

BSE CHEMICAL ENGINEERING / BSE MATERIAL SCIENCE ENGINEERING
Dual Degree Program

		Semester	F1	W1	F2	W2	F3	W3	F4	W4	F5
Subjects required by all programs (53 hrs.)											
Mathematics 115+, 116+, 215+, 216 +		16	4	4	4	4					
Engineering 100+		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)		16		4	4	4		4			
Science and Technical Subjects (8 hrs.)											
Biology 172 or 174		4								4	
ME 211, Introduction to Solid Mechanics		4					4				
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, Intro to Quantum Chem <see MSE 242>											
Program Subjects (70 hrs.)		Term Offered									
ChE 230, Material & Energy Balances +	F	4			4						
ChE 330, Chem and Engin Thermodynamics +	W	4				4					
ChE 341, Fluid Mechanics +	W	4				4					
ChE 342, Mass and Heat Transfer +	F	4					4				
ChE 343, Separation Processes +	F	4							4		
ChE 344, Reaction Eng and Design +	W	4						4			
ChE 360, ChemE Laboratory I <see MSE 360>											
ChE 460, ChemE Laboratory II	F,W	4									4
ChE 466, Process Control and Dynamics +	F	3									3
ChE 485, Chemical Engineering Process Econ. +	W	1								1	
<i>Elect 1 of the following 2 courses: (487 shown)</i>		5									5
ChE 487, Chem Proc Sim and Design	F,W										
ChE 488,489, Chemical Product Design I and II	F (2), W (3)										
<i>Elect 1 of the following 2 courses:</i>		4			4						
MSE 220, Intro. to Materials and Manufact.	F,W										
MSE 250, Principles of Engineering Materials	F,W										
MSE 242, Physics of Materials	W	4						4			
MSE 330, Thermodynamics of Materials <see ChE 330>											
MSE 335, Kinetics and Transport in Matls Engr <see ChE 342,344>											
MSE 350, Principles of Engineering Materials II	F	4					4				
MSE 360, Materials Laboratory I	F	3							3		
MSE 365, Materials Laboratory II <see ChE 460>											
MSE 420, Mechanical Behavior of Materials	F	3									3
<i>Elect 1 of the following 2 courses: (481 shown)</i>		3								3	
MSE 481, Materials Processing Design*	F										
MSE 482, Materials and Engineering Design*	W										
<i>Elect 4 courses of 400 level or above MSE courses:</i>		12							6	6	
Unrestricted electives		1							1		
B.S.E. (ChE/MSE) Total		142	16	17	16	16	17	17	14	14	15
(+) Must earn a C- or better in this class											
(*) ChE 487 or ChE 488-89 can be substituted for MSE 481 or MSE 482											
Students in this Dual Degree program are not eligible for a Material Science concentration in BSEChE											
Note: MSE 593 courses will not count for MSE degrees.											
August 2023											