

# COLLEGE OF ENGINEERING

## Bachelor of Science in Mechanical Engineering for Full Time Students Four Year Study Plan as of Academic Year 2019/2020

### FRESHMAN YEAR (35 Credit Hours)

FIRST "FALL" SEMESTER						SECOND "SPRING" SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lecture	Lab / Tutorial					Lecture	Lab / Tutorial	
ALIS 1211	Introduction to Islamic culture	2	2	0		PHED 1112	Healthy Behaviors and management	1	1	0	
PHED 1111	Active Living Lifestyle	1	1	0		COMM 1312	Writing and Research	3	3	0	COMM 1311
COMM 1311	Written Communication	3	3	0		UNIV 1212	Critical Thinking & Problem Solving	2	2	0	
UNIV 1211	Professional Development and Competencies	2	2	0		MATH 1423	Calculus II	4	4	1	MATH 1422
MATH 1422	Calculus I	4	4	1	PRPM 0022	CHEM 1421	Chemistry for Engineers I	4	3	3	PRPM 0022
PHYS 1421	Physics for Engineers I	4	3	3	PRPM 0022	GEEN 2311	Engineering Mechanics I: Statics	3	3	0	PHYS 1421 (COMA TH 1423)
GEEN 1211	Intro to Engineering	2	2	0	PRPM 0022						
<b>Total</b>		<b>18</b>	<b>17</b>	<b>4</b>		<b>Total</b>		<b>17</b>	<b>16</b>	<b>4</b>	

### SOPHOMORE YEAR (35 Credit Hours)

FIRST "FALL" SEMESTER						SECOND "SPRING" SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lecture	Lab / Tutorial					Lecture	Studio / Tutorial	
ASSE 2111	Learning Outcome Assessment I	1	1	0	Sophomore Level	MEEN 2311	Materials Engineering	3	3	0	GEEN 2311 CHEM 1421
COMM 2311	Oral Communication	3	3	0	COMM 1312	GEEN 2313	Thermodynamics I	3	3	0	MATH 1324 CHEM 1421
UNIV 1213	Leadership And Teamwork	2	2	0		MATH 2332	Ordinary Differential Equations	3	3	1	MATH 1324
MATH 1324	Calculus III	3	3	1	MATH 1423	MEEN 2313	Solid Mechanics	3	2	3	GEEN 2311 MATH 1324
PHYS 1422	Physics for Engineers II	4	3	3	PHYS 1421 MATH 1422	ALIS 1212	The Social System in Islam	2	2	0	
GEEN 2211	Engineering Computing	2	1	3	MATH 1423						
MEEN 2312	Engineering Mechanics II: Dynamics	3	3	0	GEEN 2311	COMM 2312	Technical & Professional Communication	3	3	0	COMM 2311
<b>Total</b>		<b>18</b>	<b>16</b>	<b>7</b>		<b>Total</b>		<b>17</b>	<b>16</b>	<b>4</b>	

**Bachelor of Science in Mechanical Engineering for Full Time Students  
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**JUNIOR YEAR (34 Credit Hours)**

FIRST "FALL" SEMESTER						SECOND "SPRING" SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lecture	Lab / Tutorial					Lecture	Studio / Tutorial	
MEEN 3394	Computer Aided Design / Manufacturing	3	2	3	(C)MEEN 3391	GEEN 3314	Electric Circuits and Electronics	3	2	3	PHYS 1422 & Junior Level Standing (≥60 Student Credit Hours)
GEEN 3311	Intro to Fluid Mechanics	3	3	0	GEEN 2313	ASSE 3211	Learning Outcome Assessment II	2	2	0	ASSE 2111 & Junior Level
MEEN 3311	Manufacturing Processes	3	3	0	MEEN 2311	MEEN 3432	Computational Methods	4	3	3	GEEN 2211 MATH 2332
MEEN 3101	Machine Shop Practice and Safety	1	0	3	(c) MEEN 3311	MEEN 3333	Heat Transfer	3	3	0	GEEN 3311
MEEN 3322	Thermodynamics II	3	3	0	GEEN 2313 (c) GEEN 3311	MEEN 3395	Mechanical Vibrations	3	2	3	MEEN 3391
MEEN 3391	Design Of Mechanisms	3	3	0	MEEN 2312						
ALIS 2211	Linguistic Communication Skills (Arabic)	2	2	0		MEEN 3111	Thermofluids & Energy Lab	1	0	3	MEEN 3311
<b>Total</b>		<b>18</b>	<b>16</b>	<b>6</b>		<b>Total</b>		<b>16</b>	<b>12</b>	<b>12</b>	

**SUMMER OF JUNIOR YEAR (3 Credit Hours)**

Course Number	Course Title	Credit Hours	Pre-requisite
MEEN 3301	Internship	3	8 weeks (320 hours) full time End of Junior Year (summer before graduation) and department approval

**SENIOR YEAR (32 Credit Hours)**

FIRST "FALL" SEMESTER						SECOND "SPRING" SEMESTER					
Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite	Course Number	Course Title	Credit Hours	Contact Hours		Pre-requisite
			Lecture	Lab / Tutorial					Lecture	Lab / Tutorial	
MEEN 4392	Feedback Control	3	2	3	MEEN 3395 MEEN 3432	ALIS 2212	The Biography of Prophet Mohammad	2	2	0	
MEEN 4393	Machine Design	3	3	0	MEEN 3394	MEEN 4311	Principles of HVAC	3	2	3	MEEN 3322 MEEN 3333
MEEN 4396	Mechanical Engineering Senior Design I	3	2	3	MEEN 3301 MEEN 3394 & department approval	MEEN 4397	Mechanical Engineering Senior Design II	3	2	3	GEEN 4311 MEEN 4396
GEEN 4311	Engineering Economy	3	3	0	90 student credit hours	Social Science	Social Science Elective	3	3	0	Select one from list
MEEN 4322	Power Generation	3	2	3	MEEN 3322 MEEN 3333	MEEN XXXX	ME Tech. Elective II	3	3	0	**Graduation year and department approval. Select from list.
MEEN XXXX	ME Tech. Elective I	3	3	0	**Graduation year and dept. approval. Select from list.						
<b>Total</b>		<b>18</b>	<b>15</b>	<b>9</b>		<b>Total</b>		<b>14</b>	<b>12</b>	<b>6</b>	

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**TOTAL DEGREE CREDIT HOURS = 139**

<b>SOCIAL SCIENCE ELECTIVES</b>			
Course Number	Course Title	Credit Hours	Pre-requisites
GEGR 1311	World Regional Geography	3	None
HIST 1311	World Civilizations	3	None
PSYC 1311	Introduction to Psychology	3	None
SUST 1311	Introduction to Sustainability	3	None
FREN 1311	Introduction to French Language	3	None
SPAN 1311	Introduction to Spanish Language	3	None
ECON 1311	Introduction to Macroeconomics	3	None
ECON 1312	Introduction to Microeconomics	3	None

<b>MECHANICAL ENGINEERING TECHNICAL ELECTIVES</b>			
Course Number	Course Title	Credit Hours	Pre-requisites
MEEN 4312	Fluid Mechanics	3	GEEN 3311: Introduction to Fluid Mechanics MEEN 3322: Thermodynamics II
MEEN 4315	Principles of Building Energy Analysis	3	MEEN 3322: Thermodynamics II MEEN 3333: Heat Transfer
MEEN 4331	Internal Combustion Engines	3	MEEN 3322: Thermodynamics II MEEN 3333: Heat Transfer
MEEN 4332	Turbomachinery	3	MEEN 3322: Thermodynamics II MEEN 3333: Heat Transfer
MEEN 4341	Corrosion Engineering	3	MEEN 3322: Thermodynamics II MEEN 2311: Materials Engineering MEEN 3333: Heat Transfer
MEEN 4344	Materials in Design	3	MEEN 3311 Manufacturing Processes MEEN 4393 Machine Design
MEEN 4351	Intermediate Dynamics	3	MEEN 3395: Mechanical Vibrations
MEEN 4394	Advanced Control Systems	3	MEEN 4392: Feedback Control

**NOTES:**

- Completion of PRPM 0022 Pre-Calculus is required before entry into Mechanical Engineering.
- This Program of Study applies to ONLY full time students. Minimum of 12 credit hours constitutes full time status.
- Student GPA determines maximum semester course load as per department advisement criteria.
- MEEN major courses may be offered only in the semester shown on this plan.
- MEEN major summer course offerings are not guaranteed.
- Internship experience may not be combined with any courses.

Chair Signature  
Dr. Faramarz Djavanroodi

COE Dean Signature  
Dr. Jamal F. Nayfeh

Core Dean Signature  
Dr. Mohammad Ashraf

Vice President for Academic Affairs  
Dr. Faisal Al Anezi