

# 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 (C)MATH 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	<i>Sophomore Level</i>	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  
Four Year Study Plan as of Academic Year 2019/2020**

**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	
GEEN 3314	Electric Circuits and Electronics	3	2	3	PHYS 1422 & Junior Level Standing (>60 Student Credit Hours)	MEEN 3394	Computer Aided Design / Manufacturing	3	2	3	MEEN 3391 MEEN 3311
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	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>	

**TOTAL DEGREE CREDIT HOURS = 139**

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<b>SOCIAL SCIENCE ELECTIVES</b>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-requisites</b>
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>			
<b>Course Number</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-requisites</b>
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

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