

CREDITS REQUIRED IN MAJOR: 65

To graduate as a chemistry major or minor in any of the programs, a student must earn a grade of C or better in all chemistry courses and a minimum grade point average of 2.0 in all other courses required for the major.

FOUNDATION/REQUIRED MAJOR COURSES: 41-44 CREDITS

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES	OFFERED	Online
CHY 113	Principles of Chemistry I	3	Pre- or co-requisite: MAT 108 (or concurrent) or MAT 140 (placement or concurrent) or MAT 152 (placement or concurrent) or permission.	Fall, Spring	
CHY 114	Laboratory Techniques I	1.5	CHY 113 (or concurrent)	Fall, Spring	
CHY 115	Principles of Chemistry II	3	Grade of C or better in CHY 113	Spring, Summer	
CHY 116	Laboratory Techniques II	1.5	Grade of C or better in CHY 114; CHY 115 (or concurrent)	Spring, Summer	
CHY 233	Analytical Chemistry w/Lab	5	Grade of C or better in CHY 115 and CHY 116	Fall	
CHY 251	Organic Chemistry I	3	Grade of C or better in CHY 115	Fall, Summer	
CHY 252	Organic Chemistry Laboratory	2	Grade of C or better in CHY 116; CHY 251 (or concurrent)	Fall, Summer	
CHY 253	Organic Chemistry II	3	Grade of C or better in CHY 251	Spring, Summer	
CHY 254	Organic Chemistry Laboratory II	2	Grade of C or better in CHY 252; CHY 253 (or concurrent)	Spring, Summer	
CHY 371	Quantum Chemistry	3	Grade of C or better in CHY 115, MAT 152, and PHY 123	Fall	
CHY 373	Chemical Thermodynamics	3	Grade of C or better in CHY 115, MAT 152, and PHY 123	Spring	
CHY 374	Chemical Thermodynamics Laboratory	2	Grade of C or better in CHY 116; CHY 373 (or concurrent)	Spring	

CHY 377	Spectroscopy	3	Grade of C or better in CHY 233 and CHY 253. CHY 371 (or concurrent) or permission of instructor.	Every third semester (fall 21)	
CHY 378	Instrumental Analysis Laboratory	2	Grades of C or better in CHY 233 and CHY 254; CHY 377 (or concurrent)	Every third semester (fall 21)	
CHY 421	Inorganic Chemistry	3	Grade of C or better in CHY 115. CHY 371 (or concurrent) or permission of instructor	Every third semester	
CHY 470	Chemistry in Perspective (Capstone)	1-4	Grades of C or better in CHY 233, 253/254, and 373/374. Prerequisite: CHY 371 (or concurrent) and CHY 377/378 (or concurrent).	Spring	

Choose one of the following four offerings: 3 CREDITS

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES	OFFERED	Online
CHY 345	Polymer Chemistry	3	Grade of C or better in CHY 253 and 373	Fall (odd years)	
CHY 351	Advanced Organic Chemistry	3	Grade of C or better in CHY 253	Varies	
CHY 385	Pickles to Pints: Fermentation Science	3	CHY 233, CHY 251, BIO 281 or BIO 311, or instructor permission.	Fall	
CHY 461	Biochemistry	3	Grade of C or better in CHY 253 or by instructor permission	Fall	

NON-MAJOR REQUIREMENTS: 21 CREDITS

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES	OFFERED	Online

PHY 121	General Physics I	4	Prior completion of MAT 152 (highly recommended) or concurrent registration in MAT 152, or equivalent.	Fall, Spring, Summer	
PHY 114	Introductory Physics Laboratory I	1	Co-requisite: PHY 111 or 121	Fall, Spring, Summer	
PHY 123	General Physics II	4	PHY 121 or equivalent and one semester of calculus.	Fall, Spring, Summer	
PHY 116	Introductory Physics Laboratory II	1	Co-requisite: PHY 112 or PHY 123	Fall, Spring, Summer	
MAT 152	Calculus A	4	MAT 140 or appropriate score on the College Level Math exam	Fall, Spring, Summer	Yes
MAT 153	Calculus B	4	MAT 152	Fall, Spring, Summer	Yes
PHY 261	Computational Physics	3	Grade of C or higher in PHY 121 and prior or concurrent registration in MAT 153, or permission of instructor.	Spring	
	OR				
	Math/Computer Science Course approved by Chemistry Department	3-4	Approval from Chemistry department and individual course prerequisites apply	Fall, Spring	

At least 12 credit hours beyond the 100-level must be taken within the Chemistry Department at USM.

MAJOR COURSES OVERLAPPING IN THE CORE:

CORE AREA	COURSE NUMBER	COURSE NAME	REQUIRED BY MAJOR?
SE	CHY 113 CHY 114	Principles of Chemistry I Laboratory Techniques I	Yes
CAP	CHY 470	Chemistry in Perspective	Yes
QR	MAT 152	Calculus A	Yes
SE	PHY 121 PHY 114	General Physics I Introductory Physics Laboratory I	Yes
EISRC	CHY 385	Pickles to Pints: Fermentation Science	As an option
EL	CHY 113	Principles of Chemistry I	Yes
EL	CHY 252	Organic Chemistry Lab I	Yes

EL	CHY 233	Analytical Chemistry with Lab	Yes
EL	CHY 378	Instrumental Analysis Laboratory	Yes
EL	CHY 470	Chemistry in Perspective	Yes

CORE CURRICULUM CODES

WRI 1 – Writing, Reading, & Inquiry 1 (ENG 100)

WRI 2 – Writing, Reading, & Inquiry 2 (ENG 102)

WRI 3 – Writing, Reading, & Inquiry 3 (SOC 210)

QR – Quantitative Reasoning

CE – Creative Expression

SCA – Socio-cultural Analysis

CI – Cultural Interpretation

SE – Science Exploration

EISRC – Ethical Inquiry, Social Responsibility, & Citizenship

DIV – Diversity

INT – International

EL – Engaged Learning

CAP – Capstone