

### ECEn 443. Communication and Power Circuits

<b>Catalog Description:</b>	<b>ECEn 443. Communication and Power Circuits. (4:3:3) W</b> Introduction to amplitude modulation, frequency modulation, and phase modulation circuits. Modulators, mixers, detectors, and the phase-locked loop. Power amplifier stage and oscillator design.	
<b>Course Type:</b>	Engineering Topics	
<b>Prerequisites:</b>	ECEn 313, 317	
<b>Textbooks and/or other required materials</b>	D. J. Comer and D. T. Comer, <i>Advanced Electronic Circuit Design</i> , John Wiley and Sons, New York, 2002 Supplemental handout: Noise in Electronic Circuits--Notes	
<b>Topics Covered:</b>	Amplitude modulation, frequency modulation, and phase modulation circuits. Modulators, mixers, detectors, and the phase-locked loop. Power amplifier stage and oscillator design.	
<b>Course Competencies:</b>	Ability to use differential calculus for circuit optimization.	Outcome 1
	Ability to apply probability theory to noisy circuits.	Outcome 1
	Ability to conduct lab experiments with electronic communication circuits.	Outcome 2
	Ability to design mixers, modulators, and power stages.	Outcome 3
	Ability to write lab reports.	Outcome 7
	Ability to use Spice.	Outcome 11
<b>Schedule:</b>	Lectures: One hour MWF Laboratory: One hour per week TA Recitations: (None)	
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<b>Date:</b>	June 24, 2008	