

## ECEn 124. Introduction to Computing Systems

<b>Catalog Description:</b>	<b>ECEn 124. (ECEn-CS) Introduction to Computing Systems. (3:3:2) F, W, Sp, Su</b> How a computer works, from hardware to high-level programming: logic circuits, computer instructions, assembly language, binary arithmetic, C programming, program translation, data structures, algorithm analysis.	
<b>Course Type:</b>	Engineering Topics	
<b>Prerequisites:</b>	CS 142 or concurrent enrollment.	
<b>Textbooks and/or other required materials</b>	- Text: <i>Introduction to Computing Systems: From Bits &amp; Gates to C &amp; Beyond,</i> 2nd edition, by Yale N. Patt and Sanjay J. Patel - Online Lab Materials	
<b>Topics Covered:</b>	Basic transistors and gates, muxes, adders, arithmetic, machine organization, assembly and C programming, basic data structures.	
<b>Course Competencies:</b>	Ability to perform simple computations in binary	Outcome 1
	Ability to describe how a compiler translates C code to assembly	Outcome 1
	Ability to write machine code programs	Outcome 1
	Ability to describe the operation of a computer at the micro-architectural level	Outcome 3
	Ability to program in C	Outcome 11
	Ability to program in assembly	Outcome 11
<b>Schedule:</b>	Lectures: One hour MWF Laboratory: (None) TA Recitations: (None)	
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<b>Date:</b>	April 15, 2008	