

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

(students beginning at TTU during Spring 2018 or later)

<u>1st Year</u>		<u>FALL</u>	
CHE 1010 ²	Intro. to Chemical Eng.		1
ENGR 1120	Programming ¹		2
MATH 1910	Calculus I		4
CHEM 1110	General Chemistry I		4
ENGL 1010	Writing I		3
Total Credit Hours			14

<u>1st Year</u>		<u>SPRING</u>	
CHE 1020	CHE Processes, Products & Ethics		1
BIOL 1113	General Biology I		4
MATH 1920	Calculus 2		4
CHEM 1120	General Chemistry 2		4
ENGL 1020	Writing 2		3
Total Credit Hours			16

<u>2nd Year</u>		<u>FALL</u>	
CHE 2015	Intro to Chem/Bio An-Scl I		3
MATH 2110	Calculus 3		4
PHYS 2109	Cal Based Physics I		3
Hum/Fine Arts	GE Elective		3
Soc/Beh. Sc.	GE Elective		3
Total Credit Hours			16

<u>2nd Year</u>		<u>SPRING</u>	
CHE 2020	Intro to Chem/Bio An-Scl II		3
MATH 2120	Differential Equations		3
PHYS 2119	Cal Based Physics II		3
Hum/Fine Arts	ENGL 2130, 2235 or 2330		3
CHE 3730	ChE Operations		3
COMM 2025	Fundamentals of Communication		3
	or PC 2500 Communicating in the Profession		
Total Credit Hours			18

<u>3rd Year³</u>		<u>FALL</u>	
CHE 3010	Thermo of ChE Processes		3
CHE 3111	TS1: Cond, Radiation, Diff		4
CHEM 3010	Organic Chemistry 1		4
CHEM 3510	Physical Chemistry 1		4
BIOL 3200	General Microbiology		4
or BIOL 3230	Health Science Microbiology		
Total Credit Hours			19

<u>3rd Year³</u>		<u>SPRING</u>	
CHE 3021	Sep and Sol Thermo		4
CHE 3121	TS 2: Fluid Mechanics		4
CHEM 3020	Organic Chemistry 2		4
BIOL 3140	Cellular Biology		4
Total Credit Hours			16

<u>4th Year</u>		<u>FALL</u>	
CHE 4131	TS3: Diff. & Mass Transfer		4
CHE 4210	ChE Reaction Engr.		4
CHE 4410	Process Design I		3
CHEM 4610	General Biochemistry		3
Total Credit Hours			14

<u>4th Year</u>		<u>SPRING</u>	
CHE 4240	ChE Capstone Lab		1
CHE 4420	Process Design II		3
CHE 4540	Process Dyn. & Contr.		3
CHE 4661	Transport in Bio Processes		3
Hum/Fine Arts	GE Elective		3
Soc/Beh. Sc.	GE Elective		3
Total Credit Hours			16

*Please see notes on back.

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NOTES:

1. ENGR 1120 must be MATLAB.
2. Fulfills UNIV 1020 requirement.
3. Students must apply to the ChE Fast-Track MS program by the end of their second junior term.

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)		
ART 1035	Introduction to Art	3
ENGL 2130*	American Literature	3
ENGL 2235*	Topics in British Literature	3
ENGL 2330*	World Literature	3
FLST 2520	Cultures and Peoples of North Africa	3
FREN 2510	French Culture and Civilization	3
GERM 2520	German Culture and Civilization	3
HIST 2210	Early Western Civilization	3
HIST 2220	Modern Western Civilization	3
HIST 2310	Early World History	3
HIST 2320	Modern World History	3
HIST 1310	Science and World Cultures	3
MUS 1030	Music Appreciation	3
PHIL 1030	Introduction to Philosophy	3
RELS 2010	Introduction to Religious Studies	3
SPAN 2510	Spanish Culture and Civilization	3
SPAN 2550	Latin American Culture and Civilization	3
THEA 1030	Introduction to Theater	3

Social/Behavioral Sciences (6 hours)		
AGBE 2010	World Food and Society	3
ANTH 1100	Introduction to Anthropology	3
ECON 2010	Principles of Microeconomics	3
ECON 2020	Principles of Macroeconomics	3
ESS 1100	Introduction to Environmental Studies	3
EXPW 2015	Concepts of Health and Wellness	3
GEOG 1012	Cultural Geography	3
GEOG 1130	Geography of Natural Hazards	3
POLS 1030	American Government	3
PSY 1030	Introduction to Psychology	3
SOC 1010	Introduction to Sociology	3
WGS 2010	Intro to Women/Gender Studies	3