

**REQUIREMENTS FOR THE DEGREE OF
BACHELOR OF SCIENCE
IN CHEMICAL ENGINEERING
CURRICULUM**

(Accredited by the Engineering Accreditation Commission of ABET)

Fall		Spring	
FRESHMAN YEAR			
CHEM 1311 General Inorganic Chemistry I (Prereq: MATH 1314 & 1 yr HS Chemistry or CHEM 1481)	3	CHEM 1312 General Inorganic Chemistry II (Prereq: CHEM 1311 & 1111)	3
CHEM 1111 General Inorganic Chemistry Lab I (Prereq or Coreq: CHEM 1311)	1	CHEM 1112 General Inorganic Chem. Lab II (Prereq: CHEM 1311 & CHEM 1111; Prereq or Coreq: CHEM 1312)	1
ENGL 1301 Rhetoric and Composition	3	ENGL 1302 Rhetoric and Composition	3
MATH 2413 Calculus I (Prereq: MATH 1348)	4	MATH 2414 Calculus II (Prereq: MATH 2413)	4
POLS 2301 Government and Politics of the US	3	PHYS 2325/2125 University Physics I and Lab (Prereq: credit or /registration MATH 2413 or equivalent)	4
UNIV 1201 Learning in a Global Context I	2		
	<u>16</u>		<u>15</u>
SOPHOMORE YEAR			
CHEM 3323 Organic Chemistry (Prereq: CHEM 1312 and CHEM 1112)	3	CHEM 3325 Organic Chemistry II (Prereq: CHEM 3323 and CHEM 3123)	3
CHEM 3123 Organic Chemistry Lab I (Prereq or Coreq.: CHEM 3323)	1	CHEM 3125 Organic Chemistry Lab II (Prereq or Coreq.: CHEM 3323)	1
CHEN 2371 Conservation Principles I (Prereq: PHYS 2325/2125 and CHEM 1312)	3	CHEN 2372 Conservation Principles II (Prereq: CHEN 2371)	3
HIST 1301 American History to 1877	3	MEEN 2355 Statics and Dynamics (Prereq: PHYS 2325/2125 and MATH 2414)	3
MATH 3320 Differential Equations (Prereq: MATH 2414)	3	PHYS 2326 University Physics II (Prereq: PHYS 2325/2125 or PHYS 1302/1102 & cr./regis. in MATH 2414)	3
*Language/Philosophy/Culture Elective	3	PHYS 2126 University Physics II Lab (Prereq: credit or registration in /regis. in PHYS 2326)	1
		*Social / Behav Science Elective	3
	<u>16</u>		<u>17</u>
JUNIOR YEAR			
CHEM 3331 Physical Chemistry I (Prereq: CHEM 3325 and one semester each of physics and calculus.)	3	CHEM 3332 Physical Chemistry II (Prereq: CHEM 3331 and two semesters each of physics and calculus.)	3
IEEN 2310 Appl Math in Engr Stat I (Prereq: MATH 2413)	3	CHEN 3310 Heat Transfer Phenomena (Prereq: CHEM 3323, CHEN 3392 or NGEN 3392 & CHEN 3347 or MEEN 3347)	3
CHEN 3347 Chem Eng Thermodynamics I (Prereq: MATH 2414, credit for or registration in PHYS 2326/2126)	3	CHEN 3315 Chemical Process Design Economics (Prereq: CHEN 2372 and credit for or registration in CHEN 3310.)	3
CHEN 3392 Fluid Transport Phenomena (Prereq: MATH 3320 and credit or registration in MEEN 2302 or MEEN 2355)	3	CHEN 3321 Process Simulation (Prereq: MATH 3320, and credit for or registration in CHEN 3310)	3
POLS 2302 Government and Politics of Texas	3	CHEN 3371 Chemical Thermodynamics II (Prereq: CHEM 3325/3125, CHEM 3331, CHEM 3347)	3
*Communications Elective	3	*Chemical Engineering Elective	1
	<u>18</u>		<u>16</u>
SENIOR YEAR			
CHEN 4278 Unit Operations Lab I (Prereq: CHEN 3310)	2	CHEN 4279 Unit Operations Lab II (Prereq: CHEN 4278 and CHEN 4389)	2
CHEN 4316 Chemical Process Design I (Prereq: CHEN 3315, CHEN 3371 and CHEN 3310)	3	CHEN 4311 Biochemical Engineering (Prereq: CHEM 3325/3125, and CHEN 4373)	3
CHEN 4341 Chemical Process Safety (Prereq: CHEN 3310)	3	CHEN 4317 Chem Process Design II (WI) (Prereq: CHEN 4316, CHEN 4373, CHEN 4389 and credit for or registration in CHEN 4392)	3
CHEN 4373 Chemical Reactor Engineering (Prereq: CHEN 3371, CHEN 3310, CHEN 3321 and CHEM 3332)	3	CHEN 4492 Process Dynamics and Control (Prereq: CHEN 4373 and CHEN 4389)	4
CHEN 4389 Mass Transfer Phenomena (Prereq: CHEM 3331, CHEN 3371, CHEN 3310, and CHEN 3321)	3	HIST 1302 American History since 1877 *Creative Arts Elective	3 3
	<u>14</u>		<u>18</u>
Total Hours <u>130</u>			

*Electives are selected from the following courses:

Creative Arts - ARTS 1303, ARTS 1304 or COMM 2304 or MUSI 1305, MUSI 2306, MUSI 2308, MUSI 2310 or THEA 2310.

Language/Philosophy/Culture - ANTH 2302, ENGL 2331, 2342, ENGL 2362, FREN 1311, FREN 1312, FREN 2311, FREN 2312, HIST 2321, HIST 2322, PHIL 1301, SPAN 1313, SPAN 1314, SPAN 1373, SPAN 2301, SPAN 2302, SPAN 2311, SPAN 2312.

Social/Behavioral Science - ANTH 2301, ECON 2301, ECON 2302, EDKN 2335, EVEN 2372, HSCI 2323, POLS 2304, POLS 2340, PSYC 2301, SOCI 1301, SOCI 1306 or SOCI 2361.

Communication - COMS 2374 or ENGL 2374 are preferred. This requirement may also be fulfilled by COMM 1307, COMS 1311, COMS 1315, or COMS 1336.

Technical Elective Options: CHEN 2371, CHEN 3315, CHEN 3371, EVEN 2372, or other engineering course with advisor approval

Chemical Engineering - CHEN 4399, CHEN 4120, or CHEN 4130