

CHEMICAL ENGINEERING Biomolecular Engineering Concentration

	Session	Course	Course Name	SH	P:Prerequisite (in general C or better); C:Corequisite	
1 st Yr Fall	F	CHE 1101	Intro to Chem & Petr Engr	1	C:(MA 1313, MA 1323, MA 1453, or MA 1713)	
	ALL	CH 1213	Chemistry I	3	ACT Math subscore 24 or P:MA 1313	
	ALL	CH 1211	Invst In Chemistry I	1	C:CH 1213	
	ALL	MA 1713	Calculus I	3	ACT Math subscore 26 or P:(MA 1323 or MA 1453)	
	ALL	EN 1103	En Composition I	3	ACT English subscore 17 or P:EN 0103	
	ALL	BIO 1134	Biology I	4		
			Total	15		
1 st Yr Spring	Sp	CHE 2213	Chemical Eng Analysis	3	C:CH 1213; C:(MA 1323, MA 1453, or MA 1713)	
	ALL	CH 1223	Chemistry II	3	P:CH 1213	
	ALL	CH 1221	Invst Chemistry II	1	P:CH 1211; C:CH 1223	
	ALL	MA 1723	Calculus II	3	P:MA 1713	
	ALL	PH 2213	Physics I	3	P:MA 1713	
	ALL	EN 1113	En Composition II	3	P:(EN 1103, EN 1163, or EN 1183)	
			Total	16		
2 nd Yr Fall	F/Su	CHE 2114	Mass & Energy Balances	4	P:CH 1223; C:MA 1723	
	F/Su	CHE 3203	Fluid Flow Op	3	P:PH 2213; C:CHE 2114; C:MA 1723	
	ALL	MA 2733	Calculus III	3	P:MA 1723	
	ALL	IE 3913	Engr Economy I	3	P:MA 1713	
	ALL		Humanities Elective	3		
			Total	16		
2 nd Yr Spring	ALL	CHE 3113	Chem En Thermo I	3	P:CH 1223; P:PH 2213; C:CHE 2114; C:MA 2733	
	ALL	MA 2743	Calculus IV	3	P:MA 2733	
	ALL	BIO 1144	Biology II-SI	4		
	ALL		Social Science Elective	3		
	ALL		Humanities Elective	3		
			Total	15		
3 rd Yr Fall	ALL	CHE 3123	Chem En Thermo II	3	P:MA 2743; P:CHE 2114; P:CHE 3113	
	F/Su	CHE 3413	Eng Materials	3	P:CH 1223; P:PH 2213	
	ALL	CH 4513	Organic Chemistry I	3	P:(CH 1223 or CH 1244)	
	ALL	CH 4511	Org Chem Lab I	1	P:CH 1221; P:CH 1223; C:CH 4513	
	ALL	MA 3253	Diff Equations	3	C:MA 2743	
	ALL		Social Science Elective	3		
			Total	16		
3 rd Yr Spring	ALL	CH 4523	Organic Chemistry II	3	P:(CH 4513/6513 or CH 4554)	
	ALL	CH 4521	Org Chem Lab II	1	P:CH 4511/6511; P:(CH 4513/6513 or CH 4554); C:CH 4523	
	Sp/Su	CHE 3213	Heat Transfer Op	3	P:MA 2743; P:(CHE 3203 or EM 3313); C:CHE 3113; C:MA 3253	
	Sp	CHE 3222	Chem Eng Lab I	2	P:(CHE 3203 or EM 3313); C:CHE 3213	
	Sp/Su	CHE 3223	Separation Processes	3	P:CHE 3203; C:CHE 3213; C:CHE 3123	
	Sp	CHE 3331	Prof Develop Seminar	1	P:Chemical Engineering majors with Junior Standing	
	Choose 4 s.h.	F/Sp		CHE Elective	3	
		ALL	BIO 3304	General Microbiology	4	P:(CH 1053 or CH 1223)
			Total	16		
4 th Yr Fall	Choose one	F/Sp	BCH 4013	Principles of Biochemistry	3	P:(CH 2503, BIO 1134 or equivalent)
		F/Sp	BCH 4603	Gen Biochem I		P:(CH 4564, CH 4523/6523 or consent of instructor)
		F	CHE 3232	Chem Eng Lab II	2	P:CHE 3203; P:CHE 3213; P:CHE 3223
		F	CHE 4113	Chem Reactor Design	3	P:CHE 3123; P:MA 3253
		F	CHE 4134	Process Design	4	P:CHE 3123; P:CHE 3213; P:CHE 3223
		ALL	PH 2223	Physics II (or approved substitute ¹)	3	P:PH 2213; P:MA 1723
			Total	15		
4 th Yr Spring	Sp	CHE 4223	Pro Instr & Con	3	P:CHE 4113; P:CHE 3223	
	Sp	CHE 4233	Chemical Plant Design	3	P:CHE 4134; P:CHE 4113	
	Sp	CHE 4633	Chemical Pro Safety	3	P:CHE 2114; P:CHE 3203; P:MA 1723	
	ALL	GE 3513	Technical Writing	3	P:EN 1103; P:EN 1113; Junior Standing	
	F/Sp		Advanced Science Elective ²	3		
	ALL		Fine Arts Elective	3		
			Total	18		

¹ Approved substitutes for PH 2223 are IE 4613, IE 4623, MA 3123, MA 4373, MA 4523, MA 4533, MA 4543, MA 4573 or CHE 4313

² PH 2233 (Pre-med students); 3-sh advanced BIO course (Pre-vet students); or 3-sh biotechnology course (with advisor approval).