

COMPUTER SCIENCE & ENGINEERING

Department of Electrical & Computer Engineering



General Education (19 sh) sh

ALL	RHET:1030 Rhetoric	4
F/S	Diversity & Inclusion	3
ALL	Be Creative	3
ALL	Approved Gen Ed Course	3
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Math & Basic Science Core (24 sh) sh

F/S	MATH:1550 Math I: Single Variable Calculus (P: ALEKS score ≥ 75 or MPT Level 3 score ≥ 9)	4
ALL	MATH 1560 Math II: Multivariable Calculus (P: MATH:1550)	4
ALL	MATH:2550 Math III: Matrix Algebra (P: MATH:1550)	2
ALL	MATH:2560 Math IV: Differential Equations (P: MATH:1560 & MATH:2550)	3
F/S	STAT:2020 Probability & Statistics For Engr & Phys Sci (P: MATH:1560)	3
ALL	CHEM:1110 Principles of Chemistry I (P: ALEKS score ≥ 55 or MPT Level 3 score ≥ 9)	4
ALL	PHYS:1611 Introductory Physics I / Lab (C: MATH:1550)	4

Engineering Core (7 sh) sh

F	ENGR:1000 Engineering Success for First-Year Students (First semester standing)	1
F	ENGR:1100 Intro to Engineering Problem Solving	3
F/S	ENGR:1300 Intro to Engineering Computing (C: MATH:1550)	3

CSE Requirements (52 sh) sh

F/S	PHYS:1612 Introductory Physics II / Lab (P: PHYS:1611; C: MATH:1560)	4
F/S	CS:1210 Computer Science I, Fundamentals (C: MATH:1550)	4
ALL	CS:2110 Discrete Structures	3
ALL	CS:2230 Computer Science II, Data Structures (P: ENGR 2730 $\geq C$ - or CS: 1210 $\geq C$ -)	4
ALL	CS:3330 Algorithms (P: CS:2230 $\geq C$ -, CS:2210 $\geq C$ -, & MATH 1550)	3
F	CS:3620 Operating Systems (P: CS:2210 $\geq C$ -, CS:2230 $\geq C$ -, & ECE:3350 $\geq C$ -)	3
F/S	CS:3820 Programming Language Concepts (P: CS:2100, CS:2230, & ECE:3330)	3
ALL	ENGR:2120 Electrical Circuits (P: MATH:2560)	3
F/S	ENGR:2730 Computers in Engineering (P: ENGR:1300)	3
F/S	ECE:2400 Linear Systems I (P: ENGR:2120 & MATH:2560)	3
F/S	ECE:2410 Principles of Electronic Instrumentation (P: PHYS:1612, ENGR:2120, & MATH:2560)	4
F	ECE:3320 Intro to Digital Design (sophomore status)	3
F/S	ECE:3300 Intro to Software Design (P: ENGR:2730)	3
S	ECE:3350 Computer Architecture and Organization (P: ECE:3320 & ENGR:2730)	3
F/S	ECE:3360 Embedded Systems (P: ENGR:2730 & ECE:3320; C: ECE:2410)	3
F	ECE:3540 Communication Networks (C: STAT:2020)	3

CSE Capstone Design Courses (6 sh) sh

F/S	ECE:4880 Principles of ECE Design (senior status; P: ECE:2410, & ENGR:2730)	3
F/S	ECE:4890 ECE Design (senior status, P: ECE:4880 and 3 of: ECE:3330, ECE:3350, ECE:3360, ECE:3400, ECE:3540)	3

CSE Departmental Seminars (1 sh) sh

F	ECE:3000 Professional Seminar (junior status)	1
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Focus Area (20 sh) sh

Electives (refer to individual Focus Area requirements)		
ALL	Elective: Technical, CS	3
ALL	Elective: Technical, ECE	3
ALL	Elective: Advanced, CS	3
ALL	Elective: Advanced, ECE	3
ALL	Elective: Theory	3
ALL	Elective: Focus Area, Minor, Certificate, etc. (minimum 2 sh)	2
ALL	Elective: Focus Area, Minor, Certificate, etc.	3

Total Semester Hours Required: 129

Focus Areas:

- Big Data/Data Mining/Machine Learning
- Bioinformatics
- Business
- Computer Breadth
- Computer Hardware
- Computer Networks
- Signal & Image Processing
- Software Engineering
- Sustainability