

Chemical Engineering- Biochemical Engineering

1st YEAR	Session	Course	Chemical Engineering – Biochemical Engr.	SH	Pre-Requisite or /Co-Requisite
Fall Semester	All	22M:031	Engineering Math I – Single Variable Calculus	4	P: H.S. Algebra & Trigonometry
	F	59:005	Engineering Problem Solving I	3	
	All	4:011	Principles of Chemistry I	4	
	All	10:003	Accelerated Rhetoric (or 10:001 & 10:002)	4	
	F	52:090	First-year Engineering Seminar	1	
				Total	16
Spring Semester	All	22M:032	Engineering Math II – Multivariable Calculus	4	P: 22M:031
	S	59:006	Engineering Problem Solving II	3	C: 22M:031
	F/S	29:081	Introductory Physics I	4	C: 22M:031
	All	22M:033	Engineering Math III – Matrix Algebra	2	C: 22M:032
	All	4:012	Principles of Chemistry II	4	P: 4:011
	S	52:090	CBE Departmental Seminar	0	
				Total	17
					(1-year total = 33)
2nd YEAR					
Fall Semester	All	22M:034	Engineering Math IV – Differential Equations	3	P: 22M:033
	All		General Education Component #1	3	
	All	59:007	Fundamentals of Engineering I – Statics	2	P: 22M:031; C: 29:081
	All	59:008	Engineering Fundamentals II – Electrical Circuits	3	C: 22M:034
	All	59:009	Engineering Fundamentals III – Thermodynamics	3	P: 22M:031, 4:011, 29:081
	F	52:041	Process Calculations	3	P: 22M:031
				Total	17
Spring Semester	S	52:103	ChE Thermodynamics	3	P: 59:009; C: 52:041
	S	52:151	Engineering Flow and Heat Exchange	3	C: 52:041
	All	4:121	Organic Chemistry I	3	P: 4:012
	All		General Education Component #2	3	
	All		General Education Component #3	3	
	F/S	52:091	CBE Professional Seminar	0	P: 52:041
				Total	15
					(2 year total = 65)
3rd YEAR					
Fall Semester	F	52:161	Mass Transfer and Separations	3	P: 52:103, 52:151
	F	52:171	Thermodynamics/Transport Laboratory	3	P: 52:103; 52:151; C: 52:161; R: Statistics Course
	All	4:122	Organic Chemistry II	3	P: 4:121
	All	4:141	Organic Chemistry Laboratory	3	P: 4:121; C: 4:122
	All		Elective #1: Additional Elective	3	
	F/S	52:091	CBE Professional Seminar	0	P: 52:041
				Total	15
Spring Semester	S	52:105	Chemical Reaction Engineering	3	P: 52:161
	S	52:172	Chemical Reaction Engineering/Separation Lab.	2	P: 52:161; 52:171; C: 52:105
	S	52:187	Chemical Process Safety	3	P: 52:151; 52:161; C: 52:105
	All		Elective #2: Statistics Elective	3	
	All		Elective #3: Additional Elective	3	
	All		General Education Component #4	3	
	F/S	52:091	CBE Professional Seminar	0	P: 52:041
				Total	17
					(3 year total = 97)
4th YEAR					
Fall Semester	F	52:185	Process Dynamics & Control in Design	3	P: 52:105
	F		Advanced Chemical Science Elective #1	3	
	F	52:173	Senior Laboratory Experience	2	P: 52:172
	All	57:015	Materials Science	3	P: 4:011; C: 22M:031
	F	52:108	Elective #4: Introduction to Biochemical Engineering	3	C: 52:161; R: 52:105
	All		Elective #5: Additional Elective	3	
	F/S	52:091	CBE Professional Seminar	0	P: 52:041
				Total	17
Spring Semester	S	52:186	Chemical Engineering Process Design	3	P: 52:105, 52:161; R: 52:185, 52:187
	S		Advanced Chemical Science Elective #2	3	
	S		Advanced Chemical Science Elective #3: Lab	3	
	All		Elective #6: Additional Elective	3	
	All		General Education Component #5	3	
	F/S	52:092	Enriching Activities Seminar	0	C: 52:186
				Total	15
					(4 year total = 129)