

BIOCHEMISTRY MAJOR 2021-2022

Student Name and ID	Date

GRADUATION REQUIREMENTS

Minimum 120 credit hours INCLUDING ALL MAJOR and USM CORE. At least 12 credit hours beyond the 100-level must be taken within the Chemistry Department at USM, and 30 out of the last 45 credits taken at USM. C or better required in all CHY courses and a minimum grade point average of 2.0 in all other courses required for the major.

USM Core Requirements		Credits	Semester	Grade
Writing, Reading, Inquiry 1	ENG 100 or any WRI1 course	3		
Writing, Reading, Inquiry 2	ENG 102 or any WRI2 course	3		
Writing, Reading, Inquiry 3	Any WRI3 course	3		
Quantitative Reasoning (QR)	MAT 152 Calculus A	4		
Creative Expression (CE)		3		
Cultural Interpretation (CI)		3		
Science Exploration (SE)	CHY 113/114 Principles of Chemistry I & Lab	4.5		
Socio-Cultural Analysis (SCA)		3		
Ethical Inquiry and Social Responsibility (EISRC)		3		
Diversity (DIV)		3		
International (INT)		3		
Engaged Learning (EL)	CHY 113, CHY 233, CHY 252, CHY 378, or CHY 464	1-3		
Senior Seminar/Capstone	CHY 464	1-4		

FOUNDATION/REQUIRED MAJOR COURSES: 39-44 CREDITS

COURSE NUMBER	COURSE NAME	CREDITS	Semester	Grade
CHY 113	Principles of Chemistry I	3		
CHY 114	Laboratory Techniques I	1.5		
CHY 115	Principles of Chemistry II	3		
CHY 116	Laboratory Techniques II	1.5		
CHY 233	Analytical Chemistry w/Lab	5		
CHY 251	Organic Chemistry I	3		
CHY 252	Organic Chemistry Laboratory	2		
CHY 253	Organic Chemistry II	3		

CHY 254	Organic Chemistry Laboratory II	2		
CHY 373	Chemical Thermodynamics	3		
CHY 461	Biochemistry	3		
CHY 462	Biochemistry Laboratory	2		
CHY 463	Biochemistry II	3		
CHY 464	Biochemistry Laboratory II (Capstone)	1-4		
Select one from the following (including laboratory if appropriate): 3-5 CREDITS				
CHY 421	Inorganic Chemistry	3		
CHY 377	Spectroscopy	3		
CHY 378	Instrumental Analysis Laboratory	2		

Choose one of the following sequences of courses: 3 – 8 CREDITS

COURSE NUMBER	COURSE NAME	CREDITS	Semester	Grade
Sequence 1				
BIO 107	Biological Principles II: Evolution, Biodiversity, and Ecology	4.5		
BIO 311	Microbiology	3		
BIO 282	Microbiology Laboratory	2		
Sequence 2				
BIO 107	Biological Principles II: Evolution, Biodiversity, and Ecology	4.5		
BIO 305	Developmental Biology	3		
BIO 306	Developmental Biology Laboratory	2		
Sequence 3				
BIO 107	Biological Principles II: Evolution, Biodiversity, and Ecology	4.5		
BIO 201	Genetics	3		
BIO 409	Cell and Molecular Biology	3		
BIO 410	Cell and Molecular Biology Laboratory	2		
Sequence 4				
BIO 107	Biological Principles II: Evolution, Biodiversity, and Ecology	4.5		
BIO 109	Biological Principles III: Functional Biology [or BIO111 or BIO221]	3		
BIO 321	Neurobiology	3		
BIO 322	Neurobiology Laboratory	2		
Sequence 5				

BIO 201	Genetics	3		
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NON-MAJOR REQUIREMENTS: 27 CREDITS

COURSE NUMBER	COURSE NAME	CREDITS	Semester	Grade
BIO 105	Biological Principles I: Cellular Biology	3		
BIO 106	Biological Principles I Laboratory	1.5		
BIO 107	Biological Principles II: Evolution, Biodiversity, and Ecology <i>[note: required for all Biology course sequences except Sequence 5]</i>	4.5		
PHY 121	General Physics I	4		
PHY 114	Introductory Physics Laboratory I	1		
PHY 123	General Physics II	4		
PHY 116	Introductory Physics Laboratory II	1		
MAT 152	Calculus A	4		
MAT 153	Calculus B	4		

****THIS IS ONLY A GUIDE. FOR DETAILED INFORMATION PLEASE REFER TO YOUR ACADEMIC CATALOG****

revised Jan. 2021