

CHEMICAL ENGINEERING CURRICULUM

(for students entering UW Fall 2015 or later)

FALL	Grade	SPRING	Grade
FRESHMAN YEAR			
1101 First Year Seminar (FYS)	3 _____	MATH 2205 Calculus II	4 _____
MATH 2200 Calculus I (Q)	4 _____	CHEM 1060 Adv Gen Chemistry II	4 _____
CHEM 1050 Adv Gen Chemistry I (PN)	4 _____	PHYS 1210 Engr Physics I* (PN)	4 _____
LIFE 1010 General Biology I	4 _____	ENGL 1010 Coll Comp & Rhet (COM1)	3 _____
	_____	CHE 1005 Intro to Chemical Eng	1 _____
	15		_____
			16
SOPHOMORE YEAR			
MATH 2210 Calculus III	4 _____	MATH 2310 Applied Differential Eqns I	3 _____
CHEM 2420 Organic Chemistry I	4 _____	CHEM 2440 Organic Chemistry II	4 _____
CHE 2005 Chem Process Analysis	3 _____	CHE 2060 Intro CHE Computing	3 _____
PHYS 1220 Engr Physics II	4 _____	CHE 2070 Chemical Thermo I	3 _____
COJO 2010 Public Speaking (COM2)	3 _____	CHE 2080 Che. Eng. Fluid Mechanics	3 _____
	_____		_____
	18		16
JUNIOR YEAR			
CHE 3015 Chemical Thermo II	3 _____	CHE 3035 Separation Processes	3 _____
CHE 3026 Heat Transfer	3 _____	CHE 3070 Process Simul & Econ	3 _____
CHE 3028 Mass Transfer	3 _____	CHE 4060 Reaction Engineering	3 _____
CHEM 4507 Physical Chemistry I	3 _____	Human Culture (H)	3 _____
Technical Elective**	3 _____	Technical Elective**	3 _____
	_____		_____
	15		15
SENIOR YEAR			
CHE 3040 Unit Ops Lab I	3 _____	CHE 4050 Unit Ops Lab II	3 _____
CHE 4070 Process Design I	4 _____	CHE 4080 Process Design II (COM3)	4 _____
CHE 4090 Process Dyn & Control	3 _____	US & Wyo Const (V)	3 _____
Human Culture (H)	3 _____	Technical Elective**	3 _____
Technical Elective**	3 _____	Technical Elective**	3 _____
	_____		_____
	16		16
Total Hours: 127			

*The ES 2110/2120 sequence can be substituted for PHYS 1210

**Chemical Engineering Curriculum allows for the following Elective Concentrations:

- Petroleum Engineering
- Biological Engineering
- Environmental Engineering
- Graduate School Preparation

Elective courses can also be used to obtain a concurrent Chemistry major (Plan 1 BS or BA) or a minor (Math, Business, Management, Agricultural Business, etc.), or to satisfy pre-med recommended courses. Students are referred to the respective departments for further information. The Chemical Engineering Program only requires that the number of credits of upper-division courses be satisfied (i.e., ten credits of electives must be 3000+).

Concentration Areas

Petroleum Engineering

PETE 2050	Introduction to Petroleum Engineering	3 credits
PETE 3200	Reservoir Mechanics	3 credits
PETE 3255	Basic Drilling Engineering	3 credits
PETE 3715	Production Engineering	3 credits
PETE 4320	Well Log Interpretation	3 credits

Environmental Engineering

Choose 5 courses:

MOLB 2021	General Microbiology	4 credits
CHE 4100	Biochemical Engineering	3 credits
CE 3400	Introduction to Environmental Engineering	3 credits
CE 4400	Design of Water Treatment Facilities	3 credits
CE 4410	Design of Wastewater Treatment Facilities	3 credits
CE 4430	Environmental Engineering Chemistry	3 credits
CE 4440	Solid Waste Engineering	3 credits

Graduate School Preparation

Choose 5 courses:

CHE 3900	Undergraduate Research	3-6 credits
MATH 3310	Applied Differential Equation II	3 credits
MATH 4440	Introduction to Partial Differential Equations I	3 credits
STAT 4220	Basic Engineering Statistics	3 credits
CHE 5000+		3 credits
CHE 5000+		3 credits

Biological Engineering

To be updated

Examples of minor, concurrent major, and pre-med

Math Minor

MATH 2250	Elementary Linear Algebra	3 credits
MATH 2800	Mathematics Major Seminar	2 credits
MATH 3205/3500/3340		3 credits
MATH 3000+		6 credits
Approved elective (3000+) – see Elective Policy		1 credit

BA Chemistry

CHEM 2230	Quantitative Analysis	4 credits
CHEM 4110	Introductory Inorganic Chemistry	3 credits
CHEM 4100/4230/4530		1 credit
CHEM 3000+		5 credits
Approved elective (3000+) – see Electives Policy		2 credits

Pre-med

MOLB 2021	General Microbiology	4 credits
MOLB 3610	Principles of Biochemistry	4 credits
MOLB 4100	Clinical Biochemistry	3 credits
PSYC 1000	General Psychology	3 credits
SOC 1000	Sociological Principles	3 credits
STAT 2050	Fundamentals of Statistics	4 credits
Approved elective (3000+) – see Electives Policy		3 credits

ELECTIVES POLICY

The following electives policy must be followed for students who do not choose any concentration, pre-med, minor, or concurrent major, or for students who need an elective to complete 48 upper-division hours:

- Electives must be upper level (3000+ level) science, technology, engineering, or mathematics (STEM) courses, or courses in the College of Business or College of Law (with a technical component). Lower division courses (1000/2000 level) may be allowed, particularly if they are prerequisites for higher level courses in an area in which the student has an appropriate educational objective. For a lower level course to be accepted, the student must have a clearly articulated argument for the course. Also remember that students must complete 48 upper-division hours.
- The following is a list (in alphabetical order) of disciplines in which appropriate courses may be found: Agriculture (all except Agriculture Economics and Family and Consumer Science), Agroecology/Entomology/Soil Science, Anthropology, Astronomy, Atmospheric Science, Biology/Life Science, Botany, Business (dealing with decision science), Chemistry, Computer Science, Earth Systems Science, Energy Resources, Engineering (all disciplines), Environment and Natural Resources, Geography, Geology and Geophysics, Law (dealing with technical issues), Mathematics, Molecular Biology, Physics, Statistics, and Zoology.
- Courses in the arts, culture, humanities, social sciences, government and the like (in general, those areas which are addressed in the University of Wyoming - University Studies Program) will not be accepted as electives.