The SOs for the BS in ECE Program are:

a. An ability to apply knowledge of mathematics, science, and engineering.

b. An ability to design and conduct experiments, as well as to analyze and interpret data.

c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

d. An ability to function effectively in a team.

e. An ability to identify, formulate and/or solve engineering problems.

f. An understanding of professional and ethical responsibility.

g. An ability to communicate effectively.

h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

i. A recognition of the need for, and an ability to engage in, life-long learning.

j. A knowledge of contemporary issues.

k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practices.

**Relationship Between ECE Department Courses and Student Outcomes a – k**

Key: 1 = Minor Contribution to Outcome; 2 = Major Contribution to Outcome; * =FCAR

| Course | Title | a | b | c | d | e | f | g | h | i | j | k |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ETCS 105 | Career Discovery | | | | 2 | | 2* | | | 1 | | |
| ICSS 309 | Technol. and Global Issues | | | | | | 2* | 2* | 2* | 2* | 2* | |
| | | | | | | | | | | | | |
| **Computer Science courses (18 credits)** | | | | | | | | | | | | |
| CSCI 125 | Cptr. Programming I | | | | 1 | 2 | | 2* | | | | |
| CSCI 155 | Cptr. Org. &Architecture | | | | | 2 | | | | | | 1 |
| CSCI 185 | Cptr. Programming II | | | | 1 | 2* | | 2* | | | | |
| CSCI 235 | Elem. Of Discrete Structures | 2* | | | | | | | | | | 2 |
| CSCI 260 | Data Structures | 2 | | | 1 | 2 | | 1 | | | | |
| CSCI 330 | Operating Systems | | | | | | | | | 2 | | 1 |
| | | | | | | | | | | | | |
| **Electrical Engineering courses (42 credits)** | | | | | | | | | | | | |
| EENG 125 | Fund. Of Digital Logic | 2 | | 2* | | 2 | | | | | | 2 |
| EENG 212 | Electrical Circuits I and Eng. Tools | 2 | | | | 2* | | | | | | 2* |
| EENG 270 | Intro. To Electronic Circuits | 1 | | 2* | | 2* | | | | 1 | | 2* |
| EENG 275 | Electronics Lab I | | 2 | | 2* | | | 2* | | | | |
| EENG 281 | Electrical Circuits II | 2* | | | | 2 | | | | | | 2 |
| EENG 310 | Electronic Circuit Applic. | 1 | | | | 2 | | | | 1 | | 2* |
| EENG 315 | Electronics Lab II | | 2 | | | | | 2 | | | | |
| EENG 320 | Control Systems | 2 | | | | 2* | | | | | | 2 |
| EENG 330 | Electromagnetic Theory I | 2* | | | | 2 | | | | | | 2 |
| EENG 341 | Signals and Systems | 2* | | | | 2 | | | | | | 2 |
| EENG 360 | Electronics Lab III | | 2* | | | | | 2 | | | | |
| EENG 370 | Microprocessors | 1 | | | | | | | | | | 2 |
| EENG 382 | Random Signals and Stat. | 2 | | | | | | | | | | 2 |
| EENG 401 | Communication Theory | 1 | | | | 2 | | | | | | 1 |
| EENG 403 | Electronics Lab IV | | 2* | | 2* | | | 2* | | | | |
| EENG 489 | Senior Dsgn Proj. I | 2 | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1 | 2 |
| EENG 491 | Senior Dsgn Proj II | 2 | | 2* | 2* | 2* | 2* | 2* | 2* | 2* | 1 | 2* |
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| **2 EENG/CSCI Electives (6 credits)** | | | | | | | | | | | | |
| EENG 301 | Energy Conversion | | | | | 1 | | | | | | 1 |
| EENG 390 | Electromagnetic Theory II | 2 | | | | 2 | | | | | | 2 |
| EENG 410 | Control Systems Design | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| EENG 415 | Digital Control Systems | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| EENG 420 | Digital Filter Design | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| EENG 430 | Operational Amp. Design | 2 | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| EENG 435 | Robotics and Flex Automat | | | 2 | 2 | 2 | 2 | 2 | 2 | | 2 | |
| EENG 440 | Microcomp. Based Design | 2 | | 2 | 2 | 2 | 2 | | | 2 | 2 | |
| EENG 450 | Optical Engineering | | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| EENG 460 | Fiber Optics Concepts I | 1 | | | | 2 | 2 | | | 2 | 2 | 2 |
| EENG 465 | Microwave Engineering | | | 1 | | | 2 | 2 | 2 | 2 | 2 | |
| EENG 470 | Antennas and Propagation | | | 1 | | | 2 | 2 | 2 | 2 | 2 | |
| EENG 480 | Communication Net. Design | 2 | | | | 2 | | | | | | 2 |
| EENG 483 | Intro. To VLSI Design | | | 2 | | | 2 | 2 | 2 | 2 | 2 | 2 |
| | | **a** | **b** | **c** | **d** | **e** | **f** | **g** | **h** | **i** | **j** | **k** |
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