Electrical Engineering, B.S.

Program Learning Outcomes for B.S. in Electrical Engineering

Transfer of courses from other institutions to satisfy requirements for the B.S. in Electrical Engineering will be approved by the Associate Dean and Program Director based on a review of the syllabus for the course under consideration.

Students pursuing the B.S. in Electrical Engineering are required to:

- Earn an overall GPA of 2.500 for all required lower division major courses.
- Earn an overall GPA of 2.000 for all required major courses.
- Complete all courses in the major for a letter grade of "C-" or higher, except those where the default grading option is P/NP.
- Complete a minimum of 21 credits from upper division courses in the major.

Majors are required to enroll in FFC 100B - First Year Foundations: Grand Challenges in Science and Engineering to satisfy their General Education requirement.

Grand Challenges Initiative (3 credits)

- GCI 150 - Grand Challenges in Science and Engineering I **1 credit**
- GCI 200 - Grand Challenges in Science and Engineering II **1 credit**
- GCI 250 - Grand Challenges in Science and Engineering III **1 credit**

lower-division core requirements (39-40 credits)

requirements (31 credits)

- ENGR 101 - Foundations of Design and Fabrication **3 credits**
- PHYS 101 - General Physics I **3 credits**
- PHYS 101L - General Physics I Laboratory **1 credit**
- PHYS 102 - General Physics II **3 credits**
- PHYS 102L - General Physics II Laboratory **1 credit**
- EENG 200 - Electronics and Circuits I **3 credits**

- EENG 200L - Lab - Electronics and Circuits I **1 credit**
- EENG 201 - Digital Signals and Filters **3 credits**
- PHYS 201 - General Physics III **3 credits**
- MATH 215 - Introduction to Linear Algebra and Differential Equations **3 credits**
- CPSC 230 - Computer Science I **3 credits**
- CENG 231 - Systems Programming **3 credits**
- CENG 231L - Lab - Systems Programming **1 credit**

one of the following sequences (8-9 credits)
sequence 1

- MATH 110 - Single Variable Calculus I **3 credits**
- MATH 111 - Single Variable Calculus II **3 credits**
- MATH 210 - Multivariable Calculus **3 credits**

sequence 2

- MATH 115 - Accelerated Calculus Part I: Differentiation and Integration **4 credits**
- MATH 116 - Accelerated Calculus Part II: Series, Differential Equations and Multivariable Calculus **4 credits**

applications requirement (3 credits)

Students must complete three 1-credit sections of EENG 398 - Topics in Advanced Engineering Applications.

upper-division requirements (25 credits)

- EENG 300 - Electronics and Circuits II **3 credits**
- EENG 300L - Lab - Electronics and Circuits II **1 credit**
- EENG 310 - Mathematical Methods for Physics and Engineering **3 credits**
- EENG 320 - Microelectronics I **3 credits**
- EENG 320L - Microelectronics I Lab **1 credit**
- CENG 330 - Digital Logic Design I **3 credits**
- CENG 330L - Lab - Digital Logic Design I **1 credit**
- EENG 330 - Electromagnetics I **3 credits**
- CENG 366 - Digital Logic Design II **3 credits**
- CENG 366L - Lab - Digital Logic Design II **1 credit**
- EENG 410 - Control Systems **3 credits**

electives (9 credits)

Students, in consultation with and approval of the engineering advising committee, will design individual elective programs to suit their academic goals. Electives may be satisfied by any of the following courses.

- CENG 350 - Embedded Systems **3 credits**
- CENG 351 - Computer Architecture I **3 credits**
- CENG 353 - Wireless Communication **3 credits**
- CPSC 353 - Data Communications and Computer Networks **3 credits**
- EENG 370 - Topics in Electrical Engineering **3 credits**
- CENG 381 - Modeling and Simulation **3 credits**
- CENG 382 - Digital Signal Processing **3 credits**
- CENG 390 - Robotics **3 credits**
- EENG 420 - Microelectronics II **3 credits**
- EENG 430 - Electromagnetics II **3 credits**
- EENG 440 - Solid State Electronics **3 credits**
- EENG 450 - Photonics **3 credits**
- CENG 465 - Integrated Circuit Design I **3 credits**
- CENG 466 - Integrated Circuit Design II **3 credits**

total credits 79-80

Electrical Engineering, B.S. Suggested 4-year Plan

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