2020-2021 B.S. Chemistry-Advanced Biochemistry Concentration – American Chemical Society Certified Degree

NAME _____**ID#**_____

CORE CURRICULUM – 30-36 Semester Hours (SH)

Foundational Writing (3 cr.)
CORE 101 or ENGL 111
_____ _____ _____ 3

Writing Intensive (6 cr.)
_____ _____ _____ 3
_____ _____ _____ 3
Two of the following: ENGL 112, MKTG 201, ENGL 306

Foundational Math (3 cr.)
_____ _____ _____ 3
One of the following: MATH, 168, 171

Scientific & Quantitative Reasoning (6-8 cr.)
CHEM 111 _____ 4
CHEM 112 _____ 4

Humanistic or Artistic Expression (6-8 cr.)
_____ _____ _____ 3-4
_____ _____ _____ 3-4
Two of the following: ART 100, 215, 216; CLSS 110; CCST 110; CVPA 266; DNCE 111; ENGL 200, 201, 202, 203; HIST 101, 102; MUSC 100, 121, 123; PEAC 200; PHIL 111, 112, 200; POSC 110; RELN 111, 112, 203, 206; THEA 100, 180; ARAB 300; FREN 300, 320; GRMN 300; LATN 350; RUSS 300; WGST 200

Cultural or Behavioral Analysis (6-8 cr.)
_____ _____ _____ 3-4
_____ _____ _____ 3-4
Two of the following: ANSC 101; APST 200; CCST 103; ECON 101, 105, 106; GEOG 101, 102, 103, 140, 201, 202, 203, 280; HIST 111, 112; INST 101; ITEC 112; PEAC 200; POSC 120; PSYC 121; RELN 112, 205; SOCY 110, 121; WGST 200

*Courses taken for Core Coursework credit may not be cross credited (used to satisfy requirements in two Core Coursework categories), but course may be cross credited to majors, minors, and certificates.

Advanced Biochemistry CONCENTRATION

					Prerequisites
CHEM	111	_____ (4)	General Chemistry I	F/S/SU	
CHEM	112	_____ (4)	General Chemistry II	F/S/SU	CHEM 111
CHEM	216	_____ (3)	Inorganic Chemistry	F	CHEM 112
CHEM	301	_____ (4)	Organic Chemistry I	F/S/SU	CHEM 112
CHEM	302	_____ (4)	Organic Chemistry II	S/SU	CHEM 301
CHEM	324	_____ (4)	Analytical Chemistry	F	CHEM 112
CHEM	401	_____ (4)	Physical Chemistry I	F	CHEM 112, MATH 172, PHYS 112 or 222
CHEM	471	_____ (3)	Biochemistry	F/S	BIOL 105 or 132; CHEM 302
BIOL	132	_____ (4)	Biology of Cells and Microorganisms	F/S	"C" or better in CHEM 111
Option A					
MATH	171	_____ (4)	Calculus & Analytic Geometry I	F/S	Math SAT ≥ 550,or college pre-calc ≥ "C" or ALEKS exam
MATH	172	_____ (4)	Calculus & Analytic Geometry II	F/S	MATH 171
Option B					
MATH	168	_____ (3)	Calculus I with Integrated Precalculus I		
MATH	169	_____ (3)	Calculus I with Integrated Precalculus II		"C" or better in MATH 168
MATH	172	_____ (4)	Calculus & Analytic Geometry I		C or better in MATH 171 or 169

Additional Requirements needed for completion of the Advanced Biochemistry Concentration:

CHEM	350	_____ (2)	Chemical Research Methods	S	CHEM 301
CHEM	402	_____ (4)	Physical Chemistry II	S	CHEM 401
CHEM	421	_____ (3)	Polymer Chemistry	S	CHEM 302
CHEM	424	_____ (4)	Instrumental Analysis	S	CHEM 324
CHEM	450	_____ (2)	Career & Professional Development	F	CHEM 302
CHEM	472	_____ (3)	Biochemistry	S	CHEM 471
CHEM	474	_____ (1)	Biochemistry Laboratory	F	CHEM 471
BIOL	231	_____ (4)	Genetics, Evolution, & Development	F/S	"C" or better in BIOL 132
CHEM	481	_____ (1)	Undergraduate Research	F/S	Instructor permission
CHEM	485	_____ (2)	Capstone Project	F/S	CHEM 350

B.S. (Non Teaching) Requirements (8 hours):

PHYS	111	_____ (4)	General Physics I	F/S	MATH 137 or equivalent
PHYS	112	_____ (4)	General Physics II	F/S	PHYS 111
OR					
PHYS	221	_____ (4)	Physics I	F	MATH 171
PHYS	222	_____ (4)	Physics II	S	PHYS 221

Sample Schedule B.S. Chemistry Advanced Biochemistry Concentration – American Chemical Society Certified Degree – 2020-2021

Fall Semester		Spring Semester	
Freshman Year	**Cr.**	**Freshman Year**	**Cr.**
CHEM 111	4	CHEM 112 CHEM 111	4
MATH 171 Math SAT ≥ 550,or college pre-calc ≥ "C" or ALEKS exam	4	MATH 172 MATH 171	4
UNIV 100	1	BIOL 132 "C" or better in CHEM 111	4
CORE	3	CORE	3
CORE	3		
	15		**15**
The Biochemistry concentration is a rigorous four-year program provides a comprehensive foundation for graduate study in biochemistry, pharmacology, or related fields and prepares students for careers in industrial, governmental, healthcare or academic settings.			
Sophomore Year	**Cr.**	**Sophomore Year**	**Cr.**
CHEM 301 (F ONLY) CHEM 112	4	CHEM 302 (S ONLY) CHEM 301	4
B.S. requirement: PHYS 111 MATH 137 or equivalent **OR** PHYS 221 (F ONLY) MATH 171	4	PHYS 112 PHYS 111t **OR** PHYS 222 (F ONLY) PHYS 112	4
BIOL 231"C" or better in BIOL 132	4	CHEM 350 (S ONLY) CHEM 301	3
CHEM 216 (F ONLY) CHEM 112	3	CHEM 481	1
		CORE	3
	15		**15**
Junior Year	**Cr.**	**Junior Year**	**Cr.**
CHEM 471 (F ONLY) BIOL 105 or 132; CHEM 302	3	CHEM 472 (S ONLY) CHEM 471	3
CHEM 474 (F ONLY)	1	CHEM 424 (S ONLY) CHEM 112	4
CHEM 324 (F ONLY) CHEM 112	4	CORE	3
CORE	3	FREE ELECTIVE	3
CORE	3	FREE ELECTIVE	3
	14		**16**
Senior Year	**Cr.**	**Senior Year**	**Cr.**
CHEM 401 (F ONLY) CHEM 112, MATH 172, PHYS 112 or 222	4	CHEM 402 (S ONLY) CHEM 401	4
CHEM 450	2	CHEM 485	2
CHEM 421	3	FREE ELECTIVE	3
FREE ELECTIVE	3	FREE ELECTIVE	3
FREE ELECTIVE	3	FREE ELECTIVE to reach 120 credit hrs	3
	15		**15**