



## H-Form ECE 445

A Brief Course Description			
<b>College</b>	Engineering		
<b>Department/ Program</b>	Electrical Engineering – Electronics Engineering Program		
<b>Course Name</b>	Analog Integrated Circuits		
<b>Course Code</b>	ECE 445		
<b>Year / Level</b>	5/9		
<b>Credit Hours</b>	3		
<b>Contact Hours</b>	Lecture: 3	Lab/Tutorial: 0	Training: 0
<b>Language</b>	English		
<b>Track</b>	<input type="checkbox"/> University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Program		
	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective		
<b>Pre-requisites Course</b>	ECE 341		
<b>Co-Requests</b>	-		
<b>Course Description</b>	<p>Practice of integrated circuit design. Discrete vs Integrated circuits. Classes of chip design, chip partitioning, and architecture; Mixed mode integrated circuit devices and concepts. Advanced modeling and 2nd order effects of transistors and single stage amplifiers. Current mirrors and sources. Voltage and current references. Design of transconductance amplifier. Design of input stages, differential pairs, active loads, gain stages and level shifting. Output stages, power dissipation. Analysis and design of typical Op-Amp circuits.</p>		