Code #EN22 (2014)

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

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**2.Proposed Change**

* Change name of Course EE 4303 Engineering Field and Waves II to EE 4303 Electromagnetic Waves.
* Course Description
	+ Old Description: Study of electromagnetic waves in free space, dielectrics, and conductors, transmission lines, polarization, reflection, refraction, diffraction, waveguides, resonators, antennas, and radiation.
	+ New Description: Study of time harmonic electromagnetic wave interaction with materials including energy and momentum, polarization, reflection, refraction, waveguides, radiation, and scattering.
* Prerequisite change
	+ Old Prerequisites, C or better in MATH 4403 and EE 3343.
	+ New Prerequisite, C or better in EE 3343 or PHYS 2044, and MATH 4403.

**3.Effective Date**

8/1/2015

**4.Justification**

The updated version of the course will cover electromagnetic waves using a modern approach from first principles. It is intended for students with an introduction to field theory (EE EE43 or PHYS 2044) and a working knowledge of differential equations (MATH 4403). Since electromagnetic waves are in involved in multidisciplinary applications in engineering, EE 4303 Electromagnetic Waves will be accessible to students across multiple disciplines. Addition of the alternate physics prerequisite (PHYS 2044) will allow students in mechanical engineering, physics, math, etc. to enroll in the course.

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**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~~ Electromagnetic Waves** ~~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.~~Study of time harmonic electromagnetic wave interaction with materials including energy and momentum, polarization, reflection, refraction, waveguides, radiation, and scattering. Prerequisites, C or better in (EE 3343 or PHYS 2044) and MATH 4403. Dual listed as EE 5303. Spring, odd.

**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.