

ECEn 443. Communication and Power Circuits

Catalog Description:	ECEn 443. Communication and Power Circuits. (4:3:3) W Introduction to amplitude modulation, frequency modulation, and phase modulation circuits. Modulators, mixers, detectors, and the phase-locked loop. Power amplifier stage and oscillator design.	
Course Type:	Engineering Topics	
Prerequisites:	ECEn 313, 317	
Textbooks and/or other required materials	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	
Topics Covered:	Amplitude modulation, frequency modulation, and phase modulation circuits. Modulators, mixers, detectors, and the phase-locked loop. Power amplifier stage and oscillator design.	
Course Competencies:	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
Schedule:	Lectures: One hour MWF Laboratory: One hour per week TA Recitations: (None)	
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