

Mechanical Engineering [14MEBS Req Term Summer 2017]

		Freshman Year			
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>
CH	101 Chemistry, A Molecular Science ¹	3	CSC	113 Intro Comp MATLAB	3
CH	102 General Chemistry Lab ¹	1	MA	241 Calculus II ¹	4
E	101 Introduction to Engr & Prob Solv ^{1,2}	1	PY	205 Physics for Engr & Sc I ¹	3
E	115 Intro to Computing Environ ^{1,2}	1	PY	206 Physics for Engr & Sc I ¹ Lab	1
ENG	101 Academic Writing and Research ^{1,2}	4	GC	120 Foundations of Graphics	3
MA	141 Calculus I ¹	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			
Semester Total 18			Semester Total 17		

		Sophomore Year			
<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	1	MAE	201 Engr Thermodynamics I ^{2,3}	3
MAE	206 Engineering Statics ^{2,3}	3	MAE	305 ME Lab I	1
PY	208 Physics for Engr & Sc II	3	MAE	208 Engineering Dynamics ^{2,3}	3
PY	209 Physics for Engr & Sc II ¹ Lab	1	MAE	214 Solid Mechanics ^{2,3}	3
ST	370 Prob & Stat for Engineers (or ST 371)	3	***	*** GEP Requirement*	3
***	*** GEP Requirement*	3			
Semester Total 18			Semester Total 16		

		Junior Year			
<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	3
MAE	315 Dynamics of Machines	3	**E	*** Tech Elective ⁴	3
***	*** GEP Requirement*	3			
Semester Total 16			Semester Total 15		

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

Minimum Total Credit Hours Required for Graduation 126

Major/Program requirements and footnotes:

- ¹Courses required for Change of Degree Audit (CODA). CH 101, 102; MA 141, 241; PY 205, 206 must be completed with C or higher.
- ²Minimum grade of C-, E 115 requires satisfactory completion (S).
- ³Students must have a 2.5 GPA to enroll in this course
- ⁴Technical electives must be selected from the following list (when offered): MAE 320, MAE 403, MAE 406, MAE407, MAE 408, MAE 410, MAE 42. MAE 426, MAE 430, MAE 442, MAE 472, MAE 495, MAE 496 (with permission of the instructor, limited to 3 credit hours), MAE 5** (with permission of the instructor, 3.5 GPA), up to 3 hours outside of MAE with permission of MAE advisor.
- ⁵Choose one: Either MAE 415 for traditional senior design or MAE 482 for Engineering Entrepreneurship senior design
- ⁶Select from IDS 201, STS 302, STS 304, STS(PHI) 325, PHI 214 or PHI 375.
- ⁷Students 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.