

ECEn 427. Embedded Systems

Catalog Description:	ECEn 427. Embedded Systems. (4:3:3) F Interfacing digital hardware components to an embedded system processor. Developing the hardware-software interface. Developing application software. Using C and assembly language in device-driver design, monitor-debugger, and real-time kernel.	
Course Type:	Engineering Topics	
Prerequisites:	ECEn 320, ECEn-CS 324	
Textbooks and/or other required materials	All materials are online and accessible from the web.	
Topics Covered:	Processor interfaces, busses (coreconnect), DMA, addressing, video, GPIO, sound generation.	
Course Competencies:	Ability to design a bus-based digital I/O device.	Outcome 1
	System design project integrating custom bus-based digital I/O device.	Outcome 1
	Ability to interface to a processor or I/O bus.	Outcome 3
	Ability to read and interpret device specifications (data sheets) in order to integrate a device within a microprocessor based system.	Outcome 3
	Ability to use DMA for a high-bandwidth I/O device.	Outcome 11
Schedule:	Lectures: One hour MWF Laboratory: Open TA Recitations: One hour per week.	
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