BSE CHEMICAL ENGINEERING / BS-CHEMISTRY MAJOR* Dual Degree Program

	c,	emester	F1	\\\/1	F2	W2	E3	/\/\2	FΛ	MA	F5	W/5
Subjects required by engineering programs (53 hrs.)	Se	mester	ΓI	VVI	۲۷	۷۷∠	гЗ	VV 3	г4	vv4	гэ	WS
Mathematics 115+, 116+, 215+, 216+		16	4	4	4	4			ı	1		
Engineering 100 or English 125+ (Engr 100 if Engr is home school)		4	4			7			-		\vdash	
Engineering 101 +		4	4								 	
Chemistry 130 +		3	3								 	
Physics 140 with Lab 141+; 240 with Lab 241+		10		5	5							
Intellectual Breadth **		16		J	J			4			4	8
(to include a micro or macro economics course to meet ChE reg's.		10						4			-	0
and courses to fulfill LSA's race and ethnicity req's)				ļ					<u>l</u>	ļ		
LS&A requirements (16 hrs.)												
Language (German recommended, some 200 level and higher		16				ı	4	4	4	4		
courses might satisfy engineering HU or IB requirements)		10					7			7		
Advanced Chemistry (ChE)				l					l	l		
Chemistry 210, 211, Structure and Reactivity and Lab I +		5		5		ı			ı			
Chemistry 215, 216, Structure and Reactivity and Lab II +		5		3	5						 	-
Chemistry 261, Introduction to Quantum Chemistry****		1			J	1						
Additional chemistry courses (28 hrs.)	Term Offered					<u>'</u>					_	
Chemistry 125,126, General Chemistry Lab		2	2	ı	ı	1		l	ı	ı		
Chemistry 241, 242 Intro. Chemical Analysis and Lab	F,W F, W	4			4				-		\vdash	\vdash
Elect 1 of the following 2 courses:	Γ, ۷۷	3	1	-	7	3			1	-	 	₩
Chemistry 302, Inorg. Chem.: Struct., Reactiv., and Funcn.	W	3				J			l			
Chemistry 303, Intro. Bioinorganic Chem: Role of Metals in Life	F, W											
Chemistry 461, Physical Chemistry I	(F only)	3		1			3		ı	1		
Chemistry 462, Computational Chemistry Laboratory	(F only)	1					1					
Advanced Chemistry Lecture (351 F/W 4cr, 402 F 3cr, or 447 F 3cr)	F, W	3 or 4						3				
Chemistry 482, Synthesis (satisfies ULWR)	(F only)	3						3	3		 	
Select Chemistry Elective Courses totaling 9 credits:	(i Only)	3									 	
Chemistry Elective Course (see back)	F, W	3								3	 	
Chemistry Elective Course (see back)	F, W	3								3	3	
Chemistry Elective Course (see back)	F, W	3										3
Chemical Engin. Program Subjects (33 hrs.)	Term Offered								<u> </u>			Ğ
ChE 230, Material & Energy Balances +	(F only)	4				ı	4		ı			
ChE 330, Chemical and Engin Thermodynamics +	W W	4					-	4				
ChE 341, Fluid Mechanics +	W	4						4				
ChE 342, Heat and Mass Transfer +	F	4							4			<u> </u>
ChE 343, Separation Processes +	 F	4							4			<u> </u>
ChE 344, Reaction Eng and Design +	W	4							-	4	 	
ChE 360, ChE Laboratory I <see 462="" 482="" and="" chem=""></see>									l.			
ChE 460, ChE Laboratory II	F,W	4		1					l	1	4	
ChE 466, Process Control and Dynamics I	F . ,	3									3	\vdash
ChE 485, Chemical Engineering Process Econ. +	W	1								1		
Elect 1 of the following (ChE 487 shown here)		5										5
ChE 487, Chem Proc. Sim. and Design	F, W											
ChE 488, 489 Chemical Product Design I & II	F (2) & W(3)											
Related Technical Subjects	Term Offered											
Biology 172 or 174	F,W	4		4					l			
Materials Elective (MSE 250 or MSE 220)+	F,W	4				4						
Engineering Elective	F,W	3								3		
B.S.E. (ChE/Chem) Total	,	156	17	18	18	12	12	19	15	15	14	16
(+) must earn a C- or better in this class												
(*) An Honors Chemistry degree can be earned by meeting the requi	rements of the	Chemist	rv Ho	nors	Prog	ram						
(**) Make sure to satisfy the LS&A distribution requirements, and nat							l by (:HFM	or C	OF Co	ourse	
(***) (Submit writing sample and petition to Sweetland Writing Center												
(****) Either Physics 390 or Materials Science 242 can be taken to fu						, 0		Ja: 111	<i>5</i>		24.	
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NOTES:											\vdash	t
If choosing Chem 351, Bio 172 is a pre-req.		I	<u> </u>	1			<u> </u>		·	1		
Physics 240 is a pre-req for Chem 461.									1			
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August 2023		I .		1					·	1		
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LIST OF POSSIBLE CHEMISTRY ELECTIVES:									
Chem 351: Biochemistry Fundamentals (4) if not selected as one of the	the advanced led	cture cou	ırses						
Chem 352: Introductory Biochemistry Lab (2)									
Chem 399: Undergrad Research (1-4)									
Chem 402: Intermediate Inorganic Chemistry (3) if not selected as or	ne of the advanc	ced lectu	re co	urses	5				
Chem 419: Int. Phys Org. Chem (3)									
Chem 420: Int Org. Chem (3)									
Chem 421: Org. Chem of Drug Design (3)									
Chem 425: Special Topics Org Chem (3)									
Chem 436: Polymer Synthesis and Charaterization (3)									
Chem 447: Physical Methods of Analysis (3) if not selected as one of	the advanced le	ecture co	ourse	S					
Chem 451: Advanced Biochemistry I (3)									
Chem 455: Special Topics in Biochemistry (3)									
Chem 463: Thermodynamics and Kinetics (3)									
Chem 465: Special Topics Phys Chem (3)									
Chem 474: Environmental Chem (3)									
Chem 483: Physical and Instrumental Chemistry (3)									
Chem 499: Honors Thesis (1)									
Chem 511: Materials Chemistry (3)									
Chem 515: Organometallic Chemistry (3)	·								
Chem 538: Organic Chemistry of Macromolecules (3)									