Bachelor of Science in Computer Engineering Degree (BSCmpE) Curriculum - Effective Fall 2019

Freshman - Fall	
ENGL 1010 English Composition I	3
MATH 1910 Calculus I	4
CHEM 1110 General Chemistry I	4
ECE 1020 Connections to Electrical & Computer Engineering[1]	1
Soc/Beh Sci Elec[2] _____	3
Total	**15**

Freshman - Spring	
ENGL 1020 English Composition II	3
MATH 1920 Calculus II	4
MATH 2010 Introduction to Linear Algebra	3
CSC 1300 Intro. to Problem Solving & Computer Programming	4
Total	**14**

Sophomore - Fall	
ENGL 2130, 2235, or 2330 Literature	3
MATH 2120 Differential Equations	3
PHYS 2110 Calculus-based Physics I	4
CSC 1310 Data Structures & Algorithms	4
ECE 2010 Electric Circuits I	3
ECE 2011 Electrical Engineering Lab. I	1
Total	**18**

Sophomore - Spring	
MATH 2110 Calculus III	4
CSC 2400 Design of Algorithms	3
PHYS 2120 Calculus-based Physics II	4
ECE 2001 Computer Aided Engr. in ECE	1
ECE 2020 Electric Circuits II	3
ECE 2110 Intro. to Digital Systems	3
Total	**18**

Junior - Fall	
COMM 2025 or PC 2500 Communication	3
ECE 3010 Signals & Systems	3
ECE 3060 Electrical Engineering Lab. II	1
ECE 3130 Microcomputer Systems	4
ECE 3160 Digital Systems Lab.	1
ECE 3300 Electronics I	3
CSC 2500 Unix Lab.	1
Total	**16**

Junior - Spring	
ECE 3020 Discrete-Time Signals & Systems	3
ECE 3920 Professional Issues in ECE	1
ECE 4140 Embedded System Design	3
MATH 3470 Intro. Probability & Statistics	3
CSC 4200 Computer Networks	3
Hum/Fine Arts Elec[2] _____	3
Total	**16**

Senior - Fall	
ECE 4961 Capstone Design I	3
ECE 4110 Digital System Design	3
CS Elec[3] _____	3
EE Elec[3] _____	3
Soc/Beh Sci Elec[2] _____	3
Total	**15**

Senior - Spring	
ECE 4971 Capstone Design II	3
ECE 4120 Fundamentals of Computer Design	3
CSC 4100 Operating Systems	3
CmpE Elec[3] _____	5
Hum/Fine Arts Elec[2] _____	3
Total	**17**

Notes

(1) This course not included in 128-hour curriculum.

(2) Select from University approved list.

(3) Select from electives list, below.

Course descriptions are in the Undergraduate Catalog.

Electives

The electives list is on another page.

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Computer Engineering

CmpE Electives (2019 through 2021)

The following are electives and substitutions for the 2019, 2020, and 2021 CmpE curricula.

The courses that constitute the approved EE, CS, and CmpE electives for the Bachelor of Science in Computer Engineering degree are listed below. Students are encouraged to consult with their advisor when selecting elective courses.

EE Electives

- ECE 3210 - Control System Analysis
- ECE 3310 - Electronics II
- ECE 3510 - Electromagnetic Fields I
- ECE 3540 - Physical Electronics
- ECE 3610 - Intro. to Power Systems
- ECE 3710 - Intro. to Telecommunications
- All ECE 4000-level courses except 4931, 4932, and 4933

CS Electives

- CSC 2310 - Object-Oriented Programming and Design (4 credit hours)
- CSC 3020 - Numerical Methods (*** see notes)
- CSC 3300 - Database Management Systems
- CSC 3340 - Deterministic Computer Models
- CSC 3350 - Probabilistic Computer Models
- CSC 4010 - Programming Languages
- CSC 4020 - Compiler Construction
- CSC 4240 - Artificial Intelligence
- CSC 4400 - Analysis of Algorithms
- CSC 4450 - Introduction to Automata Theory and Computation
- CSC 4575 - Information Assurance and Cryptography
- CSC 4610 - Software Engineering I
- CSC 4710 - Design and Development of Human and Web Interfaces
- CSC 4750 - Computer Graphics
- CSC 4760 - Parallel Programming

CmpE Electives

- All courses on the CS Electives list, above
- All courses on the EE Electives list, above
- ECE 3260 - Control System Laboratory (1 credit hour)
- ECE 3270 - Programmable Logic Controller Laboratory (1 credit hour)
- ECE 3360 - Electronics Laboratory (1 credit hour)
- ECE 3560 - EM Simulation Laboratory (1 credit hour)
- ECE 3660 - Electric Power Laboratory (1 credit hour)
- ECE 3760 - Telecommunications Laboratory (1 credit hour)
- ECE 4931, ECE 4932, and ECE 4933 - Research Topics (credit hours vary)
- MATH 3400 - Intro. to Concepts of Math
- MATH 3810 - Complex Variables
- MATH 4210 - Numerical Analysis I (*** see notes)
- MATH 4250 - Advanced Ordinary Differential Equations I
- MATH 4510 - Advanced Mathematics for Engineers
- MATH 4710 - Vector Analysis
- PHYS 2420 - Modern Physics
- PHYS 2920 - Mathematical Physics

Substitutions

- CSC 2510 “Introduction to DevOps with Unix” (3 credits) will substitute for CSC 2500 “Unix Lab” (1 credit) and 2 credits CmpE Electives.

Notes

Only one of CSC 3020 or MATH 4210 may be counted as an elective.
Individual study, individual problems, individual projects, design projects, recitation, seminar, thesis and similar courses may not be counted as EE, CS, or CmpE electives.
Laboratory and other one-credit courses may not be taken for elective credit; lecture courses which include laboratory work may be taken for EE, CS, or CmpE elective credit.

ECE courses along with the tentative schedule and course syllabi are on another page.

Course descriptions are in the Undergraduate Catalog.

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