

Biological Engineering (BS): Agricultural Engineering (11BEBS-11BEBEA)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
CH 101 Chemistry, A Molecular Science ^{1B}	3	CH*** Chemistry Elective ³	4
CH 102 General Chemistry Lab ^{1B}	1	MA 241 Calculus II ^{1A}	4
E 101 Introduction to Engr & Prob Solv ¹	1	PY 205 Physics for Engineers & Scientists I ^{1B}	3
E 115 Intro to Computing Environ	1	PY 206 Physics for Engineers & Scientists I Lab	1
ENG 101 Academic Writing & Research ^{1H}	4	GEP Humanities Requirement ^C	3
MA 141 Calculus I ^{1A}	4	HES_*** Health & Exercise Studies Course ^E	1
EC 205 Economics (GEP Soc Sci Req ^D) ²	3		
	17		16

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
BAE 200 Comp Meth in Biol Engr	2	BAE 202 Intro to BAE Methods	4
MAE 206 Engineering Statics or CE 214 Engineering Mechanics-Statics ¹	3	MAE 208 Engineering Dynamics ¹	3
MA 242 Calculus III	4	MA 341 Applied Diff Equations	3
PY 208 Physics for Engineers & Scientists II ^B	3	MAE 301 Engr Thermodynamics I	3
PY 209 Physics for Engineers & Scientists II Lab 1		SSC 200 Soil Science	3
BIO 181 Intro Biol: Ecol, Evol & Biodiv ^B or BIO 183 Intro Biol: Cell & Mol Bio ^B	4		
	17		16

Junior Year

Fall Semester	Credit	Spring Semester	Credit
BAE 325 Intro Geomatics	3	BAE 401 Instrumentation for Bio Sys	3
BAE 302 Transport Phenomena	3	BAE 361 Analytical Methods Engr Des	3
MAE 308 Fluid Mechanics or CE 382 Hydraulics ¹	3	MAE 214 Solid Mechanics or CE 313 Mechanics of Solids ¹	3
BAE 305 Bio Eng Circuits	4	ST 370 Prob & Statistics for Engr	3
ENG 331 Comm. Engr. & Tech. or ENG 333 Comm. Sci. & Res.	3	Adv. Biology Elective ⁵	3
	16		15

Senior Year

Fall Semester	Credit	Spring Semester	Credit
BAE 451 Engr Design I	2	BAE 452 Engr Design II	2
BAE 462 Machinery Design Appl	3	BAE 488 Postharvest Engineering	3
HES_*** Health & Exercise Studies Course ^E	1	BAE 481 Structures and Environment	3
Ethics (GEP Interdisciplinary Persp. Elec. ^G) ⁶	3	BAE Elective ⁴	3
GEP Humanities Requirement ^C	3	GEP Interdisciplinary Persp. Elec. ^G	2
GEP Social Science Elective ^D	3	GEP Additional Breadth Requirement ^F	3
	15		16

Minimum Credit Hours Required for Graduation^{*} :

128

Major/Program requirements and footnotes

- 1 Must be completed with a grade of C- or higher.
- 2 Choose from EC 201 or 205, or ARE 201.
- 3 Choose from CH 201 & 202, CH 220 & CH 221, or CH 221 & 222
- 4 Choose from BAE 322 or 371
- 5 Choose from PB 321, PB 360, MB 351, SSC 332, or HS 462
- 6 Choose from IDS 201, STS 302, or STS 304.

*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/>.

A. Mathematical Sciences (6 credit hours – one course with MA or ST prefix)

Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241

B. Natural Sciences (7 credit hours – include one laboratory course or course with a lab)

Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101, CH 102, BIO 181, BIO 183, PY 205, PY 208

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

Choose from the University approved GEP Humanities course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: None

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

Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: EC 201, 205, or ARE 201

E. Health & Exercise Studies (2 credit hours – at least one 100-level Health & Exercise Studies Course)

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

F. Additional Breadth (3 credit hours to be selected from the following checked University approved GEP course lists)

Humanities/Social Sciences/Visual and Performing Arts or Mathematical Sciences/Natural Sciences/Engineering

G. Interdisciplinary Perspectives (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: None

H. Introduction to Writing (4 credit hours satisfied by completing ENG 101 with a C- or better)

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. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

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. The following course(s) completed as part of the Major requirements may fulfill this requirement: None

K. Foreign Language proficiency

Proficiency at the FL_102 level is required for graduation.