Specimen Curriculum for Chemical Engineering

B.E. in Chemical Engineering with Minor in Chemistry

		Semester hours	
SOPHOMORE YEAR		FALL	SPRING
Chem 2221	Organic Chemistry	3	–
Chem 2221L	Organic Chemistry Laboratory	1	–
Chem 2222	Organic Chemistry	–	3
Chem 2222L	Organic Chemistry Laboratory	–	1
Math 2300	Multivariable Calculus	3	–
Math 2420	Methods of Ordinary Differential Equations	–	3
Physics 1602	General Physics II	3	–
Physics 1602L	General Physics Laboratory II	1	–
ChBE 2100	Chemical Process Principles	3	–
ChBE 2200	Chemical Engineering Thermodynamics	–	3
ChBE 2250	Modeling and Simulation in Chemical Engineering	–	3
ChBE 2900W	Technical Communications for Chemical Engineers	–	1
	Liberal Arts Core	3	3
		17	17
JUNIOR YEAR			
ChBE 3200	Separations Processes	3	–
ChBE 3250	Chemical Reaction Engineering	–	3
ChBE 3300	Transport I	3	–
ChBE 3350	Transport II	–	3
ChBE 3600	Chemical Process Control	3	–
ChBE 3900W	Chemical Engineering Laboratory I	–	3
ChBE 4500	Bioprocess Engineering	–	3
	Statistics Course*	3	–
	Liberal Arts Core	3	3
		15	15
SENIOR YEAR			
ChBE 4900W	Chemical Engineering Laboratory II	3	–
ChBE 4950W	Chemical Engineering Process and Product Design	4	–
ChBE 4951W	Chemical Product Design Projects	–	3
ChBE 4959	Professional Practice of Safety in Chemical Eng Design	1	–
	Chemical and Biomolecular Engineering Electives	3	3
	Liberal Arts Core	–	3
	Technical Electives**	3	3
	Open Elective	3	3
		17	15

*One of DS 2100, BME 2400, CE 3300 or Math 2810.

**At least 3 hours must be selected from BSCI 2201, 2520; CHEM 3300, 3310; ENVE 4600 or CHBE courses numbered 4000 and above.

YEAR 1		YEAR 2		YEAR 3		YEAR 4	
Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
General Chemistry Chem 1601 3 hours	General Chemistry Chem 1602 3 hours	Organic Chemistry Chem 2221 3 hours	Organic Chemistry Chem 2222 3 hours	Statistics Course* 3 hours	Chemical Reactor Engineering ChBE 3250 3 hours	Chemical Engineering Laboratory II ChBE 4900W 3 hours	Chemical Engineering Design Projects ChBE 4951W 3 hours
General Chemistry Laboratory Chem 1601L 1 hour	General Chemistry Laboratory Chem 1602L 1 hour	Organic Chemistry Laboratory Chem 2221L 1 hour	Organic Chemistry Laboratory Chem 2222L 1 hour	Separation Processes ChBE 3200 3 hours	Transport II ChBE 3350 3 hours	Chemical Engineering Process and Product Design ChBE 4950W 4 hours	ChBE Elective 3 hours
Accelerated Single-Variable Calculus I Math 1300 4 hours	Accelerated Single-Variable Calculus II Math 1301 4 hours	Multivariable Calculus Math 2300 3 hours	Methods of Ordinary Differential Eqs Math 2420 3 hours	Transport I ChBE 3300 3 hours	Chemical Engineering Laboratory I ChBE 3900W 3 hours	Professional Practice of Safety in ChE Design ChBE 4959 1 hour	"Restricted" Technical Elective† 3 hours
Introduction to Engineering ES 1401, 1402, 1403 3 hours	General Physics I Phys 1601 3 hours	General Physics II Phys 1602 3 hours	Chemical Engineering Thermodynamics ChBE 2200 3 hours	Chemical Process Control ChBE 3600 3 hours	Bioprocess Engineering ChBE 4500 3 hours	ChBE Elective 3 hours	Liberal Arts Core Elective 3 hours
Liberal Arts Core Elective 3 hours	General Physics Laboratory I Phys 1601L 1 hour	General Physics Laboratory II Phys 1602L 1 hour	Modeling and Simulation in Chem Eng ChBE 2250 3 hours	Liberal Arts Core Elective 3 hours	Liberal Arts Core Elective 3 hours	Technical Elective 3 hours	Open Elective 3 hours
	Computer Science Course CS 1100, 1101, or 1103 3 hours	Chemical Process Principles ChBE 2100 3 hours	Technical Communication for Chemical Engineers ChBE 2900W 1 hour			Open Elective 3 hours	
		Liberal Arts Core Elective 3 hours	Liberal Arts Core Elective 3 hours				
14 hours	15 hours	17 hours	17 hours	15 hours	15 hours	17 hours	15 hours

Total		*One of DS 2100, BME 2400, CE 3300, Math 2810
125 hours		†Selected from BSCI 2201, 2520; CHEM 3300, 3310; ENVE 4600 or CHBE courses numbered 4000 and above.