COMPUTER SCIENCE & ENGINEERING

Department of Electrical & Computer Engineering

General Education (19 sh)		sh
ALL	**RHET:1030 Rhetoric**	4
F/S	**Approved Gen Ed Course**	3
ALL	**Be Creative**	3
ALL	**Approved Gen Ed Course**	3
ALL	**Approved Gen Ed Course**	3
ALL	**Approved Gen Ed Course**	3

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 Probabilty & 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 ≥ C- or CS: 1210 ≥ C-)*	4
ALL	**CS:3330 Algorithms** *(P: CS:2230 ≥ C-, CS:2210 ≥ C-, & MATH 1550)*	3
F	**CS:3620 Operating Systems** *(P: CS:2210 ≥ C-; CS:2230 ≥ C-; & ECE:3350 >= 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: ECE2410, & 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::*	3

CSE Departmental Seminars (1 sh)		sh
F	**ECE:3000 Professional Seminar** *(junior status)*	1

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

last edited: 9/29/2025