

# ELECTRICAL ENGINEERING

Department of Electrical and Computer Engineering

# IOWA

**Color highlighting:** Courses highlighted in the same color may be taken in either of the two semesters shown, with one course taken each semester. For example, students may take STAT:2020 in the 4th semester and and Elective in the 5th semester, or vice versa.

## Sample Four-Year Plan

### First Year

| 1st Semester                                                                                         | sh | 2nd Semester                                                   | sh |
|------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------|----|
| ALL RHET:1030 Rhetoric: Writing and Communication                                                    | 4  | ALL General Education Course                                   | 3  |
| F/S MATH:1550 Engineering Calculus I<br>(P: ALEKS score $\geq 75$ or MPT Level 3 score $\geq 9$ )    | 4  | F/S MATH 1560 Engineering Calculus II<br>(P: MATH:1550)        | 4  |
| ALL CHEM:1110 Principles of Chemistry I<br>(P: ALEKS score $\geq 55$ or MPT Level 3 score $\geq 9$ ) | 4  | F/S MATH:2550 Engineering Matrix Algebra<br>(P: MATH:1550)     | 2  |
| F ENGR:1100 Intro to Engineering Problem Solving                                                     | 3  | F/S PHYS:1611 Introductory Physics I / Lab<br>(C: MATH:1550)   | 4  |
|                                                                                                      |    | F/S ENGR:1300 Intro to Engineering Computing<br>(C: MATH:1550) | 3  |
|                                                                                                      | 15 |                                                                | 16 |

### Second Year

| 3rd Semester                                                                   | sh | 4th Semester                                                                                    | sh   |
|--------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------|------|
| F/S MATH:2560 Engineering Differential Equations<br>(P: MATH:1560 & MATH:2550) | 3  | ALL General Education Course                                                                    | 3    |
| ALL PHYS:1612 Introductory Physics II<br>(P: PHYS:1611; C: MATH:1560)          | 4  | F/S MATH:3550 Engineering Vector Calculus<br>(P: MATH:1560 & MATH:2550; C: MATH:2560)           | 3    |
| ALL ENGR:2120 Electrical Circuits<br>(C: MATH:2560)                            | 3  | F/S STAT:2020 Probability & Statistics For Engr & Phys Sci<br>(P: MATH:1560)                    | 3 OR |
| F/S ENGR:2730 Computers in Engineering<br>(P: ENGR:1300)                       | 3  | ALL Elective: Focus Area -Technical                                                             | 3    |
| F ECE:3320 Intro to Digital Design<br>(Sophomore Status)                       | 3  | F/S ECE:2400 Linear Systems I<br>(P: ENGR:2120 & MATH:2560)                                     | 3    |
|                                                                                | 16 | F/S ECE:2410 Principles of Electronic Instrumentation<br>(P: PHYS:1612, ENGR:2120, & MATH:2560) | 4    |
|                                                                                |    |                                                                                                 | 16   |

### Third Year

| 5th Semester                                                                 | sh   | 6th Semester                                                            | sh   |
|------------------------------------------------------------------------------|------|-------------------------------------------------------------------------|------|
| F ECE:3000 Professional Seminar: Electrical Engineering<br>(Junior Status)   | 1    | S ECE:3500 Communication Systems<br>(P: ECE:2400)                       | 3    |
| F/S ECE:3360 Embedded Systems<br>(P: ENGR:2730 & ECE:3320; C: ECE:2410)      | 3 OR | S ECE:3600 Control Systems<br>(P: ECE:2400)                             | 3    |
| ALL Elective: Focus Area - ECE                                               | 3    | S ECE:3720 Semiconductor Devices<br>(P: PHYS:1612 & ECE:3410)           | 3    |
| F ECE:3400 Linear Systems II<br>(P: ECE:2400)                                | 3    | F/S ECE:3360 Embedded Systems<br>(P: ENGR:2730 & ECE:3320; C: ECE:2410) | 3 OR |
| F ECE:3410 Electronic Circuits<br>(P: ECE:2400 & ECE:2410)                   | 4    | ALL Elective: Focus Area - ECE                                          | 3    |
| F ECE:3700 Electromagnetic Theory<br>(P: MATH:3550 & PHYS:1612)              | 3    | ALL Elective: Focus Area                                                | 3    |
| F/S STAT:2020 Probability & Statistics For Engr & Phys Sci<br>(P: MATH:1560) | 3 OR | ALL General Education Course                                            | 3    |
| ALL Elective: Focus Area -Technical                                          | 3    |                                                                         |      |
|                                                                              | 17   |                                                                         | 18   |

### 4th Year

| 7th Semester                                                                  | sh | 8th Semester                                                                                                                              | sh |
|-------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------|----|
| ALL General Education Course                                                  | 3  | ALL General Education Course                                                                                                              | 3  |
| F/S ECE:4880 ECE Senior Design 1<br>(P: Senior Status; ECE:2410, & ENGR:2730) | 3  | F/S ECE:4890 ECE Senior Design 2<br>(P: ECE:4880 and 3 of: ECE:3330, ECE:3350, ECE:3360, ECE:3400, ECE:3410, ECE:3500, ECE:3600, CS:3330) | 3  |
| ALL Elective: Focus Area - 5000 level ECE                                     | 3  | ALL Elective: Focus Area - 5000 level ECE                                                                                                 | 3  |
| ALL Elective: Focus Area -Technical                                           | 3  | ALL Elective: Focus Area, Minor, Certificate, etc.                                                                                        | 3  |
| ALL Elective: Focus Area - Breadth                                            | 3  | ALL Elective: Focus Area - Depth                                                                                                          | 3  |
|                                                                               | 15 |                                                                                                                                           | 15 |