

المقررات الدراسية لقسم ميكانيكا الطيران والقوى والانتاج
Academic Courses for Mechanic of Aeronautic, Power and Production
Engineering Department

Engineering Courses for all Sections

علوم هندسية أساسية لجميع الشعب

Second Year

Third Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Mathematics III	GS222	3	3	1	-	GS121
2	Engineering Workshop	GE244	2	1	-	2	-
3	Descriptive Geometry	GE243	2	2	1	-	GE142
4	Computer Science	GS228	3	2	-	2	-
5	Strength of Materials I	MGE221	3	3	1	-	GE140&GS131
6	Engineering Mechanics II	MGE224	3	3	1	-	GE140
			16				

Fourth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Mathematics IV	GS223	3	3	1	-	GS222
2	Technical Report Writing	GH218	1	1	1		
3	History and Culture...	GH214	2	3	-	-	
4	Mechanical Drawing	MGE211	2	1	-	2	GE142
5	Materials Science	MGE225	2	2	1	-	GS131
6	Materials Science Lab.	MGE225L	1	-	-	2	GS131
7	Fluid Mechanics I	MGE231	3	3	1	-	GS131&GS121
8	Theory of Machines I	MGE261	2	2	1	-	MGE224
			16				

Third Year

Fifth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Statistics & Probability	GS324	3	3	1	-	-
2	Basics of Electrical & Electronics Eng.	MGE380	3	3	1		
3	Thermodynamics I	MGE341	3	3	1	-	GS131&GS121
4	Machine Design I	MGE364	3	3	1	-	MGE211&MGE221
5	Production Engineering	MGE376	3	3	1	-	GE244
6	Engineering Economics	MGE315	2	2	1		
			17				

Sixth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Quality Management	MGE314	3	3	1		
2	Industrial Organization	MGE316	2	2	1		MGE315
3	Heat Transfer I	MGE343	3	3	1	-	GS222&MGE341
4	Automatic Control	MGE382	3	3	1	-	GS222&MGE224
5	Corrosion Engineering & Protection	MGE474	3	2	1	-	MGE225
6	Engineering Measurements	MGE385	2	2	1	-	MGE231&MGE341
			16				

شعبة هندسة ميكانيكا القوى
Mechanic Power Engineering Section

A. Compulsory Courses for Mechanic Power Engineering Section

المقررات الهندسية الملزمة لشعبة
هندسة ميكانيكا القوى

Fourth Year

Seventh Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Fluid Mechanics II	MPE432	2	2	1	-	MGE231
2	Thermodynamics II	MPE442	2	2	1	-	MGE341
3	Thermodynamics Laboratory	MPE442L	1	-	-	2	MGE341
4	Heat Transfer II	MPE444	2	2	1	-	MGE343
5	Heat Transfer Laboratory	MPE444L	1	-	-	2	MGE343
6	Theory of Machines II	MPE462	2	2	1	-	MGE261
7	Theory of Machines Laboratory	MPE 462L	1	-	-	2	MGE261
8	Mechanical Vibration	MPE463	2	2	1	-	MGE221
			13				

Eighth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Hydraulic Machines	MPE434	3	3	1	-	MPE432
2	Gas Dynamics	MPE445	2	2	1	-	MPE432 & MPE442
3	(Hyd. Mach.& Gas Dyn.) Lab.	MPE445L	1	-	-	2	-----
4	Internal Combustion Engines	MPE453	3	3	1	-	MGE343
5	(P.P. Eng.& I.C. Engines) Lab.	MPE455L	1	-	-	2	-----
6	Machine Design II	MPE465	2	2	1	-	MGE364
7	Maintenance Engineering	MPE475	3	3	1	-	MGE315
			15				

Fifth Year

Ninth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Renewable Energy	MPE546	3	3	1	-	MGE343
2	Refrigeration & Air Conditioning	MPE551	3	3	1	-	MPE442
3	Refrigeration & Air Cond. Lab.	MPE551L	1	-	-	2	-----
4	Power Plant Engineering	MPE555	2	2	1	-	MGE315 & MPE442
5	MPE Project: Seminar	MPE591	2	-	-	2	Min 126 units
6	Turbo Machines	MPE558	3	3	1	-	MPE442
			14				

Tenth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Computational Method in MPE	MPE533	3	3	1	-	MGE231&MPE44
2	Elective I	MPE580	3	3	1	-	-----
3	Sea water Des.	MPE554	3	3	1	-	MPE444&MPE442
4	ME Project II	MPE592	4	3	1	-	MPE592
			13				

B. Elective Courses for Mechanic Power Engineering Sectionلشعبة هندسة المقررات الهندسية الاختيارية
ميكانيكا القوى (يتم اختيار مقرر بـ 3 وحدات)

No.	Course Name	Designation	Units	عنوان المقرر
1.	Introduction to Railway Engineering	ME4	3	
2.	Aircraft Engine Design	MAE4	3	
3.	Solar Thermal Energy	MAE542	3	
4.	Fundamentals of Combustion	MAE542	3	
Total			3	إجمالي عدد الوحدات

**شعبة هندسة ميكانيكا الطيران
Mechanic Aeronautic Engineering Section****A. Compulsory Courses for Mechanic Aeronautic Engineering Section**المقررات الهندسية الملزمة لشعبة
هندسة ميكانيكا الطيران**Fourth Year**

Seventh Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Fundamental of Aeronautics	MAE450	3	3	1	-	GS222& MGE231
2	Theory of Flight	MAE460	2	2	1	-	MGE224 &MGE261
3	Heat Transfer II	MAE444	2	2	1	-	MGE343
4	Aircraft Vibration	MAE463	2	2	1	-	MGE224
5	Hydraulic Turbomachine	MAE458	3	2	1		MGE341&MGE231

6	Thermodynamics II	MAE442	2	2	1	-	MGE341
7	Thermal-Fluid Lab	MAE442I	1	-	-	2	MGE341&MEG231
			15				

Fifth Year

Ninth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Aircraft Structures I	MAE537	3	3	1		MAE427
2	Aircraft Performance	MAE567	2	2	1		MAE460
3	Aircraft Component Design and Assembly	MAE568	2	2	1		MAE460 & MAE463
4	MAE Project: Seminar	MAE591	2		1	1	Min. 126 Units
5	Aircraft Stability and control	MAE584	2	2	1		MAE483
6	Avionics	MAE513	2	2	1		MGE211
1	Aircraft Engines and Jet Propulsion	MAE453	3	3	1		MAE450 & MAE442
2	Fundamentals of Aircraft Electricity and Instruments	MAE483	3	3	1		MGE381 & MGE385
3	Flight Dynamics	MAE466	2	2	1		MAE450
4	Incompressible Flow	MA436	2	2	1		MGE231 & MAE442
5	Aero-Fluid Mechanics and Machinery Lab	MAE432 L	1			2	MAE450
6	Computational Method in MAE	MAE433	2	2	1	-	MAE450 & MAE442
7	Aircraft construction materials	MAE427	2	2	1	-	MGE225
			14				

Tenth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Aircraft Maintenance Systems	MAE575	3	3	1		MGE315&MAE567

2	Aircraft Structures II	MAE538	2	2	1	-	MAE537
3	Aerospace Structures Lab	MAE538L	1			2	MAE537
4	Elective I	MAE580	3	3	1		-----
4	MAE Project II	MAE592	4	4		2	MAE592
			13				

**B. Elective Courses for Mechanic
Aeronautic Engineering Section**

لشعبة هندسة المقررات الهندسية الاختيارية
ميكانيكا الطيران (يتم اختيار مقرر بـ 3 وحدات)

No.	Course Name	Designation	Units	عنوان المقرر
1.	Helicopter Theory	MAE542	3	
2.	Environmental Pollution	MAE542	3	
3.	Air-Breathing Propulsion	MAE5	3	
4.	Finite Element Method	MAE5	3	
Total			3	إجمالي عدد الوحدات

**A. Compulsory Courses for Mechanic Materials
Science & Production Engineering Section**

المقررات الهندسية الملزمة لشعبة
هندسة ميكانيكا علم المواد والإنتاج

Fourth Year

Seventh Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Strength of Materials II	MME422	2	2	1	-	MGE221
2	Strength of Materials Lab.	MME423	1	-	-	2	MGE221
3	Physical Metallurgy I	MME486	3	3	1		MGE225
4	Metallurgical Thermodynamics	MME440	2	2	1		MGE341
5	Production Engineering II	MME477	2	2	1		MGE376
6	Finite Element Methods	MME420	3	3	1		MGE231&M GE341
7	Mechanical Behaviour of Materials	MME428	2	2	1		MGE225
			15				

Eighth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Physical Metallurgy II	MME487	3	3	1		MME486
2	Extractive Metallurgy	MME488	2	2	1		MGE225 & MME440
3	Ceramic Materials	MME429	3	3	1		MME428
4	Engineering Alloys	MME421	3	2	1		MME486
5	Metallography Laboratory	MME489	1	-	-	2	MME486
6	Metal Cutting and Machining Technology	MME470	3	3	1		MGE376
			15				

Fifth Year

Fifth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Manufacturing Process Laboratory	MME571	1	-	-	2	MME477
2	Polymeric Materials	MME520	3	3	1		MGE225
3	Non Destructive Testing	MME510	3	3	1		-
4	Elective Course I	MME580	3	3	1		-
5	MME Project- Seminar	MME591	2				-
			12				

Tenth Semester Courses							
No	Course Name	Code	Units	Weekly Hours			Prerequisite
				Lecture	Tutorial	Practical	
1	Composite Materials	MME528	3	3	1		MGE225
2	Fracture Mech.& Failure Analysis	MME518	3	3	1		MME428
3	Welding Engineering	MME570	3	3	1		MME487
4	MME Project-Part II	MME592	4				-
			13				

B. Elective Courses for Mechanic Materials Science & Production Engineering Section

لشعبة المقررات الهندسية الاختيارية
هندسة ميكانيكا علم المواد والإنتاج
(يتم اختيار مقررب 3 وحدات)

No.	Course Name	Designation	Units	عنوان المقرر
1.	Nano-Materials	MME580	3	
2.	Solar Energy	MME580	3	
3.	Light Alloys	MME580	3	
4.	Principles of Heat Treatment	MME580	3	
5.	X-Ray Diffraction	MME580	3	
Total			3	إجمالي عدد الوحدات

