

**2016-2017 Degree Map Program: Bachelor of Science in Electrical Engineering, Major: Electrical Engineering**

This map is a term-by-term sample course schedule. The milestones listed to the right of each term are designed to keep you on course to graduate in four years. The Sample Schedule serves as a general guideline to help you build a full schedule each term. See course descriptions and prerequisites at <http://www.atu.edu/academics/catalog/>.

**Employment Information:** Electrical engineers design, develop, build, and test, electrical and electronic devices and systems. These systems include robotics, controls, electric motors, radar and navigation systems, communications systems, electronic equipment, and power generation and distribution devices and systems including renewable energy applications.

#Remedial Courses (if applicable): ENGL 0303 \_\_\_\_\_ ENGL 0404 \_\_\_\_\_ READ 0103 \_\_\_\_\_ MATH 0903 \_\_\_\_\_

**Sample Schedule**

| Semester 1  | Hrs. | Grade | Milestones/Notes                       | Semester 1 |
|---|------|-------|--|------------|
| ENGL 1013-Comp I (ACTS=ENGL 1013)                     | 3    | #     |  |            |
| CHEM 2124/2120- General Chemistry I (ACTS= CHEM 1414) | 4    |       |  |            |
| MATH 2914- Calculus I (ACTS= MATH 2405)               | 4    |       | #C or > required for Gen Ed. Milestone |            |
| TECH1001: Orientation to the University               | 1    |       |  |            |
| ELEG 1011- Intro. to Electrical Engineering           | 1    |       |  |            |
| U.S. History/Government                               | 3    |       |  |            |
| Total hours   | 16   | GPA   |  |            |
| Semester 2  | Hrs. | Grade | Milestones/Notes                       | Semester 2 |
| ENGL 1023- Comp II (ACTS= ENGL 1023)                  | 3    | #     |  |            |
| COMS 2104- Foundations of Computer Programming I      | 4    | #     | (COMS 1403/1411 not required)          |            |
| MATH 2924- Calculus II (ACTS= MATH 2505)              | 4    |       | Milestone                              |            |
| ELEG 2134/2130- Digital Logic Design/ Lab             | 4    |       | Milestone                              |            |
| Total hours   | 15   | GPA   |  |            |

| Semester 3  | Hrs. | Grade | Milestones/Notes | Semester 3 |
|---|------|-------|------------------|------------|
| COMS 2203- Foundations of Computer Prog II          | 3    |       |                  |            |
| PHYS 2114/2000- General Physics I (ACTS= PHYS 2034) | 4    |       | Milestone        |            |
| MATH 3243- Differential Equations I                 | 3    |       | Milestone        |            |
| ELEG 2103- Electrical Circuits I                    | 3    |       | Milestone        |            |
| ELEG 3133- Microprocessor Systems Design            | 3    |       |                  |            |
| Total hours   | 16   | GPA   |                  |            |

| Semester 4   | Hrs. | Grade | Milestones/Notes             | Semester 4 |
|--|------|-------|------------------------------|------------|
| ELEG 3173 or MATH 3173- Math Methods                 | 3    |       | Spring only                  |            |
| PHYS 2124/2010- General Physics II (ACTS= PHYS 2044) | 4    |       | Milestone                    |            |
| MATH 2934- Calculus III (ACTS= MATH 2603)            | 4    |       | Milestone                    |            |
| ELEG 2113/2111- Electrical Circuits II/ Lab          | 4    |       | Milestone                    |            |
| Total hours  | 15   | GPA   | <b>ELEG ADVISOR ASSIGNED</b> |            |

The Arkansas Course Transfer System (ACTS) is designed to assist in planning the academic progress of students. This system contains information about the transferability of courses within Arkansas public colleges and universities. The Arkansas Course Transfer System can be accessed at <http://acts.adhe.edu/>

| Fine Arts and Humanities                                   | U.S. History & Government                                 |
|--|---|
| ART 2123 Experiencing Art (ACTS=ARTA1003)                  | HIST 1903 Survey of American History                      |
| MUS 2003 Introduction to Music (ACTS=MUSC1003)             | HIST 2003 United States History to 1877 (ACTS=HIST1113)   |
| TH 2273 Introduction to Theatre (ACTS=DRAM 1003)           | HIST 2043 Honors United States History to 1877            |
| ENGL 2173 Introduction to Film                             | HIST 2013 United States History from 1877 (ACTS=HIST2123) |
| JOUR 2173 Introduction to Film                             | POLS 2003 American Government (ACTS=PLSC2003)             |
| ENGL 2003 Introduction to World Literature (ACTS=ENGL2113) |   |
| ENGL 2013 Intro. to American Literature (ACTS=ENGL2653)    |   |
| ENGL 2023 Honors World Literature                          |   |
| PHIL 2003 Introduction to Philosophy (ACTS=PHIL1103)       |   |
| PHIL 2043 Honors Introduction to Philosophy                |   |

Prerequisites (if applicable): MATH 1914 (ACTS=MATH1305) \_\_\_\_\_ OR MATH 1203 (ACTS=MATH1203) \_\_\_\_\_

**Sample Schedule**

| Semester 5                                       | Hrs. | Grade | Milestones/Notes             | Semester 5 |
|--|------|-------|------------------------------|------------|
| Technical Elective- Department Approval Required | 3    |       |                              |            |
| ELEG 3003 or MCEG 3003- Modeling Design          | 3    |       | Milestone                    |            |
| ELEG 3103- Electronics I                         | 3    |       | Fall Only Course - Milestone |            |
| ELEG 3153- Electrical Machines                   | 3    |       | Fall Only Course- Milestone  |            |
| Engineering Elective (3000-4000 level)           | 3    |       |                              |            |
| Total hours                                      | 15   | GPA   |                              |            |

| Semester 6                                   | Hrs. | Grade | Milestones/Notes            | Semester 6 |
|--|------|-------|-----------------------------|------------|
| MATH Elective (department approval required) | 3    |       |                             |            |
| ELEG 3123- Signals and Systems               | 3    |       | Spring only                 |            |
| ELEG 3143- Electromagnetics                  | 3    |       | Spring only                 |            |
| ELEG 4103- Electronics II                    | 3    |       | Milestone - Spring Only     |            |
| Fine Arts & Humanities                       | 3    |       |                             |            |
| Total hours                                  | 15   | GPA   | <b>APPLY FOR GRADUATION</b> |            |

| Semester 7                                 | Hrs. | Grade | Milestones/Notes | Semester 7 |
|--|------|-------|------------------|------------|
| Social Sciences                            | 3    |       |                  |            |
| ELEG 4191- Electrical Design Project I     | 1    |       |                  |            |
| ELEG 4113-Digital Signal Processing        | 3    |       | Fall Only        |            |
| ELEG 4143- Communication Systems I         | 3    |       | Fall Only        |            |
| ELEG 4202 or MCEG 4202- Engineering Design | 2    |       | Milestone        |            |
| ELEG 4303- Control Systems                 | 3    |       |                  |            |
| Total hours                                | 15   | GPA   |                  |            |

| Semester 8                                       | Hrs. | Grade | Milestones/Notes  | Semester 8 |
|--|------|-------|---|------------|
| ELEG 4122- Electrical Systems Lab                | 2    |       | Spring only   |            |
| Fine Arts & Humanities                           | 3    |       |   |            |
| ELEG 4192- Electrical Design Project II          | 2    |       | Graduation Requirements:<br>Min. hours 3000-4000 level courses: 40<br>No more than 4 PE activity hours<br>Min. hours required:120 |            |
| Technical Elective- Department Approval Required | 3    |       |   |            |
| Engineering Elective (3000-4000 level)           | 3    |       | Min. hours required:120   |            |
| Total Hours                                      | 13   | GPA   | 2.00+ GPA   |            |

General Electives: 0

# indicates a "C" or better is required (C > required in COMS 2104 only as prereq for COMS 2203)

| Social Sciences   | Social Sciences   |
|---|---|
| HIST 1503 World Civilization to 1500 (ACTS=HIST1113)    | ECON 2013 Principles of Economics II (ACTS=ECON2203)      |
| HIST 1513 World Civilization since 1500 (ACTS=HIST1123) | SOC 1003 Introductory Sociology (ACTS=SOC11013)           |
| HIST 1543 Honors World Civilization to 1500             | PSY 2003 General Psychology (ACTS=PSYC1103)               |
| HIST 2003 U.S. History to 1877 (ACTS=HIST2113)          | ANTH 1213 Intro. to Anthropology (ACTS=ANTH1013)          |
| HIST 2013 U.S. History since 1877 (ACTS=HIST2123)       | ANTH 2003 Cultural Anthropology (ACTS=ANTH2013)           |
| HIST 2043 Honors U.S. History to 1877                   | GEOG 2013 Regional Geography of the World (ACTS=GEOG2103) |
| HIST 1903 Survey of American History                    | AMST 2003 American Studies                                |
| POLS 2003 American Government (ACTS=PLSC2003)           |   |
| ECON 2003 Principles of Economics I (ACTS=ECON2103)     |   |
| ECON 2103 Honors Principles of Economics I              |   |