken with PHSC 1013)

Co-requisite or Prerequisite: To be taken concurrent with or following completion of PHSC 1013.

An introduction to laboratory experiences in the physical sciences, including physics, chemistry, earth sciences, and astronomy.

Note: To enroll in an internet section (TC1) of this course, the prerequisite COMS 1003 or equivalent is required.

Laboratory two hours. \$40 laboratory fee (Fee is not charged for online sections).

PHSC 1051: Observational Astronomy Laboratory

ACTS Common Course - PHSC1204 (when taken with PHSC 1053)

Offered: Fall

Prerequisites: A score of 19 or above on the mathematics section of the ACTE exam or completion of MATH 0903 with a grade of "C" or better.

Co-requisite: PHSC 1053 or consent of instructor.

An introduction to astronomical observations and techniques. Students will have the opportunity to use telescopes at the ATU astronomical observatory (weather permitting) to make observations and collect scientific data for analysis. This course includes telescope orientation, constellation recognition, identifying celestial objects, and interpreting astronomical data.

Note: When taken concurrently with PHSC 1053, this course satisfies the general education physical science laboratory requirement upon successful completion of both courses.

Note: Course PHSC 1051 will run simultaneously with PHSC 3051 and duplicate credit will not be allowed. Credit for PHSC 3051 requires completion of an observational research project for upper division students, but is not required of students enrolled in PHSC 1051.

Laboratory 3 hours; 1 credit hour. \$40 laboratory fee.

PHSC 1053: Astronomy

ACTS Common Course - PHSC1204 (when taken with PHSC 1051)

Offered: Fall

Prerequisites: A score of 19 or above on the mathematics section of the ACTE exam or completion of MATH 0903 with a grade of "C" or better.

Co-requisite: PHSC 1051 or consent of instructor.

A study of our universe; constellations, celestial motions, tools and methods of astronomical observations, the solar system, properties of stars and the interstellar medium, the birth, life and death of stars, our Milky Way galaxy, dynamics of stellar systems and other galaxies, and cosmology.

Note: When taken concurrently with PHSC 1051, satisfies general education physical science laboratory requirement upon successful completion of both courses.

Note: Course PHSC 1053 will run simultaneously with PHSC 3053 and duplicate credit will not be allowed. Credit for PHSC 3053 requires completion of several assignments, a term paper and a research project for upper division students, but is not required of students enrolled in PHSC 1053.

PHSC 1074: Physical Science Inquiry

Prerequisites: A score of 19 or above on the mathematics section of the ACTE exam or the completion of MATH 0903, Intermediate Algebra, with a grade of "C" or better.

This course is designed to model physical science teaching and learning through the process of inquiry. Topics explored are Interactions and Energy, Forces, Systems, Behavior of Gases, Physical Changes, and Chemical Changes. The focus is upon the construction of knowledge regarding science content and process skills essential to the preparation of teachers of physical science in early childhood education. It is

recommended for early childhood education majors seeking to fulfill undergraduate requirements in preparation for upper level science methods courses and is equivalent to 3 hours of lecture and 3 hours of laboratory experience in physical science. However, the course requires that students participate as active learners in an activity-based, cooperative learning style curriculum.

\$40 laboratory fee.

PHSC 2003: Physics in Society and the Environment

The course is a study of physics in society and in relation to the environment. The development of physics is considered in historical and contemporary contexts.

PHSC 3033: Meteorology

Offered: Spring

Prerequisites: any physical science course (PHSC, GEOL, CHEM, PHYS)

A study of the weather, the physics of the atmosphere, and associated phenomena.

PHSC 3053: Astronomy

Offered: Fall

Prerequisite: MATH 1113

Optional co-requisite: PHSC 1051 or consent of instructor.

A study of our universe; constellations, celestial motions, tools and methods of astronomical observations, the solar system, properties of stars and the interstellar medium, the birth, life and death of stars, our Milky Way galaxy, dynamics of stellar systems and other galaxies, and cosmology.

Note: When taken concurrently with PHSC 3051, satisfies general education physical science laboratory requirement upon successful completion of both courses. Credit for PHSC 3053 requires completion of a term paper and a research project for upper division students.

Note: Duplicate credit for previously offered PHSC 3043 is not allowed.

PHSC 3213: Science Education in the Elementary School

Cross-listed: BIOL 3213

Prerequisites: Junior standing, ECED 2001, ECED 2002, and at least six credit hours in science.

An overview of the most recent and research-based strategies and techniques for planning, teaching, and assessing elementary science. Inquiry-based methods and other constructivist approaches as described in the National Science Education Standards will be emphasized. Design and execution of learning activities for an elementary school setting are required.

Note: To enroll in an internet section (TC1 or AT1) of this course, one of these prerequisite courses is required: COMS 1003, EDMD 3013, or equivalent.

Lecture two hours, laboratory two hours; three credit hours. \$40 laboratory fee (Fee is not charged for online sections).

PHSC 3223: Science Education in the Middle Level

Cross-listed: BIOL 3223

Prerequisites: 16 hours in science and MLED 2001.

This course is designed to provide pre-service teachers with an integrated approach to the teaching of science in the middle grades. Theoretical and practical aspects of teaching science will be explored and students will develop curricular materials based on their explorations.

Lecture two hours, laboratory 2 hours. \$40 laboratory fee.

PHSC 3233: Science Education in the Secondary School

Cross-listed: BIOL 3233

Prerequisites: 16 hours in biology or 16 hours in physical science and SEED 2002.

This course will examine the issues of nature and history of science, developing lessons and assessments, and science education standards for the prospective secondary school teacher. Curriculum development, including assessment and planning skills, utilizing various instructional media and inquiry methodology are emphasized. Design and execution of learning activities for a secondary school setting are required.

Lecture two hours, laboratory two hours. \$40 laboratory fee.

PHSC 3243: Integrating the Three Dimensions of Science

Cross-listed: BIOL 3243

Prerequisites: Junior Standing and at least 8 hours of science.

This course integrates the three major areas of discipline in science: physical science, life science and earth science, using as a focus the processes and cross-cutting concepts of science, technology, engineering and mathematics (STEM).

\$40 laboratory fee.

PHSC 3252: The Nature and Context of Science

Cross-listed: BIOL 3252

Offered: Spring

Prerequisite: At least 12 hours of science courses.

This seminar course examines science from a holistic perspective. It will concentrate on examining how current science develops scientific knowledge including unifying concepts across scientific disciplines, the place of science within modern society, technology and its role in science and society, and current scientific methodology.

PHSC 3253: Teaching Methods for STEM

Cross-listed: BIOL 3253

Prerequisites: Junior Standing, ECED 2001, ECED 2002, PHSC 3243 and completion of at least 8 hours of science.

An overview of strategies and techniques for planning, teaching, and assessing elementary science. An emphasis will be placed on best practices, crosscutting concepts, and core ideas outlined in current National Science Frameworks developed in conjunction with the National Research Council. Current adopted standards such as the Next Generation Science Standards (NGSS) and Common Core State Standards will be emphasized in designing learning experiences that integrate science, technology, math, and engineering (STEM) with language arts skills. Inquiry-based methods and other constructivist approaches as described in the National Science Education Frameworks will be emphasized. Design and execution of learning activities for an elementary school setting are required.

Lecture two hours, laboratory two hours; three credit hours. \$40 laboratory fee.

PHSC 4701: Special Methods in Physical Science

Offered: On demand

Prerequisites: Admission to student teaching phase of the teacher education program.

Co-requisite: SEED 4909

Intensive on campus exploration of the principles of curriculum construction, teaching methods, use of community resources, and evaluation as related to teaching physical science.

Physics Course Descriptions

PHYS 1114: Applied Physics

Offered: Spring

A survey of selected topics in physics. The "scientific method", mechanics, fluid mechanics, heat, electricity, sound, light, and nuclear radiation will be studied.

Note: May not be taken for credit after completion of PHYS 2014, PHYS 2024, PHYS 2114, or PHYS 2124.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

PHYS 2000: Physics Laboratory I

Co-requisite: PHYS 2014 or PHYS 2114.

PHYS 2010: Physics Laboratory II

Co-requisite: PHYS 2024 or PHYS 2124.

PHYS 2014: Physical Principles I

ACTS Common Course - PHYS2014

Offered: Fall and summer (on demand).

Prerequisite: A grade of C or better in MATH 1113 or consent of the instructor.

Co-requisite: PHYS 2000

Open to freshmen. A broad survey course emphasizing the understanding of the principles of physics necessary for students not specifically interested in advanced work in physics, chemistry or engineering. Topics include mechanics, heat, sound, wave motion, and fluid mechanics.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

PHYS 2024: Physical Principles II

ACTS Common Course - PHYS2024

Offered: Spring and summer (on demand).

Prerequisite: PHYS 2014 or permission of instructor.

Co-requisite: PHYS 2010

Continuation of PHYS 2014, covering electricity and magnetism, light, relativity, particle physics, and quantum effects.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

PHYS 2114: General Physics I

ACTS Common Course - PHYS2034

Prerequisite or co-requisite: MATH 2924

Co-requisite: PHYS 2000

Introductory mechanics, heat and thermodynamics, kinetic theory, and sound.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

PHYS 2124: General Physics II

ACTS Common Course - PHYS2044

Prerequisite: Permission of instructor; prerequisite or co-requisite, MATH 2934.

Co-requisite: PHYS 2010

Introductory electricity and magnetism, wave motion, optics, and elementary quantum concepts.

Lecture three hours, laboratory three hours. \$40 laboratory fee.

PHYS 3003: Optics

Offered: Spring even years

Prerequisite: PHYS 2124 or consent of instructor.

Introduction to geometrical and physical optics.

Lecture two hours, laboratory two hours. \$40 laboratory fee.

PHYS 3023: Mechanics

Offered: Fall even years

Prerequisite: PHYS 2114

Co-requisite: MATH 3243

The conservation laws. Euler's angles. Lagrange's and Hamilton's equations.

PHYS 3042: Intermediate Physics Laboratory

Offered: On demand

Prerequisites: PHYS 2114 and 2124

For physical science education majors. This course expands and refines essential content and laboratory skills through the modeling and experimental investigation of topics in both classical and modern physics.

Note: Will not satisfy the physics elective requirement for students majoring in physical science.

Laboratory three hours. \$40 laboratory fee.

PHYS 3133: Theory of Electricity and Magnetism

Offered: Fall of even years

Prerequisite: PHYS 2124

Gauss's law, potential, Laplace's and Poisson's equations in rectangular, cylindrical, and spherical coordinates, inductance, capacitance, moving charges, dielectric phenomena, and Maxwell's equations.

PHYS 3153: Solid State Physics

Offered: Fall odd years

Prerequisites: PHYS 2114, 2124; CHEM 2124.

Co-requisite: MATH 3243

An introduction to the physics governing the crystalline state of matter. Modern theories describing lattice vibrations, energy bands, crystal binding, and optical properties are presented. These ideas are then applied to the understanding of technologically important areas such as superconductivity, doped semiconductors, ferroelectric materials, and photorefractivity.

\$40 laboratory fee.

PHYS 3213: Modern Physics

Offered: Fall of odd years

Prerequisite: PHYS 2124

Introduction to relativity, wave-particle interactions, atomic structure, quantum mechanics, quantum theory of the hydrogen atom, statistical mechanics, nuclear structure, and elementary particles.

PHYS 3991,3992,3993: Special Problems in Physics and Astronomy

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to significant problems in physics and astronomy. Supervised by faculty member. Formal report and presentation required. One to three credits depending on problem selected and effort made.

\$40 laboratory fee.

PHYS 4003: Thermodynamics and Statistical Mechanics

Offered: Spring of odd years

Prerequisite: PHYS 2124; Prerequisite or co-requisite, MATH 3243.

Applications of the three laws of thermodynamics, partition functions and transport phenomena.

PHYS 4013: Quantum Mechanics

Offered: Spring of even years

Prerequisites: PHYS 3213 and MATH 3243

A formal course in wave and matrix mechanics, designed to enable a student to set up and solve the elementary practical problems of quantum mechanics.

PHYS 4113: Advanced Physics Laboratory

Offered: Spring odd years

Prerequisite: PHYS 3213

An application and investigation of advanced physical topics in the laboratory. Techniques of experimental [engineering] physics, such as computerized instrumentation, vacuum technology, optics, and electron optics will be applied to investigate various areas of advanced physics. Proper data reduction and analysis will be used to yield meaningful measurements. Intended as a culminating course, previous course work is

applied to solve problems in the laboratory.

Lecture one hour, laboratory five hours. \$40 laboratory fee.

PHYS 4213: Advanced Topics in Physics and Astronomy

Offered: On Demand

Prerequisite: PHYS 2024 or PHYS 2124

Introduction to relativity, elementary particle physics, quantum dynamics, big-bang cosmology, atomic nucleosynthesis, and large scale structure and exotic states of matter such as black holes. Forces and interactions between the building blocks of matter in addition to cosmological models will be studied to gain insight into the complex universe we observe today.

Lecture two hours, laboratory two hours. \$40 laboratory fee.

PHYS 4951,4952,4953,4954: Undergraduate Research in Physics

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$40 laboratory fee.

PHYS 4991,4992,4993,4994: Special Problems in Physics and Astronomy

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to significant problems in physics and astronomy. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

\$40 laboratory fee.

Political Science Course Descriptions

POLS 2003: American Government

ACTS Common Course - PLSC2003

A study of the principles and practices of American Government, explaining the origin and purpose of our governmental institutions in a broad sense, with consideration given to interstate and national state relations.

POLS 2153: Introduction to Strategic Studies

An introduction to strategic studies focusing on the key theoretical principles that have played a major role in shaping Western understandings of strategy, with particular focus on the United States.

POLS 2253: Survey of Western Political Thought

An introduction to the subfield of political theory, examining the works of major political thinkers from ancient Greece to the present.

POLS 2403: Comparative Government

A study of the various political systems of the world, such as the governments of Western Europe, Socialist or Communist Systems, and developing world governments. The countries under examination are often selected to address important real-world circumstances.

POLS 2413: International Relations

A study of the theory and practice of international politics, with special emphasis upon the state system, decision-making, policy-making, war and arms control, ideology and nationalism, the global ecological system, interdependence, multinational institutions and corporations, and human rights.

POLS 2513: Research Design

This course is designed as an introduction to the field of political science research. This course teaches the scientific method as applied to political science, bibliographical aids, and the study and writing of political science. It is a hands-on course where students will use the skills learned to evaluate social science research.

POLS 3013: Recent American Foreign and Military Policy

The post World War II environment in which U.S. foreign and military policy functions; emphasis is on the formulation of policy, relationship of foreign policy and domestic affairs, problems of foreign and military policy coordination and control, and the military industrial complex.

POLS 3023: Judicial Process

Cross-listed: CJ 3023

The structure and operation of the state and national court systems. Emphasis upon the role of the criminal courts in the political system and the consequences of judicial policy making.

POLS 3033: American State and Local Government

A comparative study of the nature of the organization and operation of state and local governments in the United States with emphasis on state and local government in Arkansas.

POLS 3043: Judicial Politics

This course examines the effect of the U.S. Supreme Court and its inferior courts on American politics, government and society, as well as the interactions and processes that determine judicial policy.

POLS 3053: Introduction to Public Administration

A study of public administration with attention devoted to organizational problems and pathology, leadership, communication, control, and the hiring, training, compensating, motivating, and firing of personnel. Numerous case studies are considered.

POLS 3063: Modern Political Thought

Cross-listed: PHIL 3063

An examination of the major contributions to political thought during the Modern Era.

Note: Completion of POLS 2253 recommended.

POLS 3083: Political Parties and Interest Groups

A study of American political parties and interest groups with emphasis on such topics as public opinion, the nature and history of parties and interest groups, organizational structures and procedures, public policy interest, nominations, and elections.

POLS 3093: American Municipal Government

A comparative study of the structure, functions, politics, and problems of urban, suburban, and metropolitan governments in the United States, with emphasis on municipal governments in Arkansas.

POLS 3123: American Political Behavior

A study of the individual's decision to participate in American political life and the impact those decisions have on policy formation. The course aims to understand the influences that lead to or retard individual political participation.

POLS 3133: United States Congress

Examination of the U.S. Congress in terms of its functions as both a lawmaking institution and a representative institution. Attention to the legislative process, congressional elections, party leadership, and executive-legislative relations.

POLS 3143: The United States Presidency

Analysis of the role of the presidency in the American political system. Topics include the theoretical and constitutional foundations of the president, the growth of the presidency as an institution, the evolving constitutional, political, and environmental restraints to presidential action, presidential leadership, and historical trends in the relationship between the presidency and the legislative and judicial branches of government.

POLS 3253: Classical Political Thought

Cross-listed: PHIL 3253

An examination of the major contributions to political thought during the Classical Age, the Medieval Era, and the Renaissance.

Note: Completion of POLS 2253 recommended.

POLS 3423: Problems in International Affairs

This course will examine approximately ten major issues in international affairs. It will examine the history, politics, conflicts, debates, and actors involved in each specific issue area. The specific topics are up to the instructor, and will vary from offering to offering depending on the situation and issues in international relations at the time of instruction.

POLS 3433: United Nations

Offered: Fall

Study of the organization and functioning of the United Nations, significant problems confronting world organization, weaknesses of the UN, and the future of world organization. Students will conduct research and write papers on significant international issues confronting the UN and on the foreign policy of selected members of the UN.

Note: Students will participate each week in a mock session of the UN and will attend, at their own expense, the annual session of the Arkansas Model United Nations, which normally meets on Friday and Saturday of the first week in December.

Note: Only one Model United Nations course may be taken for credit during a semester.

POLS 3473: National Security Policy

A study of national security policy making, with an emphasis on current national security issues.

POLS 3513: Research Methods

Introduction to elementary descriptive and inferential statistics, with an emphasis on applications in political science.

POLS 4043: American Constitutional Law

A comprehensive study of the United States Supreme Court's decisions in the evolution of American Government as seen in the leading cases dealing with judicial review, separation of powers, and federal systems; protection of personal rights, interstate commerce, taxation, and due process of law in economic regulation and control; and civil liberties and civil rights.

POLS 4951,4952,4953,4954: Undergraduate Research in Political Science

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required.

Note: One to four credits depending on problem selected and effort made.

POLS 4963: Senior Seminar

A required course for senior Political Science majors. Course content will cover a directed seminar in a specified area of Political Science. Research techniques will be emphasized.

POLS 4971: Internship

Cross-listed: HIST 4971

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

POLS 4972: Internship

Cross-listed: HIST 4972

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

POLS 4973: Internship

Cross-listed: HIST 4973

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

POLS 4974: Internship

Cross-listed: HIST 4974

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

POLS 4975: Internship

Cross-listed: HIST 4975

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

POLS 4976: Internship

Cross-listed: HIST 4976

Prerequisites: Junior or senior standing, 2.75 grade point average, and consent of department head.

A supervised placement in selected agency settings in student/trainee status under professional guidance of both an agency supervisor and a faculty member. Emphasis will be on providing hands-on experience in research, editing, cultural management, public service, or some other area related to the discipline. Written

report required and minimum of 100 clock hours of supervision required per credit hour.

Note: May be repeated for a maximum of 6 hours credit.

POLS 4983: Political Science Seminar

A directed seminar in an area of political science. The specific focus will depend upon research underway, community or student need, and the unique educational opportunity available.

Note: This course may be repeated for credit if course content differs.

POLS 4991,4992,4993,4994: Special Problems in Political Science

Admission requires consent of department head.

Professional Studies Course Descriptions

PS 3001: Portfolio Development for Prior Learning Assessment

Prerequisite: the student must have successfully completed 60 hours of credit which includes all general education requirements and 12 hours of coursework after being admitted to the Professional Studies degree.

The basis for requesting credit for prior learning is the development of a portfolio with assistance from a faculty advisor. Every student requesting credit for prior learning must enroll in this course and complete a portfolio which demonstrates the college-level learning that has resulted from experiences outside a formal academic framework. The student utilizes this method to document knowledge acquired which is equivalent to upper-division college-level credit.

Note: Credit for PS 3001 applies only to the Bachelor of Professional Studies degree and cannot be applied toward any other program. Grading is on a Pass/Fail basis.

PS 3003: Project Design

Prerequisites: Completion of PS 3143 and permission of the program advisor.

This course will provide an opportunity for the student to facilitate a process for identifying a specific problem in an actual industry or business environment relevant to the student's specialty area. The student will outline a formal plan of action for identifying the problem. The plan must include a broad scan of the specific area/operation selected including the names and titles of the individuals surveyed for input. The end product will be the development of a formal needs assessment which identifies deficiencies or areas of improvement. The needs should be prioritized on the basis of feasibility, cost, and urgency.

PS 3013: Professional Studies Seminar

This course is designed to introduce students to the field of professional studies and to the Bachelor of Professional Studies degree. Topics include: overview of the professional studies degree; survey of current issues in the professions; professional competencies and skills; career and academic program planning; learning and communicating online; academic writing and APA.

PS 3023: Professional Communications

Prerequisites: 6 hours of English Composition

This course supports career fields which require competencies in advanced professional communication. Course includes principles of effective professional communication using technology to generate professionally-prepared materials including formal correspondence, brochures, public relations materials, graphics, and technical documents.

PS 3133: Applied Principles of Personnel Management

This course supports the needs of professionals whose career fields require competencies in the area of human resources/personnel management. The focus of the course is on the practical application, essential theories, and process of personnel management from the perspective of a generalist. Course content will include the essential aspects of recruitment, selection, training, legal rights and responsibilities, compensation and appraisal.

PS 3143: Applied Professional Research

Prerequisite: Successful completion of General Education math requirement.

This course provides an overview of professional research fundamentals, including instruction in applying citations and appropriate statistics in professional settings. Topics covered include, but are not limited to, different types of research, the research process, ethics in research, reference citation models, and

statistical concepts.

Note: This course must be taken as a prerequisite for PS 3003 unless waived upon advisor approval.

PS 4003: Capstone Project

Prerequisite: PS 3003

This course capstones the process conducted in PS 3003 by requiring the student to demonstrate competencies required of a professional in the student's specialty area in an actual business or industry setting. The student will assume a leadership role in presenting the outcomes of the needs assessment to a group of company stakeholders. On the basis of empirical research conducted throughout the assessment process, the student will recommend relevant strategies for addressing the identified problem/s. A review of the literature will serve to either validate or reject the strategies selected. A continuous process improvement model will be developed along with a detailed continuous process improvement plan which must be approved and accepted by all relevant stakeholders. The final component of the course will require the student to demonstrate presentation ability, appropriate leadership styles, critical thinking, and communications skills in a formal presentation of the strategic plan to the group responsible for implementing the strategies.

PS 4143: Nonprofit Governance

This course examines the theoretical, philosophical, practical and ethical perspectives related to the effective management and leadership of nonprofit organizations in the twenty-first century. Upon completion of the course, the student will possess an understanding of 1) the historical development of the nonprofit sector, 2) the multiple rationales for the existence of the nonprofit sector, 3) the distinctive characteristics of nonprofit organizations, 4) the structures, processes and complexities of organizational governance shared by volunteer board members and professional staff, 5) the dynamic environment of the contemporary nonprofit organization, and 6) the current issues of importance to nonprofit decision makers.

PS 4201,4202,4203,4204,4205,4206,4207,4208,4209,4210,4211,4212: Prior Learning Assessment Credit

Prerequisite: PS 3001

Based on a recommendation from the BPS Director/instructor and reviewed by the dean of Community Education and the Registrar, the portfolio assessment completed in PS 3001 will determine the number of hours that can be awarded for prior learning. This variable-credit course provides the opportunity for the student to enroll in the number of hours that were approved through the portfolio up to a maximum of 12 hours. Regular tuition charges will be applied.

Note: Credit for PS 4201-12 applies only to the Bachelor of Professional Studies degree and cannot be applied toward any other program. Grading is on a Pass/Fail basis.

PS 4243: Planning for Adult Learners

This course provides the steps and processes required to apply a practical guide to planning education and training programs for adults in a variety of settings. The program planning model presented captures and reconfigures classical and current descriptions of the program planning process. The course explores, and applies, a comprehensive 12-component model, the Interactive Model of Program Planning, with a focus on the practicality and usefulness as a technical description of the planning process, the emphasis on people being the heart of the process, and the importance of context as a centering point for action.

PS 4343: Community Development

This course covers the basic principles and issues in community development in the United States. Topics include: the definition of community; community assessment; methods of planning and problem solving; community needs; community assets; and community activism; and evaluating community based organizations. Students will work individually and in groups to design a non-profit organization based on a community needs assessment. The focus will be on assessment, planning, leadership, financing, and evaluating a community-based organization.

PS 4443: Professional Leadership

This course provides an overview of various leadership styles practiced by professionals in the public and private sector. The focus of the leadership skills identified will focus on the following competency areas: operations management, technology applications, facilities planning and management, human resource management, fiscal management, and organizational behavior.

PS 4543: Workplace Supervision

This course provides an overview of various entry-level leadership and supervisory skills practiced by professionals in the public and private sector. The leadership skills identified will focus on the following competency areas: communication, employee coaching, project management, business analysis, continuous improvement, and resource management and how they pertain to front-line supervisors within the workplace.

PS 4951,4952,4953: Undergraduate Research in Professional Studies

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required.

Note: One to four credits depending on problem selected and effort made.

PS 4954: Undergraduate Research in Professional Studies

Offered: On demand

Prerequisites: Successful completion of the general education English requirement and departmental approval.

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required.

Note: One to four credits depending on problem selected and effort made.

PS 4991,4992,4993,4994: Special Problems in Professional Studies

This course is designed to address current issues and topics relevant to professional disciplines in the workforce. Content will be determined by contemporary trends and timely issues.

Psychology Course Descriptions

PSY 2003: General Psychology

ACTS Common Course - PSYC1103

An introduction to basic concepts in the study of behavior and to elementary principles of genetics, individual differences, motivation, emotion, personality, sensation, and perception.

PSY 2023: Consumer Psychology

An introduction to the application of psychological principles to the study of the acts of individuals involved in obtaining and using economic goods and services, including the decision making processes that precede and determine these acts. Emphasis is placed on the role of perception, learning, personality, and attitude change.

PSY 2033: Psychology of Adjustment

A course to provide a broad introduction to psychology as applied to human behavior. Focus is on the theoretical and experimental issues underlying the development and function of mental and emotional states. Emphasis is on normal functioning.

\$20 testing fee.

PSY 2053: Statistics for the Behavioral Sciences

Cross-listed: SOC 2053

Prerequisites: MATH 1003, or higher, and PSY 2003 or SOC 1003, or consent.

An introduction to descriptive and inferential statistical methods pertinent to behavioral sciences research, including correlation, sampling distributions, t-tests, chi square and analysis of variance. Emphasis is upon the logical and applied aspects.

PSY 2063: Research Design for the Behavioral Sciences

Cross-listed: SOC 2063

Prerequisite: PSY 2003 or SOC 1003

This course is designed to introduce you to the foundations of behavioral science, the logic of research design and the many possible modes of operation. This class focuses on teaching students in the behavioral sciences the basic principles that guide the research process, the elements of research design, how to read and critique research articles, and how to write a literature review for a research project.

PSY 2074: Experimental Psychology

Prerequisites: PSY 2003 and PSY (SOC) 2053

A study of research methods in psychology. Emphasis is placed upon developing skills in data gathering and analysis, report writing and application of basic research strategies.

Three hours lecture, two hours laboratory per week.

PSY 2093: Human Sexuality

A survey of the psychological themes associated with human sexuality. Topics include, but are not limited to: love and intimacy, sexual behaviors, sexual problems, gender, and sexual orientation.

PSY 2133: Cross-Cultural Psychology

This course is designed to link basic principles in cross-cultural developmental psychology and practical everyday events and questions as above ones together to help students cultivate a global and multicultural perspective on human behavior and gain an understanding of, and appreciation for, human development as it takes place in diverse cultural settings throughout the world. Experiential learning will be an important component of this course. Each student will have a chance to observe the behavior of a child/adolescent of different ethnic background from his or her own and develop their own cross-cultural viewpoint on human development.

PSY 3003: Abnormal Psychology

Prerequisite: PSY 2003

This course focuses on the theories and representative research about the presentation, etiology, and treatment of mental disorders.

PSY 3013: Psychosocial Aspects of Death and Dying

Cross-listed: SOC 3013

Prerequisite: Upper division standing.

This course studies the psychosocial and sociological aspects of death. The course will provide a basic insight into the dynamics surrounding death from the individual and societal level, its impact on survivors, and the effect death has on the living.

PSY 3033: The Criminal Mind

Cross-listed: CJ 3033

Prerequisite: PSY 2003

The course familiarizes students with various models, theories, and research regarding criminality from a psychological perspective. Genetic, constitutional, and biological factors will be emphasized, and some practical applications to dealing with criminals will be considered.

PSY 3053: Physiological Psychology

Prerequisites: PSY 2003, BIOL 2124, or BIOL 1014

An introduction to the physiological correlates of behavior, with emphasis upon the nervous system.

PSY 3063: Developmental Psychology I

Prerequisite: PSY 2003

A study of how the maturation process affects an individual's physical and psychological state from conception through adolescence. Representative topics include (but not limited to) genetic influences, child cognitive processes, moral reasoning, and testing.

PSY 3073: Psychology of Learning

Prerequisite: Twelve hours of psychology.

An introduction to the basic processes in learning and conditioning, including human and animal experimental findings. Emphasis will be placed on conditioning paradigms, reinforcement principles, memory functions and their use in behavior change.

PSY 3083: Psychology of Women

The purpose of this course is to examine the lives of girls and women, including topics such as gender stereotypes, the development of gender roles, gender comparisons, women and work, love relationships, women's physical and mental health, violence against women, and women in later adulthood. Students who take this course should acquire an understanding of what it means to be female in North America.

PSY 3093: Industrial Psychology

Prerequisite: PSY 2003

A survey of psychological applications in industrial settings with emphasis upon selection, placement, and training techniques; organizational theory; and decision making processes.

PSY 3133: Self and Society

Cross-listed: SOC 3133

Prerequisite: SOC 1003 or PSY 2003

A sociological survey of the ways in which social structure and personality interact. Topics typically covered are: socialization, attitudes and value formation and change, and group influences upon self-concept and self-esteem.

PSY 3141,3142,3143,3144: Seminar in Psychology

A directed seminar in an area of psychology. The specific focus will depend upon research underway, student need, and current developments in the field of psychology.

Note: May be repeated for credit if course content differs.

PSY 3153: Theories of Personality

Prerequisite: Six hours of psychology.

An introduction to the various theoretical viewpoints of the normal personality structure and its development.

PSY 3163: Developmental Psychology II

Prerequisite: PSY 2003

The study of how the maturation process affects an individual's physical and psychological state from adolescence through old age. Representative topics include (but not limited to) early, middle, and late adulthood biological, psychosocial and cognitive development.

PSY 3173: Psychology of Consciousness

Prerequisite: Upper division standing.

An introduction to the various theoretical viewpoints as to the topic of consciousness and how it is investigated.

PSY 3184: Animal Behavior

Cross-listed: BIOL 3184

Prerequisite: sophomore standing in biology or psychology, or approval of instructor.

An introductory course in animal behavior covering behavioral responses in primitive and advanced animals exposed to a wide range of environmental and social conditions. Laboratory exercises will include field as well as in-lab exercises and will focus on observational techniques and analyses of behavioral

patterns in vertebrates and invertebrates.

Lecture three hours, laboratory two hours. \$40 laboratory fee.

PSY 3813: Lifespan Development

Prerequisites: NURS major, PSY major with 90 earned hours, or instructor permission.

A study of the processes of human development from conception through the lifespan. Research, application, and other considerations for nursing majors will be emphasized. Topics include, but are not limited to: how the maturation process affects an individual's physical and psychological state, genetic influences, child cognitive processes, moral reasoning, and early, middle, and late adulthood biological, psychosocial, and cognitive developmental processes.

PSY 4003: Advanced Research Method and Lab for Psychology

Prerequisites: PSY 2003, 2053, and 2063

A study of research methods in psychology. Emphasis is placed upon developing skills in data gathering and analysis, report writing and application of basic research strategies.

PSY 4013: History of Psychology

Prerequisite: PSY 2003

A survey of the developments in psychology from the ancient Greeks to the emergence of psychology as a modern experimental science.

PSY 4033: Psychological Tests and Measurements

Prerequisites: Twelve hours of psychology and PSY (SOC) 2053.

Theory of psychological testing, statistical procedures, and training in administration, scoring and profiling of various tests of ability, achievement, interests, and personality.

\$20 testing fee.

PSY 4043: Social Psychology

Cross-listed: SOC 4043

Prerequisite: Upper division standing or permission.

The study of how individuals are influenced by the actual or implied presence of other persons. Emphasis is placed on attitudes, social cognition, social influence, aggression, altruism, self and other perception.

PSY 4053: Psychology of Perception

Prerequisite: Nine hours of psychology or consent.

The study of general perceptual process. While the main senses will be covered, emphasis will be placed on visual functioning. The role of perception in organismic adaptation will be explored.

PSY 4073: Cognitive Psychology

Prerequisite: 60 hours including 9 hours of psychology or permission of instructor.

A study of the basic principles of mental processes, and their influence on behavior. Specifically, the course focuses on the conscious and unconscious processes involved in the acquisition, storage, transformation, and use of knowledge.

PSY 4133: Psychopharmacology

Prerequisites: PSY 2003, 2053, or permission of instructor.

An introduction to the field of psychopharmacology. Representative topics include (but are not limited to) neuronal structures and processes, neurochemicals and neurotransmission, and the biological basis and pharmacological treatment of neurodegenerative diseases and mental illness.

PSY 4951,4952,4953,4954: Undergraduate Research in Psychology

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

PSY 4991,4992,4993,4994: Special Problems in Psychology

Prerequisites: Eighteen hours of psychology and prior permission of instructor.

Independent work under individual guidance of a faculty member.

Reading - Elementary Education Course Descriptions

RDNG 3003: Teaching Literacy Foundations

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course focuses on reading methods and specific techniques appropriate for emergent readers and developmental readers in the elementary grades, K-6. The focus will be teaching all children to read independently including struggling readers and ESL students.

RDNG 3163: Integrated Language Arts

Prerequisite: Admission to Stage II of the Teacher Education Program.

Integrating language arts creates linguistic opportunities where literacy skills (reading, writing, listening and speaking) can be used together for real purposes and real audiences. Students in this course will explore, evaluate, create and apply a variety of integrated literacy strategies and activities, which will enhance their own as well as their future student's cognitive (critical thinking skills) and metacognitive (thinking about thinking) language art skills.

RDNG 4003: Literacy Assessment and Intervention

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course prepares teacher candidates to examine, assess and diagnose literacy development for the purpose of instructional planning and interventions. Teacher candidates will determine the nature of a reading problem by assessing the following components of a comprehensive literacy program: Phonological awareness, phonics, fluency, vocabulary, and comprehension. Candidates will investigate and practice applying a variety of methods and tools for diagnosing and assessing literacy problems using both formal and informal assessments. Data from the assessments will be used to analyze and evaluate results for instructional planning appropriate for struggling readers and writers with intervention strategies, activities, and technology that will monitor progress and increase literacy skills. A practicum will be required as part of the course of study in which students will assess, diagnose and teach students with reading and writing difficulties.

RDNG 4013: Child and Adolescent Literature

Prerequisite: Admission to Stage II of the Teacher Education Program.

A study of issues and trends in literature for children/adolescents and its current practices in teaching literacy and other curricular practices.

RDNG 4023: Disciplinary Reading and Writing

Prerequisite: Admission to Stage II of the Teacher Education Program.

Disciplinary literacy focuses on literacy skills in the content areas emphasizing the knowledge, skills and strategies unique to the various content areas focusing on the unique ways of thinking, knowing, and doing and the characteristic unique to the various disciplines (math, social studies, science, etc).

Reading Course Descriptions

READ 0103: College Reading Skills

A course designed to develop reading skills through perception training, vocabulary building, comprehension training, and active listening exercises. Individual diagnosis and prescription is emphasized.

Note: The grade in the course will be computed in semester and cumulative grade point averages, but the course may not be used to satisfy general education requirements nor provide credit toward any degree.

Note: A student who is placed in READ 0103 must repeat the course until he or she earns a grade of "C" or better. A student who makes a "D" or "F" in READ 0103 must repeat the course in each subsequent semester until he or she earns a grade of "C" or better.

Recreation and Park Administration Course Descriptions

Coeducational Activities (May be taken for General Education credit)

RP 1002: Backpacking

This course is an introduction to basic backpacking skills, equipment, food, and backcountry travel. Day hikes and overnight hikes.

Note: Students will need to provide own personal equipment (backpack, sleeping bag, etc.) and be willing to share tents, stoves, cooking gear, etc. with other students in the course. Some students may need to borrow or purchase such gear depending on the equipment owned by members of the class.

\$50 course fee required.

RP 1011: Sport Hunting

An introduction to the fundamentals of sport hunting, materials, and personal skills. Emphasis on state game laws, personal equipment and usage, game species and their natural habitats, and firearm safety. Arkansas Hunter Safety certification awarded with successful completion.

RP 1021: Boating Education

This course will take students through the Arkansas Game and Fish Commission Boating Guide. Those who successfully complete the course will be awarded Boating Safety Certification. A variety of audio visual presentations will be used, and participation in one weekend day of actual boating experience is required. Certification is awarded upon completion.

RP 1031: Introduction to Cycling

Introduction to Cycling is designed to introduce the beginner biker to the basics needed for lifelong enjoyment of this recreational activity and sport. Students will be introduced to techniques of road cycling and off-road cycling. Emphasis on choosing clothing and equipment, maintenance, and riding skills. Students will have riding opportunities at area trails, as well as classroom instruction.

Note: Participants are expected to provide their own bikes and associated gear and equipment.

\$50 fee required to cover transportation to area trails.

RP 1041: Principles and Techniques of Fishing

This course provides an introduction to the sport of fishing. Students will learn to identify species of freshwater fish, emphasizing fish inhabiting Arkansas streams and lakes. Students will learn casting techniques, ethics, catch-and-release techniques, knot tying, and lure and bait selection. Cleaning and cooking your catch of the day will be covered.

Note: Arkansas fishing license required. Bring your own pole and tackle. Field trips to area fishing holes.

\$10 laboratory fee.

Recreation and Park Administration Course Descriptions

Academic Courses

RP 1001: Orientation to Recreation and Park Administration

Orientation to the university and recreation and park administration as a profession. Exploration of successful student and career paths.

Note: This course may be taken in place of TECH 1001.

RP 1013: Principles of Recreation and Park Administration

A study of the history of the recreation and park profession and the basic sociological and ecological intermix of contemporary recreation and park services.

RP 1993: Basic Forest Firefighting

This class is taught jointly by the U.S. Forest Service and ATU using classroom theory and weekend field exercises which will enable successful candidates to obtain the "Red Card" recognized by most federal and many state firefighting agencies as a minimum requirement for wildland fire firefighting certification. This class consists of the following wildland fire training courses recognized by the National Wildland Coordinating Group (NWCG): S-130 Basic Firefighting; S-190 Introduction to Fire Behavior; S-110 Wildland Fire Suppression Orientation; I-100 Introduction to Incident Command System; and Standards for Survival. These courses will be taught together to provide a complete picture of the basics of forest firefighting. This training is required before any person can participate on a wildland fire suppression crew for the U.S. Forest Service, other federal agencies and most other state wildland fire agencies. Instruction will be by U.S. Forest Service certified instructors and RP faculty.

RP 2003: Recreation Programming

Recreation program planning, supervision, and evaluation. This course examines the theory, principles, and leadership techniques of programming for individuals and groups in a variety of recreation settings, including community, institutions, and camps.

\$100 lab fee.

Note: May not be taken for credit after completion of RP 2002 and RP 2012.

RP 2013: Landscape Planning and Design

An introduction to the use of plants and other materials in the landscape planning process and environmental design.

RP 2033: Recreation Leadership

A study of the processes, methods, and characteristics of leadership and supervision in the delivery of leisure services.

RP 2133: Introduction to Travel and Tourism

Cross-listed: HA 2133

The introduction to travel and tourism, its components and relationship to the recreation and hospitality industry. The course will explore the current and future trends in travel and tourism and the effects on the economy, as well as the social and political impacts of travel and tourism.

RP 3013: Recreation for Special Populations

Development of an understanding of disabled sub populations and its relationship to recreation programming and administration for agencies at the local, state, and federal level of responsibilities.

RP 3023: Camp Administration

Theory and principles of camp administration, programming, leadership, and supervision in public, private, and school camps. Field trips, school camp.

\$100 lab fee.

RP 3033: Commercial Recreation

An introduction to the spectrum of planning, delivery and assessment of goods and services in the commercial sector of recreation.

RP 3034: Site Planning and Design

Fundamentals of the site planning process and application to park and recreation development, including consideration of factors both external (user preferences) and internal to the site (function, organization and aesthetic treatment). Emphasis on resource capabilities and potentials.

Lecture two hours, laboratory four hours.

RP 3043: Work Experience

Prerequisite: Departmental Approval

Supervised field application of class skills and knowledge in Parks and Recreation work situations. Students are given the opportunity to take part in meaningful management and work experiences in actual work situations under the supervision of both university faculty and professionals in the field.

Minimum of 100 clock hours of work experience is required.

RP 3053: Natural Resource Management and Planning

Study of the economic, social, political, and physical factors of the natural environment and methods to guide, direct, and influence orderly growth and development.

RP 3063: Outdoor Education

An introduction to outdoor education foundations, methods, and practice. Preparation and planning for teaching in, about and for the outdoors. Leadership of outdoor education programs.

\$100 transportation and supplies fee.

RP 3093: Interpretive Methods

An analysis of various interpretive techniques, interpretive planning, and utilization of interpretation to obtain management goals. Students will plan, design and implement interpretive programs using various media.

RP 3113: Human Resource Management in Parks, Recreation, and Hospitality Administration

Cross-listed: HA 3113

Prerequisites: Junior standing and nine hours of RP or HA courses.

An overview of personnel considerations in various Recreation and Park agencies and the Hospitality industry. Laws, legal issues, structure, staffing, motivation, training, conduct, policies and other aspects of agency/industry personnel relations will be examined using case-studies, as well as other methods.

RP 3133: Tourism Planning

An examination of the tourism planning process and techniques. Topics include tourism as a system, levels of planning, environmental, cultural and economic components, attractions, transportation, infrastructure and marketing.

RP 3403: Financing Recreation and Parks

Prerequisites: Junior standing and Recreation and Park Administration major.

An introduction to recreation and park financial management including revenue and expenditure management.

RP 3503: Recreational Sport Management

An overview of recreational sport and event management in various settings. Topics include informal, intramural, club, extramural, instructional sports, and sporting events programming; values of recreational sports; administration and operation of recreational sports and sporting events; terminology and career opportunities in various sport settings.

RP 3763: Introduction to Turfgrass Management

An introduction to turf management emphasizing structure, growth, adaptation, and management of turfgrass. Methods for establishment, fertilization, mowing, cultivation, irrigation and pest management.

RP 3791: Turfgrass Management: Equipment

An introduction to turfgrass equipment. Visits to golf course or other turfgrass sites where students will examine and operate various types of turf equipment. Equipment maintenance discussed. Equipment design and selection discussed.

\$25 travel fee.

RP 3793: Turfgrass Pest Control

An introduction to the integrated management of pests affecting turfgrass. Maintenance practices related to pest and abiotic turfgrass problems, safety, and materials.

RP 3993: Wildland Fire Practices in Natural Resource Management

Prerequisites: RP 1993 or permission.

Advanced study of the organization, deployment, and techniques of fire suppression applicable to wildfires affecting residences, outbuildings, and other human-structure barriers in remote areas and outlying suburban locales. Particular emphasis on wildland structure and urban interface fire suppression problems. This is a science-based course. Emphasis is placed on: (1) uncontrolled wildland fire and the many positive and negative impacts with which fire personnel must deal; (2) planning and implementing controlled burn projects to attain desired future conditions and reduce fire hazards, and (3) the dilemma of ever-expanding wildland/urban interface issues. The overall purpose of this course is to provide the student with integral fire knowledge and skills necessary to become an effective member of a fire/natural resource management team.

Note: Weekend field exercises required.

RP 4001: Internship Preparation

Cross-listed: HA 4001

Prerequisites: PRHA major, senior standing, and completion of RP 3043 or HA 2053 or permission of

department head.

Preparation for the internship experience. This course is graded Pass/Fail.

RP 4013: Recreation and Park Administration

Prerequisite: Six hours of RP courses.

A study of the administrative process of planning, organizing, staffing, directing, evaluating, budgeting, and coordinating of recreation and park agencies.

RP 4023: Research Methods

Prerequisite: Twelve hours of RP courses.

An introduction to the spirit and theory of research including the scientific method and its application to the recreation and parks profession.

RP 4053: Water Resources Development

A study of water resources with emphasis on surface supply and small watershed and reservoir recreation. Supply and pollution in federal, state, local and private water use allocation will be considered.

RP 4063: Park Operations

Prerequisite: COMS 1003 or equivalent.

Basic principles, practices, and problems pertaining to the management of public park systems with emphasis on maintenance and operation schedules, construction and maintenance equipment, employee safety, office procedures, law enforcement, personnel management, and public relations.

RP 4073: Principles and Techniques of Therapeutic Recreation

Prerequisite: RP 3013 or permission of instructor.

A professional course which examines the foundation, theory, philosophy, and historical significance of therapeutic recreation. Emphasis on the therapeutic recreation process as it relates to program development and service delivery for individuals with illnesses and/ or disabilities in various clinical and community settings.

RP 4093: Resort and Club Management

Cross-listed: HA 4093

Prerequisites: Junior standing and nine hours of RP or HA courses or by permission.

An in-depth study of resorts and clubs with respect to their planning, development, organization, management, marketing, visitor characteristics, and environmental consequences.

RP 4103: Recreation Law and Policy

An examination of the relationship between recreation and the law. Specific topics include liability negligence, contracts, safety codes, law enforcement, insurance, and administration policy. Identification of legal decision making organizations and the court system, including the policy dimensions of land acquisition, personnel disputes, and current issues in land use.

RP 4112: Internship II

Offered: Fall semester only immediately following RP 4114. Must enroll in RP 4114 Internship I previous summer term.

Prerequisites: Recreation and Park Administration major in senior standing, current certifications in CPR and Standard First Aid, consent of department head and completion of all other courses applicable to degree. Placement in selected agency settings in student intern status under professional guidance of both agency supervisor and faculty. Emphasis will be placed on application of classroom theory to agency requirements which fulfill student's individual career interests. No prior experience credit will be granted. In RP 4112 a minimum of 160 clock hours during a minimum of 4 weeks of supervised internship is required. Student cannot document more than 50 hours of work experience per week.

Note: RP 4112 Internship II is a continuation of RP 4114. Students are encouraged to obtain and read the syllabus and manual for RP 4112 and begin working on the requirements for RP 4112 while enrolled in RP 4114.

RP 4114: Internship I

Offered: Summer semester only

Prerequisites: Recreation and Park Administration major in senior standing, current certifications in CPR and Standard First Aid, consent of department head and completion of all other courses applicable to degree.

Placement in selected agency settings in student intern status under professional guidance of both agency supervisor and faculty. Emphasis will be placed on application of classroom theory to agency requirements which fulfill student's individual career interests. No prior experience credit will be granted. In RP 4114 a minimum of 400 clock hours during a minimum of 10 weeks of supervised internship is required. Student cannot document more than 50 hours of work experience per week.

\$100 supervisor travel fee is required

Note: Must enroll in RP 4112 Internship II for fall semester immediately following RP 4114 to complete an additional 160 hours of internship. Students are encouraged to obtain and read the syllabus and manual for RP 4112 and begin working on the requirements for RP 4112 while enrolled in RP 4114.

RP 4116: Internship

Prerequisites: Recreation and Park major; senior standing, current certifications in CPR, Standard and Advanced First Aid, consent of department head and completion of all other courses applicable to degree.

Placement in selected agency settings as a student intern under professional guidance of both agency supervisor and faculty. Emphasis will be placed on application of classroom theory to agency requirements which fulfill student's individual career interest. No prior experience credit will be granted. Minimum of 560 clock hours during a minimum of 14 weeks of supervised internship is required. Student cannot document more than 40 hours of work experience per week. A written report is required within two weeks of internship completion.

\$100 supervisor travel fee required.

RP 4173: Therapeutic Recreation Assessment and Documentation

Prerequisites: RP 4073 or permission of instructor.

This course is an examination of the various assessment tools, styles of documentation, and methods of assessment and documentation utilized in therapeutic recreation services. The purpose of this course is to provide students with the basic skills and knowledge necessary to conduct therapeutic recreation assessments and to properly document health care information.

RP 4273: Administration and Operation of Therapeutic Recreation Programs

Prerequisites: RP 3013 and 4073 or permission of instructor.

Program design and planning for effective administration of client centered services for special

populations. Management of therapeutic recreation services including standards of practice, clinical supervision, reimbursement, marketing, budgeting, and writing policies and procedures.

RP 4373: Interventions in Therapeutic Recreation

Prerequisites: RP 3013, RP 4073, or permission of instructor.

This course is designed to provide an understanding of the various interventions utilized in therapeutic recreation services and to develop technical competencies necessary for the provision of quality therapeutic recreation services. Emphasis will be placed on the skillful application of various processes and techniques utilized to facilitate therapeutic changes in the client.

RP 4473: Issues and Trends in Therapeutic Recreation

Offered: Spring of odd year

Prerequisites: RP 3013, RP 4073, RP 4173, and RP 4273 or permission of instructor.

This course provides an examination of current issues, trends, and professionalization concerns in therapeutic recreation, including professional organizations, ethics, current legislation, professional development, professional standards, credentialing, accreditation standards, improving organizational performance, and current controversies.

RP 4753: Sports Field Management and Design

A survey of design and management practices for turfgrass sports fields. Personnel and budgeting requirements for operations and maintenance.

\$25 travel fee.

RP 4763: Golf Course Operations and Design

Golf course turfgrass management as influenced by golf course design, including operations, financial analysis, personnel, and environment.

\$25.00 travel fee.

RP 4951,4952,4953,4954: Undergraduate Research in Recreation and Park Administration

Offered: On demand

Prerequisite: Departmental approval.

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

RP 4991,4992,4993: Special Problems and Topics

Offered: On demand.

Investigative studies and special problems and topics related to parks, recreation, and hospitality administration.

Rehabilitation Science Course Descriptions

RS 2003: Introduction to Rehabilitation Science

A survey of the history, philosophy, and roles of the rehabilitation and social services movement. In addition, the course will focus on public attitudes toward people with disability, adjustment to disability, and an orientation to the various community resources which can be utilized toward the rehabilitation of people with disabilities.

RS 3004: Medical and Psychosocial Aspects of Disability

A study of the etiology, treatment and prognosis of various disabling conditions. Emphasis will be placed on medical information as received in medical reports, and as related to vocational functioning and to the everyday psychological and social adjustment problems associated with disability.

Note: This course may not be taken for credit after completion of RS 3003.

RS 3013: The World of Work

A survey of the world of work emphasizing the role of work in our society, how disability changes one's work role, how career choices are made, and placement techniques.

RS 3033: Introduction to Vocational Rehabilitation and the Vocational Rehabilitation Process

An overview of the history, philosophy, and legal basis of vocational rehabilitation plus an in-depth study of the case process. This class will emphasize the vocational rehabilitation process through studying closed case files and case recording procedures.

RS 3043: Introduction to Social Services and the Social Service Case Process

An introduction to the history, philosophy, and legal basis of the social services movement. This class will also emphasize the social service case process and case management practices.

RS 3073: Organization and Structure in the Rehabilitation-Human Services Setting

This course will provide the student with an overview of organizational and administrative structure in the rehabilitation human services setting. Additionally, it will focus on the dynamics involved in developing a successful managerial style.

RS 3083: Supported Employment Concepts and Strategies

Prerequisite: RS 3013 or consent.

An introduction to the ideas, philosophies, models, concepts, and issues that characterize supported employment. Applications with different disability populations will be reviewed.

RS 3093: Rehabilitation Strategies for Senior Citizens

A study of aging and the elderly from a rehabilitation viewpoint. This course will focus on intervention strategies, actual and potential, that might enable other people to maximize their potential and affect the needs for institutionalization.

RS 3123: Ethics in Human Services

A study of personal values, CRCC, ACA, and APA professional guidelines, and decision making models that will assist future human service practitioners to effectively deal with ethical dilemmas. This course will emphasize critical thinking and problem solving, and will utilize instructor and student generated dilemmas.

RS 3133: Diversity and Inclusion in Human Service Settings

Prerequisite: ANTH 1213 or ANTH 2003

An introduction to issues of multiculturalism and diversity and the importance of understanding these issues when working with individuals. This class will emphasize understanding one's own culture, examine various cultures including disability, and stress the importance of understanding each individual in relationship to his/her culture.

RS 3141,3142,3143: Rehabilitation Science Seminar

A directed seminar in an area of rehabilitation science. The specific focus will depend upon research underway, community or student need, and the unique educational opportunity available.

Note: May be repeated for credit if course content differs.

RS 3153: Assistive Technology in Rehabilitation Settings

Prerequisite: RS 2003 or consent.

A study of the types of technology devices and services available to individuals with disabilities. Emphasis will be placed on knowledge of resources, assessment of individual needs, funding of devices and services, and methods to use assistive technology to improve the quality of life for all individuals.

RS 3163: Addictions Assessment, Planning, and Treatment Strategies

Prerequisites: RS 2003 or consent of instructor.

A study and assessment of addiction disorders and related treatment planning approaches with an overview of evidence based intervention techniques and strategies. Group facilitation skills and meeting cultural issues in the group setting will be addressed.

RS 3173: Addictions and the Family

Prerequisites: RS 2003 or consent of instructor.

A study of the impact of addictions upon families, the social fabric of the nation. The course includes a review of family systems theory and family addictions counseling models.

RS 3243: Social Services for Individuals and Families

A study of the varied and numerous services offered by federal, state, and privately funded social service programs with an emphasis on protective services, foster care, and adoption services.

RS 4012: Internship in Rehabilitation Services

(Twelve hour course)

Prerequisites: RS 2003, grade of C or higher in RS 3023, rehab major, senior standing, 2.00 cumulative grade point average, and consent of the instructor.

A full-time, one semester supervised internship in a rehabilitation or social services setting, either public or private. Emphasis will be placed on the student acquiring first-hand experience and entry level skills in practitioner roles such as case management, interviewing and counseling, and coordination of client services among the various community helping services.

Note: The purchase of professional liability insurance is required.

RS 4084: Field Placement Related to Child Welfare Services

Prerequisites: RS 3043, RS 3243, grade of C or higher in RS 3023, senior standing, completion of at least six hours in the related emphasis area, 2.50 grade point average, and consent of the instructor.

A supervised 14-week field placement in a Division of Children and Family Services setting. Emphasis will be placed on the student's acquiring first-hand experiences in practitioner roles such as case management, interviewing, risk assessment, interagency collaboration, crisis management, and problem solving.

Note: The purchase of professional liability insurance is required.

RS 4123: Survey of Counseling Theories

Prerequisites: Nine hours of psychology to include PSY 2003, PSY 3063, and PSY 3003, or PSY 3153, senior standing, or consent of the instructor.

A comparative study of the major theories of counseling, stressing their philosophical views of mankind, assumptions, techniques, strengths, and weaknesses.

RS 4133: Seminar in Severe Disabilities

Prerequisites: PSY 2003, RS 2003, or consent.

A study of what makes a disabling condition a severe disability. This course will stress independent research and class presentations by the students dealing with the various severe disabilities.

RS 4143: Developmental Disabilities

Prerequisites: PSY 2003, RS 2003, or consent.

A study of the delivery of services to, and the rehabilitation of, those handicapped individuals classified as being developmentally disabled, i.e., mental retardation, cerebral palsy, and epilepsy. Emphasis will be placed on prevocational, vocational, and community-living training for such individuals and the planning required for the provision of such services.

RS 4163: Substance Abuse

Prerequisites: RS 2003, PSY 2003, SOC 1003, or consent of the instructor.

A study of drug abuse emphasizing etiology, patterns of use and abuse, and problems related to research and approaches to treatment.

RS 4173: Family Centered Services

Prerequisites: RS 3023 and 3243 or consent of the instructor.

An advanced course focusing upon family and community strengths and child welfare practice.

RS 4183: Family Services Seminar

Prerequisites: RS 3023 and 3243 or consent of the instructor.

A capstone course for students emphasizing child welfare services.

RS 4951,4952,4953,4954: Undergraduate Research in Rehabilitation Science

Offered: On demand

Prerequisite: Departmental approval.

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

RS 4991,4992,4993,4994: Special Problems in Rehabilitation Science

Prerequisites: Twelve hours of rehabilitation science and prior approval of the Director of Rehabilitation Science.

Independent work under individual guidance of a staff member.

Secondary Education Course Descriptions

SEED 2002: Education as a Profession

Prerequisite: Sophomore standing or departmental approval.

This course is designed to help teacher candidates understand the field of education systemically and to understand the professional roles and ethical responsibilities required of the professional educators. The course consists of classroom instruction and a guided field component.

Note: A grade of "C" or higher in the course is required in order to be eligible for admission into Stage II of Teacher Education.

SEED 3552: Child and Adolescent Development

The primary purpose of this course is to prepare teacher education candidates for classroom interaction by tracing influences of normal human development in all domains and showing how heredity and environmental factors affect the individuals' capacity to learn and function in a school environment. The teacher candidate will examine current research, concepts and issues related to normal adolescent development as well as exceptionalities that may be present. A range of cultural, social, and cognitive factors will be explored through reading, discussion, observation, literature search, interviews and case studies.

SEED 3702: Introduction to Educational Technology

This is a research-based course involving applications of media techniques to facilitate learning. Media presentations are planned and implemented using practical and theoretical considerations about learning characteristics, exceptionalities, and cultural differences. Various projection techniques as well as microcomputer applications are utilized.

SEED 4052: Educating Diverse and Exceptional Learners

Prerequisite: Admission to Stage II of the teacher education program.

A study of the major areas of diversity including, gifted, emotionally disturbed, children from economically disadvantaged homes and other considerations that place students at risk for academic failure, and their special needs in a school program.

Note: May not be taken for credit after completion of EDFD 5053, EDFD 4052 or repeated for credit as EDFD 5052 or equivalent.

SEED 4503: Seminar in Secondary Education

Prerequisites: Admission to Stage II and Student Teaching.

Co-requisite: SEED 4809 or SEED 4909

This course is designed to provide secondary teacher candidates with knowledge and understanding of the history of American Education, school law, and other contemporary education issues. This course will also address teaching/ learning strategies for content area learning and assessment.

SEED 4556: Classroom Application of Educational Psychology

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course introduces secondary teacher candidates to educational psychology as a research- oriented discipline and a science of practical application. The course also requires that students apply the theories and principles to instructional planning, teaching, managing and assessing students. The course consists of classroom instruction and a field component.

SEED 4809: Teaching in the Elementary and Secondary School

Prerequisites: Admission to Stage II and student teaching.

Co-requisite: SEED 4503

A minimum of twelve weeks of supervised full-time student teaching at both the elementary and secondary levels. Meets requirements for K 12 licensure in art and music and licensure at both the elementary and secondary levels for physical education.

\$100 course fee.

SEED 4909: Teaching in the Secondary School

Prerequisites: Admission to Stage II and student teaching.

Co-requisite: SEED 4503

A minimum of twelve weeks of supervised full-time student teaching at the secondary level.

\$100 course fee.

SEED 4991,4992,4993,4994: Special Problems in Secondary Education

Offered: Each semester on demand.

Prerequisites: Senior standing and approval of department head.

Individual study of significant topics or problems relating to education under the guidance of an assigned faculty member.

Sociology Course Descriptions

SOC 1003: Introductory Sociology

ACTS Common Course - SOCI1013

An introduction to the nature of society, social groups, processes of interaction, social change, and the relationship of behavior to culture.

SOC 2003: Introduction to Criminal Justice

Cross-listed: CJ 2003

An overview of the criminal justice system and the workings of each component. Topics include the history, structure and functions of law enforcement, judicial and correctional organizations, their interrelationship and effectiveness, and the future trends in each.

SOC 2023: Sociology of the Ozark-Ouachita Region

Prerequisite: SOC 1003

An introduction to the nature of society, social groups, social interaction, social change, and the relationship of behavior to culture in the Ozark-Ouachita region. The full range of sociological topics are covered, including crime and delinquency, marriage and family, social class and race, religion, and contemporary social movements.

SOC 2033: Social Problems

ACTS Common Course - SOCI2013

Cross-listed: CJ 2033

Prerequisite: SOC 1003

A sociological analysis of contemporary social problems including inequalities, deviance, population changes, and troubled institutions.

SOC 2043: Crime and Delinquency

Cross-listed: CJ 2043

Prerequisite: SOC 1003 or SOC(CJ) 2003

A study of the major areas of crime and delinquency; with emphasis on theories of crime and the nature of criminal behavior.

SOC 2053: Statistics for the Behavioral Sciences

Cross-listed: PSY 2053

Prerequisites: MATH 1003, or higher, and PSY 2003 or SOC 1003, or consent.

An introduction to descriptive and inferential statistical methods pertinent to behavioral science research, including correlation, sampling distributions, t-tests, chi square and analysis of variance. Emphasis is upon the logical and applied aspects.

SOC 2063: Research Design for the Behavioral Sciences

Cross-listed: PSY 2063

Prerequisite: SOC 1003 or PSY 2003.

This course is designed to introduce you to the foundations of behavioral science, the logic of research design and the many possible modes of operation. This class focuses on teaching students in the behavioral sciences the basic principles that guide the research process, the elements of research design, how to read and critique research articles, and how to write a literature review for a research project.

SOC 2073: History of Social Thought

A study of the historical development of social thought.

Note: May not be taken for credit after completion of SOC 4023, PHIL 4053, or equivalent.

SOC 2083: Sociological Theory

A survey course of sociological theories and theory development from the classical period to post-modernism.

SOC 3013: Psychosocial Aspects of Death and Dying

Cross-listed: PSY 3013

Prerequisite: Upper division standing.

This course studies the psychological and sociological aspects of death. The course will provide a basic insight into the dynamics surrounding death from the individual and societal level, its impact on survivors, and the effect death has on the living.

SOC 3023: The Family

Prerequisite: SOC 1003

A study of the American family institution with emphasis upon role relationships, norms, and models. Some attention is given to cross cultural comparisons.

SOC 3033: Environment and Society

Prerequisite: SOC 1003

This course focuses on the study of interrelationships between society and the natural environment from traditional to postindustrial forms. Topics in this class will include economic approaches to the natural environment, philosophical/ethical approaches to the natural environment, public opinion on the natural environment, the importance of the environmental movement and policy development on environmental issues.

SOC 3063: Communities

Prerequisite: SOC 1003

An exploration and analysis of the sociological concept of community from classical approaches to recent debates.

Note: May not be taken for credit after completion of SOC 2063.

SOC 3083: Social Deviance

Cross-listed: CJ 3083

Prerequisite: SOC 1003 or SOC (CJ) 2003

An introduction to the sociological and criminological study of human deviance. Various theories of deviance will be examined and applied to real life examples.

SOC 3093: Sociology of Education

Prerequisite: SOC 1003

A study of education as a social system, its organizational characteristics, and its inter relationships with other social systems such as the family, religion, economics, government, and politics.

SOC 3103: The Juvenile Justice System

Cross-listed: CJ 3103

Prerequisite: SOC(CJ) 2003

An in-depth look at the juvenile justice system including the structure, statuses and roles as well as current issues, problems, and trends.

SOC 3113: Social Movements and Social Change

Prerequisite: SOC 1003

An examination of past and current social movements and their effects on social policy and social change. Topics will include classical and contemporary theories of social movements and social change.

SOC 3133: Self and Society

Cross-listed: PSY 3133

Prerequisite: SOC 1003 or PSY 2003

A sociological survey of the ways in which social structure and personality interact. Topics typically covered are: socialization, attitudes and value formation and change, and group influences upon self-concept and self-esteem.

SOC 3153: Prison and Corrections

Cross-listed: CJ 3153

Prerequisites: SOC 1003 and SOC (CJ) 2033

An introduction to and analysis of contemporary American corrections. Emphasis will be on current and past correctional philosophy, traditional and modern correctional facilities, correctional personnel and offenders, new approaches in corrections, and the relationship of corrections to the criminal justice field.

SOC 3163: Introduction to Social Research

Prerequisites: SOC 1003 and SOC (PSY) 2053

An introduction to research methodology, with emphasis upon conceptualization, design, and processes.

SOC 4003: Minority Relations

Prerequisite: SOC 1003

A study of minority groups with emphasis upon discrimination, socio historical characteristics and processes of change. Minorities considered include racial, ethnic, and gender.

SOC 4013: Drugs in Society

Cross-listed: CJ 4013

Prerequisite: SOC 1003 or CJ 2003

This course presents a comprehensive study of the history and prohibition of drug use in the United States, as well as the effects of drugs on society in the form of crime, prison and treatment. The main focus of this class is on the history of drug use, how certain drugs become illegal, and the intended and unintended consequences of drug prohibition for communities and society.

SOC 4023: Sociology of Gender

Prerequisite: SOC 1003

This course addresses definitions of gender, gendered identities, how gender is created and maintained as a social construct, and the importance of gender in our daily lives. This class mainly focuses on the theoretical and empirical literature that encourages critical thinking about gender and challenges students to move beyond their preconceived notions/assumptions about gender.

SOC 4043: Social Psychology

Cross-listed: PSY 4043

Prerequisite: Upper division standing or permission.

The study of how individuals are influenced by the actual or implied presence of other persons. Emphasis is placed on attitudes, social cognition, social influence, aggression, altruism, self and other perception.

SOC 4053: Sociology of Health and Illness

Prerequisite: SOC 1003

An in-depth look at the sociology of health and illness including an examination of the social structures related to the medical system, the social psychology of health and illness, a comparative analysis of sick role behavior as well as the study of social causes and consequences of health and illness.

SOC 4063: Social Stratification

Prerequisite: SOC 1003

A study of social class and consequences for society and individuals.

SOC 4073: Sociology of Religion

Prerequisite: SOC 1003.

A study of the various theoretical explanations of religion, including its relationship to the larger society and the world system.

SOC 4143: Seminar in Sociology

A directed seminar in an area of sociology. The specific focus will depend upon research underway, community or student need, and the unique educational opportunity available.

Note: May be repeated for credit if course content differs.

SOC 4183: Social Gerontology

Prerequisite: SOC 1003

An introduction to the sociology of aging: content provides general and specific knowledge regarding the aging process. Implications for economic, political, and family institutions are emphasized.

SOC 4206: The Law in Action

Cross-listed: CJ 4206

Offered: Summer only

Prerequisites: SOC/CJ 2043, 9 hours of criminal justice coursework, senior classification, and instructor permission.

An examination of sociological theories of law and main currents of legal philosophy is followed by participant observation of actual community legal agencies, including police, courts, and others as available.

SOC 4283: Sociology Capstone

Prerequisites: All required sociology courses (lower and upper division) and 9 hours of upper division electives in sociology, or consent of instructor.

This course must be completed by all sociology majors prior to graduation. The course content/topic is determined by the professor and current issues in the local community, which may vary semester to semester. Emphasis will be placed on linking theory, research methods, and social action to community defined problems in the form of applied sociology.

SOC 4951,4952,4953,4954: Undergraduate Research in Sociology

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

SOC 4991,4992,4993,4994: Special Problems in Sociology

Prerequisite: Prior approval by instructor

Content will be determined by specific curriculum review and student need.

Spanish Course Descriptions

SPAN 1013: Beginning Spanish I

ACTS Common Course - SPAN 1013

Training in the elements of Spanish communication (speaking and writing) and comprehension (listening and reading) within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied Spanish.

SPAN 1023: Beginning Spanish II

ACTS Common Course - SPAN 1023

Continued training in basic Spanish communication (speaking and writing) and comprehension (listening and reading) skills to increase proficiency in the language within a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied Spanish.

SPAN 1063: Basic Spanish for Medical and Social Services

Prerequisites: SPAN 1013 and 1023

Useful terminology and expressions for the medical and social service situation, with an emphasis on intercultural and professional issues. Students will also be able to demonstrate awareness of basic grammatical concepts.

SPAN 2013: Intermediate Spanish I

ACTS Common Course - SPAN 2013

Prerequisite: SPAN 1023 or equivalent

Development of the language skills necessary for communication (speaking and writing) and comprehension (listening and reading) skills to increase proficiency in the language at the intermediate level within a variety of cultural contexts.

Three hours of applied course work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied Spanish.

SPAN 2023: Intermediate Spanish II

ACTS Common Course - SPAN 2023

Prerequisite: SPAN 2013 or equivalent

Further development of the language skills necessary for communication (speaking and writing) and comprehension (listening and reading) skills to provide mastery of the fundamental tools in a variety of cultural contexts.

Three hours of applied class work and one hour of foreign language lab per week is required.

Note: Advanced placement and credit by examination are available to students who have previously studied Spanish.

SPAN 3003: Conversation and Composition I

Prerequisite: SPAN 2023 or permission of instructor

Development of advanced control of Spanish communication and comprehension through conversation and composition based on analysis of authentic short texts and media.

Three hours of applied course work.

Note: Advanced placement and credit by examination are available to students who have previously studied or are proficient in Spanish.

SPAN 3013: Conversation and Composition II

Prerequisite: SPAN 3003 or permission of instructor

Continuation of SPAN 3003. Further development of advanced proficiency of Spanish communication and comprehension through conversation and composition based on analysis of authentic short texts and media.

Three hours of applied course work.

Note: Advanced placement and credit by examination are available to students who have previously studied or are proficient in Spanish.

SPAN 3023: Introduction to Linguistics

Cross-listed: COMM 3023, ENGL 3023, FR 3023, and GER 3023

Prerequisites: ENGL 1023 or equivalent and SPAN 2023 or equivalent.

A study of basic concepts in language, comparative characteristics of different languages, and the principles of linguistic investigation.

SPAN 3113: Business Spanish

Prerequisite: SPAN 3003 or permission of instructor.

The study of business culture, terminology, presentations and cases in the Hispanic world. This course will present a detailed examination of business practices in Latin America and other Spanish speaking countries. Emphasis will be given to business protocols when conducting business correspondence, personal interviews, and appointments, among others. Attention will also be given to the use of technology in business.

SPAN 3123: Spanish Civilization and Culture

Prerequisite: SPAN 3013 or permission of instructor.

Study of the geography, history, arts, institutions, customs and contemporary life of the Spanish people.

SPAN 3133: Spanish-American Civilization and Culture

Prerequisite: SPAN 3013 or permission of instructor.

Study of the geography, history, arts, institutions, customs, and contemporary life of the peoples of Spanish America, with some attention to the major pre-Colombian civilizations.

SPAN 3143: Study Abroad

Prerequisites: Completion of SPAN 2023 or equivalent and permission of the World Languages Study Abroad supervisor.

Study of the contemporary language and culture in a Spanish speaking country.

Note: May substitute for SPAN 3003 or SPAN 3013, depending on the student's proficiency level.

SPAN 3163: Community Internship Experience

Prerequisite: Completion of SPAN 2023 or equivalent.

Study of contemporary language and culture in a Spanish- speaking community or setting.

Note: May be taken instead of SPAN 3143 to meet degree requirements.

SPAN 3213: Advanced Grammar and Usage

Prerequisite: SPAN 2023

The course is designed to build writing competence and strengthen grammatical competence. Grammar will be studied within the context of writing assignments. The course will deepen the knowledge of the language through the usage of applied linguistics, syntax, grammar, and semantics.

SPAN 3382: Principles of Interpretation

Prerequisite: Completion of or concurrent enrollment in SPAN 3003.

Theory and practice based course on English-Spanish interpretation for health care and court settings.

SPAN 4003: Oral Communication

Prerequisite: SPAN 3013 or permission of instructor.

This course is designed to strengthen students' oral communication skills.

SPAN 4023: Introduction to Spanish Linguistics

Prerequisites: SPAN 3003 and 3213

The purpose of this course is to provide students with the fundamental knowledge of Spanish linguistics as the basis for future application of linguistic principles. This course explores Spanish phonetics, phonology, morphology, syntax and semantics.

SPAN 4203: Short Story

Prerequisite: SPAN 3003

An analysis of Spanish-language short stories.

SPAN 4213: Spanish Literature

Prerequisite: SPAN 3013

A survey of the literature of Spain with readings from representative works.

SPAN 4223: Spanish-American Literature

Prerequisite: SPAN 3013

A survey of Spanish American literature with readings from representative works.

SPAN 4283: Seminar in Spanish

Prerequisite: SPAN 3003

Course content will vary. May be repeated for credit if course content varies.

SPAN 4701: Foreign Language Pedagogy

Cross-listed: FR 4701, GER 4701

Prerequisite: Admission to student teaching phase of the teacher education program.

Co-requisite: SEED 4909

Intensive on-campus exploration of the principles of curriculum construction, applied methods, professional collaboration, and evaluation as related to teaching French, German, or Spanish, followed by professional internship application of these principles under the supervision of a qualified departmental instructor.

SPAN 4703: Foreign Language Teaching Methods

Cross-listed: FR 4703, GER 4703

Prerequisite: SPAN 3013 and SPAN 3123 or SPAN 3133 or equivalent; admission to Stage II of the Secondary Education sequence or equivalent.

Survey of instructional methods and discussions and demonstration of practical techniques for the teaching of a foreign language.

SPAN 4803: Spanish-Language Film

Prerequisites: SPAN 3123 or SPAN 3133 or equivalent.

An introduction to Spanish-language film theory and major films.

SPAN 4813: U.S. Latino/a Literature and Culture

Prerequisite: SPAN 1023

This survey course offers an overview of the history of U.S. Latino/a literature, introducing the major trends and placing them into a historical framework stretching from the nineteenth century to today. Topics to be discussed include the construction of identity in terms of race, gender, sexuality, and class; bilingualism and code-switching; the experiences of exile, the immigrant, the marketing of the Latino/a identity; and the relationship of the artist to his or her community.

SPAN 4951,4952,4953,4954: Undergraduate Research in Spanish

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

SPAN 4991,4992,4993: Special Problems in Spanish

Prerequisites: SPAN 2023 and consent of the instructor and the department head.

Designed to provide advanced students with a course of study in an area not covered by departmental course offerings.

Special Education Course Descriptions

SPED 3023: Development & Characteristics of Diverse Learners

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course covers characteristics of children with exceptional learning needs. An emphasis will be placed on typical and atypical development, an overview of various exceptionalities including Giftedness, and the special needs of children from different cultures and language backgrounds. A field experience is required.

SPED 3033: Foundations of Special Education

Prerequisite: Admission to Stage II of the Teacher Education Program.

This course explores the development of the current administrative system for serving students with diversity. It shows how and why the present system for children with disabilities, children with giftedness, and children of other diversities is used for the benefit of those students. SPED3003 students become prepared not only for teaching diverse populations but also for serving on the IEP and other committees that make important decisions that will affect their futures.

SPED 3153: Planning, Instruction, and Assessment for Students with Disabilities

Prerequisite: Admission to Stage II of the Teacher Education Program.

The primary purpose of this course is to empower elementary (K-6) teacher education candidates to respond effectively to the broad range of needs found in today's classrooms. Student diversity will be considered within the context of an educational framework, focusing specifically on an array of exceptionalities but also taking into consideration other influences, such as: culture, class, gender, language, etc. The need and means to provide effective learning opportunities for all students through varied teaching and learning in the classroom will be cultivated. Through a variety of hands-on activities, students will focus on the evaluation, creation and application of effective, research based planning, instruction and assessments strategies for creating classrooms which foster educational equality for all exceptional children.

TECH Course Descriptions

TECH 1001: Orientation to the University

A course designed to provide information and enhance skills that will enable students to take responsibility for a successful transition to college. The course will expose students to college resources and requirements and promote the development of practical skills for college success.

Theatre Course Descriptions

TH 2203: Play Analysis

A course designed for the theatre major. Contains techniques and vocabulary essential for doing a production-based analysis for the student actor, designer or director.

TH 2273: Introduction to Theatre

ACTS Common Course - DRAM1003

Prerequisite: ENGL 1013 or equivalent.

A study of theatre as an art form with particular attention to scenic, dramatic, literary and historic elements.

Note: TH 2273 may be used to fulfill the fine arts general education requirement.

TH 2301: Introduction to Theatrical Dance

An introduction to the basic skills and discipline of stage movement and the steps and vocabulary of jazz, tap and ballet.

Note: This course counts as a PE activity credit in degree programs that are not intended for teacher licensure.

TH 2331: Advanced Theatrical Dance

Prerequisite: TH 2301

This course provides a continuation of the skills development for stage movement, and the steps, vocabulary, and discipline of ballet, tap, jazz, modern dance, and basic partnering.

Note: This course counts as a PE activity credit in degree programs that are not intended for teacher licensure.

TH 2511,2521: Practicum in Set Construction and Lighting

Credit will be given for forty hours of participation in these elements of stagecraft.

TH 2513: Introduction to Theatrical Design and Production

An introduction to the field of technical theatre.

TH 2611,2621: Practicum in Costume and Makeup

Credit will be given for forty hours of participation in these elements of stagecraft.

TH 2703: Acting Theories and Techniques

An introduction to standard acting techniques, including method acting.

TH 2711: Acting Practicum

Prerequisite: Consent of instructor

Credit will be given for a large part in a major production or for a small part preceded by a series of smaller parts in previous productions.

TH 2713: Intermediate Acting

Prerequisite: TH 2703 or equivalent

Emphasis on character development, character interaction, and scene work, with special attention to comedy.

TH 2721: Acting Practicum

Prerequisite: Consent of instructor

Credit will be given for a large part in a major production or for a small part preceded by a series of smaller parts in previous productions.

TH 3513: Stagecraft Techniques

An introductory course for both majors and non-majors who want to learn the technical aspects of dramatic productions. A study of construction fundamentals and skills involved in scenic art. This course also introduces the student to the production process, theatre job descriptions, professional hierarchy, and technical specialist collaboration.

This course requires a weekly lab in addition to the class for supervised practice of class skills.

TH 3523: Principles of Theatrical Lighting

Prerequisite: TH 3513, or consent of instructor.

An introduction to lighting design, including the history of theatrical lighting, electrical theory and practice, lighting control systems, color theory and creative process. This course requires a weekly lab in addition to the class for supervised practice of class skills and familiarization with the production process.

TH 3703: Advanced Acting: Styles

Prerequisite: TH 2713 or equivalent.

The analysis and performance of scenes from plays from various historical periods, with attention to vocal and kinesthetic qualities appropriate to different styles.

TH 3711,3721,4711,4721: Practicum in Stage Management

Prerequisite: Consent of Instructor

Student will be given credit for stage-managing a full-length production or a slate of one-acts.

Note: Each number may be taken for credit one time with a maximum of 7 practicum credits counted toward the major.

TH 3731,3741,4731,4741: Practicum in Acting

Prerequisite: Consent of Instructor

Credit will be given for a large part in a major production or for a small part preceded by a series of smaller parts in previous productions.

TH 3803: Directing Theories and Techniques

An introduction to standard directing techniques.

TH 3811,3821: Directing Practicum

Prerequisite: Consent of instructor

Credit will be given for directing a one act play.

TH 3833: Advanced Directing

Prerequisites: TH 3811, and consent of instructor.

Credit will be given for directing a full length play.

TH 4091,4092,4093,4094: Internship

Credit for work in professional theatre settings. Credit hours will be based on hours on the job.

Note: May be taken for a total of four hours.

TH 4243: Senior Project in Theatre History

Research project approved by the department to facilitate graduate school application.

TH 4283: Children's Theatre: Techniques and Practicum

Prerequisites: Consent of instructor

The philosophy of teaching acting to children, in theory and in practice. The course is designed for theatre majors, teachers, and others interested in child development. The semester equivalent of two hours of class lecture is combined with the semester equivalent of two hours of supervised laboratory experience in a children's theatre setting.

Note: May not be taken for credit after completion of COMM 5283 or equivalent.

TH 4313: Theatre History I: Antiquity to Romanticism

A historical survey of the development of drama and theatre from classical Greece to the age of romanticism.

Note: May not be repeated for credit as TH 5313.

TH 4323: Theatre History II: Late 18th Century to the Present

The development of theatre from the late 1700s through the twenty-first century, including melodrama, realism, experimental theatre, feminism, political theatre, multiculturalism, and collective creation.

Note: May not be repeated for credit as TH 5323.

TH 4503: Scene Design

Prerequisite: TH 3513, or permission of instructor.

A study of the elements of design for the stage, from conception to finished production models, focusing on line, form, mass, and color.

Note: May not be repeated for credit as TH 5503 or equivalent.

TH 4511,4521: Practicum in Set Construction and Lighting

Prerequisite: Consent of Instructor

Student will be given credit for 40 hours of set construction participation.

TH 4513: Drafting for the Stage

Prerequisite: TH 3513 or permission of the Instructor.

Introduction to the United States Institute for Technical Theatre drafting techniques and language.

Production of floor plans, elevations, construction drawings and perspectives for theatrical construction.

This course requires a weekly lab in addition to the class skills and familiarization with the production process.

TH 4523: Advanced Stagecraft

Prerequisites: TH 3513, TH 4513 or permission of instructor.

A course for technical theatre emphasis majors that trains the student for managing a theatre shop. Teaches advanced construction techniques, welding, pyrotechnics, and people managing skills.

This course requires a weekly lab in addition to the class for supervised practice of class skills and production process.

TH 4543: Senior Project in Design

Portfolio creation project approved by the department to facilitate graduate school application process or professional placement.

TH 4611,4621: Practicum in Costume and Makeup

Prerequisite: Consent of Instructor

Student will be given credit for 40 hours in costume or makeup participation.

Note: Each course number may only be taken for credit 1 time with a maximum of 7 practicum hours counting toward the major.

TH 4613: Introduction to Costuming

An examination of the history, theory and practice of costume design. It makes use of lecture, practical experience and personal exploration through a variety of artistic media to help each student understand both the art and technology of costume design.

TH 4821,4831: Practicum in Directing

Prerequisite: Consent of Instructor

Student will be given credit for the assistance in the directing of a full-length production or for the independent directing of a one-act.

TH 4843: Senior Project in Theatrical Performance

Portfolio creation project approved by the department to facilitate graduate school application or professional placement.

TH 4951,4952,4953,4954: Undergraduate Research in Theatre

Offered: On demand

Prerequisite: Departmental approval

Advanced students carry out independent research activity relating to a significant problem in a major field of study. Supervised by faculty member. Formal report and presentation required. One to four credits depending on problem selected and effort made.

TH 4983: Theatre Seminar:

Prerequisites: Twelve credits in theatre and junior standing.

A directed seminar dealing with a selected topic in theatre studies. May be repeated for credit for different topics.

Note: May not be repeated for credit as TH 5983 unless topic is different.

TH 4991,4992,4993,4994: Special Problems in Theatre

For majors only. Students are accepted by invitation of the instructor.

Vocational Business Education Course Descriptions

VOBE 4023: Methods of Teaching Vocational Business

Prerequisites for 3000 and 4000 level courses are listed in the College of Business section of this catalog.

A methods course designed to prepare the beginning business educator for effective teaching in the contemporary vocational business education classroom. Teaching methodologies for the business education occupational clusters are presented and practiced.

VOBE 4701: Special Methods in Vocational Business

Prerequisite: Admission to student teaching phase of the teacher education program. Additional prerequisites for 3000 and 4000 level courses are listed in the College of Business section of this catalog.

Co-requisite: SEED 4809

Intensive on-campus exploration of the principles of curriculum construction, teaching methods, use of community resources, and evaluation as related to teaching vocational business.

Wellness Science Course Descriptions

Activities

WS 1002: Physical Wellness and Fitness

The course provides students with the opportunity to assess their current lifestyle and consider the possible consequences for the present and the future. The class provides a mechanism for change by actively involving the student in self-analysis and a trial exercise program.

Note: This course will satisfy two credit hours of PE activity.

Note: A grade of C or better is required for HPE majors

Two scheduled class meetings and two hours arranged. \$25 laboratory fee.

WS 1031: Food, Exercise, and Body Composition

The course provides the student with the opportunity to assess their current lifestyle pertaining to the nutrients consumed in the diet and the amount and type of aerobic exercise participation. Special emphasis is placed on developing an internal locus of control by actively involving the student in self-analysis activities, developing an understanding of nutrient intake and the culminating effects on personal health, and participation in an appropriate aerobic exercise program.

\$25 laboratory fee.

WS 1061: Muscle Fitness for Women

Structured to provide for the development of insights and practices associated with resistive activity as the student accomplishes an individually predicted level of muscle fitness.

\$25 laboratory fee.

WS 1081: Muscle Fitness for Men

Structured to provide for the development of insights and practices associated with resistive activity as the student accomplishes an individually predicted level of muscle fitness.

\$25 laboratory fee.

WS 1091: Fitness Walking/Jogging

The course provides the student with the opportunity to assess his or her personal physical fitness level with trained personnel. Special emphasis is placed on improving the physical fitness level of the student through participation in appropriately designed walking or jogging activity. Students who enroll in the class will submit themselves to the physical fitness protocol administered by the HPE and Wellness faculty members and upper-level majors.

\$25 laboratory fee.

Wellness Science Course Descriptions

Academic

(Additional prerequisites for WS Academic courses are listed in the Wellness and Fitness Programs Option section of this catalog.)

WS 2003: Field-Based Experience in Wellness

Prerequisites: Level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

The class provides the prospective Wellness/Fitness professional with an opportunity to observe on-site a community-based wellness/fitness agency or business. A combination of classroom and on-site experiences will direct the student's focus to various aspects of commercial or institutional programs and services aimed at lifestyle enhancement.

Specific lecture-class meetings and at least 30 hours of observation in an agency or business setting will be required.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 2031: Directing Food, Exercise, and Body Composition Programs

Prerequisites: Level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

The course provides the student with the opportunity to assess their current lifestyle pertaining to the nutrients consumed in the diet and the amount and type of aerobic exercise participation. Special emphasis is placed on the methodology of teaching about the development of an internal locus of control by actively involving the student in self-analysis activities, developing an understanding of nutrient intake and the culminating effects on personal health, and participation in an appropriate aerobic exercise program. The course is structured to provide for the development of knowledge and practices of directing food, exercise, and body composition programs employed to accomplish an individually predicted level of physical fitness.

Laboratory two hours. \$25 laboratory fee.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 2043: Applied Fitness Assessment and Development

Prerequisites: PE 2653 and PE 3663; level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

A survey and application of the knowledge and experiences in assessing and developing all components of physical fitness.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 2081: Directing Muscle Fitness Programs

Prerequisites: Level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

Structured to provide for the development of knowledge and practices of directing resistance training activities used to accomplish an individually predicted level of muscle fitness.

Laboratory two hours. \$25 laboratory fee.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 2091: Directing Fitness Walking/Jogging Programs

Prerequisites: Level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

The course provides the Wellness/Fitness major student with the opportunity to assess the physical fitness level of individuals under the supervision of trained personnel. The course is structured to provide for the development of knowledge and practices of directing fitness walking and jogging activities employed to accomplish an individually predicted level of aerobic fitness. Students who enroll in the class will submit themselves to the physical fitness protocol as well as help administer various evaluation measures to members of a corresponding wellness activity class.

Laboratory two hours. \$25 laboratory fee.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 3003: Exercise Prescription

Prerequisites: WS 2043 or consent of department head; level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

A course designed to expose the student to the aspects of health-related and skill-related physical fitness, with particular attention given to prescribing exercise programs. Attention will be given to choosing appropriate fitness assessments, along with development of appropriate goals for clientele.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 3023: Exercise Behavior and Adherence

Prerequisites: Level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

The course provides the student with the opportunity to learn about the components which impact exercise behaviors and adherence to physical exercise programs. Emphasis is placed on the identification of components which directly impact on personal motivation for the development of appropriate exercise behaviors, and the development of incentives which assist in adherence to health enhancement programs.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 4003: Advanced Professional Seminar

Prerequisites: Completion of all 1000- and 2000-level Wellness Science required classes; level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

This course provides the advanced wellness/fitness major with a setting in which research and contemporary topics critical to the profession may be explored. The student will perform literature research, data gathering, and professional writing/presentation throughout the class.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 4012: Wellness and Fitness Program Management Internship

Twelve hour course

Prerequisites: Admission to internship program and 2.00 grade point average; level 3 requires completion

of all WS, PE, and HLED content area courses with a grade of C or better and a cumulative GPA of 2.00 or better.

Intensive on-campus classroom exploration of professional principles and procedures used in the areas of health and fitness promotion for the first three weeks of the semester. The remaining portion of the semester is spent in a supervised full-time internship at a designated site.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 4013: Wellness Science Practicum

Prerequisites: WS 2031, 2043, and 3003

This program is designed to expose majors to training in a community or corporate wellness setting. Students will organize, develop, market, and implement wellness programming for Arkansas Tech University students and employees.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 4023: Principles of Strength and Conditioning

Offered: Fall

Prerequisites: PE 2653 and 3661

This course is designed to provide a comprehensive overview of strength and conditioning. Emphasis is placed on the exercise sciences (including anatomy, exercise physiology, and biomechanics) and nutrition, exercise technique, program design, organization and administration, and testing and evaluation. Additionally, this course is designed to prepare students for the nationally accredited Certified Strength and Conditioning Specialist (CSCS) certification exam.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 4063: Wellness and Fitness Programming

Prerequisites: Level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and COMM 2173.

The course is designed to provide the student with the opportunity to discover various methods employed in planning and implementing wellness and fitness programs in multiple settings. Special emphasis is placed on the administration of client-specific health enhancement programs designed for persons in corporate settings, fitness center clientele, and patients in physical rehabilitation.

Note: A grade of C or better is required for Health and Physical Education majors.

WS 4991,4992,4993: Special Problems in Wellness Science

Prerequisites: Level 2 courses require completion of the following with a grade of C or better: PE 1201, WS 1002, ENGL 1013, ENGL 1023, MATH 1113, BIOL 1014, and SPH 2173.

Independent work on approved wellness science topics under the individual guidance of a faculty member. Admission requires the consent of the department head.