Restricted Area Electives

The following is a list of approved Restricted Area Electives for EE and CEO students. The electives are grouped by suggested areas of study within Electric and Computer Engineering. However, a student is free to choose any elective listed that does not duplicate other program requirements. Special topics courses such as ECE 491 and ECE 493 may also be approved by petition.

AREA 1: SOFTWARE AND EMBEDDED SYSTEMS
CS 101  Computer Science II
CS 200  Software Engineering
CS 201  Data Structures and Algorithms
CS 403  Programming Languages
CS 407  Software Interface Design
CS 415  Software Design and Development
CS 426  Introduction to Operating Systems
CS 434  Compiler Construction
CS 435  Computer Graphics
CS 457  Database Management Systems
CS 460  Introduction to Autonomous Robotics
CS 465  Artificial Intelligence
CS 470  Introduction to Computer Algorithms
CS 480  Computer Simulations
ECE 404  Sensor Networks
ECE 406  Computer Communications and Networks
ECE 408  Communications
ECE 409  Communications Lab
ECE 480  Digital System Design
ECE 481  Digital System Design Lab
ECE 482  Computer Vision & Digital Image Processing
ECE 484  Computer Architecture
ECE 485  Programmable Logic Controllers
ECE 486  Embedded Systems
ECE 487  Embedded Systems Lab

AREA 2: ELECTROMECHANICAL SYSTEMS
ECE 451  Power Electronics
ECE 452  Power Electronics Lab
ECE 453  Power Systems
ECE 454  Power Systems Lab
ECE 455  Electromechanical Systems
ECE 475  Control Systems Analysis
ECE 476  Control Systems Lab
ECE 479  Digital Control Systems

AREA 3: MATERIALS AND DEVICES
ECE 430  Solid State Devices
ECE 432  VLSI Design
ECE 434 Mixed-Signal Circuits
ECE 435 Microsystems Packaging
ECE 438 Integrated Circuit Fabrication Principles
ECE 439 Thin Film Technology
ECE 440 Electromagnetic Waves
ECE 445 Antennas
ECE 461 Quantum Nano Electronics
ECE 462 Nanophotonics: Semiconductor Optoelectronics
ECE 463 Magnetic Materials and Devices
ECE 466 Fundamentals of Nanotechnology

AREA 4: GENERAL COURSES
Aerospace Engineering and Mechanics – AEM 201
GES courses - GES 400, GES 401, GES 418
Mathematics (MATH) - All courses above MATH 238 not duplicating other courses required in the curriculum. Exceptions to this include all courses with math education as the primary emphasis (e.g. MATH 303, 309, 402, 405, and 406).
Physics (PH) - All courses 300 and above not duplicating other courses required in the curriculum.
Mechanical Engineering Courses – ME 215, ME 305, ME 372

September 2014