

**Mechanical Engineering [14MEBS Req Term Summer 2017]**

		<b>Freshman Year</b>			
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
CH	101 Chemistry, A Molecular Science <sup>1</sup>	3	CSC	113 Intro Comp MATLAB	3
CH	102 General Chemistry Lab <sup>1</sup>	1	MA	241 Calculus II <sup>1</sup>	4
E	101 Introduction to Engr & Prob Solv <sup>1,2</sup>	1	PY	205 Physics for Engr & Sc I <sup>1</sup>	3
E	115 Intro to Computing Environ <sup>1,2</sup>	1	PY	206 Physics for Engr & Sc I <sup>1</sup> Lab	1
ENG	101 Academic Writing and Research <sup>1,2</sup>	4	GC	120 Foundations of Graphics	3
MA	141 Calculus I <sup>1</sup>	4	HESF	10* Fitness & Wellness Course*	1
EC	205 Economics (or EC 201 or ARE 201)*	3	E	102 Engineering in the 21st Cent	2
HES	*** Health & Exercise Studies	1			
<b>Semester Total 18</b>			<b>Semester Total 17</b>		

		<b>Sophomore Year</b>			
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
MA	242 Calculus III	4	MA	341 Appl Differential Eq	3
MAE	200 Introduction to ME Design <sup>3</sup>	1	MAE	201 Engr Thermodynamics I <sup>2</sup>	3
MAE	206 Engineering Statics <sup>2</sup>	3	MAE	305 ME Lab I	1
PY	208 Physics for Engr & Sc II	3	MAE	208 Engineering Dynamics <sup>2</sup>	3
PY	209 Physics for Engr & Sc II <sup>1</sup> Lab	1	MAE	214 Solid Mechanics <sup>2</sup>	3
ST	370 Prob & Stat for Engineers (or ST 371)	3	***	*** GEP Requirement*	3
***	*** GEP Requirement*	3			
<b>Semester Total 18</b>			<b>Semester Total 16</b>		

		<b>Junior Year</b>			
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
ENG	331 Comm Engr & Tech	3	ECE	331 Principles of Elec. Engr. I	3
MAE	302 Engr Thermodynamics II	3	MAE	310 Heat Transfer Fundamentals	3
MAE	306 ME Lab II	1	MAE	316 Strength of Mech Comp	3
MAE	308 Fluid Mechanics	3	MSE	200 Mech. Prop. Engr. Materials (or MSE 201)	3
MAE	315 Dynamics of Machines	3	**E	*** Tech Elective <sup>4</sup>	3
***	*** GEP Requirement*	3			
<b>Semester Total 16</b>			<b>Semester Total 15</b>		

		<b>Senior Year</b>			
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
MAE	405 Controls Lab	1	**E	*** Tech Elective <sup>4</sup>	3
MAE	435 Prin of Auto Control	3	MAE	416 ME Senior Design <sup>7</sup>	4
MAE	4** Mech Engr Design Elective <sup>5</sup>	3	***	*** GEP Requirement*	3
**E	*** Tech Elective <sup>4</sup>	3	***	*** Ethics (GEP Req*) <sup>6</sup>	3
ISE	311 Engr Econ Analysis	3			
<b>Semester Total 13</b>			<b>Semester Total 13</b>		

**Minimum Total Credit Hours Required for Graduation 126**

**Major/Program requirements and footnotes:**

<sup>1</sup>Courses required for Change of Degree Audit (CODA). CH 101, 102; MA 141, 241; PY 205, 206 must be completed with C or higher.

<sup>2</sup>Minimum grade of C-, E 115 requires satisfactory completion (S).

<sup>3</sup>MAE 200 may be taken in the fall semester of the sophomore or junior year.

<sup>4</sup>Technical electives must be selected from the following list: <https://www.mae.ncsu.edu/academics/undergraduate-programs/electives/>

<sup>5</sup>Choose one: Either MAE 415 for traditional senior design or MAE 482 for Engineering Entrepreneurship senior design

<sup>6</sup>Select from IDS 201, STS 302, STS 304, STS(PHI) 325, PHI 214 or PHI 375.

<sup>7</sup>Students who choose MAE 482 for the Mech Engr Design Elective should enroll in MAE 483 + MAE 484 instead of MAE 416.

**\*General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at <http://oucc.ncsu.edu/gep-courses>.

**Humanities** (6 credit hours selected from two different disciplines/course prefixes)

Choose from the University approved GEP Humanities course list.

**Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

Choose 3 credits from the University approved GEP Social Sciences course list in a discipline other than Economics.

Economics 205 (or EC 201 or ARE 201), taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement

**Health and Exercise Studies** (2 credit hours – must include one HESF 100-level course and one additional HES course)

Choose from the University approved GEP Health and Exercise Studies course list.

**Additional Breadth** - (3 credit hours to be selected from the following University approved GEP course lists)

Choose from the Humanities/Social Sciences/Visual and Performing Arts

**Interdisciplinary Perspectives** (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list.

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements:

- I. **U.S. Diversity (USD)**  
Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.
- J. **Global Knowledge (GK)**  
Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.
- K. **Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.