

Class		Date	Topic	HW (due typically a week after assignment)	Lab Topics (Fridays)
1	T	26-Jan	Introduction and overview		
2	R	28-Jan	The nature of HW and SW, general purpose embedded cores	HW 1	Linux tutorial
3	T	2-Feb	The ARM architecture		
4	R	4-Feb	Lab 1: system simulation, QEMU, Linux		(Lab1) QEMU, rootfs, busybox
5	T	9-Feb	RTOS I: introduction, scheduling algorithms		
6	R	11-Feb	RTOS II: device drivers and kernel modules		QEMU and Linux review
	T	16-Feb	<i>Monday Schedule (no EC535)</i>		
7	R	18-Feb	Lab 2: device drivers and kernel modules		(Lab2) Device driver examples
8	T	23-Feb	RTOS III: inter-process communication, synchronization, device drivers, and an RTOS exercise		
9	R	25-Feb	Metrics of performance and cost	HW 2	Instruction-level simulation review
10	T	2-Mar	System energy management		
11	R	4-Mar	Embedded system modeling and dataflow		Dataflow review
12	T	9-Mar	Lab 3: kernel modules and asynchronous notification		
13	R	11-Mar	Dataflow in software and hardware		(Lab3) Asynchronous notification
14	T	16-Mar	Communication in embedded systems (on-chip buses, memory-mapped interfaces)		
	R	18-Mar	<i>Wellness day, no classes</i>		No lab session
15	T	23-Mar	Communication and memory: I2C, memory technologies & management	HW3	
16	R	25-Mar	Lab 4: Device drivers on hardware and more		Lab 4 review
17	T	30-Mar	Software, debugging, verification		
18	R	1-Apr	Software, debugging (conf'd) and a debug/profile exercise		Debugging and optimization
19	T	6-Apr	ASIPs and embedded system optimization		
20	R	8-Apr	Lab 5: Interrupt handling, Qt, and more		Lab 5 review
21	T	13-Apr	Lab 5 help session		
22	R	15-Apr	Secure Embedded Systems: Threat models; Memory (un-)safety; a kernel module security exercise.		Lab 5 help session
23	T	20-Apr	Secure Embedded Systems: Embedded systems security mechanisms; Trusted execution environments.		
24	R	22-Apr	Secure Embedded Systems: Crypto dos and don'ts; Hardware-backed security; Best practices in deploying embedded systems	HW4	Secure embedded systems and HW4
25	T	27-Apr	Lab 5 Demos		
26	R	29-Apr	Final Exam Review		Exam help session
		5-May	Final Exam: 9am-11am (ONLINE)		

**Schedule is subject to change. Check Blackboard for the latest version.*