

MINOR: CHEMISTRY

Student Learning Outcomes

Students graduating from this program will:

- Have a functional knowledge of all the basic areas of chemistry including analytical, organic, physical, inorganic and biochemistry.
- Be able to integrate their knowledge in these areas and use their critical thinking skills in order to become problem solvers.
- Be proficient in chemistry laboratories, especially with respect to: Following and understanding general laboratory practice guidelines, especially proper laboratory safety. Performing chemical analyses. Performing simple chemical synthesis. Understanding and using modern chemical instrumentation.
- Students graduating with a minor degree in chemistry should be proficient in the basic skills of chemistry. They will: Be able to articulate clearly scientific information, both in written and oral forms. Be able to use effectively the scientific literature.

Students graduating with a baccalaureate degree in chemistry will be prepared for entry into professional schools (e.g., medical, dental, pharmaceutical, or veterinary), graduate programs, or chemical industries.

Program Requirements

Students may elect to obtain a minor in chemistry in conjunction with a major in another academic discipline. The minimum departmental requirements are 18 credit hours of chemistry with at least 9 of these hours from courses at the 300 or 400 level. Students must complete 9 credit hours from the Chemistry program at UMKC, and 6 of those 9 hours must be courses at the 300 or 400 level. In addition, the minor courses must be selected from more than one area of chemistry and a minimum grade of a C- is required for all minor and prerequisite courses.

Code	Title	Credits
CHEM 211 or MOTRCHEM 150	General Chemistry I MOTR Chemistry I	4
CHEM 211L	Experimental General Chemistry I	1
CHEM 212R	General Chemistry II	4
CHEM 212LR	Experimental General Chemistry II	1
Select courses from at least two different areas below:		8
Analytical		
CHEM 341WI or CHEM 341	Analytical Chemistry I: Quantitative Analysis Analytical Chemistry I: Quantitative Analysis	
CHEM 345R	Instrumental Analysis	
CHEM 311	Laboratory Safety And Health I	
CHEM 387	Environmental Chemistry I	
CHEM 390	Special Topics In Chemistry	
CHEM 395	Directed Readings In Chemistry ¹	
CHEM 399	Intro To Research	
CHEM 442R	Analytical Chemistry II: Instrumental Analysis	
Biochemistry		
BIOLOGY 441	Biochemistry	
BMS 9265	Human Biochemistry 1 - Medical	
CHEM 367	Bioorganic Chemistry	
Inorganic		
CHEM 382	Inorganic And Organic Synthesis	
CHEM 410	Chemical Literature	
CHEM 451R	Inorganic Chemistry	
Organic		
CHEM 320	Elementary Organic Chemistry ²	
CHEM 320L	Experimental Organic Chemistry	
CHEM 321	Organic Chemistry I ²	
CHEM 321L	Organic Chemistry Laboratory I	
CHEM 322L	Organic Chemistry Laboratory II	
CHEM 322R	Organic Chemistry II	

Physical

CHEM 431	Physical Chemistry I
CHEM 432 or CHEM 330	Physical Chemistry II Elementary Physical Chemistry
CHEM 434	Molecular Spectroscopy
CHEM 437WI or CHEM 437	Experimental Physical Chemistry I Experimental Physical Chemistry I
CHEM 455	
CHEM 480	Computer Applications To Chemical Problems

Polymer

CHEM 471	Introduction To Polymer Chemistry
----------	-----------------------------------

Total Credits**18**

¹ No more than three hours total in CHEM 350, CHEM 395, CHEM 399, CHEM 495 and CHEM 499 may be used in meeting the minor course requirements.

² CHEM 320 and CHEM 321 may not both be counted toward the chemistry minor.