# ELECTRICAL ENGINEERING

Department of Electrical and 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 |

| EE Requirements (48 sh) | | sh |
|---|---|---|
| F/S | **MATH:3550 Math V: Vector Calculus** *(P: MATH:1560 & MATH:2550; C: MATH:2560)* | 3 |
| F/S | **PHYS:1612 Introductory Physics II / Lab** *(P: PHYS:1611: C: MATH:1560)* | 4 |
| S | **PHYS:2704 Physics IV** *(P: PHYS:1612 & MATH:1550)* | 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 | **ECE:3400 Linear Systems II** *(P: ECE:2400)* | 3 |
| F | **ECE:3410 Electronic Circuits** *(P: ECE:2400 & ECE:2410)* | 4 |
| F/S | **ECE:3360 Embedded Systems** *(P: ENGR:2730 & ECE:3320; C: ECE:2410)* | 3 |
| S | **ECE:3500 Communication Systems** *(P: ECE:2400)* | 3 |
| S | **ECE:3600 Control Systems** *(P: ECE:2400)* | 3 |
| F | **ECE:3700 Electomagnetic Theory** *(P:MATH:3550 & PHYS:1612)* | 3 |
| S | **ECE:3720 Semiconductor Devices** *(P: PHYS:2704 & ECE:3410)* | 3 |

| EE 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:3410, ECE:3500, ECE:3600, CS:3330)* | 3 |

| EE Departmental Seminars (1 sh) | | sh |
|---|---|---|
| F | **ECE:3000 Professional Seminar** *(junior status)* | 1 |

| Focus Area (23 sh) | | sh |
|---|---|---|
| **Electives** (refer to individual Focus Area requirements) | | |
| ALL | **Elective:** Focus Area - Breadth | 3 |
| ALL | **Elective:** Focus Area - Depth | 3 |
| ALL | **Elective:** Focus Area - Technical | 3 |
| ALL | **Elective:** Focus Area - Technical | 3 |
| ALL | **Elective:** Focus Area - 5000 level ECE | 3 |
| ALL | **Elective:** Focus Area - 5000 level ECE | 3 |
| ALL | **Elective:** Focus Area, Minor, Certificate, etc. (minimum 2sh) | 2 |
| ALL | **Elective:** Focus Area, Minor, Certificate, etc. | 3 |
| | **Total Semester Hours Required:** | **128** |

## Focus Areas:

Applied Physics
Big Data/Data Mining/Machine Learning
Business
Communication Systems
Computer Hardware
Control Systems
Electrical Breadth
Electronic Circuits
Entrepreneurship
Individualized
Integrated Circuits
Photonic Circuits
Power Systems
Pre-Law
Pre-Medicine
Semiconductor Devices
Signal & Image Processing

last edited: 9/29/2025