

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

Course	Title	Fall 2023	Spring 2024	Fall 2024	Spring 2025	Fall 2025	Spring 2026	Fall 2026	Spring 2027	Fall 2027	Spring 2028	Fall 2028	Spring 2029
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 466/666	Basic Principles of Unmanned Vehicles												
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		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		X									
ME 483/683	Intro. to Computational Fluid Dynamics		X		X		X		X		X		X
ME 484/684	Gas Turbines					X		X		X		X	
ME 485/685*	Heating, Ventilation and Air Conditioning		X		X		X		X		X		X
ME 486/686	Nanotechnology & Nanomaterials		CCEE		CCEE		CCEE		CCEE		CCEE		CCEE
ME 487/687	Internal Combustion Engines	?		X		X		X		X		X	
ME 488/688	Introduction to Aerodynamics	X		X		X		X		X		X	
ME 489/689	Vehicle Dynamics		X		X		X		X		X		X

Graduate Level Courses (ME 7XX)

Course	Title	Fall 2023	Spring 2024	Fall 2024	Spring 2025	Fall 2025	Spring 2026	Fall 2026	Spring 2027	Fall 2027	Spring 2028	Fall 2028	Spring 2029
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	Viscous Fluid Flow		X				X				X		
ME 755*	Fluid Mechanics for Bio/Nanotechnologies		X				X				X		
ME 761	Advanced Heat Transfer				X				X				X
ME 762	Applied Multimode Heat Transfer					X			X				
ME 763	Advanced Transport Phenomena				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 321	Introduction to Robotics
ENGR 379	Study Abroad
ENGR 410	Entrepreneurship for Engrs & Scientists
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

Courses Cross-Listed with other Departments

ME 435/635	Plastics & Polymer Processing in Manuf.
ME 479/679	Fluid Power Systems Design (ABEN)
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.

* Asynchronous offerings available for the M. Engr Program. Classes follow the in-person schedule as listed.

Legend:

X = Planned offering

C = Offered but canceled

? = Tentative offering