THE UNIVERSITY of MISSISSIPPI

Emphasis - Computer Engineering
- B.S.E.E. in Electrical Engineering
- Emphasis - Computer Engineering
- Degree Requirements

B.S.E.E. in Electrical Engineering
Description
The B.S. in electrical engineering program provides broad knowledge in basic and engineering sciences. The curriculum provides thorough knowledge of the field of electrical engineering. Emphasis areas offered are biomedical engineering, computer engineering and general.

Minimum Total Credit Hours: 128
Goals/Mission Statement
Mission Statement
The mission of the electrical engineering department is to provide quality education to the students of the department.
Statement of Goals

- To provide high quality instruction and intellectual stimulation for the students
- To provide opportunity for undergraduate students to participate in research pursued by faculty
- To instill in our graduates the need for life-long learning
- To enable graduate students to pursue high quality research so that they will emerge as future technological leaders and academics
- To establish strong partnerships and lasting relationships with industry, government, professional societies, alumni and academia. These goals are consistent with the University of Mississippi Vision, Mission, and Core Values Statement and the flagship 2020 goals of UM/2020 Strategic Plan which focuses resources in the areas of instruction, research, and service.

Undergraduate Program Philosophy The electrical engineering undergraduate program is founded on basic sciences, mathematics, and engineering science fundamentals. The program emphasizes theoretical foundation as well as the application of scientific knowledge to the solution of engineering problems. This focus is intended to lead students to develop analysis and design skills, and original thought processes that will serve them throughout their careers in a rapidly changing world.

The electrical engineering program is a broad-based program with an emphasis on the fundamentals of electrical engineering. The curriculum consists of background courses in science and mathematics; courses in the humanities, social sciences, and fine arts that foster an appreciation of the interrelationship of basic sciences, technological advances, and society; and major multi- course sequences in engineering. Multi-course sequence areas are

1. Core topics common to many areas of engineering
2. Circuits, electronics, and systems
3. Digital Logic, computer architecture
4. Technical elective courses
5. Engineering design

The BSEE degree program can be pursued with biomedical engineering emphasis or computer engineering emphasis or no emphasis (general). In the first two cases, a specific set of required courses will determine that emphasis area. For general, a broad choice of technical elective courses is available to choose from.

Program Objectives Based on our philosophy and goals the Faculty of the Department of Electrical Engineering have adopted the following Undergraduate Program Educational Objectives for graduates of the Bachelor of Science in Electrical Engineering (BSEE) undergraduate program:

- Pursue careers in electrical engineering or a related discipline;
- Provide solutions to societal needs through applied research and technological development;
- Support industrial and economic development.

Student Outcomes

To accomplish the objectives of the electrical engineering program, the Faculty of the Department of Electrical Engineering have adopted the following Undergraduate Program Outcomes. Students of the Bachelor of Science in Electrical Engineering (BSEE) undergraduate program at The University of Mississippi will demonstrate that they have:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multi-disciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Monday, April 29, 2024 at
9:00:53 am CDT

Course Requirements

Specific requirements for the B.S.E.E. include two CSCi programming courses (Biomedical emphasis or General) or three CSCi programming courses (Computer emphasis); Engr 309, 310, 321, 360, 361, 410; El E 100, 331, 235, 236, 341, 351, 352, 353, 367, 385, 386, 391, 431, 447, 461, 462, 485, 486; 11 hours of specified courses for Biomedical, 12 hours of specified courses for Computer, 3 hours of specified course for General; and appropriate hours of technical elective courses (6 hours for Biomedical, 2 for Computer, and 14 for General). Technical elective, if not already included in the requirement, may be chosen from El E 313, 314, 413, 414, 415, 425, 433, 441, 443, 447, 451, 453, 482, 487, 523, 525, 533, 534, 535, 586; Engr 597; CSci 361, 521, 530, 551, 561.

Emphasis - Computer Engineering

Description

The B.S.E.E. with emphasis in computer engineering provides broad training in basic and engineering sciences and fundamental knowledge of electrical engineering, with a focus on computer engineering.

General Education Requirements

In addition to the courses specified by the School of Engineering general education requirements, the following are required: Math 263-264 and Math 353; laboratory science to be fulfilled by Chem 105, 115 and Phys 211, 212, 221, 222. The required 18 hours of humanities/behaviors and social science/fine arts are as specified by the School of Engineering general education requirements but must include Econ 310.

Course Requirements

Specific requirements for the B.S.E.E. with emphasis in computer engineering include Math 301; Csci 111, 112, 211, 223, 423; Engr 309, 310, 321, 360, 361, 410; El E 100, 331, 335, 336, 341, 351, 352, 353, 367, 385, 386, 391, 425, 431, 461, 462, 485, 486; and 2 hours of technical elective courses. Technical elective courses may be chosen from El E 333, 433, 441, 442, 443, 447, 451, 453, 487, 535; Engr 597; Csci 521, 523, 530, 551, 561.

Degree Requirements

The academic regulations for this degree program, as entered in the University of Mississippi Catalog, are in effect for the current or selected academic year and semester. The University of Mississippi reserves the right to 1) change or withdraw courses; 2) change rules for registration, instruction, and graduation; and 3) change other regulations affecting the student body at any time.

B.S.E.E. in Electrical Engineering

General Education

REQUIREMENT	HOURS	DESCRIPTION
Chem 105	3	Complete Chem 105 with a passing grade.
Chem 115	1	Complete Chem 115 with a passing grade.
Econ 310	3	Complete Econ 310 with a passing grade.
First Year Writing I	3	Complete Hon 101, Writ 100 or Writ 101 with a passing grade.
First Year Writing II	3	Complete one of the following courses with a passing grade: Liba 102, Writ 102 or Hon 102.
Math 261	3	Complete Math 261 with a passing grade.
Math 262	3	Complete Math 262 with a passing grade.
Math 263	3	Complete Math 263 with a passing grade.
Math 264	3	Complete Math 264 with a passing grade.
Math 353	3	Complete Math 353 with a passing grade.
Phys 211	3	Complete Phys 211 with a passing grade.
Phys 212	3	Complete Phys 212 with a passing grade.
Phys 221	1	Complete Phys 221 with a passing grade.
Phys 222	1	Complete Phys 222 with a passing grade.
3 hrs fine arts/humanities	3	Complete 3 additional hours in any of the humanities or fine arts categories defined by the School of Engineering general education requirements.
3 hrs fine arts	3	Student must successfully complete 3 hours in the fine arts. The course may be chosen from art history, art appreciation, and criticism of art, dance, music, and theatre arts. Courses emphasizing the enhancement of skills and performance are not acceptable.
3 hrs general education work	3	Complete 3 hrs General Education work chosen from the following: additional fine art, additional social science, additional humanities, As 301, As 302, Bus 250, Bus 271, Edld 110, Edld 111, Edld 120, Edld 220, Engr 400, Mgmt 371, Msl 102, Nsc 211, Spch 102, or Spch 105.
3 hrs humanities	3	Complete 3 hrs of humanities choosing from course work in classics, literature, history, modern language, philosophy, religion, Southern studies, African American Studies, and Gender Studies.

REQUIREMENT	HOURS	DESCRIPTION
3 hrs social sciences	3	Complete 3 hours of social sciences choosing from the following; economics, anthropology, political science, psychology, and sociology.

Major Requirements

REQUIREMENT	HOURS	DESCRIPTION
El E 100 or Engr 100	3	Complete El E 100 or Engr 100 with a passing grade.
El E 331	3	Complete El E 331 with a passing grade.
El E 235	3	Complete El E 235 with a passing grade.
El E 236	1	Complete El E 236 with a passing grade.
El E 341	3	Complete El E 341 with a passing grade.
El E 351	3	Complete El E 351 with a passing grade.
El E 352	3	Complete El E 352 with a passing grade.
El E 353	1	Complete El E 353 with a passing grade.
El E 385	3	Complete El E 385 with a passing grade.
El E 367	3	Complete El E 367 with a passing grade.
El E 386	1	Complete El E 386 with a passing grade.
El E 391	3	Complete El E 391 with a passing grade.
El E 431	3	Complete El E 431 with a passing grade.
El E 461	1	Complete El E 461 with a passing grade.
El E 462	2	Complete El E 462 with a passing grade.
Engr 309	3	Complete Engr 309 with a passing grade.
Engr 310	3	Complete Engr 310 with a passing grade.
Engr 321	3	Complete Engr 321 with a passing grade.
Engr 360	3	Complete Engr 360 with a passing grade.
Engr 361	1	Complete Engr 361 with a passing grade.
Engr 410	4	Complete Engr 410 with a passing grade.
School of Engineering GPA		Must be at least a 2.0
Enroll in a BSEE emphasis		Enroll in an emphasis within the BSEE program.

Emphasis - Computer Engineering

REQUIREMENT	HOURS	DESCRIPTION
Csci 111	3	Complete Csci 111 with a passing grade.
Csci 112	3	Complete Csci 112 with a passing grade.
Csci 211	3	Complete Csci 211 with a passing grade.
Csci 223	3	Complete Csci 223 with a passing grade.
Csci 361	3	Complete Csci 361 with a passing grade.
Csci 423	3	Complete Csci 423 with a passing grade.
El E 485	2	Complete El E 485 with a passing grade.
El E 486	1	Complete El E 486 with a passing grade.
Math 301	3	Complete Math 301 with a passing grade.
2 hrs technical electives	2	Complete 2 hrs technical electives from the following: El E 313, 314, 413, 414, 415, 433, 441, 443, 451, 453, 482, 487, 523, 525, 533, 534, 535, 586; Engr 597; CSci 361, 521, 530, 551, 561.