Chemical Engineering (BS) (14CHEBS)

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 Lab1[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 Engineer & Scientists I Lab[4]	1
MA 141 Calculus I[4]	4	E 102 Engr in the 21st century	2
HES_*** Health & Exercise Studies Course*	1	HES_*** Health & Exercise Studies Course*	1
	15		15

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
		PY 209 Physics for Engineer & Scientists II Lab	1
		GEP Requirement*	3
	15		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 ***or*** MSE 201 Struct & Prop Engr Mat	3	Free Elective	3
GEP Requirement*	3		
CHE 395 Professional Dev Seminar	1		
	17		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 Requirement*	3
	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 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 466

[4] 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 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.

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.