Program Name: Mechanical Engineering	
Qualification Level: Bachelor of Science Degree	
Department: Mechanical Engineering	
College: Engineering	
Institution: Jouf University	

Program Study Plan (Regular Track)

مسار التدريب الميداني

Year	Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Co-Requisite Courses	Credit Hours (LT,LB,TU)	Type of requirements (Institution, College or Department)
		ENGL 001	English Language (1)	Required	-		6 (5,5,10)	University
	Level	MTH 101	Introductory Mathematics	Required	-		3 (2,0,2)	College
		CIS 101	Computer Skills	Required	-		3 (2,2,0)	University
	1	EDU 101	University Life Skills	Required	-		2 (2,0,0)	University
[ea]			Total Credit Hour	S	·		14 (11,5,12)	
First Year		ENGL 002	English Language (2)	Required	ENGL 001		6 (5,5,10)	University
F.		MTH 102	Differential Calculus	Required	MTH 101		3 (2,0,2)	College
	Level	CHM 103	Chemistry	Required	_		3 (2,2,0)	College
	2	CIS 102	Problem Solving and	•	CIS 101			College
	_	C1S 102	Programming	Required	C18 101	<u></u>	3 (2,2,0)	Conege
			Total Credit Hour		T		15 (11,9,12)	
		ISL 103	Islamic Economic System	Required			2 (2,0,0)	University
		ARB 100	Arabic language skills Engineering Drawing	Required	-		2 (2,0,0)	University
	Level 3	MEC 101 MEC 102	Engineering Drawing Engineering Design (1)	Required Required			2 (1,2,0) 3 (2,2,0)	College College
		MEC 103	Engineering Economy	Required	MTH 102		2 (2,0,0)	College
är		MTH 203	Integral Calculus	Required	MTH 102		3 (2,0,2)	College
Ye		PHS 101	General Physics (1) Total Credit Hour	Required	-		4 (3,2,0)	College
Second Year				18 (14,6,2)				
000	Level 4	ISL 107	Professional Ethics	Required	-	_	2 (2,0,0)	University
Š		MEC 104 MEC 105	Engineering Design (2) Basics of Engineering Technology	Required Required	MEC 102 MEC 101		2 (1,2,0) 2 (1,2,0)	College College
		MTH 204	Advanced Calculus	Required	MTH 203	 	3 (2,0,2)	College
		MTH 281	Statistics and Probability	Required	MTH 203	 	3 (2,0,2)	College
		PHS 202	General Physics (2)	Required	PHS 101		4 (3,2,0)	College
			Total Credit Hour			16 (11,6,4)		
		ARB 102	Writing Skills	Required	-		2 (2,0,0)	University
		ELE 261	Elect. & Electronic Circuits	Required	PHS 202		2 (2,0,1)	Department
	Level	ISL 10x MEC 211	University Elective (1) Materials Engineering	Elective Required	PHS 202		2 (2,0,0) 3 (2,0,2)	University Department
	5	MEC 212	Materials Engineering Lab	Required	-	MEC 211	1 (0,2,0)	Department
		MEC 231	Statics	Required	MTH 203		3 (2,0,2)	Department
ear		MTH 305	Differential Equations	Required	MTH 204		3 (2,0,2)	College
ırd Year		Total Credit Hours					16 (12,2,7)	
ird		ISL 10x	University Elective (2)	Elective	-		2 (2,0,0)	University
Thi		MEC 213	ME Drawing & Graphics	Required	MEC 101		3 (2,2,0)	Department Department
	Level	MEC 214 MEC 215	Mechanics of Materials Mech. of Materials Lab	Required Required	MEC 231	MEC 214	3 (2,0,2) 1 (0,2,0)	Department Department
	6	MEC 221	Thermodynamics (1)	Required	PHS 202	NIEC 214	3 (2,0,2)	Department
		MEC 232	Dynamics	Required	MEC 231		3 (2,0,2)	Department
		MTH 382	Numerical Methods	Required	MTH 305		3 (2,0,2)	College
			Total Credit Hour	S			18 (12,4,8)	
		MEC 321	Heat Transfer	Required		MEC 341	3 (2,0,2)	Department
ear		MEC 322 MEC 331	Thermodynamics (2) Mechanics of Machines	Required Required	MEC 221 MEC 232		3 (2,0,2) 4 (2,2,2)	Department Department
Y	Level	MEC 331	Mechanical Vibration	Required	MEC 232		3 (2,0,2)	Department Department
Fourth Year	7	MEC 341	Fluid Mechanics	Required	MEC 232 MEC 221		3 (2,0,2)	Department
Ā		MEC 342	Thermo-fluid lab (1)	Required	MEC 221	MEC 341	1 (0,2,0)	Department
			Total Credit Hour	S			17 (10,4,10)	

Year	Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Co-Requisite Courses	Credit Hours (LT,LB,TU)	Type of requirements (Institution, College or Department)
		MEC 311	Mech. Eng. Design (1)	Required	MEC 214 MEC 331		3 (2,0,2)	Department
		MEC 323	Special Topics in Mech. Eng.	Required	Dept. Approval		3 (2,0,2)	Department
	Level	MEC 324	Air Conditioning	Required	MEC 321		3 (2,0,2)	Department
	8	MEC 333	Manufacturing Processes	Required	MEC 214 MEC 211		4 (2,2,2)	Department
		MEC 334	Automatic Control	Required	MTH 305		3 (2,0,2)	Department
		MEC 335	Control and dynamic systems Lab.	Required	-	MEC 334	1 (0,2,0)	Department
		MEC 343	Thermo-fluids Lab (2)	Required	MEC 322 MEC 342		1 (0,2,0)	Department
			Total Credit Hour	s			18 (10,6,10)	
	Level 9	ELE 461	Electrical Machines	Required	ELE 261		2 (1,0,2)	Department
		MEC 411	Mech. Eng. Design (2)	Required	MEC 311		3 (2,0,2)	Department
		MEC 451	Graduation Project	Required	Pass 110 Credits		4 (2,4,0)	Department
		MEC 4xx	Elective Course (1)	Elective				Department
		MEC 4xx	Elective Course (2)	Elective				Department
ar			Total Credit Hour		15			
Fifth Year		EDU 102 / BUS 101	University Elective (3)	Elective	-		2 (2,0,0)	University
ïft		MEC 412	Computer Aided Design	Required	MEC 311		3 (2,2,0)	Department
Į.	Level 10	MEC 452	Engineering Projects Management	Required	Pass 120 Credits		2 (2,0,1)	Department
		MEC 453	Field Training*	Required	Pass 110 Credits		2	Department
		MEC 462	Mechatronics	Required	MEC 334		3 (2,0,2)	Department
		MEC 4xx	Elective Course (3)	Elective		I		Department
			Total Credit Hour			15		

^{*}The student must perform a field training (2 credit hours) for 8 weeks after successfully completing 110 credits

Program Study Plan (Cooperative Track)

مسار التدريب التعاوني

Year	Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Co-Requisite Courses	Credit Hours (LT,LB,TU)	Type of requirements (Institution, College or Department)
		ENGL 001	English Language (1)	Required	-		6 (5,5,10)	University
		MTH 101	Introductory Mathematics	Required	-		3 (2,0,2)	College
	Level	CIS 101	Computer Skills	Required	-		3 (2,2,0)	University
Ħ	1	EDU 101	University Life Skills	Required	-		2 (2,0,0)	University
First Year			Total Credit Hour	S	·		14 (11,5,12)	
st		ENGL 002	English Language (2)	Required	ENGL 001		6 (5,5,10)	University
ij		MTH 102	Differential Calculus	Required	MTH 101		3 (2,0,2)	College
<u> </u>	Tamal	CHM 103	Chemistry	Required	-		3 (2,2,0)	College
	Level	CIS 102	Problem Solving and	Required	CIS 101		3 (2,2,0)	College
	2	C15 102	Programming					Conege
			Total Credit Hour		T		15 (11,9,12)	
		ISL 103	Islamic Economic System	Required			2 (2,0,0)	University
		ARB 100	Arabic language skills	Required			2 (2,0,0)	University
		MEC 101	Engineering Drawing	Required			2 (1,2,0)	College
	Level	MEC 102	Engineering Design (1)	Required	- MTH 102	<u> </u>	3 (2,2,0)	College College
Ħ	3	MEC 103 MTH 203	Engineering Economy Integral Calculus	Required Required	MTH 102 MTH 102		2 (2,0,0) 3 (2,0,2)	College
Ze?		PHS 101	General Physics (1)	Required	-		4 (3,2,0)	College
Second Year			Total Credit Hour				18 (14,6,2)	
ono	Level 4	ISL 107	Professional Ethics	Required	-		2 (2,0,0)	University
) Sec		MEC 104	Engineering Design (2)	Required	MEC 102		2 (1,2,0)	College
91		MEC 105	Basics of Engineering Technology	Required	MEC 101		2 (1,2,0)	College
		MTH 204	Advanced Calculus	Required	MTH 203		3 (2,0,2)	College
		MTH 281	Statistics and Probability	Required	MTH 203		3 (2,0,2)	College
		PHS 202	General Physics (2)	Required	PHS 101		4 (3,2,0)	College
			Total Credit Hour		1		16 (11,6,4)	
	Level	ARB 102	Writing Skills	Required	-		2 (2,0,0)	University
		ELE 261 ISL 10x	Elect. & Electronic Circuits University Elective (1)	Required Elective	PHS 202	 	2 (2,0,1)	Department University
		MEC 211	Materials Engineering	Required	PHS 202		2 (2,0,0) 3 (2,0,2)	Department Department
	5	MEC 212	Materials Engineering Lab	Required	- 1115 202	MEC 211	1 (0,2,0)	Department Department
		MEC 231	Statics	Required	MTH 203		3 (2,0,2)	Department
ar		MTH 305	Differential Equations	Required	MTH 204		3 (2,0,2)	College
Third Year			Total Credit Hour	s			16 (12,2,7)	
rd		ISL 10x	University Elective (2)	Elective	-		2 (2,0,0)	University
Jri		MEC 213	ME Drawing & Graphics	Required	MEC 101		3 (2,2,0)	Department
	Level	MEC 214	Mechanics of Materials	Required	MEC 231		3 (2,0,2)	Department
	6	MEC 215	Mech. of Materials Lab	Required	-	MEC 214	1 (0,2,0)	Department
	U	MEC 221	Thermodynamics (1)	Required	PHS 202		3 (2,0,2)	Department
		MEC 232 MTH 382	Dynamics Numerical Methods	Required Required	MEC 231 MTH 305	 	3 (2,0,2) 3 (2,0,2)	Department College
		W1111 362			W1111 505			Conege
		MEC 221	Total Credit Hour	S Required	l e	MEC 241	18 (12,4,8)	Dononteres
ı.		MEC 321 MEC 322	Heat Transfer Thermodynamics (2)	Required Required	MEC 221	MEC 341	3 (2,0,2) 3 (2,0,2)	Department Department
ea		MEC 322 MEC 331	Mechanics of Machines	Required	MEC 232		4 (2,2,2)	Department Department
ı Y	Level	MEC 332	Mechanical Vibration	Required	MEC 232		3 (2,0,2)	Department
Ŧ	7	MEC 341	Fluid Mechanics	Required	MEC 232		3 (2,0,2)	Department
Fourth Year				•	MEC 221	<u> </u>		<u> </u>
Ŧ		MEC 342	Thermo-fluid lab (1)	Required	MEC 221	MEC 341	1 (0,2,0)	Department
			Total Credit Hour	S			17 (10,4,10)	

Year	Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Co-Requisite Courses	Credit Hours (LT,LB,TU)	Type of requirements (Institution, College or Department)
		MEC 311	Mech. Eng. Design (1)	Required	MEC 214 MEC 331		3 (2,0,2)	Department
		MEC 323	Special Topics in Mech. Eng.	Required	Dept. Approval		3 (2,0,2)	Department
	Level	MEC 324	Air Conditioning	Required	MEC 321		3 (2,0,2)	Department
	8	MEC 333	Manufacturing Processes	Required	MEC 214 MEC 211		4 (2,2,2)	Department
		MEC 334	Automatic Control	Required	MTH 305		3 (2,0,2)	Department
		MEC 335	Control and dynamic systems Lab.	Required	-	MEC 334	1 (0,2,0)	Department
		MEC 343	Thermo-fluids Lab (2)	Required	MEC 322 MEC 342		1 (0,2,0)	Department
			Total Credit Hour	S			18 (10,6,10)	
	Level 9	MEC 451	Graduation Project	Required	Pass 110 Credits		4 (2,4,0)	Department
		MEC 454	Cooperative Training**	Required	Pass 110 Credits		8	Department
			Total Credit Hour		12			
Fifth Year		EDU 102 / BUS 101	University Elective (3)	Elective	-		2 (2,0,0)	University
h		ELE 461	Electrical Machines	Required	ELE 261	T	2 (1,0,2)	Department
ift	Level	MEC 411	Mech. Eng. Design (2)	Required	MEC 311		3 (2,0,2)	Department
Ŧ		MEC 412	Computer Aided Design	Required	MEC 311		3 (2,2,0)	Department
	10	MEC 452	Engineering Projects Management	Required	Pass 120 Credits		2 (2,0,1)	Department
		MEC 462	Mechatronics	Required	MEC 334		3 (2,0,2)	Department
		MEC 4xx	Elective Course (1)	Elective				Department
			Total Credit Hour	S			18	

^{**}The student must perform a cooperative training (8 credit hours) for 24 weeks after successfully completing 110 credits

List of Department Elective Courses:

List of Department Elective Courses.									
Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours (LT,LB,TU)	Total Contact Hours	Type of requirements (Institution, College or Department)			
MEC 413	Tribology	Elective	MEC 211 MEC 214	3 (2,0,2)	4	Department			
MEC 414	Aircraft Design	Elective	MEC 411	3 (2,0,2)	4	Department			
MEC 415	Measurements and Instrumentation	Elective	MEC 341	3 (2,0,2)	4	Department			
MEC 421	Power Plants	Elective	MEC 322 MEC 321	3 (2,0,2)	4	Department			
MEC 422	Internal Combustion Engines	Elective	MEC 322 MEC 341	3 (2,0,2)	4	Department			
MEC 423	Design of Power Systems	Elective	MEC 341 MEC 321	3 (2,0,2)	4	Department			
MEC 424	Refrigeration Engineering	Elective	MEC 321	3 (2,0,2)	4	Department			
MEC 425	Desalination Processes	Elective	MEC 321 MEC 322	3 (2,0,2)	4	Department			
MEC 431	Numerical Control Systems	Elective	MEC 333	3 (2,0,2)	4	Department			
MEC 432	Advanced Machining Technology	Elective	MEC 333	3 (2,0,2)	4	Department			
MEC 441	Gas Dynamics	Elective	MEC 341 MEC 322	3 (2,0,2)	4	Department			
MEC 442	Turbo Machinery	Elective	MEC 322 MEC 341	3 (2,0,2)	4	Department			
MEC 443	Renewable Energy	Elective	MEC 341 MEC 321	3 (2,0,2)	4	Department			
MEC 444	Solar Energy	Elective	MEC 321 MEC 341	3 (2,0,2)	4	Department			
MEC 455	Quality Control	Elective	MEC 333	3 (2,0,2)	4	Department			
MEC 456	Industrial Safety	Elective	MEC 321 MEC 335	3 (2,0,2)	4	Department			
MEC 463	Robotics	Elective	MEC 334	3 (2,0,2)	4	Department			

List of University Elective Courses:

Course Code	Course Title		LT	LB	TU	Credit Hours	Prerequisites
University	ISL 101	Fundamentals of Islamic Culture	2	0	0		
Elective (1&2)	ISL 105	Human Rights	2	0	0	4	
	ISL 108	Contemporary Issues	2	0	0		
University Elective (3)	EDU 102	Volunteer Work	2	0	0	2	-
	BUS 101	Entrepreneurship	2	0	0	2	