

2016-17 Catalog

August 24, 2015 Curriculum Committee

September 8, 2015 Faculty Senate

College of Arts and Humanities

Department of Art

1. Add the following courses to the course descriptions:
 - a. ART 2223: History of Digital Art;
 - b. GAME 3013: Game Development I;
 - c. GAME 3023: Game Development II;
 - d. GAME 4013: Senior Game Project I;
 - e. GAME 4023: Senior Game Project II;
 - f. GAME 4263: 3D Modeling;
 - g. GAME 4633: 3D Animation;
 - h. GAME 4803: Game Design Theory; and
 - i. GAME 4901: Professional Portfolio; and
2. Add the Curriculum in Game and Interactive Media Design.

College of Natural and Health Sciences

Department of Biological Sciences

1. Add the following courses to the course descriptions:
 - a. ENVS 4112 and 4114: Environmental Science Internship;
 - b. ENVS (BIOL) 4124: Biological Assessment of Water Quality;
 - c. ENVS 4133: Environmental Policy; and
 - d. ENVS 4951-4: Undergraduate Research in Environmental Science; and
2. Add the Curriculum in Environmental Science.

Department of Physical Sciences

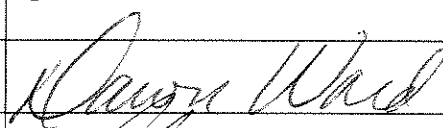
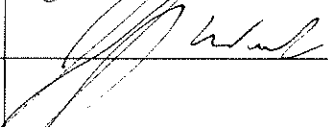
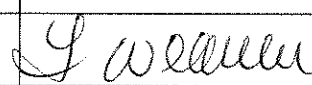
1. Add PHSC 2003, Physics in Society and the Environment, to the course descriptions;
2. Modify the Curriculum in Chemistry Biochemistry Option as follows: a) add 2 hours of CHEM 4951-2: Undergraduate Research in Chemistry, or CHEM 4991-2: Special Problems in Chemistry; b) add 3 hours of upper division CHEM electives; and c) change the electives from 11 hours to 6 hours; and
3. Separate the Curriculum in Physical Science for Teacher Licensure into the Curriculum in Chemistry Education and Curriculum in Physics Education;

JUN 26 2015

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Arkansas Tech University

REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Art	
DATE SUBMITTED:	6/10/15	
Title	Signature	Date
Department Head		6/26/15
Dean		8/4/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		6/26/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL)	Course Number: (e.g., 1003)	Effective Term:
ART	2223	<input type="radio"/> Spring <input checked="" type="radio"/> Summer I Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below)		
History of Digital Art		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript)		
History of Digital Art		
Will this course be cross-listed with another existing course? If so, list course subject and number.		
<input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog?		
<input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? 3		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box):		
<input checked="" type="radio"/> 01 Lecture <input type="radio"/> 02 Lecture/Laboratory <input type="radio"/> 03 Laboratory only		

JUN 26 2015

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<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar
<input type="radio"/> 98 Other		

Does this course require a fee? ☐ Yes ☒ No How Much? Select Fee Type

If selected other list fee type:

☒ Elective ☒ Major ☐ Minor

(If major or minor course, you must complete the Request for Program Change form to add course to program.)

If course is required by major/minor, how frequently will course be offered?

Once a year

For the proposed course, attach a syllabus in Word format that includes: **(Items a. through d. should be entered as they should appear in the catalog)**

- Course subject
- Course number
- Catalog course title
- Catalog description
 - Arkansas Course Transfer System (ACTS) course number, if applicable
 - Cross-listing
 - Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring)
 - Prerequisites
 - Co-requisites
 - Description
 - Notes (e.g., information not in description such as course may be repeated for credit)
 - Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours)
 - Fees (e.g., \$36 art fee)
- Section for Name of instructor, office hours, contact information (telephone, email)
- Text required for course
- Bibliography (supplemental reading list)
- Justification/rationale for the course
- Course objectives
- Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- Assessment methods (include grading policy with specific equivalents for A, B, C)
- Policy on absences, cheating, plagiarism, etc.
- Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? No

JUN 26 2015

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Will this course require a special classroom (computer lab, smart classroom, or laboratory)? No

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

JUN 26 2015

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ART 2223 History of Digital Art**Professor:** Dr. Dawn Ward**Office** – Norman Hall 104-A **Hours:** 3-5 MWF, 2-3 T & TH**Office Phone** #479.968.0244 **email** – dward23@atu.edu**History of Digital Art**

Course Description: 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.

Course Objectives:

Students will study contemporary artists of the digital age such as Nam June Paik, Peter Campus, Cindy Sherman, Bruce Nauman, Bill Viola, Chuck Close, Jenny Holzer, William Wegman, The Art Guys and Gretchen Bender. Students will examine and explore how these artists create works in the digital format like their predecessors used a paintbrush. This course will not only examine works by these artists but how they incorporate technology with artistic concept and practice.

Course Outcomes:

On successful completion of the course, students will be able to accomplish the following: Provide a critical framework of the use of technology in contemporary art by examining the role of digital art, discussing and identifying contemporary artists, their work and the various media used to produce those works.

Required Textbook: *Digital Art*, by Christiane Paul, second edition 2008, publisher Thames & Hudson *World of Art* series.

Prerequisites: None**Basis for Evaluation and Grading**

Grades are based on periodic weekly written assignments including art critiques, short essays, comparison and contrast papers, art image exams, online discussion participation and promptness meeting assignment deadlines. The assignment points may vary but all assignments will be determined according to the following scale: A= 100-90 B= 89-80 C=79-70 D=69-60 F=59 or below

Successful completion of all projects and examinations are the minimum required to earn a grade of C. Grades above a C are earned by the quality of work and participation. Late work is not accepted unless sufficient documentation supports such an arrangement.

ATTENDANCE:

You will find your assignments on Blackboard and attendance for this class will be counted as part of your grade, along with completion of projects and research assignments. Students are allowed 4 absences without penalty as per the department of art's policy. These absences are up to the student to use wisely. More than 4 absences will result in a reduction in your participation and attendance grade and more than 7 absences will result in the student being dropped from the course for excessive absences.

JUN 26 2015

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ACADEMIC HONESTY:

Cheating, unethical behavior or plagiarism of any type (including the use of web-based public domain items) will not be tolerated and will result in the grade of "F" for the course. Students will be provided with a list of legitimate on-line resources that may be used, all work used in papers must be credited to its source and no other sources except for the course text book and the provided sources may be used for research papers.

BLACKBOARD:

This course will utilize blackboard to post lectures, lessons and discussion boards. You will access your grades and feedback through this site as well so if you need help using Blackboard please notify the instructor at the beginning of class so that you can schedule some time to go over the learning platform.

Check your Tech e-mail account frequently; it may be necessary at times for me to contact you by e-mail with important news and information about the class – once a week is not enough to ensure that information gets to you in a timely manner.

COURSE OUTLINE:**Week 1**

This week will be dedicated to an introduction to the course syllabus, learning how to navigate the course assignments and links on your course page in Blackboard, how to upload your assignments, formats for papers, discussion board requirements and exam procedures. Note: all reading assignments for each week must be completed prior to that week of the course to be prepared for the week's discussions, exams and writing assignments.

Reading Assignment for week 1 – your course syllabus.

Week 2

What is Modernism? When and why did the Modernist's thought and practice become an issue to be challenged by Postmodern artists? How did technology play a role in this shift? We will be examining early technology and interactive art including the works of Marcel Duchamp, John Cage, Moholy-Nagy, John Cage, Andy Warhol who as artists set the stage for experimental-interactive art.

Read – pages 7-16 of the introduction to your text.

Week 3

This week we look at the early history of technology and art and some of the important influences on the movement. What were some of the early technological inventions and how were they used by artists as a tool for making images and how are those images presented and collected? We will discuss the Fluxus movement and Nam June Paik as well as some of the first digital artists John Whitney, Charles Csuri, James and Douglas Davis.

Read – pages 17-25 the introduction to your text *Digital Art*.

Week 4

Discussion of appropriation, collage and photography in earlier modern art movements such as Surrealism, Super Realism, Dada, and Pop Art which includes the artists' interpretation of mass

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production and reproduction as a pivotal shift in the process of making art. This shift most aptly described in Walter Benjamin's essay on "The Work of Art in the Age of Mechanical Reproduction" helps define the new age of art and will be looked at for its influential role in critical theory. Artists in this discussion include Raoul Hausmann, Herbert Bayer, Richard Estes, Andy Warhol, Max Ernst and Sherrie Levine, Paul Smith, Scott Griesbach.

Read – pages 26-42 of Chapter 1 "Digital Technologies as a Tool"

Exam 1 over Weeks 1-4 (from notes and book)

Week 5

Photography, deconstruction and the manipulating of images with digital technologies. What happens to the original? The value and existence of the traditional/original work of art is the debate on work that can be easily reproduced and copied. Discussion of the processes and theories of deconstruction and dematerialization of art and how this is reflected in Postmodern works of art by the Sarn Twins (Mike & Doug), The Art Guys, Cindy Sherman, Daniel Canogar, Peter Campus, Carl Fudge, Michael Rees and Ana Marton .

Read – pages 42-65 Chapter 1 "Digital Technologies as a Tool"

Week 6

This week we will be looking at the part one of the fusion of art and technology to create virtual worlds. We will be examining forms of digital art using Installation Art to depict Virtual Reality as an art medium from the early explorations of Morton Heilig and his Sensorama Machine invented in 1957 to current practitioners of the art such as Perry Hoberman, Bill Seaman, Gideon May, Rafael Lozano-Hemmer, Jeffery Shaw and Michael Naimark.

Read – pages 67-87 Chapter 2 – "Digital Technologies as a Medium"

Week 7

Part two of the fusion of technology and art looks at the film & video artists who have used this medium in both installation settings and sculptural forms to make their work or convey their work such as Nam June Paik, Bill Viola, Jim Campbell, Peter Campus, Toni Dove, Adrian Piper, Wilson and Mierle Ukeles.

Read – pages 88-107 Chapter 2 – "Digital Technologies as a Medium"

Midterm Exam – Weeks 5-7

From notes and book

Week 8 – This week is dedicated to research processes and sources to complete your final research paper. This paper is due at the end of week 12. The topics for this paper are of your choice but must be put in writing by the end of week 9 for approval. A short descriptive paragraph discussing the topic choice, relevant resources including the textbook and a short statement of why you have selected the topic must be uploaded to the drop box located in the Week 9 folder. There will be several exercises including a comparison essay to help you prepare to write your final paper.

Week 9

Part three of the fusion of technology and art focuses on internet art and animation. This section looks at computer animation, software art, all forms of interactive media and other artistic expressions of

JUN 26 2015

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virtual reality. Discussions of satellite, LED, digital video, internet, computer games, sound, hypermedia and artists such as Mark Napier, Bonnie Mitchell, Charlotte Davis, Tamiko Thiel and Zara Houshmand, Peter D'Agostino, Jenny Holzer, Gretchen Bender and David Blair that have developed or embraced these mediums and styles into their works.

Read – pages 108-138 Chapter 2 “Digital Technologies as a Medium”

Week 10

Part one in themes in digital art covers concepts dealing with Artificial Life, Artificial Intelligence, intelligent agents, telepresence, telematics, telerobotics, body and identity. In this section we will examine the subjects as well as the artists who embrace these themes such as Bruce Nauman, Eric Paulos, John Canny, Eduardo Kac, Kenneth Feingold, Steve Mann, Stelarc, Stahl Stenslie and Scott Snibbe.

Read – pages 140-174 Chapter 3 “Themes in Digital Art”

EXAM 2 – over weeks 8-10 – from notes and book

Week 11

Part two in themes in digital art covers concepts dealing with Databases, data visualization and mapping, text and narrative environments and gaming. In this section we will examine these subjects as well as the artists who embrace these themes such as Benjamin Fry, George Legrady, Alex Galloway, Nancy Paterson, John Klima, Art + Com, Camille Utterback, Romy Achituv, David Small, Natalie Bookchin, jodi, and Feng Mengbo.

Read – pages 175-203 Chapter 3 “Themes in Digital Art”

Week 12

Part three in themes in digital art covers concepts dealing with tactical media, activism, hacktivism and technologies of the future. In this section we will examine these subjects as well as the artists who embrace these themes such as Josh On, Antonio Muntadas, etoy, Vuk Cosie and project 0100101110101101.org.

Read – pages 204-211 Chapter 3 “Themes in Digital Art”

Week 13

Part four in themes in digital art covers concepts dealing with mobile, locative media and social networking. In this section we will examine these subjects as well as the artists who embrace these themes such as Natalie Jeremijenko, Marina Zurkow, Scott Paterson, Julian Bleeker, Q.S. Serafinj, Lars Spuybroek, Teri Rueb, Usman Haque, Angie Waller, Warren Sack, Preemptive Media, and Jenny Marketou.

Read – pages 216-237 Chapter 3 “Themes in Digital Art”

Week 14

What's next? The next generation of virtual worlds. An open discussion on the remaining pages of chapter 3 beginning on page 238. Eteam, Will Pappenheimer and John Craig Freeman are some of the artists we will be discussing as future models for digital art.

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Week 15

Art and the Internet – a week of online interactive artwork including collaborative works using mobile technology by artist's such as: Mongrel, Futurefarmers, Michael Weinkove, Candy Factory, and Jenny Holzer. A list of sites to visit and discuss will be in your week 15 folder.

Final exam – weeks 11-15

From notes and book

STUDENT DISABILITY:

Arkansas Tech University is committed to providing equal opportunities for higher education to academically qualified individuals who are disabled. If you have any questions or concerns about disability services and testing accommodations for students registered with the Office of Disability Services please contact Liz Means, Coordinator for Disability Services at 968-0302. For questions about testing practices and policies, please contact Karen Pittman, Coordinator of Testing Services at 968-0382

JUN 26 2015

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Arkansas Tech University

Course Addition ART 2223

Assessment Form

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

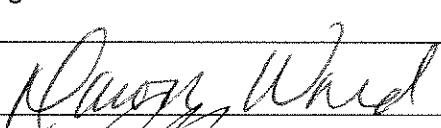
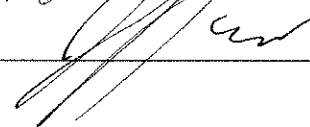
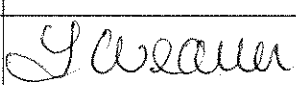
- a. How does this course fit with the university mission? *Art 2223 is an innovative course that develops professional skills in graphic design, computer science and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*
- b. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*
- c. Provide up to three student learning outcomes students will achieve after completing this course? Provide a critical framework of the use of technology in contemporary art by examining the role of digital art, discussing and identifying contemporary artists, their work and the various media used to produce those works.
- d. What assessment tool or measure will you use to assess student learning? *CPGE data.*
- e. What will students demonstrate, represent, or produce to provide evidence of their learning? *Critiques, essays and exams.*
- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
- g. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions. *There are only a few programs in the state with a similar course. Southern Arkansas University has a game design degree, and Henderson State University has a digital art and design major. The University of Phoenix and ITT branches in Little Rock also offer game design degrees.*

JUN 26 2015

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Arkansas Tech University

REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Art	
DATE SUBMITTED:	6/10/15	
Title	Signature	Date
Department Head		6/26/15
Dean		8/1/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		6/26/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL) GAME	Course Number: (e.g., 1003) 3013	Effective Term: <input type="radio"/> Spring <input checked="" type="radio"/> Summer I Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) Game Development I		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) Game Development I		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? 3		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box): <input type="radio"/> 01 Lecture <input checked="" type="radio"/> 02 Lecture/Laboratory <input type="radio"/> 03 Laboratory only		

JUN 26 2015

Registrar's Office

<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation Research	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar
<input type="radio"/> 98 Other		

Does this course require a fee? ☒ Yes ☐ No How Much? Art

If selected other list fee type:

☐ Elective ☒ Major ☐ Minor

(If major or minor course, you must complete the Request for Program Change form to add course to program.)

If course is required by major/minor, how frequently will course be offered?

For the proposed course, attach a syllabus in Word format that includes: **(Items a. through d. should be entered as they should appear in the catalog)**

- Course subject
- Course number
- Catalog course title
- Catalog description
 - Arkansas Course Transfer System (ACTS) course number, if applicable
 - Cross-listing
 - Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring)
 - Prerequisites
 - Co-requisites
 - Description
 - Notes (e.g., information not in description such as course may be repeated for credit)
 - Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours)
 - Fees (e.g., \$36 art fee)
- Section for Name of instructor, office hours, contact information (telephone, email)
- Text required for course
- Bibliography (supplemental reading list)
- Justification/rationale for the course
- Course objectives
- Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- Assessment methods (include grading policy with specific equivalents for A, B, C)
- Policy on absences, cheating, plagiarism, etc.
- Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? Yes

JUN 26 2015

Registrar's Office

Will this course require a special classroom (computer lab, smart classroom, or laboratory)? Yes

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

JUN 26 2015

Registrar's Office

GAME 3013 Game Development I

Fall 2016

Instructor: TBD

Email: TBD

Office Hours: TBD

Course Description

This course is an introduction to the fundamentals of game design and development. 3 credit hours, \$45 art fee, Fall only

Prerequisite: ART 2213**Required Textbook:** *Game Development Essentials: Game Level Design* by Jeannie Novak

Paperback: 512 pages

Publisher: Cengage Learning; 3 edition (August 17, 2011)

ISBN-10: 1111307652

Recommended Supplies:

Flash drive, external hard drive, sketchbook, pencils and/or markers

Justification of the Course

This course introduces students to the basics of game scripting. It builds upon the techniques developed in the foundational computer programming courses while introducing concepts of game interface, graphics, and narrative. The instructional methods of this course will include creative work, lectures, demonstrations, individual research, group critiques and presentations. Participation in all aspects is vital to the success of this course and will be an integral part of the student's final course evaluation.

Course Objectives

Course will provide students with the skills and practice through lectures and tutorials to introduce techniques of game development from the ground up.

1. Pre-production:
 - a. Research and analysis
 - b. Idea development
 - c. Storyboarding and story writing
2. Production and Post-production:
 - a. Basic programming
 - b. Game engines
 - c. Creating effective gameplay
 - d. Level design
 - e. Play testing
 - f. Validation and Deployment

General Education Goals

The general education curriculum is designed to provide a foundation for knowledge 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:

JUN 26 2015

Registrar's Office

- a. Communicate effectively
- b. Think critically
- c. Develop ethical perspectives
- d. Apply scientific and quantitative reasoning
- e. Demonstrate knowledge of the arts and humanities
- f. Understand wellness concepts

Course Outline

There will be 3-5 major projects, some of which may be team-oriented.

Assignments will be graded based upon the following criteria:

Creativity – originality of concept and approach to problem solving

Technique– ability to use the software effectively and execution of required elements

Presentation – quality of written and spoken discussion of work, including participation in group critiques

Process – demonstration of concept development through mid-progress critiques and sketchbook

Final Assessment:

Based on total points and protocol

A: 90-100 Exemplary performance in all aspects of course

B: 80- 89 Very Good performance on most course aspects

C: 70 - 79 Good or average performance overall

D: 60 -69 Unsatisfactory Performance

F: Failure

Department of Art Attendance Policy:

The Art Department has adopted the following policy:

For more than 4 missed classes (for studio this constitutes 12 contact hours) regardless of excuse, the instructor has the discretion to drop the final grade one level.

For more than 7 missed classes (21 studio contact hours) the student will receive a failing grade, unless the student drops within the university guidelines/deadlines.

Up to four classes can be missed without penalty, except for assigned due dates and exams. Students will not be penalized for officially sanctioned university activities. It is the responsibility of the student to present to instructors notice and verification of authorized participation. It should be understood that some course work cannot be made up and a student will be held accountable for missed content.

Tardiness is unacceptable and unprofessional. If a student is tardy or leaves class before the instructor has dismissed the rest of the class three times, it will count as a recorded absence.

Classroom Policies

Professional behavior is required. Punctual attendance and intelligent participation are expected.

The use of cell phones, including talking and texting, or computer use is not allowed during class lecture, discussions or critiques. In fact, cell phones should be either turned off or silenced before class begins.

Food and drinks are allowed as long as you are not being loud or leaving behind a mess. **However food is not allowed around computers or printing equipment!** If your behavior is disruptive you will be

JUN 26 2015

Registrar's Office

asked to leave the class and you will be counted as absent. **Essentially, just try to be respectful of the instructor and your fellow classmates.**

Academic Integrity

Plagiarism, cheating, stealing, lying, and interfering with other students' work are in violation of the standards of academic integrity and will be penalized according to ATU policy.

In short: IF YOU PLAGIARIZE YOU RISK FAILING THE ASSIGNMENT AND POSSIBLY THE COURSE AS A WHOLE.

If you are unaware of what constitutes a violation of academic integrity, please review the ATU Student Handbook regarding academic policies.

Statement on Disabilities:

Arkansas Tech adheres to policies providing accommodations for disabilities. If you have special needs due to a disability, contact the Disability Service Office, Dean Hall, Room 110, 968-0316. The instructor should be notified at the beginning of the course if you have special needs.

This syllabus is a guideline for the semester. It may become apparent that the schedule or classroom policies need adjustment to reflect the current state of the course or address unexpected issues. You will be notified of any changes in schedule or classroom policy before they take effect!

JUN 26 2015

Registrar's Office

Arkansas Tech University

Course Addition GAME 3013

Assessment Form

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

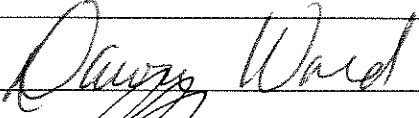
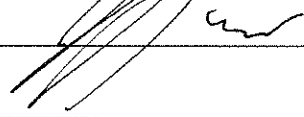

- a. How does this course fit with the university mission? *GAME 3013 is an innovative course that develops professional skills in graphic design, computer science and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*
- b. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*
- c. Provide up to three student learning outcomes students will achieve after completing this course? *Students will demonstrate proficiency in preproduction, production and post-production techniques.*
- d. What assessment tool or measure will you use to assess student learning? *CPGE or other*
- e. What will students demonstrate, represent, or produce to provide evidence of their learning? *Project proposals.*
- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
- g. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions. *There are only a few similar courses in the state. Southern Arkansas University has a game design degree, and Henderson State University has a digital art and design major. The University of Phoenix and ITT branches in Little Rock also offer game design degrees.*

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Registrar's Office

Arkansas Tech University

REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Art	
DATE SUBMITTED:	6/10/15	
Title	Signature	Date
Department Head		6/26/15
Dean		8/4/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		6/26/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL)	Course Number: (e.g., 1003)	Effective Term:
GAME	3023	<input type="radio"/> Spring <input checked="" type="radio"/> Summer I Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below)		
Game Development II		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript)		
Game Development II		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? 3		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box):		

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<input type="radio"/> 01 Lecture	<input checked="" type="radio"/> 02 Lecture/Laboratory	<input type="radio"/> 03 Laboratory only
<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation Research	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar
		<input type="radio"/> 98 Other

Does this course require a fee? ☒ Yes ☐ No How Much? Art

If selected other list fee type:

☐ Elective ☒ Major ☐ Minor

(If major or minor course, you must complete the Request for Program Change form to add course to program.)

If course is required by major/minor, how frequently will course be offered?

For the proposed course, attach a syllabus in Word format that includes: **(Items a. through d. should be entered as they should appear in the catalog)**

- a. Course subject
- b. Course number
- c. Catalog course title
- d. Catalog description
 1. Arkansas Course Transfer System (ACTS) course number, if applicable
 2. Cross-listing
 3. Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring)
 4. Prerequisites
 5. Co-requisites
 6. Description
 7. Notes (e.g., information not in description such as course may be repeated for credit)
 8. Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours)
 9. Fees (e.g., \$36 art fee)
- e. Section for Name of instructor, office hours, contact information (telephone, email)
- f. Text required for course
- g. Bibliography (supplemental reading list)
- h. Justification/rationale for the course
- i. Course objectives
- j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- k. Assessment methods (include grading policy with specific equivalents for A, B, C)
- l. Policy on absences, cheating, plagiarism, etc.
- m. Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special

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software, distance learning equipment, etc.? Yes

Will this course require a special classroom (computer lab, smart classroom, or laboratory)? Yes

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

JUN 26 2015

Registrar's Office

GAME 3023 Game Development II
Fall 2016
Instructor: TBD
Email: TBD
Office Hours: TBD

Course Description

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. 3 credit hours, \$45 art fee, Spring only.

Prerequisite:

Required Textbook: *Unreal Game Development*, by Ashish Amresh & Alex Okita

Paperback: 500 pages

Publisher: A K Peters/CRC Press (August 3, 2010)

ISBN-10: 1568814593

Recommended Supplies:

Flash drive, external hard drive, sketchbook, pencils and/or markers

Justification of the Course

This course continues to build upon the concepts of Game Development I while introducing students to more complex game concepts and techniques. This course will begin the implementation of modeling, animation, textures, and sound. The instructional methods of this course will include creative work, lectures, demonstrations, individual research, group critiques and presentations. Participation in all aspects is vital to the success of this course and will be an integral part of the student's final course evaluation.

Course Objectives

This course will further develop the skills and techniques in learned in Game Development II through lectures and tutorials and introduce new concepts of working with game engines, game production and prototyping.

1. Pre-production and Production:
 - a. Research and idea development
 - b. Programming and game engines
 - c. Character and narrative development
 - d. Game aesthetics and interface
 - e. Level design
 - f. Sound design
2. Post-production:
 - a. Playtesting
 - b. Validation and Deployment
 - c. Game marketing

General Education Goals

The general education curriculum is designed to provide a foundation for knowledge to educated people and to develop the capacity for an individual to expand that knowledge over his or her lifetime.

JUN 26 2015

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Students who have completed the general education curriculum at Arkansas Tech University will be able to:

- a. Communicate effectively
- b. Think critically
- c. Develop ethical perspectives
- d. Apply scientific and quantitative reasoning
- e. Demonstrate knowledge of the arts and humanities
- f. Understand wellness concepts

Course Outline

There will be 3-5 major projects, some of which may be team-oriented.

Assignments will be graded based upon the following criteria:

Creativity – originality of concept and approach to problem solving

Technique– ability to use the software effectively and execution of required elements

Presentation – quality of written and spoken discussion of work, including participation in group critiques

Process – demonstration of concept development through mid-progress critiques and sketchbook

Final Assessment:

Based on total points and protocol

A: 90-100 Exemplary performance in all aspects of course

B: 80- 89 Very Good performance on most course aspects

C: 70 - 79 Good or average performance overall

D: 60 -69 Unsatisfactory Performance

F: Failure

Department of Art Attendance Policy:

The Art Department has adopted the following policy:

For more than 4 missed classes (for studio this constitutes 12 contact hours) regardless of excuse, the instructor has the discretion to drop the final grade one level.

For more than 7 missed classes (21 studio contact hours) the student will receive a failing grade, unless the student drops within the university guidelines/deadlines.

Up to four classes can be missed without penalty, except for assigned due dates and exams. Students will not be penalized for officially sanctioned university activities. It is the responsibility of the student to present to instructors notice and verification of authorized participation. It should be understood that some course work cannot be made up and a student will be held accountable for missed content.

Tardiness is unacceptable and unprofessional. If a student is tardy or leaves class before the instructor has dismissed the rest of the class three times, it will count as a recorded absence.

Classroom Policies

Professional behavior is required. Punctual attendance and intelligent participation are expected.

The use of cell phones, including talking and texting, or computer use is not allowed during class lecture, discussions or critiques. In fact, cell phones should be either turned off or silenced before class begins.

Food and drinks are allowed as long as you are not being loud or leaving behind a mess. **However food**

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is not allowed around computers or printing equipment! If your behavior is disruptive you will be asked to leave the class and you will be counted as absent. **Essentially, just try to be respectful of the instructor and your fellow classmates.**

Academic Integrity

Plagiarism, cheating, stealing, lying, and interfering with other students' work are in violation of the standards of academic integrity and will be penalized according to ATU policy.

In short: IF YOU PLAGIARIZE YOU RISK FAILING THE ASSIGNMENT AND POSSIBLY THE COURSE AS A WHOLE.

If you are unaware of what constitutes a violation of academic integrity, please review the ATU Student Handbook regarding academic policies.

Statement on Disabilities:

Arkansas Tech adheres to policies providing accommodations for disabilities. If you have special needs due to a disability, contact the Disability Service Office, Dean Hall, Room 110, 968-0316. The instructor should be notified at the beginning of the course if you have special needs.

This syllabus is a guideline for the semester. It may become apparent that the schedule or classroom policies need adjustment to reflect the current state of the course or address unexpected issues. You will be notified of any changes in schedule or classroom policy before they take effect!

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Course Addition

Assessment Form GAME 3023

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

- a. How does this course fit with the university mission? *GAME 3023 is an innovative course that develops professional skills in graphic design, computer science and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*
- b. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*
- c. Provide up to three student learning outcomes students will achieve after completing this course? *Students will demonstrate proficiency preproduction, production and postproduction techniques.*
- d. What assessment tool or measure will you use to assess student learning? *CPGE or other*
- e. What will students demonstrate, represent, or produce to provide evidence of their learning? *Project proposals*
- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
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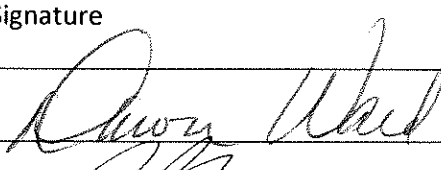
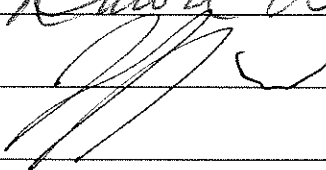
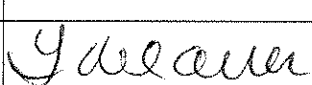
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Arkansas Tech University

REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee		
FROM (Initiating Department):	Art		
DATE SUBMITTED:	6/10/15		
Title	Signature	Date	
Department Head		6/26/15	
Dean		8/4/15	
Teacher Education Council (if applicable)			
Graduate Council (if applicable)			
Registrar		6/26/15	
Vice President for Academic Affairs			

Course Subject: (e.g., ACCT, ENGL)	Course Number: (e.g., 1003)	Effective Term:
GAME	4013	<input type="radio"/> Spring <input checked="" type="radio"/> Summer I Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below)		
Senior Game Project I		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript)		
Senior Game Project I		
Will this course be cross-listed with another existing course? If so, list course subject and number.		
<input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog?		
<input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? 3		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box):		

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<input type="radio"/> 01 Lecture	<input checked="" type="radio"/> 02 Lecture/Laboratory	<input type="radio"/> 03 Laboratory only
<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
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<input type="radio"/> 17 Dissertation Research	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar
		<input type="radio"/> 98 Other

Does this course require a fee? ☒ Yes ☐ No How Much? Art

If selected other list fee type:

☐ Elective ☒ Major ☐ Minor

(If major or minor course, you must complete the Request for Program Change form to add course to program.)

If course is required by major/minor, how frequently will course be offered?

For the proposed course, attach a syllabus in Word format that includes: **(Items a. through d. should be entered as they should appear in the catalog)**

- Course subject
- Course number
- Catalog course title
- Catalog description
 - Arkansas Course Transfer System (ACTS) course number, if applicable
 - Cross-listing
 - Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring)
 - Prerequisites
 - Co-requisites
 - Description
 - Notes (e.g., information not in description such as course may be repeated for credit)
 - Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours)
 - Fees (e.g., \$36 art fee)
- Section for Name of instructor, office hours, contact information (telephone, email)
- Text required for course
- Bibliography (supplemental reading list)
- Justification/rationale for the course
- Course objectives
- Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- Assessment methods (include grading policy with specific equivalents for A, B, C)
- Policy on absences, cheating, plagiarism, etc.
- Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special

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software, distance learning equipment, etc.? Yes

Will this course require a special classroom (computer lab, smart classroom, or laboratory)? Yes

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

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GAME 4013 Senior Game Project I**Fall 2016****Instructor: TBA****Email:****Office Hours:** Norman Hall

Course Description: 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. 3 credit hours, \$45 course fee, Fall only.

Course Objectives: The first semester will result in a project being ‘green lighted’ and include a fully fleshed out design document and production plan as well as a demo or vertical slice of the game design.

Course Outcomes: Students will learn to work in a team environment using a synthesis of their skills in Computer scripting, 3D modeling, 3D animation, UI design, game audio, game music, game mechanic design, level design, interactive writing, prototyping, scheduling, testing, teamwork, and public presentations are all skills that will come to bear on a student’s senior project.

Course Rationale: Course introduces students to the type of team environment that is found in the industry where the student will design and develop their project that will result in a fully functioning video game.

Prerequisite: GAME 3023, GAME 4263 & GAME 4633

Textbook: No Text – all reading and other assignments will be given in class or via Blackboard. Students should have access to a PC Desktop/Laptop – For project and coursework outside of class. Students should have access to a platform specific device – For development, testing, and presentation of project (as applicable).

Recommended Materials:

USB Flash Drive – 2 GB for storing and transporting project data or an external hard drive and a Dropbox Account

Course Outline

- Write, design, and develop a professional Game Design Document.
- Design, conduct and assess a prototyping process for their game design.
- Produce a fully functioning platform, PC, or mobile game.
- Present their game, game design, and process publicly to a group of peers, instructors and industry professionals.
- Apply critical thinking skills in each phase of development beginning with assessment of the game concept, generating and testing design assumptions, planning and scheduling the game’s development, and in preparing a presentation of their game’s design as well as final product.

JUN 26 2015

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Requirements and Evaluation

- At the beginning of each meeting, students should be prepared to discuss and demonstrate the state of their game project or design.
- In the first half of this two-semester course, students will develop their game design in what the game industry refers to as the “pre-production” phase of development. During this phase, the game idea will be refined, the scope will be determined, the look and feel of the game will be decided, and all necessary assets and functionality will be defined. Once the core design is complete, the student will design, conduct and assess prototypes needed for the development of this game. It is the goal of these prototypes to determine the final target feature set of the game and to test any design assumptions the student’s design may pose.
- The final project for this course is a presentation of the design and prototyping process along with analysis, followed by a presentation of the completed game design, accompanied by a demo or vertical slice of the game as developed via the prototyping phase.
- During the second half of the two-semester course, students will focus solely on the production phase by developing the game described and prototyped from the first semester. At the conclusion of the second semester, students will present a professional public presentation of their final fully functioning game.

General Education Goals

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- a. Communicate effectively
- b. Think critically
- c. Develop ethical perspectives
- d. Apply scientific and quantitative reasoning
- e. Demonstrate knowledge of the arts and humanities
- f. Understand wellness concepts

Final Assessment:

Based on total points and protocol

- A: 90-100 Exemplary performance in all aspects of course
B: 80- 89 Very Good performance on most course aspects
C: 70 - 79 Good or average performance overall
D: 60 -69 Unsatisfactory Performance
F: Failure

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Attendance Policy:

The Art Department has adopted the following policy: For more than 4 missed classes (for studio this constitutes 12 contact hours) regardless of excuse, the instructor has the discretion to drop the final grade one level. As a capstone course working within teams these class times will be flexible to the team's individual schedules but all deadlines and meetings are required and students are expected to be punctual and prepared.

Disability Services

Arkansas Tech University is committed to providing equal opportunities for higher education to academically qualified individuals who are disabled. If you have any questions or concerns about disability services and testing accommodations for students registered with the Office of Disability Services please contact Liz Means, Coordinator for Disability Services at 968-0302. For questions about testing practices and policies, please contact Karen Pittman, Coordinator of Testing Services at 968-0382.

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Arkansas Tech University

Course Addition GAME 4013

Assessment Form

Our Mission

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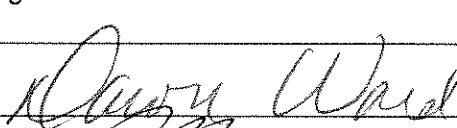
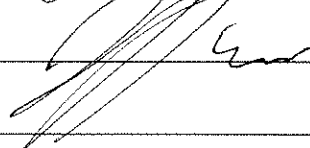
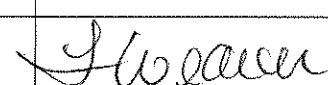
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- c. Provide up to three student learning outcomes students will achieve after completing this course? *Students will learn to work in a team environment using a synthesis of their skills in Computer scripting, 3D modeling, 3D animation, UI design, game audio, game music, game mechanic design, level design, interactive writing, prototyping, scheduling, testing, teamwork, and public presentations are all skills that will come to bear on a student's senior project.*
- d. What assessment tool or measure will you use to assess student learning? *Panel and faculty reviews, class critiques, project presentations and CPGE data.*
- e. What will students demonstrate, represent, or produce to provide evidence of their learning? *They will produce video games.*
- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
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Arkansas Tech University

REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Art	
DATE SUBMITTED:	6/10/15	
Title	Signature	Date
Department Head		6/26/15
Dean		8/4/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		6/26/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL)	Course Number: (e.g., 1003)	Effective Term:
GAME	4023	<input type="radio"/> Spring <input checked="" type="radio"/> Summer I Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below)		
Senior Game Project II		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript)		
Senior Game Project II		
Will this course be cross-listed with another existing course? If so, list course subject and number.		
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Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box):		
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<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
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Does this course require a fee? ☒ Yes ☐ No How Much? Art

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- Text required for course
- Bibliography (supplemental reading list)
- Justification/rationale for the course
- Course objectives
- Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- Assessment methods (include grading policy with specific equivalents for A, B, C)
- Policy on absences, cheating, plagiarism, etc.
- Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? Yes

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Will this course require a special classroom (computer lab, smart classroom, or laboratory)? Yes

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

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GAME 4023 Senior Game Project II**Instructor: TBA****Email:****Office Hours:**

Course Description: 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. 3 credit hours, \$45 course fee, Spring only.

Course Objectives: The second semester takes the ‘green lighted’ game and uses it as a blueprint for a fully functional game that will be developed by the student team and be presented to a panel of colleagues, instructors, and industry professionals at the end of the semester.

Course Rationale: Course will culminate the student’s Game Design experience with a fully functional game for their portfolio.

Course Outcomes: Students will learn to work in a team environment using a synthesis of their skills in Computer scripting, 3D modeling, 3D animation, UI design, game audio, game music, game mechanic design, level design, interactive writing, prototyping, scheduling, testing, teamwork, and public presentations are all skills that will come to bear on a student’s senior project.

Textbook: No Text – all reading and other assignments will be given in class or via Blackboard. Students should have access to a PC Desktop/Laptop – For project and coursework outside of class. Students will need access to a platform specific device – For development, testing, and presentation of project (as applicable).

Recommended Materials:

USB Flash Drive – 2 GB for storing and transporting project data or external hard drive and a Dropbox Account

Course Outline

- Write, design, and develop a professional Game Design Document.
- Design, conduct and assess a prototyping process for their game design.
- Produce a fully functioning platform, PC, or mobile game.
- Present their game, game design, and process publicly to a group of peers, instructors and industry professionals.

- Apply critical thinking skills in each phase of development beginning with assessment of the game concept, generating and testing design assumptions, planning and scheduling the game’s development, and in preparing a presentation of their game’s design as well as final product.

Requirements and Evaluation

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- At the beginning of each meeting, students should be prepared to discuss and demonstrate the state of their game project or design.
- In the first half of this two-semester course, students will develop their game design in what the game industry refers to as the “pre-production” phase of development. During this phase, the game idea will be refined, the scope will be determined, the look and feel of the game will be decided, and all necessary assets and functionality will be defined. Once the core design is complete, the student will design, conduct and assess prototypes needed for the development of this game. It is the goal of these prototypes to determine the final target feature set of the game and to test any design assumptions the student’s design may pose.
- The final project for this course is a presentation of the design and prototyping process along with analysis, followed by a presentation of the completed game design, accompanied by a demo or vertical slice of the game as developed via the prototyping phase.
- During the second half of the two-semester course, students will focus solely on the production phase by developing the game described and prototyped from the first semester. At the conclusion of the second semester, students will present a professional public presentation of their final fully functioning game.

General Education Goals

The general education curriculum is designed to provide a foundation for knowledge 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:

- a. Communicate effectively
- b. Think critically
- c. Develop ethical perspectives
- d. Apply scientific and quantitative reasoning
- e. Demonstrate knowledge of the arts and humanities
- f. Understand wellness concepts

Final Assessment:

Based on total points and protocol

A: 90-100 Exemplary performance in all aspects of course

B: 80- 89 Very Good performance on most course aspects

C: 70 - 79 Good or average performance overall

D: 60 -69 Unsatisfactory Performance

F: Failure

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Attendance Policy:

The Art Department has adopted the following policy: For more than 4 missed classes (for studio this constitutes 12 contact hours) regardless of excuse, the instructor has the discretion to drop the final grade one level. As a capstone course working within teams these class times will be flexible to the team's individual schedules but all deadlines and meetings are required and students are expected to be punctual and prepared.

Disability Services

Arkansas Tech University is committed to providing equal opportunities for higher education to academically qualified individuals who are disabled. If you have any questions or concerns about disability services and testing accommodations for students registered with the Office of Disability Services please contact Liz Means, Coordinator for Disability Services at 968-0302. For questions about testing practices and policies, please contact Karen Pittman, Coordinator of Testing Services at 968-0382.

Arkansas Tech University

Course Addition GAME 4023

Assessment Form

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

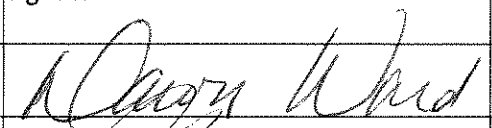
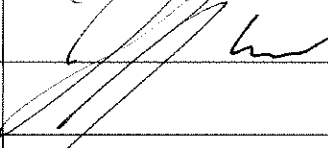
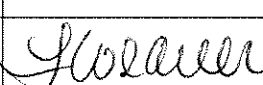
- a. How does this course fit with the university mission? *The Game and Interactive Media Design Program is an innovative program that develops professional skills in graphic design, computer science and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*
- b. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*
- c. Provide up to three student learning outcomes students will achieve after completing this course? *Students will learn to work in a team environment using a synthesis of their skills in Computer scripting, 3D modeling, 3D animation, UI design, game audio, game music, game mechanic design, level design, interactive writing, prototyping, scheduling, testing, teamwork, and public presentations are all skills that will come to bear on a student's senior project.*
- d. What assessment tool or measure will you use to assess student learning? *Panel and faculty reviews, class critiques, project presentations and CPGE data.*
- e. What will students demonstrate, represent, or produce to provide evidence of their learning? *They will produce video games.*
- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
- g. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions. *There are only a few similar courses in the state. Southern Arkansas University has a game design degree, and Henderson State University has a digital art and design major. The University of Phoenix and ITT branches in Little Rock also offer game design degrees.*

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Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Art	
DATE SUBMITTED:	6/10/15	
Title	Signature	Date
Department Head		6/26/15
Dean		8/9/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		6/26/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL) GAME	Course Number: (e.g., 1003) 4263	Effective Term: <input type="radio"/> Spring <input checked="" type="radio"/> Summer I Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) 3D Modeling		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) 3D Modeling		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? 3		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box): <input type="radio"/> 01 Lecture <input checked="" type="radio"/> 02 Lecture/Laboratory <input type="radio"/> 03 Laboratory only		

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<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation Research	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar
<input type="radio"/> 98 Other		

Does this course require a fee? ☒ Yes ☐ No How Much? \$45 Art

If selected other list fee type:

☐ Elective ☒ Major ☐ Minor

(If major or minor course, you must complete the Request for Program Change form to add course to program.)

If course is required by major/minor, how frequently will course be offered?

Once a year - Spring

For the proposed course, attach a syllabus in Word format that includes: **(Items a. through d. should be entered as they should appear in the catalog)**

- Course subject
- Course number
- Catalog course title
- Catalog description
 - Arkansas Course Transfer System (ACTS) course number, if applicable
 - Cross-listing
 - Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring)
 - Prerequisites
 - Co-requisites
 - Description
 - Notes (e.g., information not in description such as course may be repeated for credit)
 - Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours)
 - Fees (e.g., \$36 art fee)
- Section for Name of instructor, office hours, contact information (telephone, email)
- Text required for course
- Bibliography (supplemental reading list)
- Justification/rationale for the course
- Course objectives
- Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- Assessment methods (include grading policy with specific equivalents for A, B, C)
- Policy on absences, cheating, plagiarism, etc.
- Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? Yes

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Will this course require a special classroom (computer lab, smart classroom, or laboratory)? Yes

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

GAME 4263 3D Modeling
Fall 2016
Instructor: Jasmine Greer
Email: jgreer5@atu.edu
Office Hours: Norman Hall 102, TBD

Course Description

This course introduces the fundamental of object and character creation using 3D modeling software such as Autodesk's Mud Box and Maya. 3 credit hours, \$45 art fee, Spring only

Prerequisite: ART 3253 & GAME 3013

Required Textbook: *Introducing Autodesk Maya 2015*, by Dariush Derakhshani,
Publisher: Sybex; 1st edition 2014, ISBN-10: 1118862848

Recommended Supplies:

Flash drive, external hard drive, sketchbook, pencils and/or markers

Justification of the Course

This course introduces students to the basic concepts of modeling in three-dimensional space. It builds upon the foundational art concepts of shape, space, light, volume and texture. The course will use a variety of 3D software including Autodesk's Maya, Mud Box and 3Ds Max. The instructional methods of this course will include creative work, lectures, demonstrations, individual research, group critiques and presentations. Participation in all aspects is vital to the success of this course and will be an integral part of the student's final course evaluation.

Course Objectives

1. Lectures and tutorials to introduce basic concepts and techniques of object and character creation in Mud Box. This includes:
 - a. Learning the Mud Box interface
 - b. Navigating the 3D space
 - c. Creating polygonal objects and meshes
 - d. Utilizing transformation tools
 - e. Sculpting and painting 3D forms
 - f. Editing materials
 - g. Creating and applying texture maps
2. Tutorials to introduce basic concepts and techniques of environment design. This includes:
 - a. Posing object and characters
 - b. Lighting the scene
 - c. Rendering and exporting

General Education Goals

The general education curriculum is designed to provide a foundation for knowledge 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:

- a. Communicate effectively
- b. Think critically
- c. Develop ethical perspectives
- d. Apply scientific and quantitative reasoning

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- e. Demonstrate knowledge of the arts and humanities
- f. Understand wellness concepts

Course Outline

There will be 3-5 major projects, some of which may be team-oriented. Handouts will be given for each upcoming assignment including requirements and due dates.

Assignments will be graded based upon the following criteria:

Creativity – originality of concept and approach to problem solving

Technique– ability to use the software effectively and execution of required elements

Presentation – quality of written and spoken discussion of work, including participation in group critiques

Process – demonstration of concept development through mid-progress critiques and sketchbook

Final Assessment:

Based on total points and protocol

A: 90-100 Exemplary performance in all aspects of course

B: 80- 89 Very Good performance on most course aspects

C: 70 - 79 Good or average performance overall

D: 60 -69 Unsatisfactory Performance

F: Failure

Department of Art Attendance Policy:

The Art Department has adopted the following policy:

For more than 4 missed classes (for studio this constitutes 12 contact hours) regardless of excuse, the instructor has the discretion to drop the final grade one level.

For more than 7 missed classes (21 studio contact hours) the student will receive a failing grade, unless the student drops within the university guidelines/deadlines.

Up to four classes can be missed without penalty, except for assigned due dates and exams. Students will not be penalized for officially sanctioned university activities. It is the responsibility of the student to present to instructors notice and verification of authorized participation. It should be understood that some course work cannot be made up and a student will be held accountable for missed content.

Tardiness is unacceptable and unprofessional. If a student is tardy or leaves class before the instructor has dismissed the rest of the class three times, it will count as a recorded absence.

Classroom Policies

Professional behavior is required. Punctual attendance and intelligent participation are expected.

The use of cell phones, including talking and texting, or computer use is not allowed during class lecture, discussions or critiques. In fact, cell phones should be either turned off or silenced before class begins.

Food and drinks are allowed as long as you are not being loud or leaving behind a mess. **However food is not allowed around computers or printing equipment!** If your behavior is disruptive you will be asked to leave the class and you will be counted as absent. **Essentially, just try to be respectful of the instructor and your fellow classmates.**

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Academic Integrity

Plagiarism, cheating, stealing, lying, and interfering with other students' work are in violation of the standards of academic integrity and will be penalized according to ATU policy.

In short: IF YOU PLAGIARIZE YOU RISK FAILING THE ASSIGNMENT AND POSSIBLY THE COURSE AS A WHOLE.

If you are unaware of what constitutes a violation of academic integrity, please review the ATU Student Handbook regarding academic policies.

Statement on Disabilities:

Arkansas Tech adheres to policies providing accommodations for disabilities. If you have special needs due to a disability, contact the Disability Service Office, Dean Hall, Room 110, 968-0316. The instructor should be notified at the beginning of the course if you have special needs.

This syllabus is a guideline for the semester. It may become apparent that the schedule or classroom policies need adjustment to reflect the current state of the course or address unexpected issues. You will be notified of any changes in schedule or classroom policy before they take effect!

Course Agreement Form

Read, complete, and return to instructor:

I have read the course syllabus for Jasmine Greer's 3D Modeling, and I understand its content. I also understand the rules for the class, and I will follow and abide by these rules, including those relating to attendance, assignments, grading criteria, plagiarism, and behavior.

Date _____

Print name _____

Signature _____

Email address _____

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Arkansas Tech University

Course Addition GAME 4263

Assessment Form

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

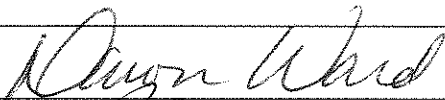
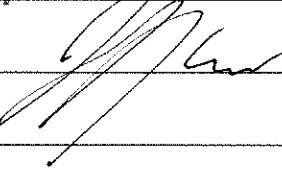
- a. How does this course fit with the university mission? *GAME 4263 is an innovative course that develops professional skills in graphic design, computer science and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*
- b. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*
- c. Provide up to three student learning outcomes students will achieve after completing this course? *Students will be introduced to 3D software including Autodesk's Maya, Mud Box and 3Ds Max.*
- d. What assessment tool or measure will you use to assess student learning? *Panel and faculty reviews, class critiques, project presentations and CPGE data.*
- e. What will students demonstrate, represent, or produce to provide evidence of their learning? *They will complete course projects demonstrating their 3D skills.*
- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
- g. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions. *There are only a few similar courses in the state. Southern Arkansas University has a game design degree, and Henderson State University has a digital art and design major. The University of Phoenix and ITT branches in Little Rock also offer game design degrees.*

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Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Art	
DATE SUBMITTED:	6/10/15	
Title	Signature	Date
Department Head		6/26/15
Dean		8/4/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		6/26/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL) GAME	Course Number: (e.g., 1003) 4633	Effective Term: <input type="radio"/> Spring <input checked="" type="radio"/> Summer I Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) 3D Animation		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) 3D Animation		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? 3		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box): <input type="radio"/> 01 Lecture <input checked="" type="radio"/> 02 Lecture/Laboratory <input type="radio"/> 03 Laboratory only		

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<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar <input type="radio"/> 98 Other

Does this course require a fee? ☒ Yes ☐ No How Much? \$45 Art

If selected other list fee type:

☐ Elective ☒ Major ☐ Minor

(If major or minor course, you must complete the Request for Program Change form to add course to program.)

If course is required by major/minor, how frequently will course be offered?

For the proposed course, attach a syllabus in Word format that includes: **(Items a. through d. should be entered as they should appear in the catalog)**

- Course subject
- Course number
- Catalog course title
- Catalog description
 - Arkansas Course Transfer System (ACTS) course number, if applicable
 - Cross-listing
 - Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring)
 - Prerequisites
 - Co-requisites
 - Description
 - Notes (e.g., information not in description such as course may be repeated for credit)
 - Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours)
 - Fees (e.g., \$36 art fee)
- Section for Name of instructor, office hours, contact information (telephone, email)
- Text required for course
- Bibliography (supplemental reading list)
- Justification/rationale for the course
- Course objectives
- Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- Assessment methods (include grading policy with specific equivalents for A, B, C)
- Policy on absences, cheating, plagiarism, etc.
- Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? Yes

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Will this course require a special classroom (computer lab, smart classroom, or laboratory)? Yes

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

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Registrar's Office

GAME 4633 3D Animation
Fall 2016
Instructor: Jasmine Greer
Email: jgreer5@atu.edu
Office Hours: Norman Hall 102, TBD

Course Description

This course introduces the fundamental 3D theories and principles of computer modeling and animation using software such as Autodesk's Mud Box and Maya. 3 credit hours, \$45 art fee. Spring only

Prerequisite: ART 4623 & GAME 3013

Required Textbook: *Mastering Autodesk Maya 2015*: by Todd Palamar, Autodesk Official Press, Sybex; 1st edition 2014, ISBN-10: 1118862511

Recommended Supplies:

Flash drive, external hard drive, sketchbook, pencils and/or markers

Justification of the Course

This course offers the student an introduction into the exciting world of 3D animation. It builds upon 2D animation skills and incorporates them into the 3D format. The course will use a variety of 3D software including Autodesk's Maya, Mud Box and 3Ds Max. The instructional methods of this course will include creative work, lectures, demonstrations, individual research, group critiques and presentations. Participation in all aspects is vital to the success of this course and will be an integral part of the student's final course evaluation.

Course Objectives

1. Lectures and tutorials to introduce basic concepts and techniques of object creation in Maya. This includes:
 - a. Learning the Maya interface
 - b. Creating polygonal objects and meshes
 - c. Utilizing transformation tools
 - d. Working with hierarchies and layers
 - e. Creating and applying texture maps
2. Tutorials to introduce basic concepts and techniques of animation. This includes:
 - a. Working with the timeline
 - b. Creating and altering keyframes
 - c. Camera creation and movement
 - d. Introduction to rigging
 - e. Rendering and exporting

General Education Goals

The general education curriculum is designed to provide a foundation for knowledge 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:

- a. Communicate effectively
- b. Think critically
- c. Develop ethical perspectives
- d. Apply scientific and quantitative reasoning

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- e. Demonstrate knowledge of the arts and humanities
- f. Understand wellness concepts

Course Outline

There will be 3-5 major projects, some of which may be team-oriented. Handouts will be given for each upcoming assignment including requirements and due dates.

Assignments will be graded based upon the following criteria:

Creativity – originality of concept and approach to problem solving

Technique– ability to use the software effectively and execution of required elements

Presentation – quality of written and spoken discussion of work, including participation in group critiques

Process – demonstration of concept development through mid-progress critiques and sketchbook

Final Assessment:

Based on total points and protocol

A: 90-100 Exemplary performance in all aspects of course

B: 80- 89 Very Good performance on most course aspects

C: 70 - 79 Good or average performance overall

D: 60 -69 Unsatisfactory Performance

F: Failure

Department of Art Attendance Policy:

The Art Department has adopted the following policy:

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For more than 7 missed classes (21 studio contact hours) the student will receive a failing grade, unless the student drops within the university guidelines/deadlines.

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Tardiness is unacceptable and unprofessional. If a student is tardy or leaves class before the instructor has dismissed the rest of the class three times, it will count as a recorded absence.

Classroom Policies

Professional behavior is required. Punctual attendance and intelligent participation are expected.

The use of cell phones, including talking and texting, or computer use is not allowed during class lecture, discussions or critiques. In fact, cell phones should be either turned off or silenced before class begins.

Food and drinks are allowed as long as you are not being loud or leaving behind a mess. **However food is not allowed around computers or printing equipment!** If your behavior is disruptive you will be asked to leave the class and you will be counted as absent. **Essentially, just try to be respectful of the instructor and your fellow classmates.**

Academic Integrity

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Registrar's Office

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In short: IF YOU PLAGIARIZE YOU RISK FAILING THE ASSIGNMENT AND POSSIBLY THE COURSE AS A WHOLE.

If you are unaware of what constitutes a violation of academic integrity, please review the ATU Student Handbook regarding academic policies.

Statement on Disabilities:

Arkansas Tech adheres to policies providing accommodations for disabilities. If you have special needs due to a disability, contact the Disability Service Office, Dean Hall, Room 110, 968-0316. The instructor should be notified at the beginning of the course if you have special needs.

This syllabus is a guideline for the semester. It may become apparent that the schedule or classroom policies need adjustment to reflect the current state of the course or address unexpected issues. You will be notified of any changes in schedule or classroom policy before they take effect!

Arkansas Tech University
Course Addition GAME 4633
Assessment Form

Registrar's Office

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

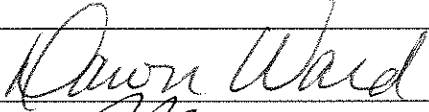
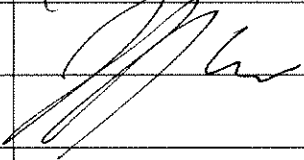

- a. How does this course fit with the university mission? *GAME 4633 is an innovative course that develops professional skills in graphic design, computer science and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*
- b. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*
- c. Provide up to three student learning outcomes students will achieve after completing this course? *Students will demonstrate and understanding of the basic concepts and techniques of animation.*
- d. What assessment tool or measure will you use to assess student learning? *Panel and faculty reviews, class critiques, project presentations and CPGE data.*
- e. What will students demonstrate, represent, or produce to provide evidence of their learning? *They will produce animations.*
- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
- g. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions. *There are only a few similar courses in the state. Southern Arkansas University has a game design degree, and Henderson State University has a digital art and design major. The University of Phoenix and ITT branches in Little Rock also offer game design degrees.*

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Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Art	
DATE SUBMITTED:	6/10/15	
Title	Signature	Date
Department Head		6/26/15
Dean		8/4/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		6/26/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL) GAME	Course Number: (e.g., 1003) 4803	Effective Term: <input type="radio"/> Spring <input checked="" type="radio"/> Summer I <input type="radio"/> Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) Game Design Theory		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) Game Design Theory		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? 3		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box): <input checked="" type="radio"/> 01 Lecture <input type="radio"/> 02 Lecture/Laboratory <input type="radio"/> 03 Laboratory only		

<input type="radio"/> 05 Practice Teaching <input type="radio"/> 08 Independent Study <input type="radio"/> 12 Individual Lessons <input type="radio"/> 17 Dissertation	<input type="radio"/> 06 Internship/Practicum <input type="radio"/> 09 Readings <input type="radio"/> 13 Applied Instruction <input type="radio"/> 18 Activity Course	<input type="radio"/> 07 Apprenticeship/Externship <input type="radio"/> 10 Special Topics <input type="radio"/> 16 Studio Course <input type="radio"/> 19 Seminar <input type="radio"/> 98 Other
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Does this course require a fee? ☐ Yes ☒ No How Much? Art ☐

If selected other list fee type:

☐ Elective ☒ Major ☐ Minor

(If major or minor course, you must complete the Request for Program Change form to add course to program.)

If course is required by major/minor, how frequently will course be offered?

Once a year

For the proposed course, attach a syllabus in Word format that includes: **(Items a. through d. should be entered as they should appear in the catalog)**

- a. Course subject
- b. Course number
- c. Catalog course title
- d. Catalog description
 1. Arkansas Course Transfer System (ACTS) course number, if applicable
 2. Cross-listing
 3. Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring)
 4. Prerequisites
 5. Co-requisites
 6. Description
 7. Notes (e.g., information not in description such as course may be repeated for credit)
 8. Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours)
 9. Fees (e.g., \$36 art fee)
- e. Section for Name of instructor, office hours, contact information (telephone, email)
- f. Text required for course
- g. Bibliography (supplemental reading list)
- h. Justification/rationale for the course
- i. Course objectives
- j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- k. Assessment methods (include grading policy with specific equivalents for A, B, C)
- l. Policy on absences, cheating, plagiarism, etc.
- m. Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? No ☐

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Registrar's Office

Will this course require a special classroom (computer lab, smart classroom, or laboratory)? No

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

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GAME 4803 Game Design Theory

Professor: TBA

Office – Norman Hall Hours: TBA

Office Phone #email –

Game Design Theory

Fall only

Catalog Course Description: 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. 3 Credit hours

Course Justification: By analyzing, reading and writing about videogames, we will examine debates surrounding how they function within socially situated contexts in order to better understand games' influence on and reflections of society.

Course Objectives: This course will analyze games as interactive media, as rule-based systems, as cultural and social texts, and as designed learning spaces and will concentrate heavily on games' potential impact on society, their cultural influence, and their phenomenology and ontology. Students will not be expected to create, design, or produce games or simulations for this course.

Course Outcomes:

On successful completion of the course, students will be able to accomplish the following:

- To introduce students to contemporary commercial videogames from a variety of genres, rule systems, strategies, and contexts.
- To explore video games' impact as contemporary social texts, each with their own social communities, cultures, and significance as media.
- To examine the emerging field of scholarly game studies as it exists across the globe and in various interdisciplinary formats.
- To connect and compare videogames to other contemporary digital (and non-digital) media.

Required Textbook: *Game Design Theory: A New Philosophy for Understanding Games*, Keith Burgun, publisher: A K Peters/CRC Press (August 13, 2012)

Prerequisite: ART 2223 & GAME 3023

Basis for Evaluation and Grading

Grades are based on periodic weekly written assignments including art critiques, short essays, comparison and contrast papers, an in-depth research paper on a directed topic, two art image exams, online discussion participation and promptness meeting assignment deadlines. The assignment points may vary but all assignments will be determined according to the following scale: A= 100-90 B= 89-80 C=79-70 D=69-60 F=59 or below

Successful completion of all projects and examinations are the minimum required to earn a grade of C. Grades above a C are earned by the quality of work and participation. Late work is not accepted unless sufficient documentation supports such an arrangement.

JUN 26 2015

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ATTENDANCE:

You will find your assignments on Blackboard and attendance for this class will be counted as part of your grade, along with completion of projects and research assignments. Students are allowed 4 absences without penalty as per the department of art's policy. These absences are up to the student to use wisely. More than 4 absences will result in a reduction in your participation and attendance grade and more than 7 absences will result in the student being dropped from the course for excessive absences.

ACADEMIC HONESTY:

Cheating, unethical behavior or plagiarism of any type (including the use of web-based public domain items) will not be tolerated and will result in the grade of "F" for the course. Students will be provided with a list of legitimate on-line resources that may be used, all work used in papers must be credited to its source and no other sources except for the course text book and the provided sources may be used for research papers.

BLACKBOARD:

This course will utilize blackboard to post lectures, lessons and discussion boards. You will access your grades and feedback through this site as well so if you need help using Blackboard please notify the instructor at the beginning of class so that you can schedule some time to go over the learning platform.

Check your Tech e-mail account frequently; it may be necessary at times for me to contact you by e-mail with important news and information about the class – once a week is not enough to ensure that information gets to you in a timely manner.

COURSE OUTLINE:**Week 1 – Course introduction**

Week 2 & 3 - Games as Culture, Games as Art: What is Gaming?

Week 4 - Genre Fiction: The History and Role of Genre in Gaming

Week 5 - War Games: Gaming's Place in World Conflict

Week 6 – The Role of Gaming in Military Simulations

Week 7 – Gaming and Gender Relationships

Week 8 – Midterm exam and paper topics due

Week 9 – Bad Guys, Good Guys: Ethnicity and Gaming

Week 10 – Virtual Money: Economics of Games

Week 11 – Persuasive Games: Understanding Procedural Rhetoric

Week 12 – Failure and Death: Gaming's Didactic Method

Week 13 – Digital Pastoral: Nature and Landscape in Virtual Worlds

Week 14 – Going Solo: The Individual and Communal in Gaming

Week 15 – The Desert of the Real: Realism, Virtual Reality and the Future of Gaming

Final exam – weeks 9-15

from notes and book – online exam with essay questions.

STUDENT DISABILITY:

JUN 26 2015

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Arkansas Tech University is committed to providing equal opportunities for higher education to academically qualified individuals who are disabled. If you have any questions or concerns about disability services and testing accommodations for students registered with the Office of Disability Services please contact Liz Means, Coordinator for Disability Services at 968-0302. For questions about testing practices and policies, please contact Karen Pittman, Coordinator of Testing Services at 968-0382

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Arkansas Tech University

Course Addition GAME 4803

Assessment Form

Our Mission

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.

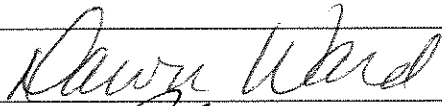
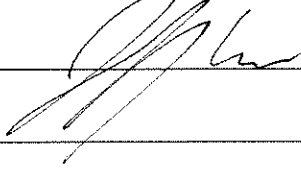

Provide an answer for each question. Your answers are to be typed single spaced.

- a. How does this course fit with the university mission? *GAME 4803 is an innovative program that develops professional skills in graphic design, computer science and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*
- b. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*
- c. Provide up to three student learning outcomes students will achieve after completing this course? *Students will demonstrate an understanding of game theory and culture.*
- d. What assessment tool or measure will you use to assess student learning? *Panel and faculty reviews, class critiques, project presentations and CPGE data.*
- e. What will students demonstrate, represent, or produce to provide evidence of their learning? *Essays and Exams*
- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
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Registrar's Office

Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Art	
DATE SUBMITTED:	6/10/15	
Title	Signature	Date
Department Head		6/26/15
Dean		8/4/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		6/26/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL)	Course Number: (e.g., 1003)	Effective Term:
GAME	4901	<input type="radio"/> Spring <input checked="" type="radio"/> Summer I Fall 2016
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below)		
Professional Portfolio		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript)		
Professional Portfolio		
Will this course be cross-listed with another existing course? If so, list course subject and number.		
<input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog?		
<input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? 1		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box):		
<input type="radio"/> 01 Lecture <input checked="" type="radio"/> 02 Lecture/Laboratory <input type="radio"/> 03 Laboratory only		

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- ☐ 05 Practice Teaching ☐ 06 Internship/Practicum ☐ 07 Apprenticeship/Externship
☐ 08 Independent Study ☐ 09 Readings ☐ 10 Special Topics
☐ 12 Individual Lessons ☐ 13 Applied Instruction ☐ 16 Studio Course
☐ 17 Dissertation ☐ 18 Activity Course ☐ 19 Seminar ☐ 98 Other

Does this course require a fee? ☐ Yes ☒ No How Much? Art

If selected other list fee type:

☐ Elective ☒ Major ☐ Minor

(If major or minor course, you must complete the Request for Program Change form to add course to program.)

If course is required by major/minor, how frequently will course be offered?

Once a year Spring

For the proposed course, attach a syllabus in Word format that includes: **(Items a. through d. should be entered as they should appear in the catalog)**

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- c. Catalog course title
- d. Catalog description
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 4. Prerequisites
 5. Co-requisites
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 9. Fees (e.g., \$36 art fee)
- e. Section for Name of instructor, office hours, contact information (telephone, email)
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- g. Bibliography (supplemental reading list)
- h. Justification/rationale for the course
- i. Course objectives
- j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)
- k. Assessment methods (include grading policy with specific equivalents for A, B, C)
- l. Policy on absences, cheating, plagiarism, etc.
- m. Course content (outline of material to be covered in course).

Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? No

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Will this course require a special classroom (computer lab, smart classroom, or laboratory)? No

Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

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GAME 4901 Professional Portfolio

Fall 2016

Instructor: TBD

Email: TBD

Office Hours: TBD

Registrar's Office

Course Description

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. 1 credit hour, Spring only.

Prerequisite: GAME 4013**Required Textbook:** None**Recommended Supplies:**

Flash drive, external hard drive, sketchbook, pencils and/or markers

Justification of the Course

In this course students will create and refine a digital game portfolio according to industry standard quality. They will develop an online presence while researching game and interactive media markets to tailor their work to specific job opportunities. The instructional methods of this course will include creative work, lectures, demonstrations, individual research, group critiques and presentations. Participation in all aspects is vital to the success of this course and will be an integral part of the student's final course evaluation.

Course Objectives

Students will develop a professional digital portfolio that meets industry standards.

1. Portfolio:
 - a. Refining and documenting previous projects
 - b. Showing evidence of current project development
 - c. Creation of a sizzle reel
 - d. Exporting work for various display formats (web, YouTube, DVD/Blu-ray, print)
2. Employment:
 - a. Research into game design and interactive media job opportunities
 - b. Resume building and formatting
 - c. Job, internship, and graduate program application practices
 - d. Self-marketing and utilization of social media tools

General Education Goals

The general education curriculum is designed to provide a foundation for knowledge 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:

- a. Communicate effectively
- b. Think critically
- c. Develop ethical perspectives
- d. Apply scientific and quantitative reasoning
- e. Demonstrate knowledge of the arts and humanities

f. Understand wellness concepts

Course Outline

There will be 3-5 major projects, some of which may be team-oriented.

Assignments will be graded based upon the following criteria:

Creativity – originality of concept and approach to problem solving

Technique– ability to use the software effectively and execution of required elements

Presentation – quality of written and spoken discussion of work, including participation in group critiques

Process – demonstration of concept development through mid-progress critiques and sketchbook

Final Assessment:

Based on total points and protocol

A: 90-100 Exemplary performance in all aspects of course

B: 80- 89 Very Good performance on most course aspects

C: 70 - 79 Good or average performance overall

D: 60 -69 Unsatisfactory Performance

F: Failure

Department of Art Attendance Policy:

The Art Department has adopted the following policy:

For more than 4 missed classes (for studio this constitutes 12 contact hours) regardless of excuse, the instructor has the discretion to drop the final grade one level.

For more than 7 missed classes (21 studio contact hours) the student will receive a failing grade, unless the student drops within the university guidelines/deadlines.

Up to four classes can be missed without penalty, except for assigned due dates and exams. Students will not be penalized for officially sanctioned university activities. It is the responsibility of the student to present to instructors notice and verification of authorized participation. It should be understood that some course work cannot be made up and a student will be held accountable for missed content.

Tardiness is unacceptable and unprofessional. If a student is tardy or leaves class before the instructor has dismissed the rest of the class three times, it will count as a recorded absence.

Classroom Policies

Professional behavior is required. Punctual attendance and intelligent participation are expected.

The use of cell phones, including talking and texting, or computer use is not allowed during class lecture, discussions or critiques. In fact, cell phones should be either turned off or silenced before class begins.

Food and drinks are allowed as long as you are not being loud or leaving behind a mess. **However food is not allowed around computers or printing equipment!** If your behavior is disruptive you will be asked to leave the class and you will be counted as absent. **Essentially, just try to be respectful of the instructor and your fellow classmates.**

Academic Integrity

Plagiarism, cheating, stealing, lying, and interfering with other students' work are in violation of the standards of academic integrity and will be penalized according to ATU policy.

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In short: IF YOU PLAGIARIZE YOU RISK FAILING THE ASSIGNMENT AND POSSIBLY THE COURSE AS A WHOLE.

If you are unaware of what constitutes a violation of academic integrity, please review the ATU Student Handbook regarding academic policies.

Statement on Disabilities:

Arkansas Tech adheres to policies providing accommodations for disabilities. If you have special needs due to a disability, contact the Disability Service Office, Dean Hall, Room 110, 968-0316. The instructor should be notified at the beginning of the course if you have special needs.

This syllabus is a guideline for the semester. It may become apparent that the schedule or classroom policies need adjustment to reflect the current state of the course or address unexpected issues. You will be notified of any changes in schedule or classroom policy before they take effect!

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Arkansas Tech University

Course Addition GAME 4901

Assessment Form

Our Mission

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Provide an answer for each question. Your answers are to be typed single spaced.

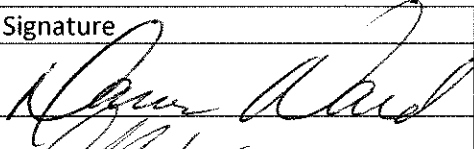

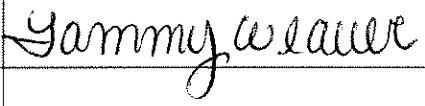
- h. How does this course fit with the university mission? *GAME 4901 is an innovative program that develops professional skills in graphic design, computer science and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*
- i. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*
- j. Provide up to three student learning outcomes students will achieve after completing this course? *Students will develop a resume and portfolio and present their work*
- k. What assessment tool or measure will you use to assess student learning? *Panel and faculty reviews, class critiques, project presentations and CPGE data.*
- l. What will students demonstrate, represent, or produce to provide evidence of their learning? *They will produce a portfolio.*
- m. Provide an example or examples of student learning assessment evidence which supports the addition of this course. *Senior surveys in the art department have suggested student desire for a 3-D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.*
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Registrar's Office

Arkansas Tech University
PROPOSAL FOR NEW PROGRAM

TO:	Curriculum Committee
FROM (Initiating Department):	Art Department, College of Arts and Humanities
DATE SUBMITTED:	July 1, 2015

Title	Signature	Date
Department Head		6/26/15
Dean		6/26/15
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		7/13/15
Vice President for Academic Affairs		

Program Title: Game and Interactive Media Design	CIP Code: 50.0411
Contact Person: Dawn Ward Arkansas Tech University Norman 104 203 W. Q Street Russellville AR, 72801 dward23@atu.edu (479) 968-0244	Proposed Date: Fall 2016
Program Summary: (Include general description of program with overview of any curriculum additions or modifications, proposed cost, faculty resources, library resources, facilities and equipment, purpose, and any other important information) Program Description The Bachelor of Arts in Game and Interactive Media Design includes courses in graphic design and computer science and 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	

JUN 26 2015

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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. Web development and software development are among the fastest growing labor sectors in the United States. In recent years, Arkansas has invested heavily in developing a work force to serve this demand. Governor Asa Hutchinson's high school computer programming initiative and Winrock International's Innovate Arkansas and Ark Challenge represent just a few of the state's programs to build a high-tech economy in the state. The market for video games, a subsector of web and software development, is rapidly expanding as well. Texas has become a regional hub for the video game industry, and tremendous potential exists to spread the game industry across the border.

The proposed Game and Interactive Media Degree incorporates traditional and online instruction. It requires 57 hours of major credit beyond the general education curriculum. 30 of these hours come from existing programming and graphic design courses offered at Tech. 25 of these hours are new courses covering game development, 3D design, game theory, and interactive media history. The degree culminates in a two part senior project in which students create a fully developed game or interactive media project. Students also accumulate a portfolio of work to aid them in seeking employment after graduation.

Similar Programs

Just a few colleges and universities in Arkansas offer a similar major. Southern Arkansas University has a game design degree, and Henderson State University has a digital art and design major. The University of Phoenix and ITT branches in Little Rock also offer game design degrees.

Curriculum Additions

The proposed major will require nine new courses:

ART 2223 History of Digital Art
GAME 3013 Game Development I
GAME 3023 Game Development II
GAME 4633 3D Animation
GAME 4263 3D Modeling
GAME 4013 Senior Game Project I
GAME 4803 Game Production
GAME 4023 Senior Game Project II
GAME 4901 Professional Portfolio

New Faculty Resources

One new full time, tenure track game design professor at \$70,000 plus benefits
One new full time instructor of art at \$40,000 plus benefits.

Equipment and Facilities

\$100,000 game design lab in Norman or Brown Hall
\$20,000 in software and hardware upgrades per year

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List existing degree programs that support the proposed program:

Graphic Design
Computer Science
English
Speech

(See attached support forms in Appendix A)

Need for the Program: (Survey data on student interest in the program (numbers not percentages), job availability, corporate demands, and employment/wage projections). Focus mostly on state needs.

As an attachment, include letters of support from organizations and businesses that can speak to number of job vacancies, whether the degree will provide opportunities for job advancement, increase in wages based on additional education, etc.)

The 2015 ATU enrollment management list of over 12,500 high school seniors identified as prospective Tech students indicated that 642 expressed an interest in pursuing degrees in an art or computer related field. 190 of these prospective students expressed an interest in computer science specifically, and 187 expressed interest in graphic design specifically. A survey of 645 current and prospective students conducted for this proposal in May and June 2015 contained 23 respondents who answered "yes," they would declare Game and Interactive Media Design their major if offered. Another 84 answered "maybe," they would declare Game and Interactive Media Design their major. 58 respondents who were not currently enrolled at Tech indicated that they would be more likely to enroll at Arkansas Tech University if a Game and Interactive Media Design major was offered.

Preliminary results from an employer needs survey delivered to Arkansas companies indicated anticipated growth in the interactive media industry, the need for a tech savvy workforce, and job openings in several fields served by the proposed degree of between \$30,000 and \$70,000. The Bureau of Labor Statistics' job outlook data for the United States for 2012-2022 suggested growth in all areas related to interactive media, computer programming and graphic design. Software developers and web developers, in particular, showed stronger than average job growth and salary ranges from \$60,000 to \$90,000. In the bureau's statistics for Arkansas, some 6500 people were listed as working in fields supported by the proposed degree, with salary ranges from \$35,000 to \$100,000. Letters of support from potential employers and a targeted job search on Monster.com also indicated demand in Arkansas for program graduates.

(See attached evidence of need in Appendix B)

Curriculum Outline by Semester

Freshman Year

Fall

- ___ ART 1303 Intro to Drawing
- ___ Science w/ Lab* *IT*
- ___ ENGL 1013 Composition I* *IT*
- ___ ART 1001 Intro to Art*
- ___ MATH 1113 College Algebra*

Total Hours 14

Spring

- ___ ART 1403 2-D Design
- ___ ART 2213 Digital Skills for GD
- ___ COMS1403 Orientation to Computing
- ___ COMS1411 Computer and IS Lab
- ___ Social Science* *IT*
- ___ ENGL 1023 Composition II* *IT*

Total Hours 16

Sophomore Year

Fall

- ___ ART 2223 History of Digital Art
- ___ Social Science* *IT*
- ___ COMS 2104 Found Comp Program I
- ___ Social Science/Fine Art/Humanities/Speech* *IT*
- ___ Fine Art/Humanities* *IT*

Total Hours 16

Spring

- ___ COMS 2203 Found Computer Pro II
- ___ Science w/ Lab* *IT*
- ___ Fine Art/Humanities* *IT*
- ___ U.S. History/Government* *IT*
- ___ ART 2303 Figure Drawing

Total Hours 16

Junior Year

Fall

- ___ GAME 3013 Game Develop I
- ___ ENGL 2043 Creative Writing or SPH 3163 Write Perform
- ___ ART 4623 Animation Techniques
- ___ ART 3253 Digital Illustration
- ___ Elective (3hrs) *2*

Total Hours 15

Spring

- ___ GAME 3023 Game Develop II
- ___ GAME 4633 3D Animation
- ___ GAME 4263 3D Modeling
- ___ Elective (6hrs) *2*

Total Hours 15

Senior Year

Fall

- ___ GAME 4013 Senior Game Project I
- ___ GAME 4803 Game Production
- ___ Elective (9hrs) *2*

Total Hours 15

Spring

- ___ GAME 4023 Senior Game Project II
- ___ GAME 4901 Professional Portfolio
- ___ Elective (9hrs) *2*

Total Hours 13

*Designates General Education Requirements

I see appropriate alternatives or substitutions in "General Education Requirements". 24+ least 40 upper level hours are required.

Total number of Semester Hours Required for Graduation:
120

Can the program be completed in 8 semesters?
☒ Yes ☐ No
If not, provide justification.

List New Courses (Please attach New Course Proposals):

ART 2223 History of Digital Art
GAME 3013 Game Development I
GAME 3023 Game Development II
ART 4633 3D Animation

JUN 26 2015

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ART 4263 3D Modeling
GAME 4013 Senior Game Project I
GAME 4803 Game Theory
GAME 4023 Senior Game Project II
GAME 4901 Professional Portfolio

(See attached new course proposals in Appendix C)

Identify General Education Courses, Core Courses, and Major Courses:

General Education (35 hours):
See catalog for general education options.

Institutional/College Requirements (1 hour):
ART 1001 Introduction to Art (fulfills TECH 1001 requirement)

Core Courses (28 hours):
GAME 3013 Game Development I
ART 4623 Animation Techniques
ART 3253 Digital Illustration
GAME 3023 Game Development II
GAME 4633 3D Animation
GAME 4263 3D Modeling
GAME 4013 Senior Game Project I
GAME 4803 Game Theory
GAME 4023 Senior Gamer Project II
GAME 4901 Professional Portfolio

Major Courses (29 hours):
ART 1303 Introduction to Drawing
ART 1403 2-D Design
ART 2213 Digital Skills
COMS 1403 Orientation to Computing
COMS 1411 Computer and Information Science Lab
ART 2223 History of Digital Art
COMS 2104 Computer Programming I
COMS 2203 Computer Programming II
ART 2303 Figure Drawing
ENGL 2043 Creative Writing or SPH 3163 Writing for Performance

Electives (27 hours):
Any electives. See 40 hour upper division requirement.

JUN 26 2015

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Courses currently offered via distance technology: (moved from above section)

General Education (35 hours):

See catalog for general education options: <http://www.atu.edu/academics/catalog/graduation-requirements.html#GenEdRequirements>

Program Admission Requirements:

Entering Freshman / New Student:

New students to Arkansas Tech University must submit an application for admission, college entrance exam scores, a record documenting completion of secondary requirements, and proof of immunization documenting 2 MMR. 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 a certified copy from your high school will need to be submitted prior to credit being awarded. A minimum criterion for exam scores and grade point average is listed below:

1. Composite ACT score of 19 or above, composite SAT score of 1330 or above, or a composite COMPASS score of 68 (averaging scores in algebra, writing, and reading). Note: The ACT Writing exam is not required for admission purposes.
2. Completion of graduation requirements from a public secondary school, 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.

Students who have scored accordingly on an Advanced Placement (AP), College Level Examination Program (CLEP), or International Baccalaureate (IB) can earn credit toward graduation at Arkansas Tech University by receiving a qualifying score on the examinations. These credits can satisfy general education requirements. 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 an International Baccalaureate (IB) should submit their IB transcript for evaluation.

Freshmen who do not meet unconditional admission requirements will be conditionally admitted with a minimum composite ACT score of 15, composite SAT score of 1060 or above, or a composite COMPASS score of 47 (averaging scores in algebra, writing, and reading), and by completing college core with a 2.0/4.0 grade point average or minimum GED score of 600.

JUN 26 2015

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Returning Student:

Students who have not attended Arkansas Tech in the past year or have attended another college or university since last attending Tech must submit a new application for admission. Minimum grade point average requirements are listed below:

- Has not attended another college since attending Tech
 - Cumulative Tech GPA of 2.0 or higher
- Has attended another college since attending Tech
 - Cumulative Tech GPA of 2.0 or higher
 - Official college transcript(s) documenting a cumulative college GPA of 2.0 or higher
 - Must be eligible for re-enrollment at the last institution attended

Transfer Student:

Students who have not attended Arkansas Tech University must submit an application for admission, official transcripts from each institution previously attended, and proof of immunization.

If transferring less than 24 credit hours, an official high school transcript and ACT, SAT, or COMPASS scores must be submitted. Arkansas Tech University 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 ADHE through 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 company 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. Once admitted, your academic advisor will determine which credits count toward your degree requirements.

Minimum grade point average requirements are listed below:

1. All transfers must be eligible for re-enrollment at the last institution attended and have a cumulative college GPA of 2.0

Attach the New Program Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

(See attached program assessment in Appendix D)

List the names and credentials of all faculty teaching course in the proposed program.

Dawn Ward, PhD, Professor of Art (ART 1403, ART 2223)

Jasmine Greer, MFA, Assistant Professor of Art (ART 2213, 4623, 3253 and GAME 4633, 4263)

Neal Harrington, MFA, Associate Professor of Art (ART 2303)

JUN 26 2015

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David Mudrinich, MFA, Professor of Art (ART 1303)
 David Hoelzeman, PhD, Professor of Computer and Information Science (COMS 2104, 2203)
 Matt Brown, PhD, Associate Professor of Computer and Information Science (COMS 1403, 1411)
 Larry Morell, PhD, Professor of Computer and Information Science (COMS 2104, 2203)
 Nobuyuki Nezu, PhD, Associate Professor of Computer and Information Science (COMS 2203)
 Ron Robison, MS, Associate Professor of Computer and Information Science (COMS 1403)
 Sarah Robison, MS, Associate Professor of Computer and Information Science (COMS 2104)
 Jerry Wood, MS, Assistant Professor of Computer and Information Science (COMS 2104, 2203)
 Paul Lake, AM, Professor of English (ENGL 2043)
 David Eshelman, PhD, Associate Professor of Communication (SPH 3163)

New Hire, Game Design Professor (GAME 3013, 3023, 4013, 4023, 4803, 4901)

Total number of faculty required (existing and new)

For new faculty members include expected credentials/experience and hire date

Most of the program's graphic design and programming classes can initially be absorbed by existing faculty, but several of the new courses will require the shifting of instructional roles and the hiring of new faculty.

One new full time, tenure track game design professor at \$70,000 plus benefits

One new full time instructor of art at \$40,000 plus benefits.

The proposed curriculum requires a professor with highly specialized skills in both art and computer science as well as a working knowledge of game engines. A PhD is preferable but an MA or MFA is acceptable with experience in the game industry. The program will also require current faculty member Jasmine Greer to shift a significant portion of her existing course rotation to the new major. We will need the full time, non-tenure track instructor of art to take over the courses that Greer will no longer be able to teach. Dawn Ward will also need to shift some of her course rotation to Game and Interactive Media Design as well. The instructor of art position will require an MA or MFA. Both positions have a desired hire date of August 2016.

For proposed graduate programs attach curricula vitae for the faculty teaching the program

N/A

Description of Resources

Current Library and instructional facilities

Program courses will rely on the use of the existing graphic design lab in Norman and the existing computer programming labs in Corley. The library labs provide backup and overflow space when needed. Library book and subscription resources can be built with the regular allocation to the departments.

JUN 26 2015

New Resources Required (include costs and acquisition plan):

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\$100,000 game design lab in Norman or Brown Hall
\$20,000 in software and hardware upgrades per year

The program will require a designated lab for game design classes using Autodesk 3D software and game engine software. The lab will also be needed for outside of class student use in completing senior game project requirements.

(See budget under New Program Costs)

New Program Costs (Expenditures for first three years of program operation)**Include:**

- New administrative costs
- New faculty
- New library resources and costs
- New/renovated facilities and costs
- New instructional equipment and costs
- Distance delivery costs
- Other new costs

Revenue:**Tuition and Fees (20 students):**

Year 1: 20 X \$7740 (2015-16 in state tuition and fees for 30 hours)

Total = \$154,800

Year 2: 20 students X \$7934 (assumes 2.5% increase)

Total = \$158,680

Year 3: 20 students X \$8133 (assumes 2.5% increase)

Total = \$162,660

Costs:**Classroom (assuming a dedicated computer lab in Norman with 20 stations):**

Year 1: Construction and Labor = \$30,000

Classroom Furniture = \$10,000

Computers (\$2000 x 20) = \$40,000

Projection System = \$5000

Printer = \$5000

Software and Supplies = \$10,000

Total = \$100,000

Year 2: Software and Supplies = \$10,000

Hardware Maintenance = \$10,000

Total = \$20,000

Year 3: Software and Supplies = \$10,000

Hardware Maintenance = \$10,000

Total = \$20,000

JUN 26 2015

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Faculty:

Year 1: Game Design Specialist: \$70,000

(Based on equivalent salary at UT Dallas of professor with computer science and graphic design skills and experience in the industry; SAU pays \$50-60,000 for faculty in game design, but they do not have a specialist with crossover computer science and design skills.)

Instructor: \$40,000

(Position required to meet growing student demand in Art as well as shift in Jasmine Greer's workload to serve Game Design.)

Total = \$110,000

Year 2: Game Design Specialist: \$71,400 (assumes 2% raise)

Instructor: \$40,800 (assumes 2% raise)

Total = 112,200

Year 3: Game Design Specialist: \$72,828 (assumes 2% raise)

Instructor: \$41,616 (assumes 2% raise)

*Total = 114,444***Totals:**

	Revenue	Cost	Yearly Gain/Loss	Total
Year 1:	\$154,800	\$210,000	-\$55,200	(-\$55,200)
Year 2:	\$158,680	\$132,200	+\$26,480	(-\$28,720)
Year 3:	\$162,660	\$134,444	+\$28,216	(-\$504)
Year 4:	\$166,720	\$136,733	+\$29,987	+\$29,483

If estimates are adjusted for 30 students in the program, revenue would exceed costs in the first year and produce a \$22,200 profit.

Appendix A
Support Forms

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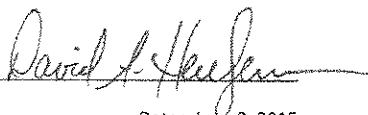
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Arkansas Tech University
DEPARTMENTAL SUPPORT FORM

This form must be completed for every department affected by the course change.

Department Affected: Computer and Information Science	This department supports the change.
Comments: If enrollment increases by 20+ students in each of the courses (COMS1403, COMS1411, COMS2104, and COMS2203) an additional Computer and Information Science faculty member will be needed by the start of the proposed program's third year.	

Department Head Signature:



Date: June 8, 2015

JUN 26 2015

Registrar's Office

Arkansas Tech University
DEPARTMENTAL SUPPORT FORM

This form must be completed for every department affected by the course change.

Department Affected: English and World Languages	This department <input checked="" type="checkbox"/> supports <input type="checkbox"/> does not support the change.
Comments: The Department of English and World Language supports the proposed matrix for the Game Design degree.	

Department Head Signature:

Date: 6-8-15

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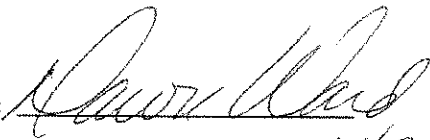
Registrar's Office

Arkansas Tech University
DEPARTMENTAL SUPPORT FORM

This form must be completed for every department affected by the course change.

Department Affected: Art	This department <input checked="" type="checkbox"/> supports the change. <input type="checkbox"/> does not support
Comments:	

Department Head Signature:



Date: 6/18/2015

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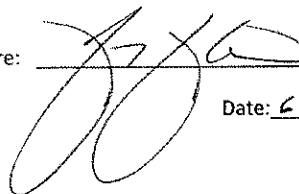
Registrar's Office

Arkansas Tech University
DEPARTMENTAL SUPPORT FORM

This form must be completed for every department affected by the course change.

Department Affected: <i>Comm. & Jour.</i>	This department <input checked="" type="checkbox"/> supports <input type="checkbox"/> does not support the change.
Comments: <i>Sph. 3163 in proposed Game and Interactive Design Program.</i>	

Department Head Signature: _____



Date: 6.8.15

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Appendix B
Evidence of Need

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Email to Jeff Woods from Shauna Donnell, 6/2/15

There are 12,594 freshman prospects in Banner for fall 2015. Of those prospects, here is the headcount for the following majors:

ART: 16

ART EDUCATION: 40

ELEG-COMPUTER ENGINEERING: 73

COMPUTER SCIENCE: 190

FINE ARTS: 49

GRAPHIC DESIGN: 187

INFORMATION SYSTEMS: 49

INFORMATION TECHNOLOGY: 38

Shauna S. Donnell, Assistant Vice President
Enrollment Management
Arkansas Tech University
1605 Coliseum Drive, Room 147
Russellville AR 72801-2222
PH: 479.968.0343
FAX: 479.964.0522
sdonnell@atu.edu



JUN 26 2015

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**Student Survey Game and Interactive Media Design
Degree Results, June 2015**

Q1 Are you currently enrolled at Arkansas Tech University?

Q2 If you are enrolled at Arkansas Tech, have you declared a major?

Q3 If you are not currently a student at Arkansas Tech, do you plan on enrolling at Arkansas Tech University in the future?

Q4 If you are not currently a student at Arkansas Tech, would you be more likely to enroll at Arkansas Tech if a Game and Interactive Media Design major was available?

Q5 Would you declare Game and Interactive Media Design as your major?

Q1		
Yes	No	Blank
473	163	9

Q2		
Yes	No	Blank
368	188	89

Q3		
Yes	No	Blank
215	17	413

Q4		
Yes	No	Blank
58	206	381

Q5			
Yes	No	Maybe	Blank
23	528	84	10

Results are out of 645 total participants.

JUN 26 2015

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Survey Report: Employer Needs Survey Game Design

Employer:

<u>29262025</u>	05/29/2015	ArkansasWeb.com
<u>29262036</u>	05/29/2015	Hooper Productions, Inc.
<u>29300407</u>	06/10/2015	Stone Ward
<u>29300755</u>	06/10/2015	Perch
<u>29306450</u>	06/11/2015	Team SI

 1

Type of Company:

<u>29262025</u>	05/29/2015	web design, mobile design, programming, hosting, graphic design
<u>29262036</u>	05/29/2015	Video Production - Commercials, Training, Marketing
<u>29300407</u>	06/10/2015	Advertising Agency
<u>29300755</u>	06/10/2015	Design and Development
<u>29306450</u>	06/11/2015	Digital Marketing Firm

 1

Contact Person:

<u>29262025</u>	05/29/2015	Minell Eberdt
<u>29262036</u>	05/29/2015	Bob Hooper
<u>29300407</u>	06/10/2015	Gregg Gladden
<u>29300755</u>	06/10/2015	Ryan Byrd
<u>29306450</u>	06/11/2015	Tim Whitley

 1

Position Title:

<u>29262025</u>	05/29/2015	President
<u>29262036</u>	05/29/2015	Owner
<u>29300407</u>	06/10/2015	Production Manager
<u>29300755</u>	06/10/2015	Founder & Lead Designer
<u>29306450</u>	06/11/2015	President & Founder

 1

1. List job titles with your company that require employees to have

JUN 26 2015

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the knowledge and skills obtained from the proposed degree program.

<u>29262025</u>	05/29/2015	Web Designer Web Programmer Database Programmer Graphic Designer
<u>29262036</u>	05/29/2015	My company isn't large enough to employ full time animators or graphic artist. I usually contract with other providers
<u>29300407</u>	06/10/2015	Programmer Editor Copy Writer Producer
<u>29300755</u>	06/10/2015	UI/UX Designer Developer
<u>29306450</u>	06/11/2015	- Sr. Developer - Jr. Developer - Graphic Designer

2. List the degree required for each job title listed in #1.

<u>29262025</u>	05/29/2015	
<u>29262036</u>	05/29/2015	None
<u>29300407</u>	06/10/2015	Web designer Film Production English/Writing Film Production
<u>29300755</u>	06/10/2015	In this field, no degree is "required" in the truest sense, but having specific skill-based training/education is very important and can help set apart applicants. With that said, it has to be the *right* skills that are learned. A degree in art (in the generic sense) isn't going to get you very far in this field. People want to see that you are proficient in particular skills sets and technologies.
<u>29306450</u>	06/11/2015	We do not require because there is not a good curriculum that teaches the students of the technologies of the current time. Universities are usually 5 years behind. In the digital world, that is like 15 years in the real world. I hire off of passion and drive. With those two things, an individual will learn how to code.

3. Indicate the certification/licensure required for each job title listed in #1.

<u>29262025</u>	05/29/2015	
<u>29262036</u>	05/29/2015	NONE
<u>29300407</u>	06/10/2015	
<u>29300755</u>	06/10/2015	none
<u>29306450</u>	06/11/2015	

4. How many positions do you currently have for each job title listed in #1?

<u>29262025</u>	05/29/2015	3
<u>29262036</u>	05/29/2015	None
<u>29300407</u>	06/10/2015	4 4 3 2
<u>29300755</u>	06/10/2015	1
<u>29306450</u>	06/11/2015	None at this time. We have 5 on staff but looking for that to grow in the next 6 months to close

JUN 26 2015

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to 10.

1

5. How many position openings do you currently have for each job title listed in #1?

<u>29262025</u>	05/29/2015	0
<u>29262036</u>	05/29/2015	None
<u>29300407</u>	06/10/2015	None that I know of.
<u>29300755</u>	06/10/2015	none
<u>29306450</u>	06/11/2015	

1

6. How many position openings will you have the next 2–5 years for each job title listed in #1?

<u>29262025</u>	05/29/2015	2
<u>29262036</u>	05/29/2015	Unknown
<u>29300407</u>	06/10/2015	Hard to say, but this is the direction that on-line production is going.
<u>29300755</u>	06/10/2015	2-4
<u>29306450</u>	06/11/2015	5

1

7. What is the annual salary for each position listed in #4?

<u>29262025</u>	05/29/2015	\$28,000 - \$40,000
<u>29262036</u>	05/29/2015	unknown
<u>29300407</u>	06/10/2015	30 - 50K
<u>29300755</u>	06/10/2015	UI/UX Designer: \$60,000 Developer: \$70,000
<u>29306450</u>	06/11/2015	Junior: 45,000 Senior: 70,000

1

8. If no openings now, when do you anticipate having openings for the positions listed in #1?

<u>29262025</u>	05/29/2015	unsure
<u>29262036</u>	05/29/2015	unknown
<u>29300407</u>	06/10/2015	1 to 2 years
<u>29300755</u>	06/10/2015	I anticipate at least 1 new hire (most likely a part-time developer) within the year.
<u>29306450</u>	06/11/2015	6 Months

1

JUN 26 2015

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9. Would you give hiring preference to applicants with the proposed degree?

<u>29262025</u>	05/29/2015	not necessarily
<u>29262036</u>	05/29/2015	In Broadcast Production - few if any people check degrees. Most people look at your work.
<u>29300407</u>	06/10/2015	Yes
<u>29300755</u>	06/10/2015	Yes, as long as they had specific training in modern and emerging technologies (highly proficient in Adobe Creative Suite and/or Sketch, highly proficient in HTML & CSS, at least a little knowledge in Javascript and Front-End libraries, etc.)
<u>29306450</u>	06/11/2015	Yes

10. Indicate the number of employees who would benefit from enrolling in selected coursework in the proposed degree program? Would you provide tuition assistance to employees enrolling in program coursework?

<u>29262025</u>	05/29/2015	unable to do that
<u>29262036</u>	05/29/2015	If I grew large enough.
<u>29300407</u>	06/10/2015	8 I can't speak to that, but it is a possibility.
<u>29300755</u>	06/10/2015	0
<u>29306450</u>	06/11/2015	1

11. Would it be helpful for your employees if the courses were offered online/distance technology, evenings or weekends?

<u>29262025</u>	05/29/2015	possibly
<u>29262036</u>	05/29/2015	Absolutely.
<u>29300407</u>	06/10/2015	Yes
<u>29300755</u>	06/10/2015	n/a
<u>29306450</u>	06/11/2015	yes

12. Indicate the type of support your company will provide for the proposed degree program, such as, program start-up funds, provide an internship site, part-time faculty, tuition reimbursement, employee release time, or equipment?

<u>29262025</u>	05/29/2015	unsure
<u>29262036</u>	05/29/2015	My Company isn't large enough to participate.
<u>29300407</u>	06/10/2015	I can not speak to that, but these are all possibilities.
<u>29300755</u>	06/10/2015	We've discussed the possibility of needing an intern within the next year or 2.

JUN 26 2015

29306450 06/11/2015

Internships

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1

13. Will you or a co-worker serve on the institution's program advisory committee?

29262025	05/29/2015	possibly
29262036	05/29/2015	Probably not.
29300407	06/10/2015	Yes, but this is not my area of expertise.
29300755	06/10/2015	No
29306450	06/11/2015	Not at this time

1

14. Indicate the skills individuals would need for employment in the positions listed in #1.

Interpersonal communications : 1.00 | 100%Supervision/Management : 0.00 | 0%Budgeting : 0.00 | 0%Written/oral communications : 1.00 | 100%Leadership/initiative : 1.00 | 100%Data analysis : 1.00 | 100%Team work : 1.00 | 100%Planning/Organizing : 1.00 | 100%Public Speaking : 0.00 | 0%Independent worker : 1.00 | 100%Conflict resolution : 0.00 | 0%Marketing : 1.00 | 100%Analytical reasoning : 1.00 | 100%Problem Solver : 1.00 | 100%Teacher/Trainer : 1.00 | 100%Computer programming : 1.00 | 100%Computer applications : 1.00 | 100%PowerPoint Presentations : 1.00 | 100%Foreign Language : 0.00 | 0%

Question	Count	Score
1. Interpersonal communications	3	1.00
2. Supervision/Management	0	0.00
3. Budgeting	0	0.00
4. Written/oral communications	3	1.00
5. Leadership/initiative	2	1.00
6. Data analysis	2	1.00
7. Team work	4	1.00
8. Planning/Organizing	4	1.00
9. Public Speaking	0	0.00
10. Independent worker	3	1.00
11. Conflict resolution	0	0.00
12. Marketing	1	1.00
13. Analytical reasoning	3	1.00
14. Problem Solver	4	1.00
15. Teacher/Trainer	2	1.00
16. Computer programming	4	1.00

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17. Computer applications	4	1.00
18. PowerPoint Presentations	1	1.00
19. Foreign Language	0	0.00
Average		0.74

15. List other skills not included in #14.

<u>29262025</u>	05/29/2015	
<u>29262036</u>	05/29/2015	
<u>29300407</u>	06/10/2015	Conceptual Art design, and coding.
<u>29300755</u>	06/10/2015	
<u>29306450</u>	06/11/2015	

1

16. How will this proposed degree program benefit your local community, the state, region or nation?

<u>29262025</u>	05/29/2015	Possibly provide a more technical employment base; however, we see these students that learn here leave for larger states.
<u>29262036</u>	05/29/2015	It's a growing field. It's impact on this area has no track record, but could benefit many different types of businesses.
<u>29300407</u>	06/10/2015	Growth in existing companies, and startup opportunities.
<u>29300755</u>	06/10/2015	We're in a critical time in Arkansas. There's a small, but growing tech community bubbling up in Central and Northwest Arkansas, but there's not enough talent right now to fully support big growth. Programs like this have the opportunity to be a pipeline into that growing community.
<u>29306450</u>	06/11/2015	

1

17. Provide any additional comments about the proposed degree program.

<u>29262025</u>	05/29/2015	
<u>29262036</u>	05/29/2015	
<u>29300407</u>	06/10/2015	I believe that this is a new and exciting field that is wide open in this part of the country, and is full of opportunity.
<u>29300755</u>	06/10/2015	
<u>29306450</u>	06/11/2015	

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U.S. National Job Outlook by Category - Bureau of Labor Statistics

Job Type	Median Salary 2012	Number of Jobs 2012	Job Outlook 2012-2022	Comparative Job Growth	Employment Change 2012-2022
Computer Programmers	\$74,280	343,700	8% increase	As fast as average	28,400
Graphic Designers	\$44,150	259,500	7% increase	Slower than average	17,400
Multimedia Artists and Animators	\$61,370	68,900	6% increase	Slower than average	4,300
Software Developers	\$93,350	1,018,000	22% increase	Much faster than average	222,600
Web Developers	\$62,500	141,400	20% increase	Faster than average	28,500

Bureau of Labor Statistics**May 2014 State Occupational Employment and Wage Estimates for Arkansas**
http://www.bls.gov/oes/current/oes_ar.htm

Occupation Title	Employment	Employment per 1000 jobs	Annual Mean Wage
Computer Programmers	3,280	2.834	\$71,620
Computer Occupations, All Other	510	0.437	\$76,870
Computer and Information Systems Managers	1,710	1.472	\$109,880
Graphic Designers	940	0.807	\$39,100
Art Directors	140	0.124	\$51,900
Multimedia Artists and Animators	30	0.029	\$36,390

Calculated with data collected from employers in all industry sectors in metropolitan and nonmetropolitan areas in Arkansas.

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2001 SE 10th Street
Bentonville, AR 72716-0315
Phone 479.204.6583
karia.winters@walmart.com

3D Design & Visualization

Karla Winters, Sr. Manager

June 3rd, 2015

Dr. Jeffrey Woods
Dean, College of Arts and Humanities and Professor of History
Arts and Humanities
Witherspoon Building 240
407 West Q Street
Russellville, AR 72801

Dear Dr. Woods,

I am writing this letter in support of Arkansas Tech University's proposed new degree program, a BA in Game Design and Interactive Media. 3D simulations in a retail environment are getting more and more popular and widely needed. Walmart Stores, Inc. has a team dedicated to visualizing store environments and proposed ideas to help aid in training associates and making decisions based on real-life scenarios.

The 3D Design & Visualization team look for talented individuals that have degrees and experience in graphic design, animation, game simulation, and programming. We are only one small team, fighting against other large teams and vendors, to provide the ultimate in retail design simulations. There are many other companies in this industry that look for talented people to fill these roles. I feel an education in this field would be helpful to your students by providing a variety of future employment opportunities.

Sincerely,

A handwritten signature in dark ink, appearing to read "Karla Winters".

Karla Winters
Sr. Manager
3D Design & Visualization
Store Layout Department
Walmart Stores, Inc

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Join Our Excellent Mobile and Web Developers in Conway - Metova, Inc. | Jobs.com

Join Our Excellent Mobile and Web Developers in Conway

Metova, Inc. - 9 Little Rock, AR

Posted: 5/22/2015

Apply Now (http://findajob.com/job/open/AC6_58G2Yaj86Dm0VAJoin-Our-Excellent-Mobile-and-Web-Developers-in-Conway.html?utm_source=Monster&utm_medium=PPC&utm_campaign=free)

We Strive For Excellence

Metova only hires those who share our. We want self-motivated, disciplined people who do what needs to be done instead of waiting to be told what to do. Your manager exists to give you what you need, not to micromanage or make decisions for you. If you are not responsible enough to take care of your own work, you will not work here.

You Deserve An Excellent Team

People describe you as intense, and you take that as a compliment. You require excellence. You expect your co-workers to make wise decisions, to be curious, to be courageous. You seek what is best for your team, whether that means discarding your ideas when presented with better ones, or abandoning your own work to sit next to a team member for an hour because you know she'd do the same for you. You are candid, and you listen well. You have great ideas and you drive them to implementation.

We Make Interesting Things

Every Metovian is encouraged to find their own purpose and to incorporate it into their work life. If your work is fulfilling, you will make your work the best that it can be. Here are some of the ways that working with us can give you an immense sense of purpose:• Help deaf and non-verbal children communicate through assistive technology• Build software and hardware prototypes to prove bleeding-edge ideas• Give life to startups that were nothing more than a good idea before you came along• Teach others how to think creatively about new problems• Be challenged in your notions of what can and can't be done

We Are Innovators

You could work for Big Corp and work on one thing forever. Or you can work with us and find neat problems to solve all the time. Here are some of the cool things we've worked on:• Unlocking doors with our phones• Devising new security exploits for mobile devices• Syncing media playback across multiple mobile devices• Customizing the Android OS to run on custom hardware• Designing scalable systems on AWS using the latest and greatest tech

Skills & Requirements

You should be someone who embodies our. If you exemplify all of these values, we will find a place for you. Developers should have 2 years of college or work experience with any subset of the following technologies:• Android (Android Studio, Gradle, Java, Maven)• Front-End Web (Adobe Flash, AngularJS, CSS3, HTML5, Jasmine, JavaScript, PhantomJS)• iOS (CocoaPods, Objective-C, Swift, Xcode)• Java (Apache CXF, Eclipse, Hibernate, Maven, Spring)• Ruby on Rails (Devise, Pundit, RubyMine, RSpec)• Web Server Management (Amazon Web Services, New Relic, Puppet)

About Metova, Inc.

Work for a company that understands technology, user experience, and professional services intimately.• Salary is based on the value you provide, and we are willing to pay top of market for excellent people.• Family health benefits, disability benefits, and a 401(k) plan are included.• Casual, open work environment at an incredible facility.• Natural light, windows everywhere.• Stocked beverage fridge, coffee, etc.• Game room with ping pong table and custom-built arcade system.• Did we mention, two craft beers on tap?

No third parties please.

Joel Test score: 12 out of 12

This is a twelve-question measure of the quality of a software team.• Do you use source control?• Can you make a build in one step?• Do you make daily builds?• Do you have a bug database?• Do you fix bugs before writing new code?• Do you have an up-to-date schedule?• Do you have a spec?• Do programmers have quiet working conditions?• Do you use the best tools money can buy?• Do you have testers?• Do new candidates write code during their interview?• Do you do halfway usability testing?

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Art Director - Rockfish | Jobs.com

Art Director

Rockfish - Rogers, AR 72757

Posted: 5/28/2015

Apply Now (<http://rockfish.theresumator.com/apply/4oXUI4/Art-Director?source=MONS>)

The Art Director works closely with the creative leadership as well as project management, account services and technology to develop the content and layout of a project that coordinates across different digital media (web, tablet, mobile, social, video, etc).

Responsibilities:

Create design systems that can coordinate across multiple platforms (web, mobile, social, etc) Create style guides to support design systems Incorporate knowledge of digital trends and technologies into client solutions Develop concepts and executions independently Work independently with limited oversight and guidance Present concepts and designs internally and to client when appropriate Delegate and direct efforts of other designers to complete project deliverables Manage progress of projects to meet established timelines, hours, and creative brief Grow the skills of design personnel over time Lead projects from the design perspective as well as taking a lead role in developing ideas for multiple projects Manage the daily work assignments of a team of designers Closely monitor progress of projects Lead design team in meeting expectations on client deliverables and understand the process to get to a great final product Requirements:

Design Degree or equivalent experience Strong understanding of design and typography principles Strong understanding of relevant social media apps (Facebook, Twitter, Instagram, Pinterest, etc) Strong Understanding of HTML/CSS/JavaScript/Flash Strong understanding of production process for digital media (cuts, style guides, color space, file compression, layer comps, smart objects, exporting, batch processing, etc.) Professional recognition via industry awards, speaking engagements, etc. Considered expert in the field with specialization in visual, typography, animation, video, 3D, etc. Strong understanding of production Firm grasp of development tools Ability to inspire, collaborate, motivate, and set direction for designers Solid presentation skills Ability to coach, manage, and direct design work Ability to grow and guide career paths for designers Ability to manage multiple priorities simultaneously

Apply Now (<http://rockfish.theresumator.com/apply/4oXUI4/Art-Director?source=MONS>)

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<http://job-openings.monster.com/monster/f2bfecca-8361-427b-9411-3584e2ce14e0?mesoid=2700402001001&jobPosition=6>

1/2

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6/5/2015

Software Developer Job in North Little Rock 72113, Arkansas US

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Software Developer

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compsys
computer systems & Services

Job Summary

Company

CompSys

Location

North Little Rock, AR 72113

Industries

Computer Software

Computer/IT Services

Job Type

Full Time

Employee

Years of Experience

1+ to 2 Years

Education Level

High School or equivalent

Career Level

Entry Level

Salary

35.00 - 45,000.00 \$ /year

Software Developer

About the Job

Compsys, Inc. has a position open for a C# developer. Duties will consist of, but not be limited to, developing and troubleshooting custom small business applications. This is a ground level opportunity for the right person to help us develop this area of our business.

We offer 100% employer paid Health, Dental, Disability, and life insurance for our team.

If this sounds like an opportunity you would be interested in, let us know.

[Apply](#)

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INSTRUCTOR - Little Rock, AR - UALR | Jobs.com

INSTRUCTOR - Little Rock, AR

UALR - Little Rock, AR

Posted: 5/6/2015

Apply Now (http://jobrep.com/job/3806661/instructor-little-rock-ar/us/?utm_source=Monster&utm_medium=PPC&utm_campaign=free)

University of Arkansas at Little Rock Emerging Analytics Center (EAC) 3D Artist III/Graphic Artist III The University of Arkansas at Little Rock seeks applications for the position of 3D Graphic Artist III (P98118) for the Emerging Analytics Center (EAC). EAC works on a wide range of virtual reality and interactive visualization applied research projects, many of which require the creation of 3D assets, shaders, scripts, animations and other components. The 3D artist will be responsible for the development of the "look and feel" of many projects and will work directly under the center's Director. This position may also require to supervise art and design students assisting on the projects. The position also has opportunities for advancement to a lead position. This position reports directly to the Director of EAC and its main location will be the central offices of EAC in the EIT building. Applicants must possess advance knowledge of Photoshop or similar packages and experience with 3D modeling tools such as 3D Studio Max, Maya, Blender or Google Sketch up. Required Qualifications: A bachelor's degree is required with three years' experience or equivalent expertise in 3D Art. Preferred Qualifications: Experience with a scripting or programming language desired but not required. Application materials must be submitted through the online application system. Additional information about this position and application requirements are available under the Jobs link on the Human Resources' website at ualr.edu/humanresources/. Incomplete applications will not be considered. This position is subject to a pre-employment criminal background check. A criminal conviction or arrest pending adjudication alone shall not disqualify an applicant in the absence of a relationship to the requirements of the position. Background check information will be used in a confidential, non-discriminatory manner consistent with state and federal law. The University of Arkansas at Little Rock is an equal opportunity, affirmative action employer and actively seeks the candidacy of minorities, women, veterans, and persons with disabilities. Under Arkansas law, all applications are subject to disclosure. Persons hired must have proof of legal authority to work in the United States.

Apply Now (http://jobrep.com/job/3806661/instructor-little-rock-ar/us/?utm_source=Monster&utm_medium=PPC&utm_campaign=free)

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CAD Drafter Job in Springdale 72764, Arkansas US

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Employment Staffing

Job Summary

Company
1st Employment Staffing

Location
Springdale, AR 72764

Industries
Construction - Industrial Facilities and Infrastructure
Manufacturing - Other
Engineering Services

Job Type
Full Time
Employee

Years of Experience
2+ to 5 Years

Education Level
Associate Degree

Career Level
Experienced (Non-Manager)

Salary
40,000.00 - 50,000.00 \$ /year

CAD Drafter

About the Job

Revit/AutoCAD Technician - Springdale, AR
Temp to Perm or Direct Hire DOE
\$15 - 25/Hr DOE

Function as a structural/plant layout designer by working closely with a lead engineer or in a small team designing large and medium sized projects or on multiple small projects. Design/draft new or modifications to existing buildings and other structures for industrial manufacturing, processing, and storage facilities. Work primarily involves but is not limited to steel framing, concrete structures, foundations and retrofit of any type of structural element. Layout of buildings and process equipment. Person will be a member of a team in the production of deliverables for the above items and will prepare plan and detail drawings of structures using AutoCAD or Revit software. Perform other duties related to project deliverables as directed by supervisor. Key elements of the duties include:

- Prepare plant layout, structural and mechanical drawings to produce finished drawings under the supervision of a licensed professional engineer.
- Make revisions to drawings as directed by professional engineer during the design and construction phase of the project
- Produce drawings in accordance with Facility Engineering Services' engineering and CAD standards and industry standards
- Assist management and professional staff in the development of standards.

As a minimum, applicants must have an Associate's Degree in CAD design/drafting curriculum or similar technical program or equivalent. Key requirements of the candidate qualifications are:

- Extensive knowledge of Autodesk Revit and AutoCAD software
- Knowledge of material handling and agricultural processing facility layout, meat processing, rendering,
- bulk storage and other similar facility types.
- Knowledge of structural drafting of all major materials of construction.
- Knowledgeable of structural steel detailing, concrete/rebar layout/detailing
- Knowledge of plant layout
- Aptitude for visualizing in 3-D
- Experience with industrial drawings
- Knowledgeable of building applications, construction methods and relevant building codes
- Functional knowledge of Excel, Word, or other office type software.

Requires interaction and coordination with other design disciplines to complete design tasks. Must occasionally travel to client sites for gathering information and

<http://jobview.monster.com/CAD-Drafter-Job-Springdale-AR-US-151619297.aspx?mesocid=17002090010018&jobPosition=1>

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Digital Marketing Assistant Job in Little Rock 72209, Arkansas US

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Ron Sherman Productions

Job Summary

Company

Ron Sherman Productions

Location

Little Rock, AR 72209

Industries

Advertising and PR Services

Job Type

Full Time

Employee

Digital Marketing Assistant

About the Job

Ron Sherman Advertising & Teleproductions is an established advertising agency and video production company in Little Rock, AR that has been an industry leader for over 30 years. Our company is rapidly growing and is in need of talented individuals to fill these newly available positions. We are looking for not only experienced, talented individuals but team players that will be a great fit in our company culture. It is an exciting time to be a part of Ron Sherman Advertising & Teleproductions and we look forward to hearing from you. If you think you would be an asset to our company, don't hesitate to apply!

Digital Marketing Assistant

RSAT is seeking to expand its rapidly growing internet marketing department and is looking for a well-rounded individual who has experience in one or more of the following areas:

- Graphic Design
- Website Development
- Search Engine Optimization (SEO)
- Online Advertising
- Social Media
- Content Writing

The responsibilities of this position are to help ensure all projects are completed on time and correctly, while staying up to date on the latest industry trends in internet marketing and website design so that our clients continue to receive premium results in a timely fashion so they maintain their status as trendsetters within their respected industries. This is salaried position offering benefits, matching IRA, and vacation days.

Requirements:

- Experience in media preferred not required, whether it be with an agency or radio/TV/print
- Bachelor's degree preferred not required in advertising, marketing, computer science, or information technology related field
- Must have intermediate to high skill level in web design, programming, and/or internet marketing
- Must have strong communication skills to communicate with clients or colleagues on projects
- Must have ability to stay organized and meet deadlines in fast-paced environment
- Must be willing to occasionally stay late or work weekends as workload dictates
- Monitoring, tracking, and reporting of performance

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<http://jobview.monster.com/GetJob.aspx?JobID=105410401&aid=132967869&uid=10001...> 6/15/2015

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Digital Ad Designer Job in Little Rock 72201, Arkansas US

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Job Summary

Company
PatientPoint

Location
Little Rock, AR 72201

Industries
Healthcare Services

Job Type
Full Time
Employee

Years of Experience
1+ to 2 Years

Education Level
Associate Degree

Digital Ad Designer

About the Job

Company Description

PatientPoint® is the leader and innovator of patient and physician engagement solutions at the point of care. PatientPoint award-winning patient education programs and care coordination platform drive meaningful outcomes for patients, healthcare providers and program sponsors. The PatientPoint Care Coordination Platform is the first mobile-enabled care coordination and patient engagement platform to be prevalidated by the National Committee for Quality Assurance (NCQA) for 2011 patient-centered medical home (PCMH) criteria. PatientPoint serves more than 61,000 physicians across all programs and more than 570 hospitals throughout the U.S., and impacts over 456 million patient and caregiver exposures annually. Learn more at www.patientpoint.com

Job Description

The Digital Designer's primary role is to execute digital animations for local advertisers supporting the hospital waiting room digital screens program (HDN). The Digital Designer reports to Art Director, Digital Ads, and will work across departments as needed to meet the needs of business stakeholders. The Digital Designer will concept, design and deliver quality final assets that meet the requirements of the program. The Digital Designer will help aid the Art Director's management of program sponsor deliverables for our other digital programs—including local and national ads for our waiting room program and varied ads for our interactive programs. This role will also be responsible for contributing (as capacity allows) to execution of editorial segments and content production tasks (sound/VO editing) for our waiting room overall program. This essential role will partner with other creative designers as needed to ensure quality execution within digital products for clients, customers and patients.

Position Responsibilities:

-Serves on the Creative Department's digital design team to support development of sponsor ads for hospital—including new builds, edits and ongoing updates.

<http://jobview.monster.com/GetJob.aspx?JobID=152308632&aid=132967869&uid=10001...> 6/19/2015

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Appendix D
Program Assessment

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Arkansas Tech University

Proposal for New Program Assessment Form

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

o. How does this proposal for the new program fit with the university mission? *The Game and Interactive Media Design Program is an innovative program that develops professional skills in graphic design, computer science, game design and interactive media. The skills developed are critical to a new global economy based on computer technology and visual digital communication.*

p. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. *Not applicable.*

q. How will this new program enhance learning for students enrolled in the program? *The Game and Interactive Media Design Program will provide students with skills needed for employment in the video game and entertainment industries as well as a broad range of fields requiring animation, simulation, programming, web design, editing, mobile application development, interactive environment construction, and story formation. The program requires 58 hours of course work beyond the 35 hour general education curriculum and 27 hours of electives. Students will take courses in graphic design, 3D animation and modeling, computer programming, and game theory and development. They will be exposed to industry standard design software and computer programming techniques.*

r. What will students demonstrate, represent, or produce to provide evidence of their learning once they complete the program? *Students will demonstrate proficiency in industry standard design software and computer programming techniques. Students will graduate with a portfolio that demonstrates skills in illustration, animation, modeling, and story formation. Students will also individually or as a team develop a game in their capstone senior game project courses.*

s. Provide an example or examples of assessment evidence which supports adding this new program. *Senior surveys in the art department have suggested student desire for a 3D and gaming program. In addition, the 2015 ATU enrollment management list of high school seniors identified as prospective students, 642 expressed an interest in pursuing degrees in an art or computer related field. US Bureau of Labor statistics list software and web developers as faster than average employment fields (over 20% projected growth 2012-2022) with median pay ranges between \$60,000 and \$90,000 per year. Employers are*

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<p><i>expected to add over a quarter of a million jobs to the existing one million jobs in these fields in the United States by 2022.</i></p>
<p>t. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the program provide comparative examples from regional educational institutions. <i>There are only a few similar programs in the state. Southern Arkansas University has a game design degree, and Henderson State University has a digital art and design major. The University of Phoenix and ITT branches in Little Rock also offer game design degrees.</i></p>
<p>u. Attach a detailed assessment plan including three to five specific program student learning outcomes, means or instructional measures to assess each outcome, identify program courses where learning will be assessed, and performance standards or criteria for success which demonstrate student learning for each outcome. (Examples for assessment plans/curriculum mapping can be found at the Office of Assessment and Institutional Effectiveness web page.) <i>See attached.</i></p>

Arkansas Tech University
Continuous Improvement Plan
Annual Assessment Cycle
Academic Cycle: New Program Proposal
Program: BA in Game and Interactive Media Design

Program Objectives/Standards (align with mission)	Learning Objectives/ Outcome Assessment (3-5 unless otherwise specified)	Courses (program core)	Means of Assessment (direct and indirect measures)	Criteria for Success (performance standard)
PO1: Prepare students for a professional career in game and interactive media design.	LO1: Students will demonstrate skills in game and interactive media design.	GAME 4013 Senior Game Project I GAME 4023 Senior Game Project II	Student Survey Industry Survey Senior Game Project I and II – Panel review and rubric rating.	Professional preparation rated good or excellent Program graduates rated good or excellent High Pass 90-

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				100% Pass 80-89%
PO2: Promote innovation through the use of industry standard design software and computer programming techniques.	LO2: Students will demonstrate an advanced understanding of counseling professional ethics and apply ethical standards in a counseling setting.	ART4633 3D Animation ART 4263 3D Modeling COMS 2104 Computer Programming I COMS 2203 Computer Programming II	Industry Survey Faculty Continuing Education	Classroom software rated good or excellent Faculty attends one continuing education workshop every two years
PO3: Provide solid foundations in illustration, animation, modeling, and story formation.	LO3: Students will demonstrate skills in illustration, animation, modeling, and story formation.	GAME 4901 Portfolio	Portfolio – Faculty review	High Pass 90-100% Pass 80-89%
PO4: Provide a solid foundation in Game Theory	LO4: Students will demonstrate basic knowledge of game theory fundamentals	GAME 4803 Game Theory	GAME 4803 Game Theory CPGE	High Pass 90-100% Pass 80-89%

Assessment Plan Implementation

Assessment	CPGE Form or Department Method	CPGE System or Department Method	Actual Results Obtained (CPGE Report or Department Method)	Use of Results for Improvement
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Course Embedded	GAME 4803 GAME 4013 GAME 4023 GAME 4901	CPGE system for GAME 4803 Panel review for GAME 4013 & 4023 Faculty review for GAME 4901 Assessment data will be submitted annually.	Review and analyze ARGOS report for GAME 4803. GAME 4013, 4023 & 4901 Analyze panel feedback, project rubrics and faculty review for program improvement indicators.	Course, instructional or program changes.
Indirect and Direct Measures Alignment	Student Survey Industry Survey Continuing Education	Students will complete exit survey upon completion of GAME 4901. Industry survey will be distributed annually. Department head will track continuing education annually.	Analyze survey results	Program and Curriculum changes
Continuous Improvement Plan Summarize each category from assessment results and conclusions.				
Categories of Improvement:		Recommended Changes:		
A. Student Learning		Course Embedded Student Learning Outcome Assessment		
B. Instruction and Curriculum		Course Embedded Student Learning Outcome Assessment		
C. Assessment		Evaluate assessment from Student Learning Outcome results		
D. Program Quality		Evaluate changes from Student and Employer Satisfaction Surveys		
E. Budget		Budget requests supported by student learning and program assessment.		

Continuous Improvement Learning Report
Complete Annual Continuous Improvement Report form upload in TracDat documents section.

ANNUAL PROGRAM CONTINUOUS IMPROVEMENT	ARKANSAS TECH UNIVERSITY Department of:
--	---

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STUDENT LEARNING REPORT (January 2014) ARGOS FORM	Art Degree: Bachelor of Art in Game and Interactive Media Design For Academic Year/Cycle:
--	--

ANALYSIS OF EVIDENCE OF CONTINUOUS IMPROVEMENT PROGRAM STUDENT LEARNING

- 1) For all student learning objectives, describe the means of assessment and criteria for success used, as well as the sampling methods and sample sizes. For each measure summarize the Argos report CPGE (Course, Program, General Education Assessment System) results of the activity measured and explanation of student learning strengths and weaknesses. Finally, indicate whether the criteria for success were met or not.

A. Program Student Learning Objectives	B. Means of Assessment, Criteria for Success, Courses, and Sample Size	C. Results Summarize Student Learning Argos Report	D. Criteria for Success Met or Not Met

- 2) State any proposed instructional or assessment changes to be implemented for the next academic year. Explain the rationale for these changes and how they will impact student learning and other considerations, such as curriculum, academic program, or assessment process. If no changes are planned, simply state "No changes are planned." Followed by an explanation of why no changes are planned.

Student Learning Outcome Changes	Instructional, Curriculum, Assessment Changes	Rationale for Changes	Impact of Planned Changes on Student Learning

Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Department of Biological Sciences	
DATE SUBMITTED:	July 1, 2015	

Title	Signature	Date
Department Head	<i>Charles Jager</i>	7-1-15
Dean	<i>J. H. Kater</i>	2015 July 1
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar	<i>Helean</i>	8/3/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL) ENVS	Course Number: (e.g., 1003) 4112 and 4114	Effective Term: <input checked="" type="radio"/> Spring <input type="radio"/> Summer I
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) Environmental Science Internship		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) ENV SCI INTERNSHIP		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? _____		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other _____		
Mode of Instruction (check appropriate box):		
<input type="radio"/> 01 Lecture	<input type="radio"/> 02 Lecture/Laboratory	<input type="radio"/> 03 Laboratory only
<input type="radio"/> 05 Practice Teaching	<input checked="" type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar <input type="radio"/> 98 Other

Does this course require a fee? <input type="radio"/> Yes <input checked="" type="radio"/> No		How Much? <input type="text"/>	Select Fee Type <input type="text"/>
If selected other list fee type: <input type="text"/>			
<input checked="" type="checkbox"/> Elective <input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor			
(If major or minor course, you must complete the Request for Program Change form to add course to program.)			
If course is required by major/minor, how frequently will course be offered?			
<input type="text" value="On demand"/>			
For the proposed course, attach a syllabus in Word format that includes: (Items a. through d. should be entered as they should appear in the catalog)			
a. Course subject b. Course number c. Catalog course title d. Catalog description <ol style="list-style-type: none"> 1. Arkansas Course Transfer System (ACTS) course number, if applicable 2. Cross-listing 3. Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring) 4. Prerequisites 5. Co-requisites 6. Description 7. Notes (e.g., information not in description such as course may be repeated for credit) 8. Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours) 9. Fees (e.g., \$36 art fee) 			
e. Section for Name of instructor, office hours, contact information (telephone, email)			
f. Text required for course			
g. Bibliography (supplemental reading list)			
h. Justification/rationale for the course			
i. Course objectives			
j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)			
k. Assessment methods (include grading policy with specific equivalents for A, B, C)			
l. Policy on absences, cheating, plagiarism, etc.			
m. Course content (outline of material to be covered in course).			
Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? No			
Will this course require a special classroom (computer lab, smart classroom, or laboratory)? No			
Attach the Course Addition Assessment Form. Attached			
If this course will affect other departments, a Departmental Support Form for each affected department must be attached. N/A			

Environmental Science Internship (ENVS 4112 and ENVS 4114)

Instructor of record will be the program director of biology. The course will be offered on demand as determined by student need and available internship opportunities. No textbooks are typically assigned for an internship.

Prerequisite: Consent of biology program director.

Proposed course 4112

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.

Proposed course 4114

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.

Note: A maximum of four credit hours is allowed for ENVS internship.

Internship Requirements

1. Biology interns will adhere to the Tech Guidelines for interns.
2. The student will obtain a faculty contact to act as a program coordinator. This program will emphasize application of classroom knowledge to career goals. For the 4112 course, a minimum of 200 clock hours of supervision (20 hrs/wk for 10 weeks), a written or oral report, and a portfolio are required. For the 4114 course, a minimum of 400 clock hours of supervision (40 hrs/wk for 10 weeks), a written or oral report, and a portfolio are required.
3. The application for internship should be completed prior to the start of the internship. An internship project description form should be completed at the same time. An agreement letter from the job supervisor should be sent to the internship faculty director before the internship begins. This letter should detail the position responsibilities and what the intern will learn during the course of the internship as well as any work expectations from the intern.
4. All requirements, responsibilities, and evaluations for the final grade should be planned in detail before the program is started. This plan should be written and signed by the student, faculty advisor, and employment supervisor. It should include sufficient details to evaluate the student's performance for a grade. Remember, this course holds two or four credit hours and can dramatically improve or reduce a student's overall GPA.
5. The student should keep in contact with the faculty advisor to ensure the goals are being met through the course of the internship. A monthly or biweekly progress report/journal may be helpful to monitor the student's progress. This action will allow changes if they become necessary.
6. If problems arise, the faculty advisor must be contacted as soon as possible. The faculty advisor has to rely on the evaluation and assessment of the intern's supervisor to assign a grade.
7. If there is a dispute over performance, a non-partial third party can be asked to provide assessment of the student's performance. The use of a third party is up to the discretion of the faculty advisor.

Arkansas Tech University

Course Change

Assessment Form: Regarding course addition ENVS 4112 and 4114

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

- a. If this course is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable.
- b. Explain the rationale for the cosmetic course change.

a. Accreditation Directive: N/A

b. Rationale: Supervised, hands-on practical experiences related to their career interests are often a deciding factor for competitive graduate school or job positions. This course will allow students to earn credit for these experiences. Having a 2 and 4 credit version of the course allows flexibility.

Summary of proposed course 4112

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.

Summary of proposed course 4114

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.

Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Department of Biological Sciences	
DATE SUBMITTED:	July 1, 2015	

Title	Signature	Date
Department Head	<i>Charlie Hager</i>	7-1-15
Dean	<i>Jeff W. Ratten</i>	2015 July 1
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar	<i>Yessau</i>	8/3/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL) BIOL/ENVS	Course Number: (e.g., 1003) 4124	Effective Term: <input checked="" type="radio"/> Spring <input type="radio"/> Summer I
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) Biological Assessment of Water Quality		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) Biological Assessment of Water		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No _____		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input checked="" type="radio"/> Yes <input type="radio"/> No BIOL 4124 and ENVS 4124		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? _____		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other _____		
Mode of Instruction (check appropriate box):		
<input type="radio"/> 01 Lecture	<input checked="" type="radio"/> 02 Lecture/Laboratory	<input type="radio"/> 03 Laboratory only
<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar <input type="radio"/> 98 Other

Does this course require a fee?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	How Much?	20.00	Lab Fee-Biological
If selected other list fee type: _____					
<input checked="" type="checkbox"/> Elective <input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor					
(If major or minor course, you must complete the Request for Program Change form to add course to program.)					
If course is required by major/minor, how frequently will course be offered?					
Spring Semesters					
For the proposed course, attach a syllabus in Word format that includes: (Items a. through d. should be entered as they should appear in the catalog)					
a. Course subject b. Course number c. Catalog course title d. Catalog description <ol style="list-style-type: none"> 1. Arkansas Course Transfer System (ACTS) course number, if applicable 2. Cross-listing 3. Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring) 4. Prerequisites 5. Co-requisites 6. Description 7. Notes (e.g., information not in description such as course may be repeated for credit) 8. Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours) 9. Fees (e.g., \$36 art fee) e. Section for Name of instructor, office hours, contact information (telephone, email) f. Text required for course g. Bibliography (supplemental reading list) h. Justification/rationale for the course i. Course objectives j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog) k. Assessment methods (include grading policy with specific equivalents for A, B, C) l. Policy on absences, cheating, plagiarism, etc. m. Course content (outline of material to be covered in course).					
Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.?					
No					
Will this course require a special classroom (computer lab, smart classroom, or laboratory)?					
No					
Attach the Course Addition Assessment Form.					
Attached					
If this course will affect other departments, a Departmental Support Form for each affected department must be attached. N/A					

Biological Assessment of Water Quality (BIOL/ENVS 4124)

Offered Spring Semesters. Instructor of record and appropriate text book is yet to be determined.

cosmetic change to add ENVS crosslist

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

Macroinvertebrates 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

This course will be cross-listed BIOL and ENVS.

Lecture 3 hours, laboratory 3 hours. This course includes several required field trips. \$40 laboratory fee.

Justification/rationale for the course: Assessment of water quality is a very important task in environmental science. There are already several courses in the ENVS curriculum that prepare students with skills for analyzing water quality using chemical techniques. However, often these require expensive equipment and advanced technical skills. Biological techniques are often cheaper than and as effective as traditional chemical methods. Many NGO's (like River Keepers), environmental consulting firms, federal and state agencies use biological assessment of water quality for these reasons and environmental science graduates may need these skills.

Arkansas Tech University

Course Change

BIOL/ENVS

Assessment Form: Regarding course addition ENVS 4124

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

- a. If this course is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable.
- b. Explain the rationale for the cosmetic course change.

a. Accreditation Directive: N/A

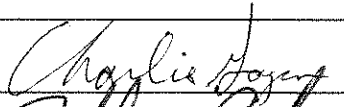
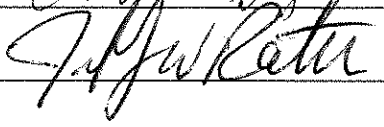

b. Rationale: Assessment of water quality is a very important task in environmental science. There are already several courses in the ENVS curriculum that prepare students with skills for analyzing water quality using chemical techniques. However, often these require expensive equipment and advanced technical skills. Biological techniques are often cheaper than and as effective as traditional chemical methods. Many NGO's (like River Keepers), environmental consulting firms, federal and state agencies use biological assessment of water quality for these reasons and environmental science graduates may need these skills.

Summary of proposed course

This course is an in-depth study of assessment of water quality by analyzing biological and chemical data.

Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee		
FROM (Initiating Department):	Department of Biological Sciences		
DATE SUBMITTED:	July 1, 2015		

Title	Signature	Date
Department Head		7-1-15
Dean		2015 July 1
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		8/3/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL) ENVS	Course Number: (e.g., 1003) 4133	Effective Term: <input checked="" type="radio"/> Spring <input type="radio"/> Summer I
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) Environmental Policy		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) Environmental Policy		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours?		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box):		
<input checked="" type="radio"/> 01 Lecture	<input type="radio"/> 02 Lecture/Laboratory	<input type="radio"/> 03 Laboratory only
<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar <input type="radio"/> 98 Other

Does this course require a fee? <input type="radio"/> Yes <input checked="" type="radio"/> No		How Much? <input type="text"/>	Select Fee Type <input type="text"/>
If selected other list fee type: <input type="text"/>			
<input type="checkbox"/> Elective <input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor			
(If major or minor course, you must complete the Request for Program Change form to add course to program.)			
If course is required by major/minor, how frequently will course be offered?			
<input type="text" value="Spring Semesters"/>			
For the proposed course, attach a syllabus in Word format that includes: (Items a. through d. should be entered as they should appear in the catalog)			
a. Course subject b. Course number c. Catalog course title d. Catalog description <ol style="list-style-type: none"> 1. Arkansas Course Transfer System (ACTS) course number, if applicable 2. Cross-listing 3. Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring) 4. Prerequisites 5. Co-requisites 6. Description 7. Notes (e.g., information not in description such as course may be repeated for credit) 8. Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours) 9. Fees (e.g., \$36 art fee) 			
e. Section for Name of instructor, office hours, contact information (telephone, email)			
f. Text required for course			
g. Bibliography (supplemental reading list)			
h. Justification/rationale for the course			
i. Course objectives			
j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)			
k. Assessment methods (include grading policy with specific equivalents for A, B, C)			
l. Policy on absences, cheating, plagiarism, etc.			
m. Course content (outline of material to be covered in course).			
Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? No			
Will this course require a special classroom (computer lab, smart classroom, or laboratory)? No			
Attach the Course Addition Assessment Form. Attached			
If this course will affect other departments, a Departmental Support Form for each affected department must be attached. N/A			

Environmental Policy (ENVS 4133)

Offered Spring Semesters. Instructor of record and appropriate text book is yet to be determined.

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

Stormwater Pollution Discharge Permits

Identifying Impaired Waters

Restoring Impaired Waters

Water Quality Certification

Dredge & Fill Permits

Nonpoint 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 stormwater 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 streamflow in the Dosewallips River

Justification/rationale for the course: Knowledge of federal and state environmental policies and agencies is critical information for a professional environmental scientist whether they work for an environmental consulting firm, a state or federal agency, a private industry as an environmental compliance officer, or NGO. It is not only important to be familiar with current policies but also have the skills to research new and developing policies in the future. This course will review existing guidelines and compliance policies, but also provide students with the skills and confidence to directly research specific laws, rules, and compliance policies.

Arkansas Tech University

Course Change

Assessment Form: Regarding course addition ENVS 4133

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

- a. If this course is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable.
- b. Explain the rationale for the cosmetic course change.

a. Accreditation Directive: N/A

b. Rationale: Knowledge of federal and state environmental policies and agencies is critical information for a professional environmental scientist whether they work for an environmental consulting firm, a state or federal agency, a private industry as an environmental compliance officer, or NGO. It is not only important to be familiar with current policies but also have the skills to research new and developing policies in the future. This course will review existing guidelines and compliance policies, but also provide students with the skills and confidence to directly research specific laws, rules, and compliance policies.

Summary of proposed course

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.

Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Department of Biological Sciences	
DATE SUBMITTED:	July 1, 2015	

Title	Signature	Date
Department Head	<i>Charlie Hagan</i>	7-1-15
Dean	<i>Jeff W. Rater</i>	2015 July 1
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar	<i>Lexaull</i>	8/3/15
Vice President for Academic Affairs		

Advan

Advan

Course Subject: (e.g., ACCT, ENGL) ENVS	Course Number: (e.g., 1003) 4881-4	Effective Term: <input checked="" type="radio"/> Spring <input type="radio"/> Summer I
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) Special Topics in Environmental Science		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) Special Topics in Env Sci		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Is this course repeatable for additional earned hours? <input checked="" type="radio"/> Yes <input type="radio"/> No How many total hours? 8		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box):		
<input type="radio"/> 01 Lecture	<input type="radio"/> 02 Lecture/Laboratory	<input type="radio"/> 03 Laboratory only
<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input checked="" type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar <input type="radio"/> 98 Other

Does this course require a fee? <input type="radio"/> Yes <input checked="" type="radio"/> No How Much? <div style="border: 1px solid black; width: 100px; height: 20px; display: inline-block;"></div> Lab Fee-Biological	
If selected other list fee type: <div style="border: 1px solid black; width: 250px; height: 20px; display: inline-block;"></div>	
<input checked="" type="checkbox"/> Elective <input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor (If major or minor course, you must complete the Request for Program Change form to add course to program.)	
If course is required by major/minor, how frequently will course be offered?	
<div style="border: 1px solid black; padding: 2px;">On demand</div>	
For the proposed course, attach a syllabus in Word format that includes: (Items a. through d. should be entered as they should appear in the catalog) a. Course subject b. Course number c. Catalog course title d. Catalog description 1. Arkansas Course Transfer System (ACTS) course number, if applicable 2. Cross-listing 3. Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring) 4. Prerequisites 5. Co-requisites 6. Description 7. Notes (e.g., information not in description such as course may be repeated for credit) 8. Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours) 9. Fees (e.g., \$36 art fee) e. Section for Name of instructor, office hours, contact information (telephone, email) f. Text required for course g. Bibliography (supplemental reading list) h. Justification/rationale for the course i. Course objectives j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog) k. Assessment methods (include grading policy with specific equivalents for A, B, C) l. Policy on absences, cheating, plagiarism, etc. m. Course content (outline of material to be covered in course).	
Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? <div style="border: 1px solid black; padding: 2px;">No</div>	
Will this course require a special classroom (computer lab, smart classroom, or laboratory)? <div style="border: 1px solid black; padding: 2px;">No</div>	
Attach the Course Addition Assessment Form. <div style="border: 1px solid black; padding: 2px;">Attached</div>	
If this course will affect other departments, a Departmental Support Form for each affected department must be attached. N/A	

Advanced Topics in Environmental Science (ENVS 4881, 4882, 4883, 4884)

Offered: On demand

Prerequisites: an upper level science course and consent of the instructor.

This course offers advanced instruction in an area of environmental 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.

The instructor, text books, assessment methods and course objectives will vary from offering to offering.

I. Catalog description:

ENVS

~~BIOL~~ 4881-4. 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. Offered on demand.

II. Justification and feasibility:

- A. The field of environmental science is rapidly changing. The department needs to have a course designation such as this to allow flexibility in offerings to take advantage of faculty expertise and serve the needs of advanced students.
- B. Our department does not currently offer a course of this nature. We do offer a variable credit, directed research course. However, it is taught on an individual basis under a set of rather specific guidelines centered on the research process. The currently proposed course will involve teaching advanced biological topics in a more traditional lecture/lab format.
- C. This course developed directly from the department's plan to be able to offer different types on instruction in a timely fashion.
- D. The course will be offered as needed.
- E. Depending on the topic of interest, the course will be staffed either by Biological Sciences faculty or by qualified adjunct instructors. The offering of this course will depend on both need and availability of qualified staff.
- F. We have not consulted other departments because the changes are not expected to significantly impact other departments.

Arkansas Tech University

Course Change

Assessment Form: Regarding course addition ENVS 4881-4

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

- a. If this course is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable.
- b. Explain the rationale for the cosmetic course change.

a. Accreditation Directive: N/A

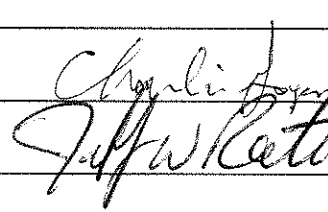
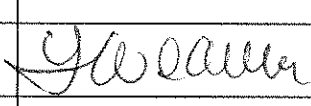
b. Rationale: The field of environmental science is rapidly changing. The department needs to have a course designation such as this to allow flexibility in offerings to take advantage of faculty expertise and serve the needs of advanced students.

Summary of proposed course

This course offers advanced instruction in an area of environmental 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.

Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Select Appropriate Committee	
FROM (Initiating Department):	Department of Biological Sciences	
DATE SUBMITTED:	July 1, 2015	

Title	Signature	Date
Department Head		7-1-15
Dean		2015 July 1
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		8/3/15
Vice President for Academic Affairs		

Course Subject: (e.g., ACCT, ENGL) ENVS	Course Number: (e.g., 1003) 4951-4	Effective Term: <input checked="" type="radio"/> Spring <input type="radio"/> Summer I
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) Undergraduate Research in Environmental Science		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) Undergraduate Research ENVS		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? <input type="radio"/> Yes <input checked="" type="radio"/> No		
If so, list course subject and number.		
Is this course repeatable for additional earned hours? <input checked="" type="radio"/> Yes <input type="radio"/> No How many total hours? 8		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other		
Mode of Instruction (check appropriate box):		
<input type="radio"/> 01 Lecture	<input type="radio"/> 02 Lecture/Laboratory	<input type="radio"/> 03 Laboratory only
<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input checked="" type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar <input type="radio"/> 98 Other

Does this course require a fee? <input checked="" type="radio"/> Yes <input type="radio"/> No How Much? <div style="border: 1px solid black; padding: 2px 10px;">40</div> Lab Fee-Biological	
If selected other list fee type: <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
<input checked="" type="checkbox"/> Elective <input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor (If major or minor course, you must complete the Request for Program Change form to add course to program.)	
If course is required by major/minor, how frequently will course be offered?	
<div style="border: 1px solid black; padding: 2px;">On demand</div>	
For the proposed course, attach a syllabus in Word format that includes: (Items a. through d. should be entered as they should appear in the catalog) a. Course subject b. Course number c. Catalog course title d. Catalog description <ol style="list-style-type: none"> 1. Arkansas Course Transfer System (ACTS) course number, if applicable 2. Cross-listing 3. Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring) 4. Prerequisites 5. Co-requisites 6. Description 7. Notes (e.g., information not in description such as course may be repeated for credit) 8. Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours) 9. Fees (e.g., \$36 art fee) e. Section for Name of instructor, office hours, contact information (telephone, email) f. Text required for course g. Bibliography (supplemental reading list) h. Justification/rationale for the course i. Course objectives j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog) k. Assessment methods (include grading policy with specific equivalents for A, B, C) l. Policy on absences, cheating, plagiarism, etc. m. Course content (outline of material to be covered in course).	
Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.? No	
Will this course require a special classroom (computer lab, smart classroom, or laboratory)? No	
Attach the Course Addition Assessment Form. Attached	
If this course will affect other departments, a Departmental Support Form for each affected department must be attached. N/A	

Undergraduate Research in Environmental Science (ENVS 4951, 4952, 4953, 4954)

Offered: On demand

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

Arkansas Tech University

Course Change

Assessment Form: Regarding course addition ENVS 4951, 4952, 4953, 4954

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Provide an answer for each question. Your answers are to be typed single spaced.

- a. If this course is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable.
- b. Explain the rationale for the cosmetic course change.

a. Accreditation Directive: **N/A**

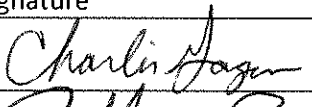
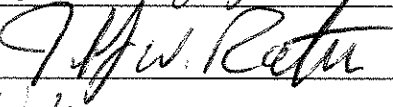

b. Rationale: **Research experience is valuable for graduate school or the workforce. This course will provide students with advanced directed research experience.**

Summary of proposed course

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.

Arkansas Tech University
PROPOSAL FOR NEW PROGRAM

TO:	Curriculum Committee
FROM (Initiating Department):	Department of Biological Sciences
DATE SUBMITTED:	June 30, 20 15

Title	Signature	Date
Department Head		6-30-15
Dean		2015 July 1
Registrar		8/3/15
Vice President for Academic Affairs		

Program Title: Environmental Science	CIP Code: 03.0104
Contact Person: Dr. Charlie Gagen, Head Department of Biological Sciences Arkansas Tech University 1701 North Boulder Avenue cgagen@atu.edu 479-964-0814	Proposed Date: Spring 2016

Program Summary:

Faculty in Tech's Department of Biological Sciences - Biology Program, propose a new Bachelor of Science major in Environmental Science that prepares students to solve environmental problems. If approved, this will replace the Environmental Option currently offered for Biology majors.

Program Overview and purpose

The existing Environmental Option to the Biology major has provided students interested in environmental science with focused study similar to a minor in environmental science. However, as it is currently programmed it has not proven to be an attractive option for students wishing to major in Environmental Science. Students earning a bachelor of science in environmental science will be broadly trained to think critically about environmental issues based on a solid inter-disciplinary natural

Curriculum Outline by Semester See Attached	
Total number of Semester Hours Required for Graduation: 120	Can the program be completed in 8 semesters? <input checked="" type="radio"/> Yes <input type="radio"/> No
List New Courses (New Course Proposals to follow as separate attachments):	
Environmental Science Internship (ENVS 4112 and ENVS 4114) Environmental Policy (ENVS 4133) Biological Assessment of Water Quality (BIOL/ENVS 4124) Advanced Topics in Environmental Science (ENVS 4881, 4882, 4883, 4884) Undergraduate Research in Environmental Science (ENVS 4951,4952,4953,4954)	
General Education Courses, Core Courses, and Major Courses <i>General Education Courses</i> Specified for this Program (includes 35 total with 18 listed here and 17 in the next section specifically required for the major): ENGL 1013 and 1023 (or equivalent honors courses) MATH 1113 (or higher level MATH) 3-hours of US History or Government 6-hours of fine arts/humanities <i>Core courses required for a major in Environmental Science (61 total semester credit hours):</i> BIOL 1011 Orientation to Biological Sciences (<i>also fills</i> an institutional requirement) BIOL/ENVS/PHSC 1004 – Principles of Environmental Science (<i>also fills</i> a general education requirement) BIOL 1114 – Principles of Biology (<i>also fills</i> a general education requirement) ECON 2003 – Principles of Economics I (<i>also fills</i> a general education requirement) SOC 1003 – Introduction to Sociology (<i>also fills</i> a general education requirement) SPH 2003 – Public Speaking (<i>also fills</i> a general education requirement) BIOL 2124 – Principles of Zoology BIOL 2134 – Principles of Botany BIOL 3114/FW 3114 – Principles of Ecology BIOL/ENVS 3043 – Conservation BIOL/ENVS/PHSC 3111 - Environmental Seminar CHEM 2124 – General Chemistry I CHEM 2134 – General Chemistry II CHEM 3254 – Fundamentals of Organic Chemistry CHEM 3264 – Mechanistic Organic Chemistry ENVS 4133 – Environmental Policy-NEW GEOL 1014 – Physical Geology PHYS 2014 – Physical Principles I <i>Directed electives supporting a major in Environmental Science, Electives should be selected to ensure students meet the 120 total hours and 40 upper division hours requirements (38-41 total semester credit hours):</i> Group A Math choice (2 courses required, one from each row 7-8 hours) MATH 2163 – Introduction to Statistical Methods or SOC/PSY 2053 Statistics for the Behavioral Sciences FW 3173 – Biostatistics or MATH 2914 Calculus I	

Group B Physical Science with laboratory choice (1 course required: 4-5 hours)

PHYS 2024 – Physical Principles II, CHEM 3245 – Quantitative Analysis, **or** CHEM 4414- Instrumental Analysis

Group C Physical Science without laboratory choice (1 course required: 3 hours)

BIOL/CHEM 3353 - Fundamentals of Toxicology (currently CHEM, proposed for cross-listing as BIOL), CHEM 3313- Environmental Chemistry, GEOL 3083 – Hydrogeology, GEOL 3153 - Environmental Geology, **or** PHSC 3033 - Meteorology

Group D GIS and Research choice (2 courses required: 7-8 hours)

FW 2833/GEOG 2833 – Introduction to Geographic Information Systems

FW 3074 - Habitat Evaluation

FW 4034 – Geographic Information Systems in Natural Resources

ENVS 4114 – Environmental Science Internship-NEW

ENVS 4884 - Advanced Topics in Environmental Science

ENVS 4954- Undergraduate Research in Environmental Science -NEW

Group E Life Science choice (2 courses required: 7-8 hours)

BIOL 3004 – Plant Taxonomy

BIOL 3034 – Genetics

BIOL 3054 – Microbiology

BIOL 3064 – Parasitology

BIOL 3084/FW 3084 – Ichthyology

BIOL 3104/AGPM 3104 – Introduction to Entomology

BIOL 3134 – Invertebrate Zoology

BIOL 3144/FW 3144 - Ornithology

BIOL 3174 – Physiological Ecology

BIOL 3224/FW 3224 - Herpetology

BIOL 4064 – Evolutionary Biology

BIOL 4163/FW 4163 – Biodiversity and Conservation Biology

Group F Field Biology choice (1 course required: 4 hours)

BIOL 4024/FW 4024 – Limnology

FW 4014 – Forest Ecology and Management

FW 4064 – Wetland Ecology and Management

BIOL 4094 – Coastal Ecology

ENVS 4124- Biological Assessment of Water Quality-NEW

Group G Social Science choice (2 courses required: 6 hours) *Human Dimensions Elective*

ANTH 2003 - Cultural Anthropology

ANTH 2103 - Ozark-Ouachita Studies

ANTH 2303 - Globalization

SOC 3033 - Sociology and Environment

SOC 3113 - Social Movements and Social Change

FW 4103 - Human Dimensions of Fisheries and Wildlife Management

Courses currently offered via distance technology:

None of the required courses aside from general education courses are offered via distance technology.

Program Admission Requirements:

No requirements past ordinary TECH admission requirements.

Curriculum in Environmental Science

Freshman

Fall		Spring	
ENGL 1013 Composition I ^{1,T}	3	ENGL 1023 Composition I ^{1,T}	3
MATH 1113 College Algebra ^T	3	U.S. History/Government ^{1,T}	3
BIOL 1011 Orientation to the Biological Sciences	4	BIOL 1114 Principles of Biology ^T	3
BIOL/ENVS/PHSC 1004 Principles of Environmental Science ^T	1	SOC 1003 Introduction to Sociology ^T	3
GEOL 1014 Physical Geology ^T	4	MATH 2163 Introduction to Statistical Methods or SOC/PSY 2053 Statistics for Behavioral Sciences ^T	3
Total Hours	15	Total Hours	16

Sophomore

Fall		Spring	
Fine Arts & Humanities ^{1,T}	3	Fine Arts & Humanities ^{1,T}	3
ECON 2003 Principles of Economics I ^T	3	BIOL 2134 Principles of Botany ^T	4
BIOL 2124 Principles of Zoology ^T	4	SPH 2003 Public Speaking ^T	3
CHEM 2124 General Chemistry I ^T	4	CHEM 2134 General Chemistry II ^T	4
Total Hours	14	Total Hours	14

Junior**Fall****BIOL /FW 3114 Principles of Ecology 4****BIOL/ENVS 3043 Conservation 4****CHEM 3254 Fundamentals of Organic Chemistry 3****FW 3173 Biostatistics or MATH 2914 Calculus I 3-4****Total Hours 14-15****Spring****BIOL/ENVS/GEOL/PHSC 3111 Environmental Seminar 1****CHEM 3264 Mechanistic Organic Chemistry 4****PHYS 2014 Physical Principles I^T 4****Life Science² 4****Physical Science Elective without Lab³ or GIS and Research^{4*} 3****Total Hours 16****Senior****Fall****Life Science² 3-4****Physical Science Elective with Lab^{5*} or Field Biology⁶ 4-5****Physical Science Elective without Lab³ or GIS and Research^{4*} 3-4****Human Dimensions^{7*} 3****Elective* 0-4****Total Hours 13-16****Spring****ENVS 4133 Environmental Policy 3****Field Biology⁶ or Physical Science Elective with Lab^{5*} 4****GIS and Research^{4*} 4****Human Dimensions^{7*} 3****Elective* 0-4****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/GEOL 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 and 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.**

*At least 40 upper level hours are required for the 120 hours degree.

^TDesignates a block of courses that would provide for a seamless transfer into this program if equivalent courses are taken at another college or university.

New Program Assessment Form:

See attached.

Names and credentials of faculty teaching courses in the proposed program:

Charlie Gagen, Ph.D.; Head, Department of Biological Sciences and Professor of Fisheries Science;
Ph.D. in Ecology from Pennsylvania State University

Eric Lovely, Ph.D.; Director of the Biology Program and Associate Professor of Biology;
Ph.D. in Zoology from University of New Hampshire

Cheryl Chaney; Assistant Professor of Biology;
M.S. in Biology from Tennessee Technological University

Newton P. Hilliard Jr.; Ph.D.; Associate Professor of Chemistry;
Ph.D. in Chemistry from Texas Tech University

John Jackson, Ph.D.; Director of the Fisheries and Wildlife Program and Professor of Fisheries Science
Ph.D. in Fisheries Management from Mississippi State University

George Johnson, Ph.D.; Professor of Biology and Curator of Herbarium
Ph.D. in Botany from North Carolina State University at Raleigh

Chris Kellner, Ph.D.; Professor of Wildlife Science
Ph.D. in Zoology from University of Arkansas

Scott Kirkconnell, Ph.D.; Professor of Biology
Ph.D. in Microbiology from Indiana University at Bloomington,

Tom Nupp, Ph.D.; Professor of Wildlife Science
Ph.D. in Wildlife Science from Purdue University

Joe Stoeckel, Ph.D.; Professor of Fisheries Science
Ph.D. in Fisheries Science from Virginia Tech University

Bruce Tedford, Ph.D.; Associate Professor of Biology
Ph.D. in Physiology from Louisiana State A&M College

Tsunemi Yamashita, Ph.D.; Professor of Biology
Ph.D. in Biology from Vanderbilt University

Total number of faculty required:

Six of the Biology Program faculty have specialty backgrounds that will directly support this new major and five more from the Fisheries and Wildlife Program also share relevant specialties. The Biology Program also has an open faculty position that will be dedicated to this discipline and fill specialty gaps. We anticipate filling this open position with a PhD environmental scientist by January 2016 to provide a total of twelve faculty qualified to teach courses directly related to this new major in environmental science.

Description of Current Resources (including instructional facilities):

This program will primarily draw on existing laboratory space and faculty in the College of Natural and Health Sciences, especially those in the Department of Biological Sciences, Biology Program and Fisheries and Wildlife Program. These resources include twelve full-time faculty (detailed above), five fully equipped teaching laboratories (botany, zoology, microbiology, fisheries, and wildlife), three research-ready laboratories (biotechnology, herbarium, and zoological collection), and adequate shared classroom availability.

Current Library Resources:

Due to TECH's long-standing support of programs and faculty emphasizing a wide variety of topics related to environmental science, our library already houses an appropriate array of print and electronic resources to support this proposed undergraduate program. In fact, the presence of TECH's related master's program in Fisheries and Wildlife Science has further augmented these resources.

New Resources Required:

Because we already have virtually all the faculty, space, laboratory equipment, library resources, and courses that we need, this program will not require additional resources at the outset. As enrollment grows, the program will be assessed and evaluated with respect to other departmental and college priorities to determine potential need for additional resources.

New Program Costs:

See above.

sciences background. These graduates will complete a core curriculum that covers a broad overview of fundamental sciences- biology, chemistry and geology. Beyond the fundamental core science curriculum, students will build on their knowledge and skills by taking directed electives in physical sciences, life sciences, and social sciences with emphasis in environmental challenges and solutions. Students will gain marketable perspectives by practicing discipline-specific research methodologies, presenting scientific information to varied audiences, and applying ecological concepts to analyze biological communities and ecosystems.

Most of the proposed curriculum is already offered in the College and Department, but we recommend developing two new courses: Environmental Policy (ENVS 4134) and Biological Assessment of Water (BIOL/ENVS 4124). If approved, this new major will render the existing Environmental Option to the Biology major obsolete, so it will be removed from the catalog as existing majors complete their degrees. Because we already have virtually all the faculty, space, laboratory equipment, library resources, and courses that we need, initially this program will not require additional resources. As enrollment grows, the program will be assessed and evaluated with respect to other departmental and college priorities to determine potential need for additional resources.

Proposed Catalog Description

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, nonprofit sectors and industries. 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 practice 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.

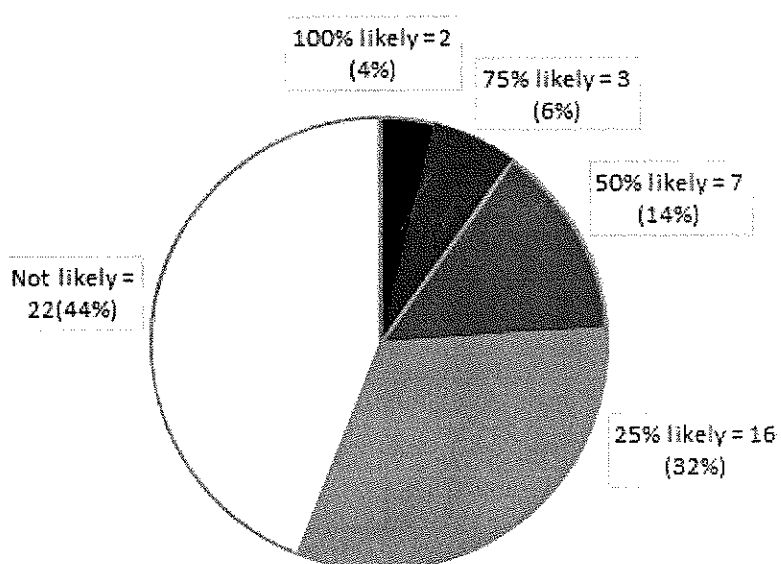
Existing degree programs that support the proposed program:

The new environmental science major will be administered within the Biology Program in the Department of Biological Sciences, but it will also draw on faculty expertise from the Fisheries and Wildlife Science Program and to a lesser extent the Department of Physical Sciences (chemistry and geology in particular). The new program will also utilize the expertise of Behavioral and Social Science Department.

Need for the Program:

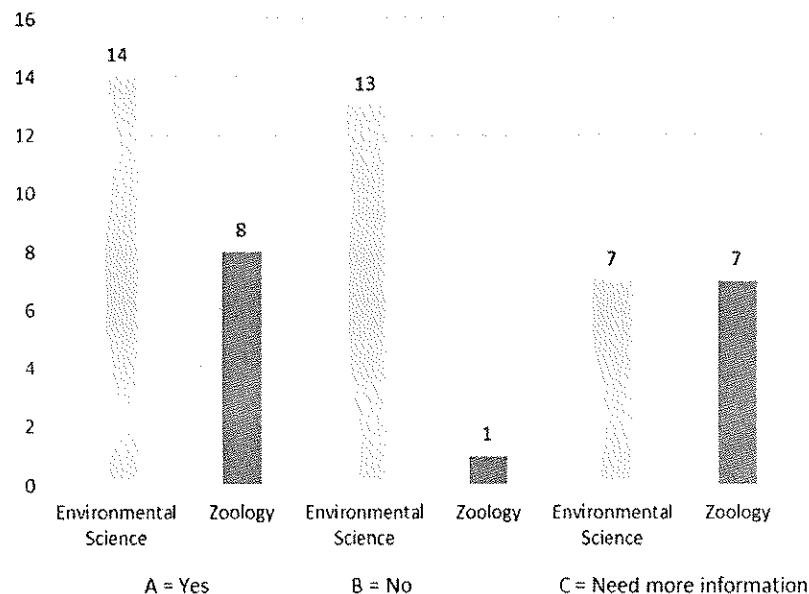
An internal student interest survey was administered to TECH students in Principles of Environmental Science (BIOL 1004/PHSC 1004) and Principles of Zoology (BIOL 2124). Survey results indicated that 12 out of 50 students (24%) surveyed were “≥ 50% likely to major in environmental science” if the program existed when they started (Figure 1).

Figure 1. How likely would you be to major in environmental science if ATU offered the degree when you started your studies? (n= 50)



In response to the question “Are you interested in taking courses in environmental science?”, 44% of students indicated “Yes”, while 28% indicated that they would need additional information to make a determination (Figure 2). Interestingly, the strongest interest in taking environmental science courses was observed in students taking general education Principles of Environmental Science. Principles of Environmental Science students (non-majors) were almost twice as likely to be interested in taking courses in environmental science as zoology students currently majoring in biology, 28% versus 16% positive response rate, respectively. This indicates that there is broad interest in the subject among non-majors.

Figure 2. Student responses (n=50) to Question 2, Are you interested in taking Environmental Science courses?



When students were asked “How essential are undergraduate research/ internship opportunities for preparing you and making you competitive for entry into your chosen field of work?” close to 60% of students indicated these opportunities were critically important. See survey choices and response rates below:

- A. Critically important. These learning opportunities are a pre-requisite for many job announcements or required to make me competitive. Response: 29/50 (58%)
- B. Somewhat important. These learning opportunities would set me apart from other applicants, but are not essential. Response: 12/50 (24%)
- C. Not important. Response: 2/50 (4%)
- D. I am unsure how these opportunities relate to my employment or educational goals. Response: 6/50 (12%)

Since ADHE viability standards require an average of six graduates a year over a three year period, there appears to be more than sufficient student demand to sustain the program over the time and meet ADHE’s viability standards.

State and Regional Job Outlook

Regional employers indicate that trends in Arkansas mirror the national needs for Environmental Science graduates. Overall, faster than average growth in the field of environmental science is anticipated. We have requested letters of support from relevant agencies and these will be appended as they arrive. Given the expressed need for our program by prospective employers, society, and students and considering that the majority of resources are already in place for this degree, faculty in the Department of Biological Sciences feel that an environmental science major will be a valuable addition to the program offerings at Arkansas Tech University. See the following section for more details on career demand nationally.

Job Outlook Nationally

Occupational outlook for environmental scientists and specialists is projected to grow by 15% from 2012 to 2022 (Bureau of Labor Statistics 2015). The increased environmental demands of a growing human population combined with the awareness of environmental hazards are expected to support a growing need for positions in the environmental sciences (Bureau of Labor Statistics 2015)."

Quick Facts: Environmental Scientists and Specialists

<u>2012 Median Pay</u>	\$63,570 per year \$30.56 per hour
<u>Entry-Level Education</u>	Bachelor's degree
<u>Work Experience in a Related Occupation</u>	None
<u>On-the-job Training</u>	None
<u>Number of Jobs, 2012</u>	90,000
<u>Job Outlook, 2012-22</u>	15% (Faster than average)
<u>Employment Change, 2012-22</u>	13,200

Job Outlook by Category – Bureau of Labor Statistics Occupation Outlook, published January 8, 2014.

Occupation	Entry-level Education	On-the-job training required	Projected Number of New Jobs, 2012 to 2022	Projected Growth Rate	2012 Median Annual Salary
Biological technicians	Bachelor's degree		5,000 to 9,999	10 to 19 percent	\$35,000 to \$54,999
Chemists	Bachelor's degree	None	5,000 to 9,999	0 to 9 percent	\$55,000 to \$74,999
Conservation scientists	Bachelor's degree	None	0 to 999	0 to 9 percent	\$55,000 to \$74,999
Environmental scientists and specialists	Bachelor's degree	None	10,000 to 49,999	10 to 19 percent	\$55,000 to \$74,999
Natural sciences managers	Bachelor's degree	None	1,000 to 4,999	0 to 9 percent	\$75,000 or more

Proposal for **New Program: Environmental Science Major** Assessment Form

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Provide an answer for each question. Your answers are to be typed single spaced.

- a. How does this proposal for the new program fit with the university mission? **This new major will to nurture scholastic development, integrity, and professionalism as applied to the growing field of environmental science.**
- b. If this program is mandated by an accrediting or certifying agency, include the directives. If not, state not applicable. **Not applicable.**
- c. How will this new program enhance learning for students enrolled in the program? **This is a STEM area so most of the benefit will be in learning STEM topics. This new major enhances learning compared to what we already offer in STEM primarily by its interdisciplinary nature---that is, for a biological major, it includes a substantial and targeted component of physical science as well as other specialized science and social science topics. For more detail, see assessment plan, item g. below.**
- d. What will students demonstrate, represent, or produce to provide evidence of their learning once they complete the program? **See assessment plan, item g. below.**
- e. Provide an example or examples of assessment evidence which supports adding this new program. **See the New Program, Curriculum Committee form for a needs survey related to this proposal.**
- f. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the program provide comparative examples from regional educational institutions. **See the New Program, Curriculum Committee form for a needs survey related to this proposal.**
- g. Attach a detailed assessment plan including three to five specific program student learning outcomes, means or instructional measures to assess each outcome, identify program courses where learning will be assessed, and performance standards or criteria for success which demonstrate student learning for each outcome. (Examples for assessment plans/curriculum mapping can be found at the Office of Assessment and Institutional Effectiveness web page.) **See attached assessment plan.**

Item g. Environmental Science Assessment Plan

Environmental Science graduates will be able to:	Assessment measure:	Courses where learning will be assessed:	Criteria for success. Eighty percent of the graduating cohort will meet the grade criteria below:
Hypothesize causes and effects of common environmental disruptions.	Rubric evaluating the quality of an environmental impact assessment (EIA)	BIOL 1004 BIOL/FW 3114 BIOL/FW 4024 ENVS	Graduates will competently assign likely human causes of common environmental disruptions ranging from socioeconomic factors to chemical reactions and likely effects on plants and animals, ranging from physiological to toxicological, and ecological mechanisms.
Demonstrate knowledge of key legal aspects of environmental protection, e.g. the Endangered Species Act, Clean Water Act and National Environmental Protection Act.	Rubric evaluating the quality of an environmental impact assessment (EIA)	ENVS 4133	Earning a minimum grade of at least a C on the final exam
Predict the response of native plant and animal communities to environmental toxicants.	Rubric evaluating appropriateness of selecting measurement approach and quality interpreting data	BIOL 4024/FW 4024, FW 4064, BIOL 4094, and ENVS 4124	Earning a minimum grade of at least a C on a class portfolio or power-point presentation.
Demonstrate mastery of skills and techniques associated with accurately measuring environmental variables and associated communities of organisms.	Rubric evaluating proper operation of various meters and identification of typical terrestrial and aquatic organisms.	BIOL 4024/FW 4024, FW 4064, BIOL 4094, and ENVS 4124	Earning a minimum grade of at least a C on the final exam and/or laboratory practicums in associated courses.

Arkansas Tech University
DEPARTMENTAL SUPPORT FORM

This form must be completed for every department affected by the course change.

Department Affected: Physical Sciences	This department <input checked="" type="checkbox"/> supports the change. <input type="checkbox"/> does not support
Comments: The Department of Physical Sciences supports the Environmental Science major proposed by the Department of Biological Sciences.	

Department Head Signature: _____



Date: 7/6/2015

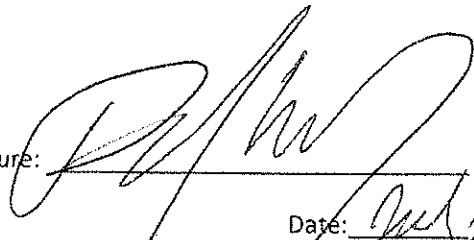
Arkansas Tech University
DEPARTMENTAL SUPPORT FORM

**Proposal to add a major in Environmental Science proposed by the Department
of Biological Sciences**

This form must be completed for every department affected by the course change.

Department Affected:	This department <input checked="" type="checkbox"/> supports <input type="checkbox"/> does not support the change.
Behavioral Sciences	
Comments:	

Department Head Signature: _____


Date: July 1, 2015

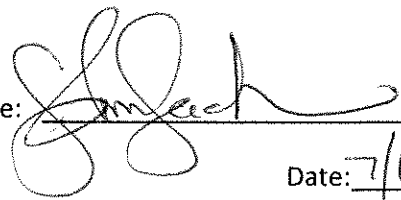
Arkansas Tech University
DEPARTMENTAL SUPPORT FORM

**Proposal to add a major in Environmental Science proposed by the Department
of Biological Sciences**

This form must be completed for every department affected by the course change.


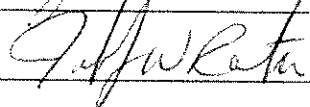
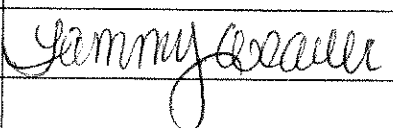
Department Affected: Fisheries and Wildlife Science Program, Biological Sciences	This department <input checked="" type="checkbox"/> supports <input type="checkbox"/> does not support the change.
<p>Comments:</p> <p>A major in Environmental Science will be a good complement to the Fisheries and Wildlife Science Program. Some of the directed electives within the Environmental Science curriculum may increase enrollment in Fisheries and Wildlife Science courses. An additional section in Principles of Ecology (BIOL/FW 3114) may need to be offered if this major significantly increases the number of majors in Biological Sciences.</p>	

Department Head Signature: _____



Date: 7/6/15

Arkansas Tech University
REQUEST FOR COURSE ADDITION

TO:	Curriculum Committee		
FROM (Initiating Department):	Physical Sciences		
DATE SUBMITTED:	July 1, 2015		
Title	Signature	Date	
Department Head		7/1/2015	
Dean		2015 July 1	
Teacher Education Council (if applicable)			
Graduate Council (if applicable)			
Registrar		8/3/15	
Vice President for Academic Affairs			

Course Subject: (e.g., ACCT, ENGL) PHSC	Course Number: (e.g., 1003) 22 2003	Effective Term: <input type="radio"/> Spring <input checked="" type="radio"/> Summer I
Official Catalog Title: (If official title exceeds 30 characters, indicate Banner Title below) Physics in Society and the Environment		
Banner Title: (limited to 30 characters, including spaces, capitalize all letters — this will display on the transcript) Phys in Society & Environment		
Will this course be cross-listed with another existing course? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Will this course be cross-listed with a course currently not in the undergraduate or graduate catalog? If so, list course subject and number. <input type="radio"/> Yes <input checked="" type="radio"/> No		
Is this course repeatable for additional earned hours? <input type="radio"/> Yes <input checked="" type="radio"/> No How many total hours? _____		
Grading: <input checked="" type="radio"/> Standard Letter <input type="radio"/> P/F <input type="radio"/> Other _____		
Mode of Instruction (check appropriate box):		
<input checked="" type="radio"/> 01 Lecture	<input type="radio"/> 02 Lecture/Laboratory	<input type="radio"/> 03 Laboratory only
<input type="radio"/> 05 Practice Teaching	<input type="radio"/> 06 Internship/Practicum	<input type="radio"/> 07 Apprenticeship/Externship
<input type="radio"/> 08 Independent Study	<input type="radio"/> 09 Readings	<input type="radio"/> 10 Special Topics
<input type="radio"/> 12 Individual Lessons	<input type="radio"/> 13 Applied Instruction	<input type="radio"/> 16 Studio Course
<input type="radio"/> 17 Dissertation	<input type="radio"/> 18 Activity Course	<input type="radio"/> 19 Seminar <input type="radio"/> 98 Other

Does this course require a fee? <input type="radio"/> Yes <input checked="" type="radio"/> No		How Much? <input type="text"/>	Select Fee Type <input type="text"/>
If selected other list fee type: <input type="text"/>			
<input type="checkbox"/> Elective <input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor			
(If major or minor course, you must complete the Request for Program Change form to add course to program.)			
If course is required by major/minor, how frequently will course be offered?			
<input type="text" value="Each Spring, as needed"/>			
For the proposed course, attach a syllabus in Word format that includes: (Items a. through d. should be entered as they should appear in the catalog)			
a. Course subject b. Course number c. Catalog course title d. Catalog description <ol style="list-style-type: none"> 1. Arkansas Course Transfer System (ACTS) course number, if applicable 2. Cross-listing 3. Offered (e.g., Fall only, Spring only. Do not enter if offer course fall and spring) 4. Prerequisites 5. Co-requisites 6. Description 7. Notes (e.g., information not in description such as course may be repeated for credit) 8. Contact Hours if different than lecture (e.g., Lecture three hours, laboratory three hours) 9. Fees (e.g., \$36 art fee) 			
e. Section for Name of instructor, office hours, contact information (telephone, email)			
f. Text required for course			
g. Bibliography (supplemental reading list)			
h. Justification/rationale for the course			
i. Course objectives			
j. Description of how course meets general education objectives (courses included in the general education component should show how the course meets one or more of the objectives contained in General Education Objectives listed in undergraduate catalog)			
k. Assessment methods (include grading policy with specific equivalents for A, B, C)			
l. Policy on absences, cheating, plagiarism, etc.			
m. Course content (outline of material to be covered in course).			
Will this course require any special resources such as unusual maintenance costs, library resources, special software, distance learning equipment, etc.?			
No			
Will this course require a special classroom (computer lab, smart classroom, or laboratory)?			
No			
Attach the Course Addition Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at http://www.atu.edu/assessment/			
If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php .			
NA			

2003
PHSC ~~2-3~~
Physics in Society and the Environment

Instructor:

[Name]
[Office]
[Phone Number]
[email]

Office Hours:

Catalog Course Description:

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.

Offered: Spring, as needed

Text:

There is no text for the course. [The course will use a variety of material that is freely available and accessible on the internet.]

Purpose:

The course addresses competencies required of teacher candidates pursuing Secondary Physics Licensure in Arkansas and other states accredited by the Council for Accreditation of Educator Preparation (CAEP).

Course Objectives:

The student will demonstrate understanding of the development of physics and applications of physics to environmental issues and other issues of importance to society.

Pedagogy:

Every academic endeavor requires the acquisition of information, the development of skills and the understanding of concepts. The first two can be achieved utilizing learning techniques mastered by most university students. Conceptual understanding is more elusive. The scientific process of employing mental discipline to systematically investigate a concept is, within itself, a challenging concept. This course is designed to guide students in this scientific process. As such, class time will primarily be used to develop conceptual understanding rather than disseminate information. [It is the students' responsibility to read and review assigned material.] Classroom activities include

- mini-lectures
- demonstrations
- question/discussion sessions
- problem solving exercises and

- assessments.

Academic Etiquette:

Each member of the university community is expected to contribute to a positive educational environment by showing respect for others and pursuing their studies with high standards of academic integrity. Note the following policies in addition to the information presented in the Student Handbook:

- Be present and ready for class at the scheduled time.
- Be supportive of your classmates.

email:

Information concerning the class will occasionally be sent to Tech email accounts. Students are expected to check their Tech email accounts regularly.

Blackboard:

This course uses the Blackboard Learning System. Announcements, assignments and course materials are posted on Blackboard.

Assessment:

The course grade will be calculated as a number between 0 and 100 and given a letter grade according to the scale given.

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
Below 60	F

Contributions to the grade come from each of the following categories according to the percentages given.

Exercises	40%
Tests	45%
Final Exam	15%

Exercises – Students will engage in various learning exercises, such as homework, quizzes, demonstrations, discussions and group problem solving. The exercise grade will reflect both quality of work and participation.

Tests – Regular tests will be administered throughout the semester.

Final Exam – The final exam is a comprehensive exam that focuses on major concepts.

Attendance – Attendance at all classes is mandatory. Absences that result from participation in officially sanctioned ATU activities will not count against a student.

IF the instructor has received appropriate documentation. In accordance with ATU policies, a student may be dropped from the course with an F due to excessive non-sanctioned absences. [In the case of unexcused absences, a student may provide the instructor with written documentation (either email or hard-copy) concerning the circumstances of the absence.]

Tardiness – Classes will start at the scheduled time. Tardiness is considered an absence of a portion of a class and repeated tardiness will contribute to recorded absences.

Course Topics:

The course will address significant developments in physics, people involved in the developments, the developments in the context of society, the applications of the physics and the consequences for society and the environment. The course is a discussion-based examination of the following topics:

- Pre-Newtonian Physics
- Newtonian Physics
- Electromagnetism
- Atomic Physics
- The explosion and diversification of physics in the 20th century and the impact on engineering and technology including
 - Quantum Mechanics
 - Relativity
 - Solid State Physics
 - Optics
 - Nano-physics
 - Nuclear Physics
 - Astrophysics
 - Cosmology
 - Applied Physics
- Physics in the 21st century

Arkansas Tech University

Course Addition

Assessment Form

PHSC 2003

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

- a. How does this course fit with the university mission?

The course satisfies accreditation requirements for the Physics Education degree not satisfied by any current courses.

- b. If this course is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable.

The Arkansas Department of Education (ADE) announced in the February 16, 2015 issue of "Educator Preparation News" that the Physical Science Licensure option will be discontinued in August, 2016, to be replaced by licensure options in Physics and Chemistry. The announcement included the statement that "Now is the time for IHEs to convert Physical Science licensure programs to a Physics or Chemistry program.

- c. Provide up to three student learning outcomes students will achieve after completing this course?

Students will gain understanding of the historical development of physics. Students will gain understanding of the applications of physics. Students will gain understanding of the consequences of physics applications on the environment.

- d. What assessment tool or measure will you use to assess student learning?

Student learning will be assessed by the Praxis exam required by licensure and by accrediting agencies.

- e. What will students demonstrate, represent, or produce to provide evidence of their learning?

Within the course, students will present key developments in physics in context of society and will connect the developments to applications and consequences of the key developments.

- f. Provide an example or examples of student learning assessment evidence which supports the addition of this course.


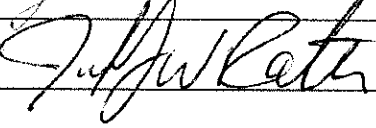
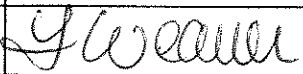
The course is proposed in response to a change in teacher licensure. The content of the course is required by the Council for the Accreditation of Educator Preparation (CAEP), the accrediting agency for the program.

- g. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions.

All secondary physics teacher programs in the state of Arkansas are required to include the content in the proposed course.

Arkansas Tech University
PROPOSAL FOR CHANGE IN PROGRAM

TO:	Curriculum Committee
FROM (Initiating Department):	Department of Physical Sciences
DATE SUBMITTED:	July 1, 2015

Title	Signature	Date
Department Head		7/1/2015
Dean		2015 July 1
Teacher Education Council (if applicable)		
Graduate Council (if applicable)		
Registrar		8/3/15
Vice President for Academic Affairs		

Program Title:	Requested changes will be effective Summer I for next catalog year
Chemistry - Biochemistry option	
Outline change in program: (e.g., list changes in program such as (1) delete three hours of elective and (2) add three hours of approved major electives) Add 2 hours CHEM 495x or CHEM 499x and add 3 hours upper division CHEM elective.	
What impact will the change have on staffing, on other programs and space allocation? This change will have no impact on staffing or space allocation. Students can be accommodated easily into the current upper division chemistry courses since they are not currently at capacity.	
Attach the Change in Program Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at http://www.atu.edu/assessment/	
If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php .	
In the attached matrix, include requested changes in the matrix and include course number and title.	

Curriculum Matrix for Catalog Curriculum in_Chemistry – Biochemistry option____ (enter title for program changing)	
<p>Freshman Fall Semester</p> <p>Add/Change:</p> <p>Delete:</p> <p>Total Hours:</p>	<p>Freshman Spring Semester</p> <p>Add/Change:</p> <p>Delete:</p> <p>Total Hours:</p>
<p>Sophomore Fall Semester</p> <p>Add/Change:</p> <p>Delete:</p> <p>Total Hours:</p>	<p>Sophomore Spring Semester</p> <p>Add/Change:</p> <p>Delete:</p> <p>Total Hours:</p>
<p>Junior Fall Semester</p> <p>Add/Change:</p> <p>Delete:</p> <p>Total Hours:</p>	<p>Junior Spring Semester</p> <p>Add/Change:</p> <p>Delete:</p> <p>Total Hours:</p>
<p>Senior Fall Semester</p> <p>Add/Change: CHEM 4951 or CHEM 4991</p> <p>Upper division CHEM elective (3 hrs)</p> <p>Delete: Elective (4 hrs)</p> <p>Total Hours: 16 hrs</p>	<p>Senior Spring Semester</p> <p>Add/Change: CHEM 4951 or CHEM 4991</p> <p>Elective (change from 3 hrs to 2 hrs)</p> <p>Delete:</p> <p>Total Hours: 13 hrs</p>

Arkansas Tech University
Proposal for Change in Program
Assessment Form

Our Mission

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.

Provide an answer for each question. Your answers are to be typed single spaced.

- a. How does the program change fit with the university mission? The change in the biochemistry option for the chemistry degree satisfies the guidelines from our accrediting organization (the American Chemical Society) for a ACS-certified degree.
- b. If this change in the program is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable. This change is developed from the ACS Guidelines and Evaluation Procedures for Bachelor's Degree Programs from the American Chemical Society Committee on Professional Training, Spring 2008 edition.
- c. How will the program change impact learning for students enrolled in this program? A certified degree signifies that a student has completed an integrated, rigorous program which includes introductory and foundational course work in chemistry and in-depth course work in chemistry or chemistry-related fields. The certified degree also emphasizes laboratory experience and the development of professional skills needed to be an effective chemist.
- d. What will students demonstrate, represent, or produce to provide evidence of their learning once they complete the program? As listed in the original biochemistry program proposal, students will take the ACS Biochemistry exam to provide evidence of their learning.
- e. Provide an example or examples of student learning assessment evidence which supports the changes in the program. Not applicable since the change is due to accrediting agency guidelines not student assessment results.
- f. How does this course fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions. This changes fits within the current state of the discipline as defined by our accrediting agency, the American Chemical Society.
- g. Attach a detailed assessment plan including three to five specific program student learning outcomes, means or instructional measures to assess each outcome, identify program courses where learning will be assessed, and performance standards or criteria for success

which demonstrate student learning for each outcome. (Examples for assessment plans/curriculum mapping can be found at the Office of Assessment and Institutional Effectiveness web page.) The assessment plan will be the same as submitted when the program was initially proposed.

Arkansas Tech University
PROPOSAL FOR CHANGE IN PROGRAM

TO:	Curriculum Committee and Teacher Education Council
FROM (Initiating Department):	Physical Sciences
DATE SUBMITTED:	June 30, 2015

Title	Signature	Date
Department Head	<i>Jim Mosen</i>	6/30/2015
Dean	<i>Jiffy Ratan</i>	2015 June 30
Teacher Education Council (if applicable)		
Registrar	<i>Stevenson</i>	7/1/15
Vice President for Academic Affairs		

Curriculum in Physical Science for Teacher Licensure

Program Title:	Requested changes will be effective Summer I for next catalog year
Chemistry Education	
<p>Outline change in program: (e.g., list changes in program such as (1) delete three hours of elective and (2) add three hours of approved major electives)</p> <p>The proposal is to divide the Physical Science for Teacher Licensure degree into two separate degrees, Chemistry Education and Physics Education. The Arkansas Department of Education (ADE) has changed licensure requirements, eliminating the physical and earth science licensure option and replacing it with a chemistry licensure option and a physics licensure option. Earth science has been removed from the licensure and is not addressed in the proposed Chemistry Education and Physics Education curricula.</p> <p>Curriculum changes due to changes in licensure are addressed in ADE's "Protocol for the Review and Approval of Programs of Study Leading to Educator Licensure or Endorsement in Arkansas" in "Section II: Revisions to Existing Educator Licensure or Endorsement Programs", where revisions to licensure are recognized as a valid reason for curriculum changes.</p> <p>Courses supporting physics and earth science, but not chemistry have been eliminated. Courses have been kept or added to address "competencies" required by accrediting and licensing. Some courses have been replaced by more appropriate courses.</p>	

Eliminated courses:

GEOL 1004, Essentials of Earth Science or GEOL 1014, Physical Geology

PHSC 3033, Meteorology

PHSC 3053, Astronomy

3 hours of CHEM, MATH, PHSC or PHYS

1 hour of electives

Added courses:

CHEM 3245, Quantitative Analysis

CHEM 3264, Mechanistic Organic Chemistry

CHEM 3423, Descriptive Inorganic Chemistry

PHSC 1011, Orientation to Physical Science II

MATH 2163, Introduction to Statistical Methods

Replacement courses:

CHEM 3301, Chemistry Seminar [Replacing CHEM 4993, Special Problems in Chemistry or PHYS 4993, Special Problems in Physics and Astronomy]

HIST 1903, Survey of American History [Replacing HIST 2003, United States History to 1877 or HIST 2013, United States History since 1877]

PHYS 2114, General Physics I [Replacing PHYS 2014, Physical Principles I or PHYS 2114, General Physics I]

Accredited programs for licensure must prepare teachers with "Core Competencies", "Advanced Competencies" and "Supporting Competencies", as delineated by the National Science Teachers Association. Required competencies are mapped to the curriculum in the tables following the curriculum matrix.

What impact will the change have on staffing, on other programs and space allocation?

All of the courses are requirements for other degrees. No additional courses or sections will be needed to accommodate the program.

Attach the Change in Program Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

In the attached matrix, include requested changes in the matrix and include course number and title.

Curriculum Matrix for Catalog Curriculum in Chemistry Education (Formally, Physical Science for Teacher Licensure)			
Freshman Fall Semester		Freshman Spring Semester	
Add/Change:		Add/Change:	
Fine Arts & Humanities ¹	3	PHSC 1011 Orientation to Physical Science II	1
Delete:		Delete:	
GEOL 1004 Essentials of Earth Science or GEOL 1014 Physical Geology	4		
Total Hours:	15	Total Hours:	16
Sophomore Fall Semester		Sophomore Spring Semester	
Add/Change:		Add/Change:	
HIST 1903 Survey of American History	3	CHEM 3264 Mechanistic Organic Chemistry	4
PHYS 2114 General Physics I and PHYS 2000 Physics Laboratory I	4	Elective	1
Delete:		Delete:	
HIST 2003 United States History to 1877 or HIST 2013 United States History since 1877	3	PHYS, PHSC, CHEM or MATH Elective	3
PHYS 2014 Physical Principles I or PHYS 2114 General Physics I and PHYS 2000 Physics Laboratory I	4		
Total Hours:	17	Total Hours:	15
Junior Fall Semester		Junior Spring Semester	
Add/Change:		Add/Change:	
Fine Arts & Humanities	3	CHEM 3245 Quantitative Analysis	5
CHEM 3301 Chemistry Seminar	1		
CHEM 3423 Descriptive Inorganic Chemistry	3		
MATH 2163 Introduction to Statistical Methods	3		
Delete:		Delete:	
Fine Arts & Humanities	6	PHSC 3033 Meteorology	3
CHEM 4993 Special Problems in Chemistry or PHYS 4993 Special Problems in Physics and Astronomy	3	Elective	2
PHYS 3053 Astronomy	3		
Total Hours:	13	Total Hours:	15
Senior Fall Semester		Senior Spring Semester	
Add/Change:		Add/Change:	
PHSC 3233 Science Education in the Secondary	3		

School			
Delete:		Delete:	
PHSC/BIOL 3233 Science Education in the	3		
Secondary School			
Total Hours:	16	Total Hours:	13

Science Content Requirement Analysis Tables A, B, and C for Chemistry

Table A: Chemistry

A. Core Competencies (numbers 1-13)	B: Required course number & name or advising requirements
Fundamental structures of atoms and molecules	CHEM 2124
Basic principles of ionic, covalent, and metallic bonding	CHEM 2124
Periodicity of physical and chemical properties of elements	CHEM 2124
Laws of conservation of matter and energy	CHEM 2124
Fundamental of chemical kinetics, equilibrium and thermodynamics	CHEM 2134
Kinetic molecular theory and gas laws	CHEM 2124
Mole concept, stoichiometry, and laws of composition	CHEM 2124
Solutions, colloids, and colligative properties	CHEM 2124
Acids/base chemistry	CHEM 2134
Fundamental oxidation-reduction chemistry	CHEM 2134
Fundamental organic chemistry and biochemistry?	CHEM 3254, BIOL 1114
Nature of science: Fundamental processes in chemistry	CHEM 2124
Applications of chemistry in personal and community health and environmental quality	CHEM 3313
Fundamentals of nuclear chemistry	CHEM 2134
Historical development and perspectives in chemistry	CHEM 2124

Table B: Chemistry

B. Advanced Competencies (numbers 14-27)	B. Required course number & name or advising requirements
Principles of electrochemistry	CHEM 2134
Transition elements and coordination compounds	CHEM 3423
Molecular orbital theory, aromaticity, metallic and ionic structures, and correlation to properties of matter	CHEM 3254, 2124, 3423
Advanced concepts in chemical kinetics, equilibrium, gas laws, and thermodynamics	CHEM 2134, 3245
Lewis structures and molecular geometry	CHEM 3254
Advanced concepts in acid/base chemistry, including buffers	CHEM 2134, 3245
Major biological compounds and reactions	BIOL 1114
Solvent system concepts	CHEM 2124, 3245
Chemical reactivity and molecular structure including electronic and steric effects	CHEM 3254, 3264
Organic chemistry including syntheses, reactions, mechanisms, and aromaticity	CHEM 3254, 3264
Green chemistry and sustainability	CHEM 3313

How to design, conduct, and report research in chemistry	CHEM 3301
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Table C: Chemistry

C. Supporting Competencies (numbers 28-47)	B: Required course number & name or advising requirements
Biology	
Molecular biology	BIOL 1114
Ecology	
Earth Science	
Geochemistry	GEOL 1004
Cycles of matter	GEOL 1004
Energetics of Earth systems	GEOL 1004
Physics	
Energy	PHYS 2114
Properties and function of waves	PHYS 2024
Properties and function of motions	PHYS 2114
Properties and function of forces	PHYS 2114
Electricity	PHYS 2024
Magnetism	PHYS 2024
Mathematical and statistical concepts	
Statistics	MATH 2163
Use of differential equations	MATH 2114
Calculus	MATH 2914, 2924

Arkansas Tech University
Proposal for Change in Program
Assessment Form

Chemistry Education

Our Mission

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.

- a. How does the program change fit with the university mission?

Teacher preparation is an important aspect of the ATU mission. Arkansas has been experiencing a shortage of qualified secondary physical science teachers for the past two decades, as documented by the U.S. Department of Education, Office of Postsecondary Education publication, "Teacher Shortage Areas, Nationwide Listing, 1990-1991 through 2015-2016". Preparing qualified secondary physical science teachers directly leads to the development of life-long learners throughout the communities where the teachers serve.

- b. If this change in the program is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable.

The Arkansas Department of Education (ADE) announced in the February 16, 2015 issue of "Educator Preparation News" that the Physical Science Licensure option will be discontinued in August, 2016, to be replaced by licensure options in Physics and Chemistry. The announcement included the statement that "Now is the time for IHEs to convert Physical Science licensure programs to a Physics or Chemistry program.

- c. How will the program change impact learning for students enrolled in this program?

Teacher candidates in the past were able to take a Physical Science Praxis exam to be licensed to teach Physical Science, Chemistry and Physics. The exam was not a good evaluation of candidate understanding in chemistry and physics. Beginning in Fall, 2015 candidates will take the appropriate area test (Chemistry or Physics). The changes in the program will better prepare candidates to be successful on the test and in the classroom.

- d. What will students demonstrate, represent, or produce to provide evidence of their learning once they complete the program?

Students will demonstrate learning through their performance on the appropriate Praxis exam and through their internship evaluations.

- e. Provide an example or examples of student learning assessment evidence which supports the changes in the program.

The program changes are stipulated by ADE rather than based upon assessments made by Arkansas Tech University. ADE separated the Physical Science licensure option into Chemistry and Physics based on the recommendation of a state-wide committee of science educators that included ATU faculty member, Jim Musser. ADE changed the Praxis exam requirements based

on the recommendation of another state-wide committee of science educators that also included Jim Musser.

- f. How does this program fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions.

All teacher preparation programs in Arkansas are required to adhere to the changes in licensure.

- g. Attach a detailed assessment plan including three to five specific program student learning outcomes, means or instructional measures to assess each outcome, identify program courses where learning will be assessed, and performance standards or criteria for success which demonstrate student learning for each outcome.

Teacher preparation program assessments are dictated by licensing and accrediting agencies. The program is accredited by the Council for the Accreditation of Educator Preparation (CAEP) which requires that candidates develop competencies delineated by the National Science Teachers Association (NSTA). The competencies for the Chemistry and Physics programs are included after the curriculum matrices. In addition, the Praxis exams for licensure provide outside assessment of the program.

Arkansas Tech University
PROPOSAL FOR CHANGE IN PROGRAM

TO:	Curriculum Committee and Teacher Education Council
FROM (Initiating Department):	Physical Sciences
DATE SUBMITTED:	June 30, 2015

Title	Signature	Date
Department Head	<i>Jim Murren</i>	6/30/2015
Dean	<i>J. W. Rater</i>	2015 June 30
Teacher Education Council (if applicable)		
Registrar	<i>G. W. Rater</i>	7/1/15
Vice President for Academic Affairs		

Curriculum in Physical Science for Teacher Licensure

Program Title:	Requested changes will be effective Summer I for next catalog year
Physics Education	
<p>Outline change in program: (e.g., list changes in program such as (1) delete three hours of elective and (2) add three hours of approved major electives)</p> <p>The proposal is to divide the Physical Science for Teacher Licensure degree into two separate degrees, Chemistry Education and Physics Education. The Arkansas Department of Education (ADE) has changed licensure requirements, eliminating the physical and earth science licensure option and replacing it with a chemistry licensure option and a physics licensure option. Earth science has been removed from the licensure and is not addressed in the proposed Chemistry Education and Physics Education curricula.</p> <p>Curriculum changes due to changes in licensure are addressed in ADE's "Protocol for the Review and Approval of Programs of Study Leading to Educator Licensure or Endorsement in Arkansas" in "Section II: Revisions to Existing Educator Licensure or Endorsement Programs", where revisions to licensure are recognized as a valid reason for curriculum changes.</p> <p>Courses supporting chemistry and earth science, but not physics have been eliminated. Courses have been kept or added to address "competencies" required by accrediting and licensing. Some courses have been replaced by more appropriate courses.</p>	

Eliminated courses:

CHEM 3254, Fundamentals of Organic Chemistry
CHEM 3313, Environmental Chemistry
GEOL 1004, Essentials of Earth Science or GEOL 1014, Physical Geology
MATH 1914, Precalculus

Added courses:

PHSC 1011, Orientation to Physical Science II
MATH 2934, Calculus III
MATH 3243, Differential Equations I
PHYS 3133, Theory of Electricity and Magnetism
PHSC 2003, Physics in Society and the Environment

Replacement courses:

PHYS 4993, Special Problems in Physics and Astronomy or PHYS 4113, Advanced Physics Laboratory
[Replacing CHEM 4993, Special Problems in Chemistry or PHYS 4993, Special Problems in Physics and Astronomy]

BIOL 1004, Principles of Environmental Science [Principles of Biology]

HIST 1903, Survey of American History [Replacing HIST 2003, United States History to 1877 or HIST 2013, United States History since 1877]

PHYS 2114, General Physics I [Replacing PHYS 2014, Physical Principles I or PHYS 2114, General Physics I]

PHYS 2124, General Physics II [Replacing PHYS 2024, Physical Principles II or PHYS 2124, General Physics II]

Accredited programs for licensure must prepare teachers with "Core Competencies", "Advanced Competencies" and "Supporting Competencies", as delineated by the National Science Teachers Association. Required competencies are mapped to the curriculum in the tables following the curriculum matrix.

What impact will the change have on staffing, on other programs and space allocation?

The program would require one new course, PHSC 2003 to address required competencies. This course could be taught once every other year. All other courses are requirements for other degrees. No additional sections will be needed to accommodate the program.

Attach the Change in Program Assessment Form. The form is located on the Assessment & Institutional Effectiveness web page at <http://www.atu.edu/assessment/>

If this course will affect other departments, a Departmental Support Form for each affected department must be attached. The form is located on the Curriculum forms web page at http://www.atu.edu/registrar/curriculum_forms.php.

In the attached matrix, include requested changes in the matrix and include course number and title.

Curriculum Matrix for Catalog Curriculum in Physics Education (Formally, Physical Science for Teacher Licensure)			
Freshman Fall Semester		Freshman Spring Semester	
Add/Change:		Add/Change:	
MATH 2914 Calculus I	4	BIOL 1004 Principles of Environmental Science	4
PHSC 1053 Astronomy	3	MATH 2924 Calculus II	4
		PHSC 1011 Orientation to Physical Science II	1
Delete:		Delete:	
GEOL 1004 Essentials of Earth Science or	4	BIOL 1114 Principles of Biology	4
GEOL 1014 Physical Geology		MATH 2914 Calculus I	4
MATH 1914 Precalculus	4		
Total Hours:	15	Total Hours:	16
Sophomore Fall Semester		Sophomore Spring Semester	
Add/Change:		Add/Change:	
HIST 1903 Survey of American History	3	PHYS 2124 General Physics II and	4
PHYS 2114 General Physics I and	4	PHYS 2010 Physics Laboratory II	
PHYS 2000 Physics Laboratory I		PHSC 2__3 Physics in Society and the Environment	3
POLS 2003 American Government	3	MATH 3243 Differential Equations I	3
MATH 2934 Calculus III	4	Electives	3
Delete:		Delete: 2024	
HIST 2003 United States History to 1877 or	3	PHYS 2214 Physical Principles II or	
HIST 2013 United States History since 1877		PHYS 2124 General Physics II and	4
PHYS 2014 Physical Principles I or		PHYS 2010 Physics Laboratory II	
PHYS 2114 General Physics I and	4	PHYS, PHSC CHEM or MATH Elective	3
PHYS 2000 Physics Laboratory I		CHEM 3133 Environmental Chemistry	3
MATH 2924 Calculus II	4		
CHEM 3254 Fundamentals of Organic Chemistry	4		
Total Hours:	16	Total Hours:	16
Junior Fall Semester		Junior Spring Semester	
Add/Change:		Add/Change:	
PHYS, PHSC CHEM or MATH Elective	3	PHYS 4113 Advanced Physics Laboratory or	3
ANTH 2003 Cultural Anthropology	3	PHYS 4993 Special Problems in Physics and Astronomy	
PHYS 3213 Modern Physics or	3		
PHYS 3133 Theory of Electricity and Magnetism			

Delete: PHYS 3213 Modern Physics 3 CHEM 4993 Special Problems in Chemistry or 3 PHYS 4993 Special Problems in Physics and Astronomy PHSC 3053 Astronomy 3 Total Hours: 15	Delete: POLS 2003 American Government 3 Elective 2 Total Hours: 13
Senior Fall Semester Add/Change: PHYS 3213 Modern Physics or 3 PHYS 3133 Theory of Electricity and Magnetism Delete: ANTH 2003 Cultural Anthropology 3 Total Hours: 16	Senior Spring Semester Add/Change: Delete: Total Hours: 13

Science Content Requirement Analysis Tables A, B, and C for Physics

Table A: Physics

A. Core competencies (numbers 1-11)	B: Required course number & name or advising requirements
Energy, work, and power	PHYS 2114
Motion, major forces, and momentum	PHYS 2114
Newtonian physics w/engineering applications	PHYS 2114
Conservation mass, momentum, energy, and charge	PHYS 2114, 2124
Physical properties of matter: solids, liquids, and gases	CHEM 2124, PHYS 2114
Kinetic-molecular motion and atomic models	CHEM 2124, PHYS 2124, 2114
Radioactivity, nuclear reactors, fission, and fusion	PHYS 2124
Wave theory, sound, light, the electromagnetic spectrum and optics	PHYS 2124
Electricity and magnetism	PHYS 2124, 3133
Fundamental processes of investigating in physics	PHYS 4113
Applications of physics in environmental quality and to personal and community health	PHSC 2__3

Table B: Physics

B. Advanced Competencies (numbers 12-22)	B: Required course number & name or advising requirements
Thermodynamics and energy-matter relationships	PHYS 2114, 2124, 3213
Nuclear physics including matter-energy duality and reactivity	PHYS 3213

Angular rotation and momentum, centripetal forces, and vector analysis	PHYS 2114
Quantum mechanics, space-time relationships, and special relativity	PHYS 3213
Models of nuclear and subatomic structures and behavior	PHYS 3213
Light behavior, including wave-particle duality and models	PHYS 3213
Electrical phenomena including electric fields, vector analysis, energy, potential, capacitance, and inductance	PHYS 2124, 3133
Issue related to physics such as disposal of nuclear waste, light pollution, shielding communication systems and weapons development	PHSC 2003
Historical development and cosmological perspectives in physics including contributions of significant figures and underrepresented groups, and evolution of theories in physics	PHSC 2003
How to design, conduct, and report research in physics	PHYS 4113
Applications of Physics and engineering in society, business, industry, and health fields	PHYS 2114, 2124

Table C: Physics

C. Supporting Competencies (numbers 23-40)	B: Required course number & name or advising requirements
Biology	
Organization of life	BIOL 1004
Bioenergetics	BIOL 1004
Biomechanics	BIOL 1004
Cycles of matter	BIOL 1004
Chemistry	
Organization of matter and energy	CHEM 2124
Electrochemistry	CHEM 2134
Thermodynamics	CHEM 2134
Bonding	CHEM 2124
Earth sciences and/or astronomy	
Structure of the universe	PHSC 3053
Energy	PHYS 2114

Interactions of matter	PHYS 2114, 2124
Mathematical and statistical concepts and skills	
Statistics	PHYS 2114
Use of differential equations	MATH 3243
Calculus	MATH 2914, 2924, 2934

Arkansas Tech University
Proposal for Change in Program
Assessment Form

Physics Education

Our Mission

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.

- a. How does the program change fit with the university mission?

Teacher preparation is an important aspect of the ATU mission. Arkansas has been experiencing a shortage of qualified secondary physical science teachers for the past two decades, as documented by the U.S. Department of Education, Office of Postsecondary Education publication, "Teacher Shortage Areas, Nationwide Listing, 1990-1991 through 2015-2016". Preparing qualified secondary physical science teachers directly leads to the development of life-long learners throughout the communities where the teachers serve.

- b. If this change in the program is mandated by an accrediting or certifying agency, include the directive. If not, state not applicable.

The Arkansas Department of Education (ADE) announced in the February 16, 2015 issue of "Educator Preparation News" that the Physical Science Licensure option will be discontinued in August, 2016, to be replaced by licensure options in Physics and Chemistry. The announcement included the statement that "Now is the time for IHEs to convert Physical Science licensure programs to a Physics or Chemistry program.

- c. How will the program change impact learning for students enrolled in this program?

Teacher candidates in the past were able to take a Physical Science Praxis exam to be licensed to teach Physical Science, Chemistry and Physics. The exam was not a good evaluation of candidate understanding in chemistry and physics. Beginning in Fall, 2015 candidates will take the appropriate area test (Chemistry or Physics). The changes in the program will better prepare candidates to be successful on the test and in the classroom.

- d. What will students demonstrate, represent, or produce to provide evidence of their learning once they complete the program?

Students will demonstrate learning through their performance on the appropriate Praxis exam and through their internship evaluations.

- e. Provide an example or examples of student learning assessment evidence which supports the changes in the program.

The program changes are stipulated by ADE rather than based upon assessments made by Arkansas Tech University. ADE separated the Physical Science licensure option into Chemistry and Physics based on the recommendation of a state-wide committee of science educators that included ATU faculty member, Jim Musser. ADE changed the Praxis exam requirements based

on the recommendation of another state-wide committee of science educators that also included Jim Musser.

- f. How does this program fit in the current state of the discipline? Include Arkansas institutional comparisons. If Arkansas educational institutions do not have the course or program provide comparative examples from regional educational institutions.

All teacher preparation programs in Arkansas are required to adhere to the changes in licensure.

- g. Attach a detailed assessment plan including three to five specific program student learning outcomes, means or instructional measures to assess each outcome, identify program courses where learning will be assessed, and performance standards or criteria for success which demonstrate student learning for each outcome.

Teacher preparation program assessments are dictated by licensing and accrediting agencies. The program is accredited by the Council for the Accreditation of Educator Preparation (CAEP) which requires that candidates develop competencies delineated by the National Science Teachers Association (NSTA). The competencies for the Chemistry and Physics programs are included after the curriculum matrices. In addition, the Praxis exams for licensure provide outside assessment of the program.