UNIVERSITY OF SOUTHERN MAINE – Department of Engineering
Course Offering Plan - Fall 2020 to Summer 2025

Required courses

Course	F20	S21	F21	S22	F22	S23	F23	S24	F24	S25	Title	Cr.	Prerequisites	Coord.
EYE 112	x	x									Built Environment: Energy	3+	ENG 100 (co-req)	Davis
EGN 160	x		x		x		x		x		Intro to Programming: The C Language	4+	None	Lück
ITP 210	x	xs	x	xs	x	xs	x	xs	x	xs	Technical Writing	3	ENG 100	tech
EGN 248	x	x	x	x	x	x	x	x	x	x	Intro to Diff-Eq and Linear Algebra	4	MAT 153	Davis
EGN 301		x		x		x		x		x	Junior Design Proj, the Eng Profession	3	ITP 210, THE 170, advisor permission	Davis
EGN 304		x		x		x		x		x	Engineering Economics	3	MAT 152	Ghorashi
EGN 402	x	xs	x	xs	x	xs	x	xs	x	xs	Senior Design Project	3	EGN 301, Ethics, instr. perm.	all
ELE 216	x	c	x	c	x	c	x	c	x	c	Circuits I: Steady-State Analysis	3	MAT 153, PHY 123	Lück
ELE 217		xs		xs		xs		xs		xs	Circuits II: System Dynamics	3	ELE 216, (EGN 248, ITP 210: co-reqs)	Lück
ELE 219		xs		xs		xs		xs		xs	Circuits Laboratory	1	ELE 217 (co-req)	Lück
ELE 323	x		x		x		x		x		Electromechanical Energy Conversion	3	ELE 217, ITP 210	Lück
ELE 172	x	c	x	c	x	c	x	c	x	c	Digital Logic	3	MAT 145	Jankowski
ELE 179	x	c	x	c	x	c	x	c	x		Digital Logic Laboratory	1	ELE 172 (co-req)	Jankowski
ELE 262		x		x		x		x		x	Physical Electronics	3	CHY 113, ELE 217 (co-req)	Guvench
ELE 271		x		x		x		x		x	Microprocessor Systems	4+	ELE 172, EGN 160	Lück
ELE 314	x		x		x		x		x		Linear Signals and Systems*	3	ELE 217, EGN 248	Jankowski
EGN 325		x		x		x		x		x	Control Systems*	3	ELE 217, EGN 248	Lück
EGN 329		x		x		x		x		x	Electromech. & Control Systems Lab	1	ELE 323, ELE 219, EGN 325 (co-req)	Lück
ELE 342	x		x		x		x		x		Electronics I: Devices and Circuits*	4+	ELE 217, ELE 219, ELE 262	Guvench
ELE 343		x		x		x		x		x	Electronics II: Electronic Design	4+	ELE 342	Guvench
ELE 351	x		x		x		x		x		Electromagnetic Fields*	3	ELE 217, MAT 252, EGN 248	Smith
ELE 486		x		x		x		x		x	Digital Signal Processing	3	EGN 160, ELE 314	Jankowski
ELE 489		x		x		x		x		x	Analog and Digital Signals Laboratory	1	ELE 219, ELE 486 (co-req)	Jankowski
MEE 150	x	x	x	x	x	x	x	x	x	x	Applied Mechanics: Statics	3	MAT 152, PHY 121	Ghorashi
MEE 230	c	x	c	x	c	x	c	x	c	x	Thermodynamics I: Laws and Properties	3	MAT 153, PHY 121	Eaton
MEE 251	x	c	x	c	x	c	x	c	x	c	Strength of Materials	3	MEE 150, MAT 153	Davis
MEE 259	x		x		x		x		x		Statics and Strength of Materials Lab	1	MEE 251 (co-req)	Davis
EGN 260	x		x		x		x		x		Materials Science for Engineers	3	CHY 113, MAT 153, PHY 123	Lanba
MEE 270		x		x		x		x		x	Applied Mechanics: Dynamics	3	MEE 150, MAT 252 (co-req)	Davis
MEE 331	x		x		x		x		x		Thermodynamics II: Flows and Cycles	3	MEE 230	Eaton
MEE 339	x		x		x		x		x		Thermodynamics Laboratory	1	MEE 331 (co-req)	Davis
MEE 360	x		x		x		x		x		Fluid Mechanics	3	MEE 270, EGN 248, MAT 252	Davis
MEE 372		x		x		x		x		x	Computer-Aided Design of Mach Elem	4+	MEE 251, MEE 259	Ghorashi
MEE 373	x		x		x		x		x		Design of Machines and Mechanisms	4+	MEE 270, EGN 248, EGN 160, MAT 252	Ghorashi
MEE 374		x		x		x		x		x	Theory and Applications of Vibrations*	3	EGN 248, EGN 260 or ELE 262	Ghorashi
MEE 379		x		x		x		x		x	Dynamics and Vibrations Laboratory	3	MEE 270, MEE 259, MEE 374 (co-req)	Ghorashi
MEE 432		x		x		x		x		x	Heat Transfer	3	MEE 230, MEE 360	Eaton
MEE 439		x		x		x		x		x	Fluid Mech. and Heat Transfer Lab	1	MEE 339, MEE 432 (co-req)	Davis

Technical elective courses

Course	F20	S21	F21	S22	F22	S23	F23	S24	F24	S25	Title	Cr.	Prerequisites	Coord.
EGN 317			x			x					Introduction to Robotics	3+	EGN 160, EGN 248	Lück
EGN 321p				x				x			Plasma Engineering	3+	PHY 123, EGN 248	Maxworth
EGN 446		x				x					Micro Electromechanical Systems	3+	ELE 217, ELE 262 or EGN 260	Guvench
EGN 481				x				x			Statistics for Manufacturing	3+	MAT 380	Davis
ELE 327	x			x						x	Energy and Power Systems	3+	ELE 323	Lück
ELE 312p						x					Pattern Recog. & Machine Learning	3+	EGN 248	Jankowski
MEE 352		x									Introduction to Composites	3+	EGN 260	Lanba
MEE 322p		x				x					Spacecraft Systems Engineering	3+	ELE 217	Eaton
ELE 367	x			x				x			Optoelectronics	3+	ELE 217, ELE 262	Guvench
ELE 452p				x				x			Antennas	3+	ELE 351	Maxworth
ELE 483		x				x				x	Communications Engineering	3+	ELE 314	Maxworth
ELE 487						x				x	Digital Image Processing	3+	EGN 160, ELE 314	Jankowski
MEE 332p		x		x				x			Combustion Engineering	3+	MEE 230	Eaton
MEE 353	x		x			x					Applied Stress Analysis	3+	EGN 248, EGN 260, MEE 251, MEE 259	Ghorashi
MEE 354p		x		x						x	Adv. Material Behavior, Testing & Proc.	3+	EGN 260, MEE 251	Lanba
MEE 356		x				x					The Finite Element Method	3+	EGN 160, EGN 248, MEE 251	Lanba
MEE 463			x			x					Aerodynamics	3+	MEE 360	Davis
MEE 472				x						x	Ship Dynamics and Structural Design	3+	MEE 251, MEE 259, MEE 360	Ghorashi
EGN 403	x	xs	x	xs	x	xs	x	xs	x	xs	Advanced Design Project	3	≥ B in EGN 402, instr. perm.	
EGN 497	x	xs	x	xs	x	xs	x	xs	x	xs	Independent Study	3	Instructor permission	

Engineering tool series

Course	F20	S21	F21	S22	F22	S23	F23	S24	F24	S25	Title	Cr.	Prerequisites	Coord.
EGN 181	x		x		x		x		x		Engineering Tools: *Mathematica*	1		Jankowski
EGN 182	x		x		x		x		x		Engineering Tools: *SolidWorks*	1		Davis
EGN 183			x								Engineering Tools: *LabView*	1		Guvench
EGN 184											Engineering Tools: Industrial Power	1		Eaton
EGN 185											Engineering Tools: C++ programming	1		Lanba
EGN 186		x		x		x		x		x	Engineering Tools: *MATLAB*	1		Davis
EGN 187	x		x		x		x		x		Engineering Tools: Circuit Simulation	1		Maxworth
EGN 188		x		x		x		x		x	Engineering Tools: Materials Processing	1	EGN 182	Seeley
EGN 189											Enginering Tools: tba	1		

Co-requisites are automatic prerequisites for subsequent courses.

* Major-specific course available to other majors as a technical elective.

x: regular offering; may be offered in other semesters, contingent upon enrollment.

s: offered also in the summer

c: an equivalent may be offered at SMCC.

+: Includes an additional contact hour for an integrated laboratory component.

p: permanent course number after being offered initially as EGN 498.

Revised: 4/1/2021