

توزيع المقررات في التحول إلى الفصول الثلاثة للعام الدراسي 1444هـ

College Of Engineering. Program: Mechanical Engineering

Level (4): ME Program (General)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
MURE	MU Requirement	2	2	0	0	2	2	0	0	-----
MATH 105	Differential Calculus	3	3	1	0	3	3	1	0	-----
PHY 103	General Physics	4	3	1	2	4	3	1	2	-----
GE 102	Fundamentals of Engineering Drawing	3	1	0	4	3	1	0	4	-----
Total		12	9	2	6	12	9	2	6	
			17			17				

Level (5): ME Program (General)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
GE 101	Fundamentals of Engineering Technology	2	1	0	2	2	1	0	2	-----
GE 103	Engineering Mechanics (Statics)	3	3	1	0	3	3	1	0	-----
MATH 106	Integral Calculus	3	3	1	0	3	3	1	0	MATH 105
MATH 107	Algebra and Analytical Geometry	3	3	1	0	3	3	1	0	-----
Total		11	10	3	2	11	10	3	2	
			15			15				

Level (6): ME Program (General)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
MURE	MU Requirement	2	2	0	0	2	2	0	0	-----
GE 105	Chemistry	3	3	1	0	3	3	1	0	-----
GE 108	Engineering Mechanics (Dynamics)	3	3	1	0	3	3	1	0	GE 103
ME 111	Mechanical Measurements	2	1	1	2	2	1	1	2	GE 101
ME 121	Mechanical Engineering Drawing	3	1	0	4	3	1	0	4	GE 102
Total		13	10	3	6	13	10	3	6	
			19			19				

Level (7): ME Program (General)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
MATH 204	Differential Equations	3	3	1	0	3	3	1	0	MATH 106 & MATH 107
ME 212	Manufacturing Processes	3	2	1	2	3	2	1	2	GE 101
ME 251	Materials Engineering	3	2	1	2	3	2	1	2	GE 103
ME 231	Thermodynamics I	3	3	1	0	3	3	1	0	-----
Total		12	10	4	4	12	10	4	4	
			18			18				

Level (8): ME Program (General)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
MURE	MU Requirement	2	2	0	0	2	2	0	0	-----
ME 252	Thermodynamics II	2	2	1	0	2	2	1	0	ME 231
ME 243	Machine Dynamics	3	3	1	0	3	3	1	0	GE 108
ME 232	Mechanics of Materials	3	3	1	0	3	3	1	0	ME 251

EE 210	Electrical and Electronic Circuits.	3	3	1	0	3	3	1	0	-----
Total		13	13	4	0	13	13	4	0	
			17			17				

Level (9): ME Program (General)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
MURE	MU Requirement	2	2	0	0	2	2	0	0	-----
STAT 201	Statistics and Probability	3	3	1	0	3	3	1	0	-----
ME 222	Machine Elements Design	3	2	1	2	3	2	1	2	ME 121 & ME 232
ME 242	Mechanical Vibrations	3	3	1	0	3	3	1	0	ME 243
Total		11	10	3	2	11	10	3	2	
			15			15				

Level (10): ME Program (General)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
GE 306	Engineering Report Writing.	2	2	0	0	2	2	0	0	STAT 201
CEN 307	Computer Programming for Mechanical Engineering	3	2	0	2	3	2	0	2	-----
ME 323	Mechanical Design	3	2	1	2	3	2	1	2	ME 222
ME 353	Fluid Mechanics	4	3	1	2	4	3	1	2	ME 252
Total		12	9	2	6	12	9	2	6	
			17			17				

Level (11): ME Program (General)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
MURE	MU Requirement	2	2	0	0	2	2	0	0	-----
MATH 254	Numerical Methods	3	3	1	0	3	3	1	0	MATH 204
EE 398	Electrical Machines	2	2	1	0	2	2	1	0	EE 210
ME 343	System Dynamics	2	2	1	0	2	2	1	0	ME 242
ME 354	Heat Transfer	3	3	1	0	3	3	1	0	ME 353
Total		12	12	4	0	12	12	4	0	
			16			16				

MECHANICAL POWER TRACK

Level (12): ME Program (Mechanical Power)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
MURE	MU Requirement	2	2	0	0	2	2	0	0	-----
ME 344	Automatic Control	2	2	1	0	2	2	1	0	ME 343 & ME 353
ME 355	Refrigeration & Air Conditioning	3	2	1	2	3	2	1	2	ME 354
ME 356	Turbulent Flow	3	3	1	0	3	3	1	0	ME 353
ME 357	Membrane Desalination Process	2	2	1	0	2	2	1	0	ME 354
ME 493	Mechanical Power Lab (1)	1	0	0	2	1	0	0	2	ME 111
Total		13	11	4	4	13	11	4	4	
			19			19				



Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
ME 399	Engineering Practice	0	0	0	0	0	0	0	0	Track course

Level (13): ME Program (Mechanical Power)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
GE 407	Engineering Economy	2	2	1	0	2	2	1	0	-----
ME 458	Turbo Machines	3	3	1	0	3	3	1	0	ME 356
ME 459	Internal Combustion Engines	3	3	1	0	3	3	1	0	ME 252
ME 46X	Elective (1)	3	3	1	0	3	3	1	0	-----
ME 494	Mechanical Power Lab (2)	1	0	0	2	1	0	0	2	ME 493
ME 498	Senior Design (1)	2	1	0	2	2	1	0	2	GE 306
Total		14	12	4	4	14	12	4	4	
			20			20				

Level (14): ME Program (Mechanical Power)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
GE 408	Engineering Project Management	2	2	1	0	2	2	1	0	GE 407
ME 460	Power Plants	3	3	1	0	3	3	1	0	ME 354
ME 46X	Elective (2)	3	3	1	0	3	3	1	0	-----
ME 46X	Elective (3)	3	3	1	0	3	3	1	0	-----
ME 499	Senior Design (2)	2	1	0	2	2	1	0	2	ME 498
Total		13	12	4	2	13	12	4	2	
			18			18				

Elective courses (Mechanical Power Track)

	Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
				Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
Elect. (1)	ME 461	Applied fluid mechanics	3	3	1	0	3	3	1	0	ME 353
	ME 462	Biofluid mechanics	3	3	1	0	3	3	1	0	ME 353
	ME 463	Gas dynamics	3	3	1	0	3	3	1	0	ME 252
Elect. (2)	ME 464	Desalination plants	3	3	1	0	3	3	1	0	ME 357
	ME 465	Energy conversions	3	3	1	0	3	3	1	0	ME 354
	ME 466	Renewable energy	3	3	1	0	3	3	1	0	ME 354
Elect. (3)	ME 467	Ventilation and air-conditioning systems	3	3	1	0	3	3	1	0	ME 355
	ME 468	Applied heat transfer	3	3	1	0	3	3	1	0	ME 354
	ME 469	Modeling & Simulation of thermal systems	3	3	1	0	3	3	1	0	ME 354

Level (13): ME Program (Design & Production)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
GE 407	Engineering Economy	2	2	1	0	2	2	1	0	-----
ME 414	Metal Forming Processes	3	2	1	2	3	2	1	2	ME 212 & ME 232
ME 424	Computer Aided Design	3	2	0	3	3	2	0	3	ME 323
ME 43X	Elective (1)	3	2	1	2	3	2	1	2	-----
ME 492	Design & Production Lab (2)	1	0	0	2	1	0	0	2	ME 491
ME 498	Senior Design (1)	2	1	0	2	2	1	0	2	GE 306
Total		14	9	3	11	14	9	3	11	
			23			23				

Level (14): ME Program (Design & Production)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
GE 408	Engineering Project Management	2	2	1	0	2	2	1	0	GE 407
ME 415	Computer Aided Manufacturing	3	2	1	2	3	2	1	2	ME 212 & ME 424
ME 42X	Elective (2)	3	2	1	2	3	2	1	2	-----
ME 41X	Elective (3)	3	2	1	2	3	2	1	2	-----
ME 499	Senior Design (2)	2	1	0	2	2	1	0	2	ME 498
Total		13	9	4	8	13	9	4	8	
			21			21				

Elective courses (Design & Production)

	Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
				Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
Elect. (1)	ME 434	Powder metallurgy	3	2	1	2	3	2	1	2	ME 232
	ME 435	Composite materials	3	2	1	2	3	2	1	2	ME 232
	ME 436	Introduction to Nanomaterials	3	2	1	2	3	2	1	2	ME 232
	ME 437	Nondestructive examination of materials	3	2	1	2	3	2	1	2	ME 232
Elect. (2)	ME 425	Machine tool design	3	2	1	2	3	2	1	2	ME 212, ME 323
	ME 426	Design of production facilities	3	2	1	2	3	2	1	2	ME 212, ME 323
	ME 427	Product design and innovation	3	2	1	2	3	2	1	2	ME 212, ME 323
	ME 428	Tribology	3	2	1	2	3	2	1	2	ME 212, ME 323
Elect. (3)	ME 416	Welding technology	3	2	1	2	3	2	1	2	ME 212
	ME 417	Advanced manufacturing technology	3	2	1	2	3	2	1	2	ME 212
	ME 418	Computer integrated manufacturing	3	2	1	2	3	2	1	2	ME 212
	ME 419	Finite element method	3	2	1	2	3	2	1	2	ME 232, ME 424

Level (13): ME Program (Industrial Engineering)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
GE 407	Engineering Economy	2	2	1	0	2	2	1	0	-----
ME 474	Industrial Operations Research II	3	3	1	0	3	3	1	0	ME 371
ME 476	Industrial Operations Management	3	3	1	0	3	3	1	0	MATH 107
ME 4XX	Elective (1)	3	3	1	0	3	3	1	0	-----
ME 496	Human Factors Engineering Lab	1	0	0	2	1	0	0	2	ME 495
ME 498	Senior Design (1)	2	1	0	2	2	1	0	2	GE 306
Total		14	12	4	4	14	12	4	4	
			18			18				

Level (14): ME Program (Industrial Engineering)

Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
			Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
GE 408	Engineering Project Management	2	2	1	0	2	2	1	0	GE 407
ME 475	Computer Aided Design & Manufacturing	3	2	1	2	3	2	1	2	ME 475
ME 4XX	Elective (2)	3	3	1	0	3	3	1	0	-----
ME 4XX	Elective (3)	3	3	1	0	3	3	1	0	-----
ME 499	Senior Design (2)	2	1	0	2	2	1	0	2	ME 498
Total		13	11	4	4	13	11	4	4	
			19			19				

Elective courses (Industrial Engineering Track)

	Course Code	Course Title	Credits	2-Semesters Plan			Credits	3-terms Plan			Prerequisite
				Lecture	Tutorial	Lab./Prct.		Lecture	Tutorial	Lab./Prct.	
Elect. (1)	ME 477	Engineering design	3	3	1	0	3	3	1	0	GE 306
	ME 478	Industrial management	3	3	1	0	3	3	1	0	GE 306
	ME 479	Manufacturing economics	3	3	1	0	3	3	1	0	MATH 204
	ME 480	Industrial information systems	3	3	1	0	3	3	1	0	-----
	ME 481	Safety engineering	3	3	1	0	3	3	1	0	GE 101
Elect. (2)	ME 482	Industrial systems simulation	3	3	1	0	3	3	1	0	ME 474
	ME 483	Design & Analysis of experiments	3	3	1	0	3	3	1	0	STAT 101, ME 111
	ME 484	Industrial facilities planning	3	3	1	0	3	3	1	0	ME 495
Elect. (3)	ME 485	Occupational biomechanics (Ergonomics)	3	3	1	0	3	3	1	0	ME 495
	ME 486	Design of manufacturing systems	3	3	1	0	3	3	1	0	ME 475
	ME 427	Product design and innovation	3	2	1	2	3	2	1	2	ME 212, ME 323
	ME 418	Computer-integrated manufacturing	3	2	1	2	3	2	1	2	ME 212