

Cleveland State University
College of Engineering
Bachelor of Chemical Engineering
(for students immediately eligible for English I, General Chemistry, and Calculus I)
NEW FALL 2014

First Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
ENG 100 or ENG 101 English I	3	X	W/C	ESC 102 Technical Writing, or			
MTH 181 Calculus I	4	X	M/QL	ENG 102 English II	3	X	W/C
CHM 261 General Chemistry I	3	X	NS	MTH 182 Calculus II	4	X	M/QL
CHM 266 General Chemistry Laboratory I	1	X	NS	PHY 241 University Physics I	5	X	NS
ESC 120 Intr. to Engineering Design	2	X		CHM 262 General Chemistry II	3	X	
ESC 100 New Student Orientation	1	X	INTRO	CHM 267 General Chemistry Laboratory II	1	X	
Semester Total	14			Semester Total	16		

Second Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
PHY 242 University Physics II	5	X		CHE 300 Chemical Engineering Principles	4	X	
ESC 151 C Programming, or				ESC 282 Engineering Economy (SS)	3	X	SS
ESC 152 Programming with MATLAB	3	X		ESC 301 Fluid Mechanics	3	X	
ESC 250 Differential Equations for Engrs.	3	X		ESC 350 Linear Algebra for Engineers	3	X	
ESC 270 Materials Science	3	X		MTH 283 Multivariable Calculus for Eng, or		X	
ESC 321 Thermodynamics 1	3	X		MTH 281 Multivariable Calculus	2 or 3	X	
				Engineering Science Elective	3	X	
Semester Total	17			Semester Total	18 or 19		

Third Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHE 302 Chemical Engr Thermodynamics	4	X		CHE 404 Chemical Reactor Design (Writing)	4	X	WAC
CHE 306 Transport Phenomena	4	X		CHE 408 Separation Processes	4	X	
CHE 307 Chemical Engineering				CHM 322 Physical Chemistry II	3	X	
Methods (Writing)	3	X	WAC	PHL 215 Engineering Ethics (Writing, A&H)	3	X	A&H
CHM 331 Organic Chemistry I	3	X		General Education Elective (SS, non-US) **	3	X	SS
CHM 336 Organic Chemistry Lab I	2	X					
Semester Total	16			Semester Total	17		

Fourth Year

Fall Semester	Credits	Major	Gen Ed	Spring Semester	Credits	Major	Gen Ed
CHE 430 Process Control	4	X		CHE 420 Chemical Engineering Capstone			
CHE 440 Process Design I (Writing)	3	X	CAP	Laboratory	4	X	
CBE Senior Elective	3	X		CHE 441 Process Design II (Writing)	3	X	WAC
Advanced Science Elective	3	X		CBE Senior Elective	3	X	
General Education Elective (AAE)	3	X	DIV	General Education Elective (A&H, non-US)	3	X	A&H
				General Education Elective (USD)	3	X	DIV
Apply for Spring graduation prior to Sep 9th							
Semester Total	16			Semester Total	16		

Degree Total: 130-131 hours

Assumptions: college-level readiness in MTH & ENG; no Foreign Language Deficiency

130

College/ Program Notes:

The plan above is a suggested guide to ensure that all General Education, College, University, and Major requirements are met within 4 years of study. Students may deviate from the suggested placement of Gen Ed courses, although the M/QL and W/C requirements should be completed during the first year of study.

*General Electives ensure that a student accumulates the minimum credit hour totals needed for graduation. Students must have a **minimum of 130 total credit hours**, of which a **minimum of 42 credit hours** must be upper division (300 or 400-level courses). Depending upon other elective choices made, students may not need as many general electives as indicated above, or may need additional electives.

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University Notes:

Gen Ed Key:	SS = Social Sciences Requirement (2 courses, one of which must be focused outside the US**)
INTRO = Introduction to University Life Requirement (one course)	A&H = Arts & Humanities Requirement (2 courses, one must be focused outside the US**)
W/C = Writing/Composition Requirement (two courses; C or better required)	DIV = Social Diversity Requirement (2 courses; one US Diversity and one African American Exp.)
M/QL = Mathematics/Quantitative Literacy Requirement (two courses)	WAC/SPAC = Writing/Speaking Across the Curriculum Requirement (3 courses, one in the major)
NS = Natural Sciences (two courses, one of which must have a lab)	CAP = Capstone Requirement
** of the SS and A&H courses focused outside the US, one must be focused on Africa, Latin America, Asia or the Middle East (ALAAME)	

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