EE Professional Preparation Curriculum Planning

Electronics Area Examples

In addition to the required courses in the BSEE curriculum and flowchart, students choose 9 Engineering Support Electives units and 11 Technical Electives units. If you are interested in careers in any of the following Electrical Engineering Electronics Area Examples, we would recommend that you review courses offerings from the following Engineering Support Electives and Technical Electives course listings We provide example lists of course arrangements here (* - choose at most one of these non-EE technical electives).

IC Design and Fabrication Example:
MATE 210 Materials Engineering (3)
MATE 215 Materials Lab I (1)
MATE 340 Electronics Materials Systems (4)
PHYS 412 Solid State Physics (3) [F]
PHYS 452 Solid State Physics Lab (1) [SP]
EE/PHYS 422 Polymer Electronics Lab (1) [F,W]
EE 431/CPE 441 Computer-Aided Design of VLSI Devices (3+1) [F]
BMED 434/EE 423/MATE 430 Micro/Nano Fabrication (3) [W]
BMED 435 Microfabrication Lab (2) [W]
EE 524 Solid State Electronics (3) [S]
EE 531/CPE 541 Advanced VLSI Design (3+1) [F]
EE 532 VLSI Testing (1) [S]
EE 544 Solid-State Electronics & VLSI Lab (1) [S]
IME/MATE 458/CPE 488 Microelectronics and Electronics Packaging (3+1)

Wireless and RF Electronics Example:
MATH 206 Linear Algebra I (4)
MATH 304 Vector Analysis (4) [W,S]
PHYS 408 Electromag. Fields & Waves I (4) [F]
EE 440 Wireless Communications (3) [W]
EE 480 Wireless Communications Lab (1) [W]
EE 405 High Frequency Amplifier Design (3) [F]
EE 445 High Frequency Amp Design Lab (1) [F]
EE 412 Advanced Analog Circuits (3) [W]
EE 452 Advanced Analog Circuits Lab (1) [W]
EE 413 Advanced Electronic Design (4) [S]
EE 425 Analog Filter Design (3) [S]
EE 455 Analog Filter Design Lab (1) [S]
EE 524 Solid State Electronics (3) [S]
EE 525 Stochastic Processes (4) [F]
EE 529 Microwave Device Electronics (3) [W]

Sustainability in Electronics Example:
ME 211 Engineering Statics (3)
ME 212 Engineering Dynamics (3)
ME 302 Thermodynamics (3)
PHYS 310 Physics of Energy (3) [SP]
EE 410 Power Electronics I (3+1) [F]
EE 411 Power Electronics II (3+1) [W]
EE 413 Advanced Electronic Design (4) [SP]

Biomedical Instrumentation Example:
BMED 310 Measurement/Analysis (4) [FW]
BMED 440 Bioelectronics and Instrumentation (3+1) [FW]
EE 412 Advanced Analog Circuits (3) [W]
EE 452 Advanced Analog Circuits (1) [W]
EE 413 Advanced Electronic Design (3+1) [S]
EE 419 Digital Signal Processing (3) [W]
EE 459 Digital Signal Process. Lab (1) [W]
CPE/EE 442 Real-Time Embedded Systems (3+1) [F]
CPE/EE 447 Stringed Musical Instrument..Design (3+1) [S]
Engineering Support Electives Listing for Electronics Area:

MATE 210 Materials Engineering (3)
MATE 215 Materials Lab I (1)
MATE 340 Electronics Materials Systems (4)
PHYS 412 Solid State Physics (3) [F]
PHYS 452 Solid State Physics Lab I (1) [SP]
EE/PHYS 422 Polymer Electronics Lab I (1) [F,W]
MATH 206 Linear Algebra I (4)
MATH 304 Vector Analysis (4) [W,S]
PHYS 408 Electromag. Fields & Waves I (4) [F]
ME 211 Engineering Statics (3)
ME 212 Engineering Dynamics (3)
ME 302 Thermodynamics (3)
PHYS 310 Physics of Energy (3) [SP]
BMED 310 Measurement/Analysis (4) [FW]

Technical Electives Listing for Electronics Area

EE 431/CPE 441 Computer-Aided Design of VLSI Devices (3+1) [F]
BMED 434/EE 423/MATE 430 Micro/Nano Fabrication (3) [W]
BMED 435 Microfabrication Lab (2) [W]
EE 524 Solid State Electronics (3) [S]
EE 531/CPE 541 Advanced VLSI Design (3+1) [F]
EE 532 VLSI Testing (1) [S]
EE 544 Solid-State Electronics & VLSI Lab (1) [S]
IME/MATE 458/CPE 488 Microelectronics and Electronics Packaging (3+1)
EE 440 Wireless Communications (3) [W]
EE 480 Wireless Communications Lab (1) [W]
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