ECE Course Prerequisite Changes – Effective Fall 2014

Prerequisites that have been removed have a red background: ECE 1331
Prerequisites that have been added are in boxed red text: ENGI 1100.

• **ECE 1331 - Computers and Problems Solving** Credit Hours: 3.0 (3-0) Prerequisite: MATH 1431 and credit for or concurrent enrollment in ECE 1100 and ENGI 1100. Introduction to personal computers and engineering workstations; techniques and standards for networked computers; computer-based tools for engineering problem-solving; programming constructs, algorithms, and applications.

• **ECE 2317 - Applied Electricity and Magnetism** Credit Hours: 3.0 (3-0) Prerequisite: CHEM 1117 and ECE 1100 and ECE 1331, MATH 2433, PHYS 1322, and credit for or concurrent enrollment in MATH 3321. Fundamentals of electricity and magnetism, vector calculus, Maxwell’s equations, Kirchhoff’s laws, static electric and magnetic fields, resistance, capacitance, inductance, magnetic circuits, and transformers.

• **ECE 3155 - Electronics Laboratory** Credit Hours: 1.0 (0-4) Prerequisite: ECE 2100, ECE 2300, ECE 2317, ECE 3337, ENGI 2304, and credit for or concurrent enrollment in ECE 3355. Corequisite: ECE 3355 Laboratory projects concerning topics studied in ECE 3355.

• **ECE 3317 - Applied Electromagnetic Waves** Credit Hours: 3.0 (3-0) Prerequisite: ECE 2100, ECE 2300, ECE 2317, MATH 2433, PHYS 1322 and credit for or concurrent enrollment in ECE 3337. Maxwell’s equations in time and frequency domains, Poynting’s theorem, plane wave propagation, reflection and transmission in lossless and lossy media, transmission lines, waveguides, and antennas.

• **ECE 3337 - Signals and Systems Analysis** Credit Hours: 3.0 (3-0) Formerly ECE 3337 Electrical Engineering Analysis Prerequisite: MATH 3321, ECE 1331, ECE 2300, and credit for or concurrent enrollment in ECE 2317. Time and frequency domain techniques for signals and systems analysis. Engineering applications of the convolution sum and integral, Fourier series and transforms, and Laplace transforms.

• **ECE 3355 - Electronics** Credit Hours: 3.0 (3-0) Prerequisite: ECE 2100, ECE 2300, ECE 2317, ECE 3337, ENGI 2304, and credit for or concurrent enrollment in ECE 3155. Signal and amplifier concepts; operational amplifiers; diodes and
nonlinear circuits; Bipolar junction transistors; biasing, small and large signal analysis; Transistor amplifiers; two-port networks.

• **ECE 3364 - Circuits and Systems**
  **Credit Hours:** 3.0 (3-0)
  **Prerequisite:** ECE 2300, ECE 3337, and credit for or concurrent enrollment in ECE 2317. Balanced three-phase circuits, mutual inductance and transformers, Laplace transform and circuit analysis, frequency-selective circuits, control system characteristics and stability.

• **ECE 4436 - Microprocessor Systems**
  **Credit Hours:** 4.0 (3-3)
  **Prerequisite:** ECE 3331, ECE 2300 and credit for or concurrent enrollment in ECE 3331. Memory devices, microcomputer architecture, assembly language programming, I/O programming, I/O interface design, data communications, and data acquisition systems. Laboratory exercises in assembly language and C.

• **ECE 5367 - Introduction to Computer Architecture and Design**
  **Credit Hours:** 3.0 (3-0)
  **Prerequisite:** ECE 3441 and credit for or concurrent enrollment in ECE 4436. Computer organization, computer arithmetic, instruction sets, programming with MIPS assembly language, CPU design, pipelining, and memory hierarchy including caching and virtual memory.

• **ECE 5436 - Advanced Microprocessor Systems**
  **Credit Hours:** 4.0
  **Prerequisite:** ECE 3441, ECE 4436. Microcomputer assembly language programming, I/O programming, I/O interface design, memory interfacing.