

BS in Chemical Engineering (ChE) – Bio-Molecular Concentration

(students beginning at TTU during Fall 2007 or later)

FALL

SPRING

1st Year

MATH 1910	Calculus I	4	BIOL 1010	General Biology 1	4
CHEM 1110	General Chemistry I	4	MATH 1920	Calculus 2	4
ENGL 1010	Writing I	3	CHEM 1120	General Chemistry 2	4
Hum/Fine Arts	GE Elective	3	ENGL 1020	Writing 2	3
CHE 1010 ¹	Intro. to Chemical Eng.	1	CHE 1510	Computer Apps in ChE	1
Total Credit Hours		15			16

2nd Year

MATH 2110	Calculus 3	4	MATH 2120	Differential Equations	3
PHYS 2110	Physics I	3	PHYS 2120	Physics 2	3
Hum/Fine Arts	GE Elective	3	SPCH 2410 or PC 2500	Speech	3
CHE 2011	CBE Process Analysis	4	CHE 3730	ChE Operations	3
Soc/Beh. Sc.	GE Elective	3	ENGL 2130, 2230 or 2330	Hum/Fine Arts (Lit)	3
Total Credit Hours		17			15

3rd Year²

BIOL 3200	Gen Microbiology	4	CHEM 3020	Organic Chemistry 2	4
CHEM 3010	Organic Chemistry 1	4	CHE 3021	Separations/Solution Thermo	4
CHE 3010	Thermo of Chemical Processes	3	CHE 3121	TS 2: Fluid Mechanics	4
CHE 3111	TS1: Conduction, Radiation, Diff	4	BIOL 3140	Cellular Biology	4
CHEM 3510	Physical Chemistry 1	4			
Total Credit Hours		19			16

4th Year

CHEM 4610	General Biochemistry	3	Soc/Beh. Sc.	GE Elective	3
CHE 4131	TS3: Diffusion & Mass Transfer	4	CHE 4240	ChE Capstone Lab	1
CHE 4210	Chemical Reaction Engineering	4	CHE 4420	Process Design II	3
CHE 4410	Process Design I	3	CHE 4540	Process Dyn. & Contr.	3
CHE 4910	Professionalism and Ethics	1	CHE 4661	Transport in Bio. Processes	3
			CHE/BIOL/CHEM	Tech. Elec. ³	3
Total Credit Hours		15			16

NOTES:

1. Fulfills UNIV 1020 requirement.
2. Students interested in the ChE Fast-Track MS program should apply by the end of their second junior term.
3. This Technical Elective can be any of the following courses
 - i. BIOL 4750 – Medical Microbiology
 - ii. CHE 4990 – Introduction to Research
 - iii. BIOL 4850 – Applied Microbiology
 - iv. BIOL 4740 – Pollution Microbiology
 - v. BIOL 4040 – Immunology
 - vi. BIOL 3810 – General Genetics

General Education Core Electives

At least one literature course, selected from those marked with an asterisk () must be included.*

Humanities and/or Fine Arts (9 hours)			Social/Behavioral Sciences (6 hours)		
ART 1030	Art Appreciation	3	ANTH (SOC) 1100	Introduction to Anthropology	3
ENGL 2130*	American Literature	3	ECON 2010	Principles of Microeconomics	3
ENGL 2230*	British Literature (combines 2210-2220)	3	ECON 2020	Principles of Macroeconomics	3
ENGL 2330*	World Literature	3	GEOG 1120	Human Geography	3
FREN 2510	French Culture and Civilization	3	POLS 1000	American Government	3
GERM 2520	German Culture and Civilization	3	PSY 2010	General Psychology	3
HIST 1010	Survey of European Civilization I	3	SOC 1010	Introduction to Sociology	3
HIST 1020	Survey of European Civilization II	3	GEOG 1130	Geography of Natural Hazards	3
HIST 1110	World Civilization I	3	AGBE 2010	World Food and Society	3
HIST 1120	World Civilization II	3			
MUS 1030	Music Appreciation	3			
MUAR 2500	Arts and Ideas	3			
PHIL 1030	Introduction to Philosophy	3			
SPAN 2510	Spanish Culture and Civilization	3			
SPAN 2550	Latin American Culture and Civilization	3			
THEA 1030	Introduction to Theater	3			