

Industrial Engineering (BS) (14IEBS)

Freshman Year

Fall Semester	Credit	Spring Semester	Credit
CH 101 Chemistry, A Molecular Science ¹	3	EC 205 Economics (or EC 201 or ARE 201*)	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 Engineers & Scientists I Lab ¹	1
ENG 101 Academic Writing and Research ^{1,2}	4	HES_*** Health & Exercise Studies Course	1
MA 141 Calculus I ¹	4	E 102 Engineering in the 21st Century (GEP-IP)	2
HES_*** Health & Exercise Studies Course*	1		
	15		14

Sophomore Year

Fall Semester	Credit	Spring Semester	Credit
MSE 200 Mechanical Properties of Structural Materials	3	ECE 331 Prin of Elect Engr	3
ISE 110 Comp Model for Engrs ³	3	ISE 215 Product Specification	1
MA 242 Calculus III	4	ISE 216 Mfg Engr Practicum	3
PY 208 Physics for Engineers & Scientists II	3	MA 303 Linear Analysis	3
PY 209 Physics for Engineers & Scientists II Lab	1	ST 372 Intro Stat Infer & Regres	3
ST 371 Intro Prob & Dist Theory ²	3	Engr Science Elect ⁴	3
	17		16

Junior Year

Fall Semester	Credit	Spring Semester	Credit
ENG 331 Tech Writing	3	ISE 352 Fundamentals of Human-Machine Systems Design	4
ISE 316 Mfg Engr I – Processes	3	ISE 362 Stochastic Models in IE	3
ISE 315 Product Specification II	1	ISE 443 Quality Control	3
ISE 441 Intro to Simulation	3	Technical Elective ⁶	3
ISE 361 Deter Models in IE	3	CE 214 Engineering Mechanics - Statics	3
Ethics (GEP Req*) ⁵	3		
	16		16

Senior Year

Fall Semester	Credit	Spring Semester	Credit
ISE 311 Engr Economic Analysis	3	ISE 498 Sr Design Proj	3
ISE 408 Cont of Prod & Ser Sys	3	Technical Elective ⁶	3
Technical Elective ⁶	3	GEP Requirement*	3
ISE 453 Production Systems Design	3	GEP Requirement*	3
GEP Requirement*	3	GEP Requirement*	3
	15		15

Minimum Credit Hours Required for Graduation:

124

Major/Program requirements and footnotes

1 Courses required for Change of Degree Audit (CODA). CH101, 102; MA 141, 241; PY 205, 206 must be completed with a C or higher.

2 Grade of C- or better required, E 115 requires satisfactory completion (S).

3 ISE 110 must be completed with a C or higher.

4 Engineering science electives: CE 313, MAE 208, MAE 314, MAE 301 or MAE 308.

5 Ethics elective: IDS 201, IDS 303, PHI 214, STS 214, STS 302, STS 304, STS 322, or STS 325.

6 Technical Electives: ISE 416, ISE 417, ISE 452, ISE 462, ISE 495, ST 430, ST 431, ST 432, MSE 465, MSE 485.

***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 <http://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.

Social Sciences - 3 credits to be selected in a discipline other than economics from the approved GEP Social Sciences list. EC 205 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 credits to be selected from the approved GEP Interdisciplinary Perspectives list. Ethics course taken as part of the Major requirements satisfies 3 credit hours of the 5-6 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.