



Mechanical and Industrial Engineering Curriculum



مركز الجودة
Quality Center

Mechanical Power

Fall Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	-
MATH 105	Differential Calculus	3	(3,1,0)	-
GE 101	Fundamentals of Engineering Technology	2	(1,0,2)	-
GE 102	Fundamentals of Engineering Drawing	3	(1,0,4)	-
GE 103	Engineering Mechanics (Statics)	3	(3,1,0)	-
PHY 103	General Physics	4	(3,1,2)	-
		17		

Spring Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MATH 106	Integral Calculus	3	(3,1,0)	MATH 105
MATH 107	Algebra and Analytical Geometry	3	(3,1,0)	-
ME 111	Mechanical Measurements	2	(1,1,2)	GE 101
ME 121	Mechanical Engineering Drawing	3	(1,0,4)	GE 102
GE 108	Engineering Mechanics (Dynamics)	3	(3,1,0)	GE 103
GE 105	Engineering Chemistry	3	(3,1,0)	-
		17		

Fall Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	-
MATH 204	Differential Equations	3	(3,1,0)	MATH 106 MATH 107
ME 212	Manufacturing Processes	3	(2,1,2)	GE 101
ME 251	Material Engineering	3	(2,1,2)	GE 103
ME 243	Machine Dynamics	3	(3,1,0)	GE 108
ME 231	Thermodynamics I	3	(3,1,0)	-
		17		

Spring Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
EE 210	Electrical and Electronic Circuits	3	(3,1,0)	-
STAT 201	Statistics and Probability	3	(3,1,0)	-
ME 222	Machine Elements Design	3	(2,1,3)	ME 121 ME 232
ME 232	Mechanics of Materials	3	(3,1,0)	ME 251
ME 242	Mechanical Vibrations	3	(3,1,0)	ME 243
ME 252	Thermodynamics II	2	(2,1,0)	ME 231
		17		

Fall Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	-
GE 306	Engineering Report Writing	2	(2,0,0)	STAT 201
ME 323	Mechanical Design	3	(2,1,3)	ME 222
ME 343	System Dynamics	2	(2,1,0)	ME 242
ME 353	Fluid Mechanics	4	(3,1,2)	ME 252
EE 398	Electrical Machines	2	(2,1,0)	EE 210
CEN 307	Computer Programming for Mechanical Engineering	3	(2,0,2)	-
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Spring Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	-
MATH 254	Numerical Methods	3	(3,1,0)	MATH 204
ME 344	Automatic Control	2	(2,1,0)	ME 343 ME 353
ME 354	Heat Transfer	3	(3,1,0)	ME 353
ME 355	Refrigeration & Air conditioning	3	(2,1,2)	Cor. ME 354
ME 356	Turbulent flow	3	(3,1,0)	ME 353
ME 357	Membrane Desalination Processes	2	(2,1,0)	Cor. ME 354
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ME 399	Engineering Practice	0
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Fall Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	-
GE 407	Engineering Economy	2	(2,1,0)	-
ME 458	Turbo Machines	3	(3,1,0)	ME 356
ME 459	Internal Combustion Engines	3	(3,1,0)	ME 252
ME 46X	Elective (1)	3	(3,1,0)	XXX
ME 493	Mechanical Power Lab. (I)	1	(0,0,2)	ME 111
ME 498	Senior Design 1	2	(1,0,2)	-
		16		

Spring Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	-
GE 408	Engineering Project Management	2	(2,1,0)	GE 407
ME 460	Power Plants	3	(3,1,0)	ME 354
ME 46X	Elective (2)	3	(3,1,0)	XXX
ME 46X	Elective (3)	3	(3,1,0)	XXX
ME 494	Mechanical Power Lab. (2)	1	(0,0,2)	ME 493
ME 499	Senior Design 2	2	(1,0,2)	ME 498
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First Year

Second Year

Third Year

Fourth Year

Design and Production

First Year

Fall Semester				
Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
MATH 105	Differential Calculus	3	(3,1,0)	
GE 101	Fundamentals of Engineering Technology	2	(1,0,2)	
GE 102	Fundamentals of Engineering Drawing	3	(1,0,4)	
GE 103	Engineering Mechanics (Statics)	3	(3,1,0)	
PHY 103	General Physics	4	(3,1,2)	
		17		

Spring Semester				
Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MATH 106	Integral Calculus	3	(3,1,0)	MATH 105
MATH 107	Algebra and Analytical Geometry	3	(3,1,0)	
ME 111	Mechanical Measurements	2	(1,1,2)	GE 101
ME 121	Mechanical Engineering Drawing	3	(1,0,4)	GE 102
GE 108	Engineering Mechanics (Dynamics)	3	(3,1,0)	GE 103
GE 105	Engineering Chemistry	3	(3,1,0)	
		17		

Second Year

Fall Semester				
Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
MATH 204	Differential Equations	3	(3,1,0)	MATH 106 MATH 107
ME 212	Manufacturing Processes	3	(2,1,2)	GE 101
ME 251	Material Engineering	3	(2,1,2)	GE 103
ME 243	Machine Dynamics	3	(3,1,0)	GE 108
ME 231	Thermodynamics I	3	(3,1,0)	
		17		

Spring Semester				
Code	Course Title	Credit Hours	Contact Hours	Prerequisite
EE 210	Electrical and Electronic Circuits	3	(3,1,0)	
STAT 201	Statistics and Probability	3	(3,1,0)	
ME 222	Machine Elements Design	3	(2,1,3)	ME 121 ME 232
ME 232	Mechanics of Materials	3	(3,1,0)	ME 251
ME 242	Mechanical Vibrations	3	(3,1,0)	ME 243
ME 252	Thermodynamics II	2	(2,1,0)	ME 231
		17		

Third Year

Fall Semester				
Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
GE 306	Engineering Report Writing	2	(2,0,0)	STAT 201
ME 353	Fluid Mechanics	4	(3,1,2)	ME 252
ME 343	System Dynamics	2	(2,1,0)	ME 242
ME 323	Mechanical Design	3	(2,1,3)	ME 222
EE 398	Electrical Machines	2	(2,1,0)	EE 210
CEN 307	Computer Programming for Mechanical Engineering	3	(2,0,2)	
		18		

Spring Semester				
Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
MATH 254	Numerical Methods	3	(3,1,0)	MATH 204
ME 354	Heat Transfer	3	(3,1,0)	ME 353
ME 344	Automatic Control	2	(2,1,0)	ME 343 ME 353
ME 313	Material Removal Processes	3	(2,1,2)	ME 212 ME 232
ME 333	Materials Selection in Design and Manufacturing	3	(2,1,2)	ME 212 ME 232
ME 345	Fault Diagnosis of Mechanical Systems	2	(1,1,2)	ME 232 ME 343
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ME 399	Engineering Practice	0
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Fourth Year

Fall Semester				
Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
GE 407	Engineering Economy	2	(2,1,0)	
ME 424	Computer Aided Design	3	(2,0,3)	ME 323
ME 414	Metal Forming Processes	3	(2,1,2)	ME 212 ME 232
ME 43X	Elective (1)	3	(2,1,2)	ME 232
ME 491	Design and Production Lab (1)	1	(0,0,2)	ME 111
ME 498	Senior Design 1	2	(1,0,2)	
		16		

Spring Semester				
Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
GE 408	Engineering Project Management	2	(2,1,0)	GE 407
ME 415	Computer Aided Manufacturing	3	(2,1,2)	ME 212 ME 424
ME 42X	Elective (2)	3	(2,1,2)	ME 212 ME 323
ME 41X	Elective (3)	3	(2,1,2)	XXX
ME 492	Design and Production Lab (2)	1	(0,0,2)	ME 491
ME 499	Senior Design 2	2	(1,0,2)	ME 498
		16		

Industrial Engineering

First Year

Fall Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
MATH 105	Differential Calculus	3	(3,1,0)	
GE 101	Fundamentals of Engineering Technology	2	(1,0,2)	
GE 102	Fundamentals of Engineering Drawing	3	(1,0,4)	
GE 103	Engineering Mechanics (Statics)	3	(3,1,0)	
PHY 103	General Physics	4	(3,1,2)	
		17		

Spring Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MATH 106	Integral Calculus	3	(3,1,0)	MATH 105
MATH 107	Algebra and Analytical Geometry	3	(3,1,0)	
ME 111	Mechanical Measurements	2	(1,1,2)	GE 101
ME 121	Mechanical Engineering Drawing	3	(1,0,4)	GE 102
GE 108	Engineering Mechanics (Dynamics)	3	(3,1,0)	GE 103
GE 105	Engineering Chemistry	3	(3,1,0)	
		17		

Second Year

Fall Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
MATH 204	Differential Equations	3	(3,1,0)	MATH 106 MATH 107
ME 212	Manufacturing Processes	3	(2,1,2)	GE 101
ME 251	Material Engineering	3	(2,1,2)	GE 103
ME 243	Machine Dynamics	3	(3,1,0)	GE 108
ME 231	Thermodynamics I	3	(3,1,0)	
		17		

Spring Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
EE 210	Electrical and Electronic Circuits	3	(3,1,0)	
STAT 201	Statistics and Probability	3	(3,1,0)	
ME 222	Machine Elements Design	3	(2,1,3)	ME 121 ME 232
ME 232	Mechanics of Materials	3	(3,1,0)	ME 251
ME 242	Mechanical Vibrations	3	(3,1,0)	ME 243
ME 252	Thermodynamics II	2	(2,1,0)	ME 231
		17		

Third Year

Fall Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
GE 306	Engineering Report Writing	2	(2,0,0)	STAT 201
ME 353	Fluid Mechanics	4	(3,1,2)	ME 252
ME 343	System Dynamics	2	(2,1,0)	ME 242
ME 323	Mechanical Design	3	(2,1,3)	ME 222
EE 398	Electrical Machines	2	(2,1,0)	EE 210
CEN 307	Computer Programming for Mechanical Engineering	3	(2,0,2)	
		18		

Spring Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
MATH 254	Numerical Methods	3	(3,1,0)	MATH 204
ME 354	Heat Transfer	3	(3,1,0)	ME 353
ME 344	Automatic Control	2	(2,1,0)	ME 343 ME 353
ME 371	Industrial Operations Research I	3	(3,1,0)	MATH 107
ME 372	Quality Management	3	(3,1,0)	STAT 201
ME 373	Reliability & Maintenance Engineering	2	(2,1,0)	STAT 201
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ME 399	Engineering Practice	0
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Fourth Year

Fall Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
GE 407	Engineering Economy	2	(2,1,0)	
ME 474	Industrial Operations Research II	3	(3,1,0)	ME 371
ME 475	Computer Aided Design & Manufacturing	3	(2,1,2)	ME 212 ME 323
ME XXX	Elective (1)	3	(3,1,0)	XXX
ME 495	Work Study Lab	1	(0,0,2)	ME 111
ME 498	Senior Design 1	2	(1,0,2)	
		16		

Spring Semester

Code	Course Title	Credit Hours	Contact Hours	Prerequisite
MURE	University Requirement	2	(2,0,0)	
GE 408	Engineering Project Management	2	(2,1,0)	GE 407
ME 476	Industrial Operations Management	3	(3,1,0)	MATH 107
ME XXX	Elective (2)	3	(3,1,0)	XXX
ME XXX	Elective (3)	3	(3,1,0)	XXX
ME 496	Human Factors Engineering Lab	1	(0,0,2)	ME 495
ME 499	Senior Design 2	2	(1,0,2)	ME 498
		16		