

CHEMICAL ENGINEERING CURRICULUM SHEET | FALL 2015

FRESHMAN (35)

FALL			SPRING		
ECHE 101*	Intro. to Chem. Engr.	3	ECHE 300*	Chem. Process Principles	3
CHEM 111&L*	SCI: General Chemistry & Lab	4	CHEM 112&L*	General Chemistry II & Lab	4
MATH 141*	ARP: Calculus I	4	MATH 142*	ARP: Calculus II	4
ENGL 101*	CMW: Critical Reading & Comp.	3	PHYS 211&L*	SCI: Essentials of Physics I & Lab	4
ELECTIVE	AIU: Aest. & Intr. Understanding	3	ENGL 102*	CMW: Rhetoric & Composition	3
		17			18

SOPHOMORE (33)

FALL			SPRING		
ECHE 310*	Intro. Chem. Engr. Thermo.	3	ECHE 311*	Chem. Engr. Thermo.	3
CHEM 333	Organic Chemistry I	3	ECHE 320*	Chem. Engr. Fluid Mech.	3
CHEM	Chemistry Lab Elective(s)	2	CHEM 334	Organic Chemistry II	3
MATH 241*	Vector Calculus	3	MATH 242	Elem. Differential Equations	3
PHYS 212&L*	Essentials of Physics II & Lab	4	ELECTIVE	GHS: Historical Thinking	3
ELECTIVE	Liberal Arts Elective	3			15
		18			

JUNIOR (33)

FALL			SPRING		
ECHE 321	Heat-Flow Analysis	3	ECHE 322	Mass Transfer	3
ECHE 440	Separation Process Des.	3	ECHE 460	Chem. Engr. Lab I	3
ECHE 550	Chem. Proc. Dyn. & Contr.	3	Engineering	Engineering Elective	3
CHEM	Chemistry Elective	3	Technical	Technical Elective	3
Technical	Technical Elective	3	ELECTIVE	Liberal Arts Elective	3
ELECTIVE	GSS: Social Science	3			15
		18			

SENIOR (30)

FALL			SPRING		
ECHE 430	Chem. Engr. Kinetics	3	ECHE 466	Chem. Pro. Anal & Des. II	3
ECHE 461	Chemical Engr. Lab II	3	ECHE 567	Safety, Health & Loss Prev.	3
ECHE 465	Chem. Proc. Anal. & Des. I	3	Engineering	Engineering Elective	3
CHEM	Chemistry Elective	3	Technical	Technical Elective	3
ELECTIVE	Liberal Arts Elective	3	Technical	Technical Elective	3
		15			15

ADDITIONAL REQUIREMENTS (0-12)

These additional University requirements may be satisfied through overlay courses, by placement testing, or by stand alone courses beyond the curriculum requirements above.

CMS Effective, Engaged, and Persuasive Communication: Spoken Component

PHIL 325, SAEL 200 or other approved Carolina Core CMS overlay or stand alone course.

INF Information Literacy

USC's ENGL 102 or other approved Carolina Core INF overlay or stand alone course.

GFL Global Citizenship and Multicultural Understanding: Foreign Language

Score of two or better on foreign language test, or equivalent study of approved Carolina Core GFL course(s).

VSR Values, Ethics and Social Responsibility

PHIL 325, SAEL 200 or any approved overlay or stand-alone Carolina Core VSR course.

* Indicates a lower division course to be completed before junior level courses.

Engineering Electives (6 hours)

ENCP 200 (or ECIV 200 or EMCH 200), ENCP 201 or EMCH 201, ENCP 210 (or ECIV 210 or EMCH 310), 260 (or ECIV 220 or EMCH 260), 330 (or EMCH 330), 460, 481, 499, 540; BMEN 211, 260, 271, 290, 300 and above, except 301 and 303; CSCE 211, 212, 240, 313, 317, 374; ECHE 202 (in combination with two credit hours of ECHE 499 for co-op students), 372, 389, 456, 497, 499, 520, 571, 572, 573, 574, 589; ECIV 300 and above except 360; ELCT 220, 221, 222, 300 and above; EMCH 300 and above, except 354 and 360.

Chemistry Electives (6 hours)

CHEM 321, 511, 533, 541, 542, 545, 550, 555, 556, 621, 622, 623, 624, 633, 644.

Chemistry Lab Electives (2 hours)

CHEM 321L, 331L (or 333L), 332L (or 334L), 541L, 542L, 550L, 591L, 592L, 621L.

Technical Electives (12 hours)

Includes all courses listed as Engineering Electives, Chemistry Electives, and Chemistry Lab Electives as well as ENCP 102 (or EMCH 111), MATH 374, 500 and above; STAT 500 and above except 541 and 591; BIOL 101, 101L, 102, 102L, 120, 120L, 200 and above; GEOL any course; MSCI any course; PHYS 300 and above; CSCE 145, 146, 206, 210, 215, 350.

Liberal Arts Electives (6 hours)

A list of acceptable Liberal Arts Elective courses is maintained in the department office and on its website. The list includes all Carolina Core Liberal Arts courses (AIU, CMS, GFL, GHS, GSS, and VSR), and other department approved courses. At least one of the six courses used to satisfy a Carolina Core Liberal Arts requirement or a Chemical Engineering Liberal Arts Elective requirement must be at the 300-level or above **and** in the same field of study as one of the other five courses.

Curriculum Notes:

C or better required in ENGL 101, 102, MATH 141, 142, 241, 242, CHEM 111 & L, and PHYS 211 & 211L.