Welcome Note from the Department Head

On behalf of the faculty and staff, welcome to Fayetteville, to the University of Arkansas – the flagship university of the State of Arkansas, and to the Department of Electrical Engineering. This department is one of seven in the College of Engineering (www.engr.uark.edu).

The Department of Electrical Engineering was established in 1897, has been offering the Bachelor of Science degree since its establishment in 1897, and has been continuously accredited since 1936. This was the very first electrical engineering department in the United States to be reviewed and accredited under ABET criteria 2000. We appreciate the fact that you have chosen to pursue your degree in a department that offers a high-quality educational program. The department also offers the masters’ degree (M.S.E.E. and M.S.E.) and the Doctor of Philosophy (Ph.D.) degrees.

The department is staffed by professional, qualified educators, administrators, and staff who are dedicated to providing you with an enjoyable experience while you pursue a quality education. It is our goal to provide you with a rewarding educational and research experience in order that you are properly prepared to begin your career as a practicing engineer who can compete with electrical engineering graduates from any other university in the world.

The University of Arkansas, College of Engineering, and Department of Electrical Engineering offer numerous scholarships for qualified candidates. Students continuing into graduate studies can apply for teaching or research assistantships. Moreover, outstanding students, with excellent academic records and GRE scores, will be considered for many prestigious fellowships, which offer competitive stipend and tuition.

Best wishes for success in achieving your academic goals. The faculty and staff are available to provide assistance during your tenure with the department, and if I can be of help in any way, please do not hesitate to ask.

Sincerest regards,

Samir El-Ghazaly

Department Head
What is Electrical Engineering?

Electrical engineering is a professional engineering discipline that in its broader sense covers the study and application of electricity, electronics, and electromagnetism. Electrical engineers are in charge of designing and utilizing electrical components, integrated circuits, integrated chips, computer chips, and electronic assemblies to benefit mankind. Fields of electrical engineering include analog and mixed-signal circuit design/test, biomedical, communications, computer hardware and digital circuit design, control systems, electronic packaging, embedded systems design, microwave and radar engineering, nanophotonics, nanotechnology/microelectronics/optoelectronics, pattern recognition and artificial intelligence, power electronics, and renewable energy and power.

The electrical engineering graduate is at the forefront of technologies leading to the dramatic increase in accelerated use of electric power, applications of real time embedded control systems for smart highways, the dominating influence of the computer on modern society, global communications, the miniaturization of electronics, smart vehicles and smart gadgets, the use of wireless chemical and biological nano-sensors for hazard detection, and a host of other developments. The increased use of electronic equipment for communication, control, measurement, and networking has spread into such diverse areas as agricultural production, automotives, computer networks and hardware, health care, information technology, manufacturing, marketing, recreation, renewable energy, transportation, underwater and space explorations, and many others. This widespread and expanding use of electrical and electronic equipment in virtually all fields has made electrical engineering the largest of all scientific disciplines and assures a continuing demand for electrical engineering graduates throughout business and government. Information regarding the average salary of an electrical engineer is available on the Electrical Engineering website (www.eleg.uark.edu).

Electrical Engineering Emphasis Areas

**Analog and Mixed-Signal Circuit Design/Test** deals with modeling, designing, and testing integrated circuits and electronic systems that interface the digital world with the real world, including several forms of signal processing.

The **Biomedical** area applies electrical engineering to the field of medicine, including the design of medical equipment (e.g., MRI), implantable medical devices (e.g., pacemaker), neural interfaces (e.g., cochlear implants for the deaf), and electrical therapies (e.g., electrical brain stimulus to minimize shaking effects of Parkinson’s).

**Communications** deals with developing algorithms, protocols, hardware, software, and performance evaluation techniques, for wireless and wired communications networks and systems.

**Computer Hardware and Digital Circuit Design** deals with designing digital integrated circuits (i.e., computer chips) that are pervasively integrated into today’s technological society, including computers, cell phones, MP3 players, DVRs, video games, etc.

The **Control Systems** area deals with developing algorithms and associated hardware to regulate complex systems, including robotics, factory automation, flight control, automobile stability, camera focusing and image stability, etc.

**Electronic Packaging** deals with interfacing integrated circuit die to connectors such that they can be soldered on printed circuit boards. Packaging objectives include decreasing size, increasing performance, and decreasing electrical interference.

**Embedded Systems Design** combines digital and analog integrated circuit chips along with software to develop complex systems, such as cell phones, MP3 players, digital cameras, etc.
Microwave and Radar Engineering exploits the relationship between electricity, magnetism, and waves for applications such as medical imaging, radar systems, wireless communications, antenna design, and defense applications.

Nanophotonics exploits the special properties of metals and dielectrics at THz, optical, UV, and IR frequencies for the development of plasmonic solar cells, plasmonic biosensors, and a variety of optical devices.

Nanotechnology/Microelectronics/Optoelectronics deals with the study of materials used to fabricate electronic devices as well as the actual fabrication of miniaturized electronic devices, including sensors, MEMs (Micro Electro Mechanical devices), and optical devices, such as LAZERs.

Pattern Recognition and Artificial Intelligence deals with developing computer systems to perform tasks that are traditionally performed better by humans, such as speech recognition, facial recognition, autonomous vehicles, reading text, etc.

Power Electronics design deals with the modeling, design and test of discrete higher power circuitry from fractional horsepower to very large systems.

Renewable Energy and Power deals with designing motors, generators, and the circuitry to control high-power devices, as well as designing power generation and distribution systems, which include green technology, such as solar energy, wind turbines, and hydroelectric power

Mission of the Electrical Engineering Department

The University of Arkansas, the state land grant university, is a nationally competitive, student-centered, teaching and research university serving Arkansas and the world. As such, our mission encompasses education, research, and service (www.uark.edu).

The educational mission of the department is conducted through both the undergraduate and graduate programs (www.ee.uark.edu). The educational objectives for the undergraduate program, which leads to a Bachelor of Science degree in Electrical Engineering, are to produce graduates who:

1. Are recruited in a competitive market and valued as reliable and competent employees by a wide variety of industries, in particular electrical engineering industries;
2. Succeed, if pursued, in graduate studies such as, engineering, science, law, medicine, business, and other professions;
3. Understand the need for life-long learning and continued professional development for a successful and rewarding career; and
4. Accept responsibility for leadership roles, in their profession, in their communities, and in the global society.

The department also participates in the Honors program to challenge gifted undergraduate students with a more in-depth academic program and research experience and to provide a structure for working more closely with faculty members and other students in a team environment (http://honorscollege.uark.edu).

The graduate program offers a Master of Science degree in Electrical Engineering (M.S.E.E.), a Master of Science Degree in Engineering (M.S.E.), and a Doctor of Philosophy degree in Engineering. Having received additional instruction and hands-on experience beyond the undergraduate level, an additional educational objective for the graduate program is to produce graduates that are prepared to promptly address critical issues and assume advanced positions in the profession, such as in management and R & D.
In summary, the Electrical Engineering program is designed to offer a high-quality path of instruction involving classroom, laboratory, and extracurricular activities that results in graduates qualified and prepared to meet the demands of a professional career in the present and future work places and able to assume a responsible place of leadership in a complex technological society.

The research mission of the department is conducted mainly through the graduate program. Internal and external funded research projects serve to:

1. Discover new knowledge, address technical problems, and develop new electrical/electronic technologies;
2. Provide the tools and resources that keep our faculty at the cutting edge of electrical engineering;
3. Provide financial support for graduate students and gifted undergraduate students; and
4. Improve the quality of life for the citizens of Arkansas and the world.

As mentioned above, the graduate program also supports the undergraduate program by giving qualified undergraduate students access to research laboratories with state-of-the-art equipment and software. Topics covered in graduate courses migrate into senior undergraduate elective courses and eventually into required undergraduate courses. See the Appendix of this handbook (which is in the full version available in the website) for research opportunities for undergraduate students.

Faculty, students, administrators, and staff conduct the service mission of the department. The electrical engineering program, including faculty, students, staff, and facilities, is a major resource of the state, region, and nation. Faculty members are encouraged to provide services to both the community and the profession. Thus, our faculty members are active in local, state, national, and international professional and service organizations, as well as public and private schools involving grades K-12. A full listing of the faculty, their areas of interest, and email addresses are shown in the Appendix (which is in the website).

The Electrical Engineering Undergraduate Curriculum

The electrical engineering undergraduate curriculum is designed to provide students with knowledge of scientific principles and methods of engineering analysis to form a solid foundation for a career in design, research and development, manufacturing and processing, measurement and characterization, or management. The outcomes of the electrical engineering undergraduate curriculum are the following:

a) an ability to apply knowledge of mathematics, science, and engineering;
b) an ability to design and conduct experiments, as well as to analyze and interpret data;
c) an ability to design a system, component, or process to meet desired needs;
d) an ability to function on multi-disciplinary teams;
e) an ability to identify, formulate, and solve engineering problems;
f) an understanding of professional and ethical responsibility;
g) an ability to communicate effectively;
h) the broad education necessary to understand the impact of engineering solutions in a global and societal context;
i) a recognition of the need for, and an ability to engage in life-long learning;
j) a knowledge of contemporary issues;
k) an ability to use the techniques, skills, and modern engineering tools (this specifically includes PSPICE and MATLAB) necessary for engineering practice.

The electrical engineering undergraduate curriculum is divided into three phases; the first year, the second and third years, and the senior year. The first year concentrates on developing a sound understanding of basic sciences and mathematics, and introduces general engineering concepts. The College of Engineering has adopted a common freshman year for all new freshmen. For more information about the freshman year, please refer to the electrical engineering undergraduate curriculum in this handbook and also http://freshmanengineering.uark.edu/.

Following the freshman year, students enter the heart of the EE undergraduate curriculum. The sophomore year provides a transition into electric circuits and digital systems, and largely completes the required mathematics. This leads to the junior year containing the majority of the required technical courses within electrical engineering. The senior year is composed primarily of technical electives, both within and outside electrical engineering, where students can explore several areas of interest. At this time, the student in conjunction with his or her adviser may select technical electives to concentrate in one or more of the technical specializations within electrical engineering, namely, analog and mixed-signal circuit design/test, biomedical, communications, computer hardware and digital circuit design, control systems, electronic packaging, embedded systems design, microwave and radar engineering, nanophotonics, nanotechnology/microelectronics/optoelectronics, pattern recognition and artificial intelligence, power electronics, and renewable energy and power. This final year permits the student to tailor a program suited to his or her individual career objectives. Students progressively build their design experience throughout the curriculum and demonstrate this ability in Electrical Engineering Design I and II, where they conceptualize a project, design the system, and build a working prototype, over the course of two semesters.

For those students enrolled in the Honors program, their design experience culminates in the Honors Electrical Engineering Design I and II, and the senior honors thesis. In addition, Honors sections of several electrical engineering courses provide further information on special issues in the electrical engineering discipline.

Lastly, the curriculum also introduces students to subjects in the humanities, social sciences, and professional success and ethics so they may better understand the interaction of technology and society.

The graduation requirement in electrical engineering is 125 semester hours. A full listing, flowchart, and specific details of the present curriculum are given below.

Though faculty advisors are quite knowledgeable about the technical aspects of an engineering education, other students are a good resource when it comes to charting a path through the curriculum. Students are advised to inquire in order to be well informed about various curriculum issues.

Please be aware that, in all cases, the curriculum requirements set forth in the University Catalog of Studies supersedes the requirements set forth in this Handbook.
ELECTRICAL ENGINEERING CURRICULUM
2012 – 2013

Freshman Year

1 | GNEG 1111 | Intro to Engineering I | 1 | GNEG 1121 | Introduction to Engineering II
4 | MATH 2554 | Calculus I | 4 | MATH 2564 | Calculus II
3 | CHEM 1113 | Chemistry for Engineers | 3 | HIST 2003, HIST 2013, or PLSC 2003
4 | PHYS 2054 | University Physics I | 4 | Freshman Science Elective¹
3 | ENGL 1013 | Composition I | 3 | ENGL 1023 | Composition II

15 semester hours

Sophomore Year

4 | ELEG 2104 | Electric Circuits I (with lab) | 4 | CSCE 2004 | Programming Foundations I
4 | ELEG 2904 | Digital Design (with lab) | 4 | ELEG 2114 | Electric Circuits II (with lab)
4 | MATH 2584 | Differential Equations | 4 | MATH 2574 | Calculus III
3 | Sophomore Science Elective² | 3 | Humanities Elective (from University/State Core list)

16 semester hours

Junior Year

4 | ELEG 3124 | System and Signal Analysis (with lab) | 3 | Math/Science/Technical Elective³
4 | ELEG 3214 | Electronics I (with lab) | 4 | ELEG 3224 | Electronics II (with lab)
4 | ELEG 3704 | Applied Electromagnetics (with lab) | 4 | ELEG 3304 | Energy Systems (with lab)
4 | ELEG 3924 | Microprocessor System Design (with lab) | 3 | ELEG 3143 | Probability & Stochastic Processes

16 semester hours

Senior Year

1 | ELEG 4061 | Electrical Engineering Design I | 3 | ELEG 4073 | Electrical Engineering Design II
3 | ELEG Technical Elective | 3 | ELEG Technical Elective
3 | ELEG Technical Elective | 3 | Technical Elective
3 | Engineering Science/Technical Elective⁴ | 3 | Social Science Elective (from University/State Core list)
3 | ECON 2013, ECON 2023, or ECON 2143 | 3 | Social Science Elective (from University/State Core list)
3 | Fine Arts Elective (from University/State Core list) | 3 | Technical Elective

16 semester hours

TOTAL: 125 semester hours

¹ Freshman Science Elective – CHEM 1133/1131L Chemistry for Engineers II or PHYS 2074 University Physics II
² Sophomore Science Elective – If CHEM 1133/1131L Chemistry for Engineers II was taken for Freshman Science Elective, then PHYS 2074 University Physics II; otherwise, if PHYS 2074 University Physics II was taken for Freshman Science Elective, then CHEM 1133/1131L Chemistry for Engineers II, BIOL 1543/1541L Principles of Biology, or BIOL 2213/2211L Human Physiology
³ Math/Science/Technical Elective: Approved Math/Science Elective or another Technical Elective
ELECTRICAL ENGINEERING 2012-2013 CURRICULUM
FLOW CHART

ENGL 1013 Comp I
ENGL 1023 Comp II
GNEG 1111 Intro to Engr I
GNEG 1121 Intro to Engr II
MATH 2554 Calc I
PHYS 2054 Physics I
CHEM 1113 Chem. for Engineers
History Political Science Elective

ELEG 2904 Dig Des
Pre/Co-Requisite

ELEG 1924 MicroP Sys Des
ELEG 2104 Elec Cir I
ELEG 2114 El Cir II
MATH 2584 Diff Eq
CSCE 2004 Prog Found I
Fresh/Soph Science Elective 4 hrs

ELEG 3214 Elect. I
ELEG 3124 S&S Analysis
ELEG 3704 App Emag
Humanities Elective

ELEG 3224 Elect II
ELEG 3143 Prob & Stoc Proc
Math/Sci./Tech Elec. 3 hrs

ELEG 3924 Tech Elec. 3 hrs
ELEG 3304 Eng Sys
ECON 2013, 2023, or 2143
Fine Arts Elective 3 hrs

ELEG 4061 EE Design I
ELEG 3124 Eng.Sci./Tech. Elec. 3 hrs
ELEG EE Design II
Technical Elective 3 hrs

ELEG 4073 EE Design II
Technical Elective 3 hrs

Pre-requisite
Social Science Elective 3 hrs

Technical Elective 3 hrs

Eng.Sci./Tech. Elec. 3 hrs

Fine Arts Elective 3 hrs

Social Science Elective 3 hrs

ECON 2013, 2023, or 2143
Fine Arts Elective 3 hrs
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<th>Course Title</th>
<th>Prerequisites</th>
<th>Corequisites</th>
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<td>Comp I</td>
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<td>Differential Equations</td>
<td>MATH 2564 (C or Better)</td>
<td>MATH 2564 (C or Better)</td>
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<td>Programming Foundations I</td>
<td>MATH 2554 or CSCE 2013</td>
<td>Lab component</td>
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<td>Sophomore 2</td>
<td>ELEG 2114</td>
<td>Electric Circuits II w/lab</td>
<td>ELEG 2104L, MATH 2584</td>
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<td>Sophomore 2</td>
<td>MATH 2574</td>
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<td>Sophomore 2</td>
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<td>Junior 1</td>
<td>ELEG 3124</td>
<td>System and Signal Analysis w/lab</td>
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<td>ELEG 3214</td>
<td>Electronics I w/lab</td>
<td>ELEG 2114, PHYS 2074, MATH 2574</td>
<td>ELEG 3214L</td>
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<td>ELEG 3704</td>
<td>Applied Electromagnetics w/lab</td>
<td>ELEG 2114, PHYS 2074, MATH 2574</td>
<td>ELEG 3704L, PHYS 2074, MATH 2574</td>
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<td>ELEG 3924</td>
<td>Microprocessor System Design w/lab</td>
<td>ELEG 2904</td>
<td>ELEG 3924L</td>
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<td>ELEG 3224</td>
<td>Electronics II w/lab</td>
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<td>ELEG 3224L</td>
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<td>Junior 2</td>
<td>ELEG 3304</td>
<td>Energy Systems w/lab</td>
<td>ELEG 2114</td>
<td>ELEG 3304L</td>
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<td>Junior 2</td>
<td>ELEG 3143</td>
<td>Probability &amp; Stochastic Processes</td>
<td>ELEG 3124</td>
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<td>EE Design I</td>
<td>ELEG 3224, 3924</td>
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<td>ELEG Technical Elective</td>
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<td>ELEG Technical Elective</td>
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<td>Senior 1</td>
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<tr>
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<td>ECON 2013, ECON 2023 or ECON 2143</td>
<td>As indicated in Catalog</td>
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<td>Fine Arts Elective (from Univ/State Core list)</td>
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<td>EE Design I</td>
<td>ELEG 4061</td>
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<td>XXXX XXX3</td>
<td>ELEG Technical Elective</td>
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<td>Technical Elective</td>
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<td>XXXX XXX3</td>
<td>Social Science Elective (from Univ/State Core list)</td>
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</tbody>
</table>

\(^1\) Freshman Science Elective - CHEM 1133/1131L - Chemistry for Engineers II or PHYS 2074 - University Physics II
\(^2\) Sophomore Science Elective - if CHEM 1133/1131L Chemistry for Engineers II was taken for Freshman Science Elective, then PHYS 2074 University Physics II; otherwise, if PHYS 2074 University Physics II was taken for Freshman Elective, then CHEM 1133/1131L Chemistry for Engineers II, BIOL 1543/1541L Principles of Biology, or BIOL 2213/2211L Human Physiology

\(^3\) Math/Science/Technical Elective: Approved Math/Science Elective or another Technical Elective

\(^4\) Engineering Science/Technical Elective: MEEG 2023 - Introductory Mechanics, MEEG 2303 - Introduction to Materials, MEEG 2403 - Thermodynamics, or another Technical Elective
NOTES FOR 2012-2013 ELECTRICAL ENGINEERING UNDERGRADUATE CURRICULUM

GPA REQUIREMENTS
All students must have at least a 2.0 grade-point average on: (i) all courses in Electrical Engineering, (ii) all engineering courses and (iii) all work presented for the degree. No more than 15% of the coursework taken at UA-Fayetteville and presented for the degree can be “D” grades.

TECHNICAL COMPOSITION
ENGL 1023, Composition II, has some sections addressing technical composition. Therefore, the EE faculty highly recommends all EE students, including transfer students, to enroll in the “technical” sections, if possible.

COMMON FRESHMAN YEAR
Please refer to http://freshmanengineering.uark.edu/ for a description of the common freshman year. Students are encouraged to take both PHYS 2054 – University Physics I and PHYS 2074 – University Physics II in their freshman year, if possible.

SOPHOMORE SCIENCE ELECTIVE
PHYS 2074 – University Physics II if not taken as a Freshman Science Elective, otherwise, one of the following courses:

- CHEM 1123 and CHEM 1121L, University Chemistry II
- BIOL 1543 and 1541L, Principles of Biology
- BIOL 2213 and 2211L, Human Physiology

ELEG TECHNICAL ELECTIVES
* ELEG 4000 or ELEG 5000 level courses
* Not more than 6 hours may be ELEG 488V or ELEG 489V courses

TECHNICAL ELECTIVES
* 3000 or above level courses in Math, Engineering, or the sciences after the approval of an ELEG advisor; history courses in the Math and the sciences (e.g., MATH 3133) are not eligible for technical elective credit.
* CSCE 2014, Programming 2, and CSCE 2214, Computer Organization, are allowable non-ELEG technical electives.
* Students who have (1) Talked to the departmental co-op coordinator, Dr. Randy Brown, about the intention of taking three GNEG 3811 courses for 3 hours of non-ELEG technical electives, and (2) the grades in these courses were A or B, may get credit for three hours of non-ELEG technical electives. Please consult the department regarding this if you have any further questions.
* Students cannot use ELEG 3903, ELEG 3913, or ELEG 3933 to meet this requirement.
**MATH/SCIENCE ELECTIVES**

<table>
<thead>
<tr>
<th>MATH/SCIENCE ELECTIVES</th>
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<tbody>
<tr>
<td>BIOL 1543 &amp; 1541L, Principles of Biology</td>
<td>MEEG 2703, Computer Methods in ME</td>
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<tr>
<td>BIOL 2213 &amp; 2211L, Human Physiology</td>
<td>PHYS 2094, University Physics III</td>
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<tr>
<td>CHEM 1123 &amp; 1121L, University Chem II</td>
<td>PHYS 3133, Analytical Mechanics</td>
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<td>CHEM 3504, Physical Chemistry I</td>
<td>PHYS 3544, Optics</td>
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<tr>
<td>CHEM 3603, Organic Chemistry I</td>
<td>PHYS 3614, Modern Physics</td>
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<tr>
<td>MATH 3083, Linear Algebra</td>
<td>STAT 4003 Statistical Methods</td>
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<td>MATH 3353, Numerical Methods</td>
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<td>MATH 3423, Advanced Applied Math</td>
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<td>MATH 4443, Complex Variable for Appl.</td>
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**ENGINEERING SCIENCE ELECTIVES**

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<tr>
<th>ENGINEERING SCIENCE ELECTIVES</th>
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<tr>
<td>MEEG 2023 Introduction to Mechanics</td>
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<tr>
<td>MEEG 2303 Introduction to Materials</td>
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</tr>
<tr>
<td>MEEG 2403 Thermodynamics</td>
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</tbody>
</table>

**ELEG HUMANITIES/SOCIAL SCIENCE ELECTIVES**

Select **one course** from U.S. history, fine arts, humanities and economics for a total of 12 credit hours. Select **two courses** from the social sciences for a total of 6 credit hours. You must select from two different fields of study.

<table>
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<tr>
<th>SELECT ONE</th>
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<th>SELECT TWO</th>
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<td>SOC 2033</td>
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<td>PSYC 2003</td>
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ELECTRICAL ENGINEERING HONORS PROGRAM

To graduate with Honors in Electrical Engineering, a student must be a member of the Honors College, have a minimum cumulative GPA of 3.50, and complete a minimum of 12 hours of honors credit of which at least 6 hours must be Electrical Engineering courses which include the following courses:

- ELEG 4061H – Honors Electrical Engineering Design I
- ELEG 4073H – Honors Electrical Engineering Design II
- ELEG 400VH – Senior Thesis

Electrical Engineering Honors Courses

ELEG 3XX3H: Honors section of ELEG required junior courses.

ELEG 4061H: Electrical Engineering Design I
Design and application in electrical engineering.

ELEG 4073H: Electrical Engineering Design II
Design and application in electrical engineering.

ELEG 400VH: Honors Senior Thesis

ELEG 488VH: Honors Special Problem
Individual study and research on a topic mutually agreeable to the student and a faculty member.

ELEG 4XX3H: ELEG technical elective (Honors section)
Several ELEG technical electives have an Honors section. Please check the offering of these Honors Sections for a particular semester.

ELEG 5XXX: Any graduate level course

ELEG 3083H: Honors Colloquium
Special topics and issues in Electrical Engineering

ELEG 388VH: Special Problems
Individual study and research on a topic mutually agreeable to the student and faculty member.
The EE Curriculum and Medical School

This section provides some general guidelines for those students interested in continuing into Medical School.

Different medical schools have different requirements. Most of UA CoE graduates apply to UAMS in Little Rock whose catalog is found at: http://www.uams.edu/com/comcat/2009-2010-COMCAT-PDF-FILES/2009-2010-med-app.pdf where their pre-matriculation requirements are listed. In general, it is required to have:

- 2 semesters of Calculus: EE curriculum has 4 semesters of MATH courses
- 2 semesters of Physics: EE curriculum has 2 semesters of PHYS courses
- 2 semesters of Chemistry: EE curriculum requires CHEM 1103/1101L plus CHEM 1123/1121L can be taken as a Sophomore Science Elective or Math/Science Elective
- 2 semesters of Organic Chemistry: CHEM 3603 and CHEM 3613 can be taken as non-EE Technical Electives
- 2 semesters of Biological Sciences: BIOL 1543/1541L taken as a Sophomore Science Elective or Math/Science Elective plus BIOL 3xxx taken as Engineering Science/Technical Elective
- 2 semesters of English: EE requires 3 semesters; however, note that UAMS will accept regular credit (taking the class on campus) or AP-- but not CLEP, exemptions, correspondence courses, etc. This restriction can cause trouble with students who exempt ENGL comp due to high ACT. They will need to make sure to have 2 courses from ENGL on their transcript.

Additional (advanced) courses are suggested but not required. Additional biology often helps the student with their MCAT tests which weigh heavily on med school admissions decisions. Students should try to take 1 or 2 of these courses when they can (maybe summer), hopefully prior to the last part of their junior year when the MCAT is taken. Recommended courses include anatomy, physiology, microbiology, and/or cell biology, which are basic biology courses that would help students prepare.

FERPA HOLD

The purpose of this section is to make you aware of an unwanted effect of the FERPA (Family Educational Rights and Privacy Act of 1974) hold. FERPA relates to privacy and some of you have “clicked” on the FERPA box in ISIS so we cannot release information about you. By doing this, you get the following unwanted effects:

- Your name cannot be listed in the Dean’s list. You get a letter stating that your are part of the Dean’s list, but your name is now shown in any publication of the list.
- Upon graduation, your name cannot be included in the “Senior Walk.” So if you come back to campus and your name is not there, one potential reason is that you have a FERPA hold.
- Your name cannot be listed in the Commencement Programs.
- Other unwanted effects that we may not have yet identified.

Therefore, if you want your name in the Senior Walk and printed in the Commencement programs, please, remove your FERPA hold during your last semester.

We want to let you know independently of whether you have a FERPA hold or not, the department does not release any information to third parties without your consent. This is normally done when we have an employer seeking graduates.
NOTE: The hardcopy of the Undergraduate Handbook finishes here. Please, refer to the website
www.ee.uark.edu, and click on “Current Students” and “Research” for additional information on:

- Humanities/Social Science/Economics/Fine Arts Electives
- Departmental Facilities
- Advising
- Registration
- Tutoring Services
- Activities and Organizations
- Career Services
- Electrical Engineering Faculty Research Specialty Areas
- Scholarships