Computer Engineering, B.S.

Program Learning Outcomes for B.S. in Computer Engineering

Students pursuing the B.S. in Computer 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**
- PHYS 201 - General Physics III **3 credits**
- EENG 200 - Electronics and Circuits I **3 credits**
- EENG 200L - Lab - Electronics and Circuits I **1 credit**

- 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**
- MATH 250 - Discrete Mathematics I **3 credits**

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**

colloquium requirement (4 credits)

Students must complete four 1-credit sections of CENG 298 - Computer Engineering Colloquium.

upper-division requirements (24 credits)

- EENG 300 - Electronics and Circuits II **3 credits**
- EENG 300L - Lab - Electronics and Circuits II **1 credit**
- CENG 330 - Digital Logic Design I **3 credits**
- CENG 330L - Lab - Digital Logic Design I **1 credit**
- CPSC 350 - Data Structures and Algorithms **3 credits**
- CENG 351 - Computer Architecture I **3 credits**
- CENG 366 - Digital Logic Design II **3 credits**
- CENG 366L - Lab - Digital Logic Design II **1 credit**
- CPSC 380 - Operating Systems **3 credits**
- CENG 465 - Integrated Circuit Design I **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.

- CPSC 349 - Human Factors **3 credits**
- CENG 350 - Embedded Systems **3 credits**
- CENG 352 - Computer Architecture II **3 credits**
- CENG 353 - Wireless Communication **3 credits**
- CPSC 353 - Data Communications and Computer Networks **3 credits**
- ISP 363 - Cybersecurity 1 **3 credits**
- CENG 370 - Topics in Computer Engineering **3 credits**
- CENG 380 - Real-Time Operating Systems **3 credits**
- CENG 381 - Modeling and Simulation **3 credits**
- CENG 382 - Digital Signal Processing **3 credits**
- CENG 390 - Robotics **3 credits**
- CPSC 453 - Network Implementation and Security **3 credits**
- CENG 466 - Integrated Circuit Design II **3 credits**

total credits 79-80

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

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