



Dhofar University

College of Engineering

**Department of Mechanical and Mechatronics
Engineering**

**Bachelor of Science in Mechanical Engineering
Plan of Study**

September 2025



Bachelor Study Plan

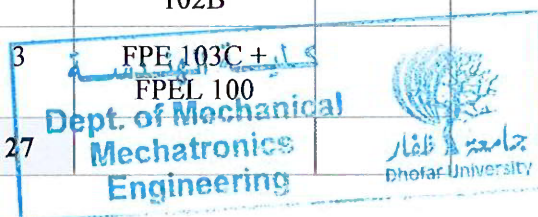
1- Program Statistics by Course Category

Course Category	No. of Courses	Credit Hours	Percentage of Total Credit Hours
University Requirements	9	27	19.57%
College Requirements	11	30	21.74%
Program Core Requirements	29	65	47.10%
Program Elective Courses	5	13	9.42%
General Elective Courses	1	3	2.17%
Total	55	138	100%

2- Classification of Requirements

2.1 University Requirements

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
ARAB 101	Academic Writing in Arabic	3	FPE 103C / FPEL 100	
ENGL 101	Basic Academic English	3	FPE 103C	
ENGL 102E	English for Engineering and Sciences I	3	ENGL 101	
ENGL 203E	English for Engineering and Sciences II	3	ENGL 102E / ENGL 102C	
ENGL 204	Advanced English for Academic Purposes and Research	3	ENGL 203E	
ENGL 305	Advanced English Language and Communication Skills	3	ENGL 204	
ENTR 200	Entrepreneurship: Innovation and Creativity	3	ENGL 203E	
MATH 199	Calculus I	3	FPE 103C + FPM 101A + FPM 102B	
SOCS 102	Omani Society	3	FPE 103C + FPEL 100	
Total Credits		27		



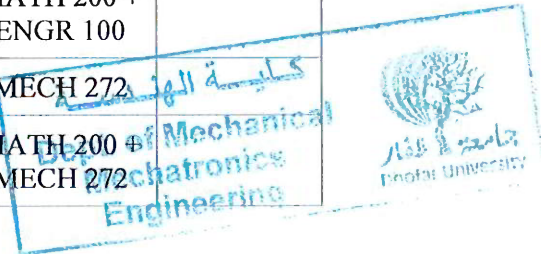
2.2 College Requirements

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
EECE 130	Computers and Programming I	3	FPE 103C + FPM 102B + FPT 102B	

ENGR 100	Introduction to Engineering	3	FPE 103C + FPM 102B + FPT 102B	
ENGR 105	Engineering Graphics	2	FPE 103C	
ENGR 110	Engineering Workshop	1	FPE 103C + FPM 101A + FPM 102B	
ENGR 300	Engineering Economy	3	ENGR 100 + MATH 199	
MATH 200	Calculus II	3	MATH 199	
MATH 205	Calculus III	3	MATH 200	
MATH 210	Differential Equations	3	MATH 200	
MATH 250E	Probability and Statistics	3	MATH 200	MATH 200
MATH 335	Mathematics for Science and Engineering	3	MATH 205 + MATH 210	
PHYS 170	Fundamentals of Physics I	3	MATH 199 / MATH 103	MATH 199
Total Credits		30		

2.3 Program Major (Compulsory) Requirements

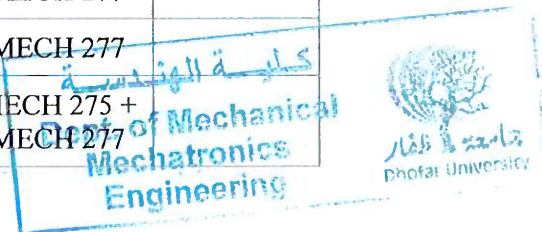
Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
CHEM 140	Chemistry I	3	FPE 103C + FPM 102B + FPT 102B	
CHEM 140L	Introductory Chemistry Laboratory	1	CHEM 140	CHEM 140
EECE 210	Electric Circuits I	3	PHYS 170	
EECE 210L	Electric Circuits Laboratory I	1	EECE 210	
MECH 270	Properties of Materials	3	ENGR 100	
MECH 270L	Solid Mechanics Laboratory	1	MECH 270	MECH 270
MECH 272	Mechanical Statics	3	PHYS 170 + ENGR 100 + MATH 199	
MECH 274	Mechanical Dynamics	3	MATH 200 + MECH 272	
MECH 274L	Mechanical Dynamics Laboratory	1	MECH 274	MECH 274
MECH 275	Thermodynamics	3	MATH 200 + ENGR 100	
MECH 276	Strength of Materials	3	MECH 272	
MECH 277	Fluid Mechanics	3	MATH 200 + MECH 272	



MECH 277L	Fluid Mechanics Laboratory	1	MECH 277	MECH 277
MECH 278	Manufacturing Processes	3	ENGR 100 + ENGR 110 + ENGR 105	
MECH 315L	Thermal Laboratory	1	MECH 371	MECH 371
MECH 371	Heat Transfer	3	MECH 275 + MECH 277	
MECH 372	Control Systems	3	MATH 210	
MECH 374	Instrumentation & Measurement	3	MATH 205 + EECE 210	
MECH 380	Dynamics of Machines	3	MECH 274	
MECH 385	Mechanical Design	3	MECH 276	
MECH 400	Practical Training	0		
MECH 401	Final Year Project I	0		
MECH 402	Final Year Project II	3	MECH 401	
MECH 413	Air Conditioning	3	MECH 275	
MECH 431	Mechanical Vibrations	3	MATH 210 + MECH 274	
MECH 442	Capstone Design	3	MECH 385	
PHYS 170L	Introductory Physics Laboratory	1	PHYS 170	PHYS 170
PHYS 210	Fundamentals of Physics II	3	PHYS 170 / MATH 200	MATH 200
PHYS 210L	Physics Laboratory II	1	PHYS 210	PHYS 210
Total Credits		65		

2.4 Program Elective Courses

Course Code	Course Title	Credit Hours	Prerequisite	Co-requisite
MECH 314	Fluid Power	3	MECH 277	MECH 277
MECH 410	PLC and Industrial Automation	3	MECH 374	
MECH 412	Internal Combustion Engines	3	MECH 275	
MECH 414	Gas Turbines	3	MECH 275 + MECH 277	
MECH 415	Steam Turbines	3	MECH 275 + MECH 277	
MECH 416	Fluids Engineering Application	3	MECH 277	
MECH 417	Thermal Power Plants	3	MECH 275 + MECH 277	



MECH 430	Mechatronics and Intelligent Machines Engineering	3	MECH 374	
MECH 444	Environmental Impacts of Energy Systems	3	ENGR 100	
MECH 450	Computer Applications in Mechanical Engineering	3	EECE 130 + MECH 431 + MECH 277 + MECH 371	
MECH 451	Finite Element Method	3	MATH 210 + MECH 279 + MECH 385	
MECH 453	Robotics	3	MECH 374	
MECH 454	Artificial Intelligence	3	MATH 335 + EECE 130	
MECH 455	Hydraulics	3	MECH 277	
MECH 490	Renewable Energy	3	MECH 275	
MECH 499	Special Topics in Mechanical Engineering	3		
MECH 413L	HVAC and Refrigeration Laboratory	1	MECH 413	
MECH 445L	Materials Analysis Laboratory	1	MECH 270 + MECH 278	
Total Credits		13		

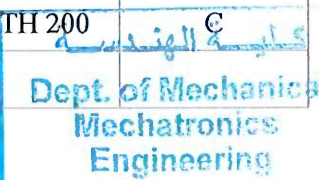
2.5 General Elective Courses

The student has to study one general elective course (3 credits).



3- Study Plan

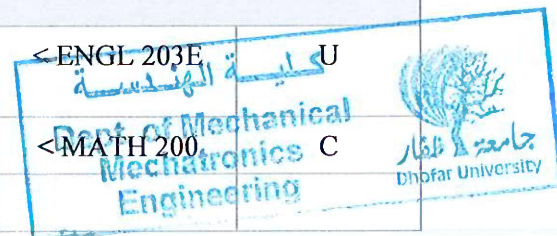
Year 1				
Course Code	Course Title	Credit Hours	Prerequisite/Co-requisite	University/College/Major/Elective requirements
<i>Fall</i>				
ENGL 101	Basic Academic English I	3	< FPE 103C	U
MATH 199	Calculus I	3	< FPE 103C + < FPM 101A + < FPM 102B	U
PHYS 170	Fundamentals of Physics I	3	<= MATH 199 + < MATH 103	C
PHYS 170L	Fundamental of Physics I Laboratory	1	<= PHYS 170	M
ARAB 101	Academic Writing in Arabic	3	< FPE 103C + < FPEL 100	U
SOCS 102	Omani Society	3	< FPE 103C + < FPEL 100	U
Total Credits		16		
<i>Spring</i>				
EECE 130	Computers and Programming I	3	< FPE 103C + < FPM 102B + < FPT 102B	C
ENGR 110	Engineering Workshop	1	< FPE 103C + < FPM 101A + < FPM 102B	C
ENGL 102E	English for Engineering and Sciences I	3	< ENGL 101	U
ENGR 100	Introduction to Engineering	3	< FPE 103C + < FPM 102B + < FPT 102B	C
MATH 200	Calculus II	3	< MATH 199	C
ENGR 105	Engineering Graphics	2	< FPE 103C	C
Total Credits		15		
<i>Summer</i>				
ENGL 203E	English for Engineering and Sciences II	3	< ENGL 102E	U
MATH 205	Calculus III	3	< MATH 200	C
Total Credits		6		



 Dept. of Mechanical Mechatronics Engineering



Year 2				
Course Code	Course Title	Credit Hours	Prerequisite/Co-requisite	University/College/Major/Elective requirements
<i>Fall</i>				
EECE 210	Electric Circuits I	3	< PHYS 170	M
EECE 210L	Electric Circuits Laboratory I	1	< EECE 210	M
MECH 270	Properties of Materials	3	< ENGR 100	M
MECH 272	Mechanical Statics	3	<ENGR 100 / < PHYS 170 + < MATH 199	M
PHYS 210	Fundamentals of Physics II	3	< PHYS 170 + <= MATH 200	M
PHYS 210L	Fundamentals of Physics II Laboratory	1	<= PHYS 210	M
MECH 278	Manufacturing Processes	3	<ENGR 100 +<ENGR 110 +<ENGR 105	M
MECH 270L	Solid Mechanics Laboratory	1	<= MECH 270	M
Total Credits		18		
<i>Spring</i>				
MECH 274	Mechanical Dynamics	3	< MECH 272+< MATH 200	M
MECH 274L	Mechanical Dynamics Laboratory	1	<= MECH 274	M
MECH 275	Thermodynamics	3	< ENGR 100 + < MATH 200	M
MECH 276	Strength of Materials	3	< MECH 272	M
MECH 277	Fluid Mechanics	3	< MECH 272 + < MATH 200	M
MECH 277L	Fluid Mechanics Laboratory	1	<= MECH 277	M
CHEM 140	Chemistry I	3	< FPE 103C + < FPM 102B + < FPT 102B	M
CHEM 140L	Chemistry I Laboratory	1	<= CHEM 140	M
Total Credits		18		
<i>Summer</i>				
ENTR 200	Entrepreneurship: Innovation and Creativity	3	< ENGL 203E	U
MATH 250 E	Probability and Statistics	3	< MATH 200	C
Total Credits		6		



Year 3				
Course Code	Course Title	Credit Hours	Prerequisite/Co-requisite	University/College/Major/Elective requirements
<i>Fall</i>				
ENGL 204	Advanced English for Academic Purposes and Research	3	< ENGL 203E	U
MATH 210	Differential Equations	3	< MATH 205	C
MECH 315L	Thermal Laboratory	1	<= MECH 371	M
MECH 371	Heat Transfer	3	< MECH 275 + < MECH 277	M
MECH 380	Dynamics of Machines	3	< MECH 274	M
MECH XXXL	Laboratory Major Elective	1		E
Total Credits		14		
<i>Spring</i>				
ENGR 300	Engineering Economy	3	< ENGR 100 + < MATH 199	C
MATH 335	Mathematics for Science and Engineering	3	< MATH 205 + < MATH 210	C
MECH 385	Mechanical Design	3	< MECH 276	M
MECH 374	Instrumentation and Measurements	3	< EECE 210 + < MATH 205	M
ENGL 305	Advanced English Language and Communication Skills	3	< ENGL 204	U
MECH XXX	Major Elective	3		E
Total Credits		18		
<i>Summer</i>				
MECH 400	Practical Training	0		M
Total Credits		0		



Year 4				
Course Code	Course Title	Credit Hours	Prerequisite/Co-requisite	University/College/Major/Elective requirements
<i>Fall</i>				
MECH 372	Control Systems	3	< MATH 210	M
MECH 401	Final Year Project I	0		M
MECH 413	Air Conditioning	3	< MECH 275	M
MECH 442	Capstone Design	3	< MECH 385	M
MECH XXX	Major Elective	3		E
Total Credits		12		
<i>Spring</i>				
MECH 402	Final Year Project II	3	< MECH 401	M
MECH 431	Mechanical Vibrations	3	< MECH 274 + < MATH 210	M
MECH XXX	Major Elective	3		E
CODE XXX	Course General Elective	3		E
MECH XXX	Course Major Elective	3		E
Total Credits		15		

Total Credits = 138

