

BSE CHEMICAL ENGINEERING / BS CHEMISTRY\*  
Dual Degree Program

	Semester	F1	W1	F2	W2	F3	W3	F4	W4	F5	W5	
<b>Subjects required by engineering programs (53 hrs.)</b>												
Mathematics 115+, 116+, 215+, 216+	16	4	4	4	4							
Engineering 100 or English 125+ (Engr 100 if Engr is home school)	4	4										
Engineering 101 +	4	4										
Chemistry 130 +	3	3										
Physics 140 with Lab 141+; 240 with Lab 241+	10		5					5				
Intellectual Breadth ** (to include a micro or macro economics course to meet ChE req's. and courses to fulfill LSA's race and ethnicity and ULWR*** req's)	16						4			4	8	
<b>LS&amp;A requirements (16 hrs.)</b>												
Language (German recommended, some 200 level and higher courses might satisfy engineering HU or IB requirements)	16					4	4	4	4			
Upper Level Writing Requirement <see IB and HU/SS above>**												
<b>Advanced Chemistry (ChE)</b>												
Chemistry 210, 211, Structure and Reactivity and Lab I +	5		5									
Chemistry 215, 216, Structure and Reactivity and Lab II +	5			5								
Chemistry 261, Introduction to Quantum Chemistry****	1				1							
<b>Additional chemistry courses (24 hrs.)</b>												
Chemistry 125,126, General Chemistry Lab	Term Offered F,W	2	2									
Chemistry 241, 242 Intro. Chemical Analysis and Lab	F, W	4		4								
<i>Elect 1 of the following 2 courses:</i>		3			3							
Chemistry 302, Inorg. Chem.: Struct., Reactiv., and Funcn.	W											
Chemistry 303, Intro. Bioinorganic Chem: Role of Metals in Life	F, W											
<b>Chemistry 399, Undergraduate research in chemistry &lt;see ChE 460&gt;</b>												
Chemistry 402, Intermediate Inorganic Chemistry	(F21,F22,W23,W24)	3					3					
Chemistry 447, Physical Methods of Analysis	(W only)	3							3			
Chemistry 461, Physical Chemistry I	(F only)	3				3						
Chemistry 462, Computational Chemistry Laboratory	(F only)	1				1						
Chemistry 463, Physical Chemistry II	(W only)	3							3			
Chemistry 482, Synthesis	(F only)	3								3		
Chemistry 483, Physical and Instrumental Chemistry	(W only)	3									3	
<b>Chemical Engin. Program Subjects (33 hrs.)</b>												
ChE 230, Material & Energy Balances +	(F only)	4		4								
ChE 330, Chemical and Engin Thermodynamics +	W	4			4							
ChE 341, Fluid Mechanics +	W	4			4							
ChE 342, Heat and Mass Transfer +	F	4				4						
ChE 343, Separation Processes +	F	4				4						
ChE 344, Reaction Eng and Design +	W	4							4			
<b>ChE 360, ChE Laboratory I &lt;see Chem 462 and 482&gt;</b>												
ChE 460, ChE Laboratory II	F,W	4								4		
ChE 466, Process Control and Dynamics I	F	3								3		
ChE 485, Chemical Engineering Process Econ. +	W	1							1			
<i>Elect 1 of the following (ChE 487 shown here)</i>		5									5	
ChE 487, Chem Proc. Sim. and Design	F, W											
ChE 488, 489 Chemical Product Design I & II	F (2) & W(3)											
<b>Related Technical Subjects</b>												
Biology 172	F,W	4						4				
Materials Elective (MSE 250 or MSE 220)+	F,W	4					4					
Engineering Elective	F,W	3						3				
<b>B.S.E. (ChE/Chem) Total</b>		<b>156</b>	17	14	17	16	16	15	16	15	14	16
(+ ) must earn a C- or better in this class												
(*) An Honors Chemistry degree can be earned by meeting the requirements of the Chemistry Honors Program												
(**) Make sure to satisfy the LS&A distribution requirements, and natural science requirement can not be satisfied by CHEM or COE Courses.												
(***) (Submit writing sample and petition to Sweetland Writing Center to waive lower level writing requirement.) ULWR cannot be waived.												
(****) Either Physics 390 or Materials Science 242 can be taken to fulfill the Chemistry 261 requirement												
<b>July 2022</b>												