Professional Preparation Curriculum Planning

**Power**

In addition to the required courses in the BSEE curriculum and flowchart, if you are interested in careers in any of the following *Electrical Engineering Specialty Areas*, we would recommend that you choose from the following *Engineering Support Electives* and *Technical Electives*

### Power Systems Analysis and Design:

- **MATH 304** Vector Analysis (4)
- **MATH 248** Methods of Proof in Mathematics (4)
- **MATH 306** Linear Algebra II (4)
- **MATH 451** Numerical Analysis I (4)
- **MATH 453** Numerical Optimization (4)
- **EE 406** Power Systems Analysis I (4) [F]
- **EE 407** Power Systems Analysis II (4) [W]
- **EE 410** Power Electronics I with Lab (4) [F]
- **EE 444** Power Systems Lab (1) [S]
- **EE 518** Power System Protection (4) [S]
- **EE 519** Advanced Analysis of Power Systems (4) [S]

### Sustainable Energy:

- **IME 314** Engineering Economics (3)
- **CSC 341** Numerical Engineering Analysis (4)
- **PHYS 310** Physics of Energy (3)
- **EE 420** Sustainable Electric Energy Conversion with Lab (4) [W]
- **EE 406** Power Systems Analysis I (4) [F]
- **EE 410** Power Electronics I with Lab (4) [F]
- **EE 520** Solar Photovoltaic Systems Design (4) [S]
- **EE 434** Automotive Engineering for a Sustainable Future (4) [SP]

### Power Electronics Design:

- **ME 211** Engineering Statics (3)
- **ME 212** Engineering Dynamics (3)
- **ME 302** Thermodynamics (3)
- **EE 410** Power Electronics I with Lab (4) [F]
- **EE 411** Power Electronics II with Lab (4) [W]
- **EE 406** Power Systems Analysis I (4) [F]
- **EE 527** Advanced Topics in Power Electronics (4) [S]

### Magnetic Devices and Machine Design:

- **ME 211** Engineering Statics (3)
- **ME 212** Engineering Dynamics (3)
- **MATE 210** Materials Engineering (3)
- **MATE 340** Electronic Materials Systems (3)
- **EE 417** Alternating Current Machines with Lab (4) [F]
- **EE 433** Intro. to Magnetic Design with Lab (4) [S]
- **EE 406** Power Systems Analysis I (4) [F]
- **EE 511** Electric Machines Theory (4) [S]

### Control Systems:

- **MATH 248. Methods of Proof in Mathematics (4)**
- **MATH 306** Linear Algebra II (4)
- **ME 211** Engineering Statics (3)
- **ME 212** Engineering Dynamics (3)
- **EE 432** Digital Control Systems (3) [F]
- **EE 472** Digital Control Systems Lab (1) [F]
- **EE 513** Control System Theory (4) [W]
- **EE 509** Computational Intelligence (4) [S]
- **EE 514** Adv. Topics in Auto. Control (4) [S]