

Chemical Engineering (BS) (14CHEBS)

Semester Display Effective Date: 1.2013

FRESHMAN YEAR

Fall Semester	Credit		Spring Semester	Credit
CH 101 Chemistry, A Molecular Science ^{4,6}	3		CH 201 Chemistry – Quantitative Sci. ^{1,6}	3
CH 102 General Chemistry Lab ^{4,6}	1		CH 202 Quantitative Chem Lab ⁶	1
E 101 Introduction to Engr & Prob Solv ¹	1		MA 241 Calculus II ⁴	4
E 115 Intro to Computing Environ	1		PY 205 Physics for Engineers & Scientists I ⁴	3
ENG 101 Academic Writing and Research ¹	4		PY 206 Physics for Engr & Scientists I Lab ⁴	1
MA 141 Calculus I ⁴	4		EC 205 Economics (or EC 201 or ARE 201)*	3
HES_*** Health & Exercise Studies Course*	1		HES_*** Health & Exercise Studies Course*	1
	15			16

SOPHOMORE YEAR

Fall Semester	Credit		Spring Semester	Credit
CH 221 Organic Chemistry I ^{5,1}	3		CH 223 Organic Chemistry II ⁵	3
CH 222 Organic Chemistry I Lab ^{5,1}	1		CH 224 Organic Chemistry II Lab ⁵	1
CHE 205 Chemical Proc Prin ¹	4		CHE 225 Intro Chem Engr Analysis ¹	3
MA 242 Calculus III ¹	4		MA 341 Applied Differential Eq ¹	3
GEP Requirement*	3		PY 208 Physics Engr & Scientists II	3
	15		PY 209 Physics for Engineer & Scientists II Lab	1
			GEP Requirement*	3
				17

JUNIOR YEAR

Fall Semester	Credit		Spring Semester	Credit
CH 315 Quantitative Analysis	3		CH *** Chemistry Elective ²	4
CH 316 Quantitative Analysis Lab	1		CHE 312 Transport Processes II	3
CHE 311 Transport Processes I ¹	3		CHE 316 Thermo of Chem & Phase Eq	3
CHE 315 Chem Process Thermo ¹	3		CHE 330 Chem Engr Lab I	4
ECE 331 Prin Electrical Engr <i>or</i>			Free Elective	3
MSE 201 Struct & Prop Engr Mat	3			
GEP Requirement*	3			17
CHE 395 Professional Dev Seminar	1			
	17			

SENIOR YEAR

Fall Semester	Credit	Spring Semester	Credit
CHE 331 Chem Engr Lab II	2	CHE 435 Proc System Analy & Control	3
CHE 446 Des & Analy Chem Reactors	3	CHE 451 CHE Design II	3
CHE 450 CHE Design I	3	Technical Elective ³	3
Technical Elective ³	3	GEP Requirement*	3
GEP Requirement*	3	GEP IP Requirement*	2-3
	14		14-15

Minimum Credit Hours Required for Graduation:

125

Major/Program requirements and footnotes:¹ Minimum grade of C- required.² Chemistry electives include: CH 437 Physical Chemistry; BCH 351 General Biochemistry; BCH 451 Princ of Biochemistry; FS 402 Chem of Food & Bioprocessed Materials; PSE 335 Principles of Green Chemistry; PCC 461/464 Chem of Polymeric Materials; CH 610 Special Topics in Chemistry.³ Technical Electives: BEC 462, BAE 422, CE 373, CE 476, CE 477, CE 479, CE 484, E 304, ECE 331, ISE 311, ISE 443, CHE 460 and higher electives, MAE 206, MAE 208, MAE 214, MAE 406, MAE 421, MSE 201, NE 404, NE 419, TE 466⁴ Grade of C (2.0) or higher required.⁵ CH 225/226 may substitute for CH 221/222 and CH 227/228 may substitute for CH 223/224.⁶ CH 103/104 may substitute for CH 101/102 and CH 203/204 may substitute for CH 201/202.***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-gep/>.

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 (or EC 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 credits to be selected from the approved GEP Interdisciplinary Perspectives list.

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.