

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]

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 410 Power Electronics I with Lab (4) [F]
EE 511 Electric Machines Theory (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]

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]