

Tentative Schedule of ME Technical Electives and Graduate Courses
(Course Offerings Subject to Instructor Availability and Student Demand)

Course	Title	Fall 2022	Spring 2023	Fall 2023	Spring 2024	Fall 2024	Spring 2025	Fall 2025	Spring 2026	Fall 2026	Spring 2027	Fall 2027	Spring 2028
ME 332	Engineering Materials II			X				X				X	
ME 353	Thermodynamics II												
ME 435/635	Plastics and Injection Molding Manuf.												
ME 436/636	Biopolymers and Biocomposites	X				X				X			
ME 437/637	Engineering Ceramics		X				X				X		
ME 468/668	Introduction to Biomechanics	X		X		X		X		X		X	
ME 469/669	Energy Storage Technology		X		X		X		X				
ME 470/670	Renewable Energy Technology	X		X		X		X		X		X	
ME 471/671	Experimental Stress Analysis												
ME 472/672	Fatigue & Fracture of Metals		X				X				X		
ME 473/673	Engineering with Polymeric Materials	X		X		X		X		X		X	
ME 474/674	Mechanics of Composite Materials		X		X		X		X		X		X
ME 475/675	Automatic Controls		X		X		X		X		X		X
ME 476/676	Mechatronics			X		X		X		X		X	
ME 477/677	ME Finite Element Analysis	X	X	X	X	X	X	X	X	X	X	X	X
ME 478/678	Advanced Flow Diagnostics	X		X		X		X		X			
ME 479/679	Fluid Power Systems Design	ABEN		ABEN		ABEN		ABEN		ABEN		ABEN	
ME 480/680	Biofluid Mechanics		X				X				X		
ME 481/681	Fundamentals of Energy Conversion				X				X				X
ME 482/682	Fuel Cell Science and Engineering	X						?					
ME 483/683	Intro. to Computational Fluid Dynamics		X		X		X		X		X		X
ME 484/684	Gas Turbines												
ME 485/685	Heating, Ventilation and Air Conditioning		X		X		X		X		X		X
ME 486/686	Nanotechnology & Nanomaterials		CEE		CEE		CEE		CEE		CEE		CEE
ME 487/687	Internal Combustion Engines	?		?		?		?		?		?	
ME 488/688	Introduction to Aerodynamics	X		X		X		X		X		X	
ME 489/689	Vehicle Dynamics		X		X		X		X		X		X

Approved Tech Electives from other Depts.

ABEN 456	Biobased Energy
CPM 473	Polymer Synthesis
CPM 474	Applied Polymer Science
CPM 475	Coatings' Materials Science
CPM 486	Corrosion & Materials
CSCI 485	Autonomous Command for Robots
ECE 461	Control Systems
ECE 463	Modern Controls
ECE 485	Biomedical Engineering
ECE 487	Cardiovascular Engineering
ECE 488	Cardiovascular Engineering II
ENGR 310	Entrepreneurship for Engrs & Scientists
ENGR 321	Introduction to Robotics
ENGR 379	Study Abroad
IME 380	CAD/CAM for Manufacturing
IME 430	Process Engineering
IME 431	Production Engineering
IME 432	Composite Materials Manufacturing
IME 433	Additive Manufacturing
IME 440	Engineering Economics
IME 450	Systems Engineering and Mgmt.
IME 460	Evaluation of Engineering Data
IME 465	Intro to Machine Learning
IME 485	Industrial & Mfg. Facility Design
PHYS 350	Modern Physics
PHYS 355	Classical Mechanics
PHYS 361	Electromagnetic Theory
PHYS 485	Quantam Mechanics I

Graduate Level Courses (ME 7XX)

Course	Title	Fall 2022	Spring 2023	Fall 2023	Spring 2024	Fall 2024	Spring 2025	Fall 2025	Spring 2026	Fall 2026	Spring 2027	Fall 2027	Spring 2028
ME 711	Advanced Engineering Analysis	X		X		X		X		X		X	
ME 712	Advanced Finite Element Analysis			X				X				X	
ME 717	Advanced Controls for Mech. Systems				X				X				X
ME 720	Continuum Mechanics		X				X				X		
ME 721	Advanced Dynamics			X				X				X	
ME 722	Advanced Mechanics of Materials	X				X				X			
ME 725	Adv Mech & Failure of Composites				X				X				X
ME 726	Fracture Mechanics				X				X				X
ME 728	Stress Waves in Solids												
ME 729	Advanced Vibrations	X				X				X			
ME 731	Mechanical Behavior of Materials	X				X				X			
ME 733	Polymer Nanocomposites			X				X				X	
ME 734	Smart Materials & Structures		X				X				X		
ME 736	Advanced Surface Analysis				X				X				X
ME 743	Biomechanics of Impact		?				?						
ME 751	Advanced Thermodynamics			X				X				X	
ME 753	Gas Dynamics	X				X				X			
ME 754	Boundary Layer Theory				X				X				X
ME 755	Fluid Mechanics for Bio/Nanotechnologies				X				X				X
ME 761	Heat Transmission I		X				X				X		
ME 763	Advanced Transport Phenomena		X				X				X		

Courses Cross-Listed with other Departments

ME 435/635	Plastics & Polymer Processing in Manuf.
ME 479/679	Fluid Power Systems Design (ABEN)
ME 485/685	Heating, Vent. & Air Cond. (CME)
ME 486/686	Nanotech. & Nanomaterials (CE)
ME 720	Continuum Mechanics (CE)

Only THREE Technical Elective courses may be taken from outside the Mechanical Eng. Dept. Cross-listed courses must be taken with an ME prefix in order to count as in-department. If there is not an ME prefix available and the course is being offered by another department, contact the ME office for assistance.

Legend:

X = Planned offering
C = Offered but canceled
? = Tentative offering