Code #EN21 (2014)

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**1.Contact Person** (Name, Email Address, Phone Number)

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**2.Proposed Change**

Change course name EE 4344 Microprocessors and PLC Applications to EE 4344 Embedded Systems.

**3.Effective Date**

Fall 2015

**4.Justification**

Embedded Systems encompasses Microprocessor and PLC Applications and is appropriate.

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Page 444, 2014-15 Undergraduate Bulletin

**EE 3383. Principles and Practices in Electrical Engineering** Principles of and good prac­tices in electrical engineering, professional organizations, literature, intellectual property, licensure, ethics and regulations, vendors, products, specifications, procurement, communications and human relations, resource management, product certification and manufacturability, and modern and tools and issues. Prerequisite, C or better in EE 3313. Spring.

**EE 3401. Electronics I Laboratory** Basic laboratory experiments in electronic circuits and solid state electronic devices. Corequisite, EE 3403. Prerequisite, C or better in ENGR 2421. Fall.

**EE 3403. Electronics I** Theory, analysis, and introductory design of diode, bipolar junction transistor, operational amplifier, and field effect transistor devices and circuits. Prerequisite, C or better in ENGR 2423. Fall.

**EE 4303. Engineering Field and Waves II** Study of electromagnetic waves in free space, dielectrics, and conductors, transmission lines, polarization, reflection, refraction, diffraction, waveguides, resonators, antennas, and radiation. Prerequisites, C or better in MATH 4403 and EE 3343. Dual listed as EE 5303. Demand.

**EE 4313. Control Systems** Analysis and design of linear feedback systems. Transfer func­tions, transient and steady state characterization, stability determination. Closed loop analysis and design using root locus and frequency domain methods. Prerequisites, C or better in EE 3403. Corequisite, EE 3353. Dual listed as EE 5313. Demand.

**EE 4333. Communications Theory** Frequency spectra of time signals. Review of Fourier series and transforms. Signal mixing, modulation, and demodulation. AM and FM broadcasting techniques and bands. Pulsed and digital communication modes. Prerequisite, C or better in EE 3353 and EE 3403. Dual listed as EE 5333. Demand.

**EE 4321. Electrical Machinery Laboratory** Experiments dealing with motor, generators, transformers, and associated measurements and controls. Prerequisite, C or better in ENGR 2421. Corequisite, EE 4323. Demand.

**EE 4323. Electrical Machinery** Introduction to the analysis and design of electromechanical energy conversion systems, magnetic circuit theory, general transformer and machinery theory, and DC and AC motors and generators. Prerequisite, C or better in EE 3313 or ENGR 3473, and ENGR 3423. Dual listed as EE 5323. Demand.

**EE 4344.**  Embedded SystemsA microcomputer and programmable logic controller course for junior and senior level engineers. A survey of small computers and their engineering functions including control, sensing, and computation. The concept of using control programming languages is introduced. Prerequisites, C or better in EE 3333 and EE 3401, or consent of instructor. Dual listed as EE 5344. Demand.

**EE 4353. Power Systems** Generation, transmission, and distribution of large scale electrical power, associated energy losses and practical design problems and complications. Transmission line analysis. Three phase power networks. Load monitoring and control. Prerequisite, C or better in EE 3313 and ENGR 3423. Corequisite, MATH 4403. Dual listed as EE 5353. Demand.

**EE 4373. Electronics II** A continuation of EE 3403 with emphasis on the analysis, simulation, and design of feedback, operational amplifier systems, frequency response, integrated circuits, and power and waveshaping circuits. Prerequisite, C or better in EE 3313, ENGR 3443, and EE 3403. Dual