ME210 Course Syllabus — Winter 2026

Lecture		Date	Reading (to be completed before the lecture)	Out	Due
Lecture/Lab Calendar					
0 **Course Intro** **What is Mechatronics?**	Tue	1/6/26	Chapter 1: *Introduction* Chapter 2: *What's a Micro?* Chapter 3: *Microcontroller Math & Number Manipulation*	Lab 0	
1 **Event Driven Programming** **Basic Circuits (View/Review Online)**	Thu	1/8/26	Chapter 4: *Programming Languages* Chapter 5: *Programming Structures for Embedded Systems* Chapter 9: *Basic Circuit Analysis and Passive Components* Chapter 10: *Semiconductors*		
2 **Software Design,** **Modular Code**	Tue	1/13/26	Chapter 6: *Software Design*		
3 **Op-Amps**	Thu	1/15/26	Chapter 11: *Operational Amplifiers* Chapter 12: *Real Operational Amplifiers and Comparators*	Lab 1	Lab 0
4 **Sensors**	Tue	1/20/26	Chapter 13: *Sensors* Chapter 14: *Signal Conditioning*		Pre-Lab 1
5 **Digital Inputs**	Thu	1/22/26	Chapter 16: *Digital Inputs and Outputs*		
6 **Digital Outputs & Power Drivers**	Tue	1/27/26	Chapter 17: *Digital Outputs and Power Drivers*		
7 **DC Motors I**	Thu	1/29/26	Chapter 22: *Perm. Magnet DC Motor Characteristics* Chapter 23: *Perm. Magnet DC Motor Applications*	Lab 2	Lab 1
8 **DC Motors II,** **Brushless Motors**	Tue	2/3/26	Chapter 25: *Brushless DC Motors*	**Midterm**	Pre-Lab 2
9 **Stepper Motors** **Feedback Control?**	Thu	2/5/26	Chapter 26: *Stepper Motors*		**Midterm due Fri. 16:00**
10 **Project Organization** **& Planning**	Tue	2/10/26	Chapter 29: *Rapid Prototyping* Chapter 30: *Project Planning and Management*		
11 **Power Supplies & Batteries**	Thu	2/12/26	Chapter 20: *Voltage Regulators, Power Supplies, and Batteries*	**Project**	Lab 2

# / Topic	Day	Date	Description	Deliverable
12 **Design Review**	Tue	2/17/26	Come prepared to present your preliminary project design ideas	Preliminary Designs
13 **Noise, Grounding & Isolation**	Thu	2/19/26	Chapter 21: *Noise, Grounding and Isolation*	
14 TBD	Tue	2/24/26		
15 **A/D, D/A, Timers (View/Review Online)**	Thu	2/26/26	Chapter 8: *Microcontroller Peripherals* Chapter 19: *A-to-D and D-to-A Converters*	
16 **Other Micros**	Tue	3/3/26		
17 **Inter-Processor Communications** **Basic Closed Loop Control**	Thu	3/5/26	Chapter 7: *Inter-Processor Communications* Chapter 28: *Basic Closed Loop Control*	Project Preview
18 **Project Review**	Tue	3/10/26	Bring your finished project to class for an up-close review by the other members of the class and by the teaching staff	**Project** (Sunday)
19 **Course Review**	Thu	3/12/26		**Project Report** (Friday)

Lab Descriptions

Number	Material
Lab 0	Event-Driven Programming: The Cockroach
Lab 1	Analog Signal Conditioning
Lab 2	DC & Stepper Motors

Presentations

Prelim. Project Designs	Tuesday, 2026-02-17— in class 8-10 minute presentation per team
Project	Sunday, 2026-03-08 16:00 — Bldg. 550 Atrium Public presentations of ME210 final projects — guests are welcome!
Final Review	Tuesday, 2026-03-10— in-class brief presentations from each team on project outcome and lessons learned

Examinations

Midterm	Take-home, assigned in class on Tues. 2026-02-03, due on Fri. 2026-02-06 16:00