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

	Se	emester	F1	W1	F2	W2	F3	W3	F4	W4	F5	W5
Subjects required by engineering programs (53 hrs.)							1.2					
Mathematics $115 \pm 116 \pm 215 \pm 216 \pm$		16	4	4	4	4	1	1	1			
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 \pm 240 with Lab 241 \pm		10	5	5	5							
Intellectual Proodth **		16		5	5			4			4	0
(to include a misro or magra accommiss accurate mast ChE ragio		10						4			4	0
(to include a micro of macro economics course to meet the req s.												
LS&A requirements (16 nrs.)		1.0		1		1						
Language (German recommended, some 200 level and higher		16					4	4	4	4		
courses might satisfy engineering HU or IB requirements)												
Advanced Chemistry (ChE)												
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						
Additional chemistry courses (28 hrs.)	Term Offered							_	_			
Chemistry 125,126, General Chemistry Lab	F,W	2	2									
Chemistry 241, 242 Intro. Chemical Analysis and Lab	F, W	4			4							
Elect 1 of the following 2 courses:		3				3						
Chemistry 302, Inorg. Chem.: Struct., Reactiv., and Funcn.	W											
Chemistry 303, Intro. Bioinorganic Chem: Role of Metals in Life	F, W											
Chemistry 461, Physical Chemistry I	(F only)	3					3					
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			
Select Chemistry Elective Courses totaling 9 credits:												
Chemistry Elective Course (see back)	F. W	3								3		
Chemistry Elective Course (see back)	F. W	3								_	3	
Chemistry Elective Course (see back)	F. W	3									-	3
Chemical Engin Program Subjects (33 hrs.)	Term Offered	0										
ChE 230 Material & Energy Balances +	(F only)	4					4					
ChE 330 Chemical and Engin Thermodynamics +	(i only) W	4					-	4				
ChE 3/1 Eluid Mechanics +	W	4						4				
ChE 342 Heat and Mass Transfer +	F	4						т	4			
ChE 343 Separation Processes +	F	т 4							т 4			
ChE 344, Reaction England Design +	W/	- - 							-	Δ		
ChE 360, ChE Laboratory Lesson Chem 462 and 482	VV	Ŧ								-		
Che 460, Che Laboratory II	E \//	4		1			1	1	1		1	
ChE 466, Brocoss Control and Dynamics I	F, VV	4									2	
ChE 485, Chamical Engineering Process Econ										1	5	
Che 405, Chemical Engineering Process Econ. +	VV	- I								1		F
Elect 1 of the following (Che 487 shown here)	F 14/	5										5
ChE 487, Chem Proc. Sim. and Design	F, W											
Che 488, 489 Chemical Product Design I & II	F (2) & W(3)											
Related Lechnical Subjects	Term Offered			1 -			1					
Biology 172 or 174	F,W	4		4		-						
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 (Chemisti	ry Ho	nors	Progr	ram						
(**) Make sure to satisfy the LS&A distribution requirements, and nat	ural science requ	uirement	t can	not b	e sat	isfied	d by C	CHEM	or C	OE Co	ourse	s.
(***) (Submit writing sample and petition to Sweetland Writing Center	to waive lower	level wri	ting r	equir	emer	nt.) U	LWR	cann	ot be	waiv	ed.	
(****) Either Physics 390 or Materials Science 242 can be taken to fu	Ifill the Chemistr	y 261 r	equir	emer	ıt							
NOTES:			l	1			İ					
If choosing Chem 351, Bio 172 is a pre-req.												
Physics 240 is a pre-reg for Chem 461.												
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LIST OF POSSIBLE CHEMISTRY ELECTIVES:									
Chem 351: Biochemistry Fundamentals (4) if not selected as one	of the advanced	l lecture co	urses						
Chem 352: Introductory Biochemistry Lab (2)									
Chem 399: Undergrad Research (1-4)									
Chem 402: Intermediate Inorganic Chemistry (3) if not selected a	s one of the adv	anced lectu	ire co	urses	s				
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	e of the advance	d lecture c	ourse	5					
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)									