

ECEn 224. Fundamentals of Digital Systems

Catalog Description:	ECEn 224. (ECEn-CS) Fundamentals of Digital Systems. (3:3:2) F, W, Su Digital logic: theory, design, and implementation of combinational and sequential logic. Laboratory experience in construction of digital logic circuits.	
Course Type:	Engineering Topics	
Prerequisites:	ECEn 124	
Textbooks and/or other required materials	<i>Designing Digital Systems</i> , by Brent Nelson	
Topics Covered:	<ol style="list-style-type: none"> 1. Boolean algebra 2. Logic optimization (including K-maps) 3. Logic implementation with gates 4. Sequential logic (flip-flops, latches) 5. State machine design 6. Simple timing analysis 	
Course Competencies:	Ability to design, minimize, and analyze a combinational network.	Outcome 1
	Ability to design and analyze a sequential network.	Outcome 1
	Ability to design and test a digital system that includes I/O, state machines and combinational networks	Outcome 3
	Ability to design major components of a simple microprocessor.	Outcome 3
	Ability to use schematic capture tools.	Outcome 11
Schedule:	Lectures: MWF, 1-2pm Laboratory: T, 3-6pm (section 1) or W, 3-6pm (section 2) TA Recitations: N/A	
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