

Mechanical Engineering (BS) (14MEBS)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
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 Engineers & Scientists I ¹	3
E 115 Intro to Computing Environ ^{1,2}	1	PY 206 Physics for Engineers & Scientists I Lab ¹	1
ENG 101 Academic Writing and Research ^{1,2}	4	E 102 Engineering in the 21st Century	2
MA 141 Calculus I ¹	4	GC 120 Foundations of Graphics	3
EC 205 Economics (EC 201, ARE 201)*	3	HES_*** Health & Exercise Studies Course*	1
HES *** Health and Exercise Studies*	1		
	18		17

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
MA 242 Calculus III	4	MA 341 Appl Differential Eq	3
MAE 200 Introduction to ME Design	1	MAE 208 Engr Dynamics ^{2,3}	3
PY 208 Physics for Engineers & Scientists II ¹	3	MAE 201 Engr Thermodynamics ²	3
PY 209 Physics for Engineers & Scientists II Lab ¹	1	MAE 214 Solid Mechanics ^{2,3}	3
MAE 206 Engineering Statics ^{2,3}	3	MAE 205 ME Lab I	1
ST 370 Prob & Stat for Engineers (or 371)	3	GEP Requirement*	3
GEP Requirement*	3		
	18		16

Junior Year

Fall Semester	Credit	Spring Semester	Credit
ENG 331 Comm Engr & Tech	3	MAE 310 Heat Transfer Fundamentals	3
MAE 308 Fluid Mechanics	3	ECE 331 Principles of Elec. Engr. I	3
MAE 315 Dynamics of Machines	3	MSE 200 Mech. Prop. Engr. Materials	3
MAE 306 ME Lab II	1	MAE 316 Strength of Mech Comp	3
MAE 302 Engineering Thermodynamics II	3	xxE Technical Elective ⁴	3
GEP Requirement ²	3		
	16		15

Senior Year

Fall Semester	Credit	Spring Semester	Credit
MAE 435 Prin of Auto Control	3	MAE 416 ME Senior Design	4
MAE 405 Controls Lab	1	xxE Technical Elective ⁴	3
ISE 311 Engr Econ Analysis	3	Ethics (GEP Requirement*) ⁵	3
MAE 4xx Mechanical Engineering Design Elective ⁶	3	GEP Requirement*	3
xxE Technical Elective ⁴	3		
	13		13

Minimum Credit Hours Required for Graduation*:

126

Major/Program requirements and footnotes

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

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

³ Students must have a 2.5 GPA to enroll in this course.

⁴ Technical electives must be selected from the following list (when offered): MAE 320, MAE 403, MAE 405, MAE 407, MAE 408, MAE 410, MAE 421, 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 adviser.

⁵ Choose one: MAE 412, 415, 482.

⁶ Select from STS 302, STS 304, PHI 214 or PHI 375, IDS 201, STS/PHI 325.

* General Education Program (GEP) requirements

To complete the requirements for graduation and the General Education Program, the following credit hours and co-requisites must be satisfied. University approved GEP course lists for each category can be found at <https://oucc.dasa.ncsu.edu/general-education-program/>.

Health & Exercise Studies– 2 hours to be selected from the approved GEP Health & Exercise Studies list.

a. One fitness and wellness course (any Health & Exercise Studies 100-level course).

b. One additional credit hour of Health & Exercise Studies activity courses.

Humanities– 6 credits to be selected in two different disciplines (two different course prefixes) from the approved GEP Humanities list. PHI 214 or PHI 375 taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Humanities requirement

Social Sciences– 3 credits to be selected in a discipline other than economics from the approved GEP Social Sciences list. EC 205, 201 or ARE 201 taken as part of the Major requirements satisfies 3 credit hours of the 6 credit hours needed to fulfill the GEP Social Sciences requirement.

Additional Breadth– 3 credits to be selected from the approved GEP Humanities, Social Sciences or Visual and Performing Arts lists.

Interdisciplinary Perspectives– 5-6 credits to be selected from the approved GEP Interdisciplinary Perspectives list. STS 302, STS 304 or STS 320 taken as part of the Major requirements satisfies 3 credit hours of the 5 credit hours needed to fulfill the GEP Interdisciplinary Perspectives requirement.

Co-requisites

U.S. Diversity and Global Knowledge co-requisites must be satisfied to complete the General Education requirements. Choose course(s) that are identified on the approved GEP course lists as meeting the U.S. Diversity and Global Knowledge co-requisites.\

Foreign Language proficiency at the FL_102 level will be required for graduation .