CHEMISTRY, POLYMER OPTION, BS

Bachelor of Science in Chemistry, Polymer Option (315001BS)

More on the Chemistry, Polymer Option major (https://www.uakron.edu/chemistry/undergraduate.dot)

Chemistry is an experimental science that seeks to understand the structure and function of molecules. Chemists synthesize new materials, and study their properties and how they interact with other compounds. This BS degree offered by the department provides a great way to study polymers as an undergraduate with the opportunity to perform individual research with Akron's renowned Polymer Science faculty.

The following information has official approval of **The Department of Chemistry** and **The Buchtel College of Arts & Sciences**, but is intended only as a supplemental guide. Official degree requirements are established at the time of transfer and admission to the degree-granting college. Students should refer to the Degree Progress Report (Stellic) which is definitive for graduation requirements. *Completion of this degree within the identified time frame below is contingent upon many factors, including but not limited to: class availability, total number of required credits, work schedule, finances, family, course drops/withdrawals, successfully passing courses, prerequisites, among others.* The transfer process is completed through an appointment with your academic advisor.

Requirements

Summary

Code	Title	Hours
General Education Requirements (https://bulletin.uakron.edu/undergraduate/general-education/)		36
College of Arts & Sciences Requirements		8
Chemistry Requirements		38
Polymer Requirements		9
Physics Requirements		8
Mathematics Requirements		15
Additional Credits for Graduation *		6
Total Hours		**120**

* Bachelor's degrees require a minimum of 120 credit hours for graduation.

Recommended General Education Courses

Code	Title	Hours
Students pursuing a bachelor's degree must complete the following General Education coursework. Diversity courses may also fulfill major or Breadth of Knowledge requirements. Integrated and Applied Learning courses may also fulfill requirements in the major.		
Students are not required to enroll in the specific courses listed below. However, to facilitate successful degree completion, the academic department strongly encourages completion of the following recommendations.		
Academic Foundations		**12**
Mathematics, Statistics and Logic: 3 credit hours		
MATH 221	Analytic Geometry-Calculus I	
MATH 222	Analytic Geometry-Calculus II	
MATH 223	Analytic Geometry-Calculus III	
MATH 335	Introduction to Ordinary Differential Equations	
Speaking: 3 credit hours		
Writing: 6 credit hours		
Breadth of Knowledge		**22**
Arts/Humanities: 9 credit hours		
Natural Sciences: 7 credit hours		
CHEM 151	Principles of Chemistry I	
CHEM 152	Principles of Chemistry I Laboratory	
CHEM 153	Principles of Chemistry II	
PHYS 291 & PHYS 292	Elementary Classical Physics I and Elementary Classical Physics II	
Social Sciences: 6 credit hours		
Diversity		
Domestic Diversity		
Global Diversity		
Integrated and Applied Learning		**2**
Select one class from one of the following subcategories:		
Complex Issues Facing Society		
Capstone		
Review the General Education Requirements page for detailed course listings.		
Total Hours		**36**

College of Arts & Sciences Requirements

Code	Title	Hours
Degree requirements for this Bachelor of Science in Arts & Sciences include the demonstration of ability to use another language by completion of the first year of a foreign language.		
1 Year Language Proficiency		*8*
101 Beginning I		
102 Beginning II		
SLPA 222	Survey of Deaf Culture in America (American Sign Language option only)	
Students must also complete a minimum of 40 credits (excluding workshops) consisting of either:		
Upper-level (300/400) courses both in and outside of the student's major;		
or other courses outside the major department approved by the student's major department chair (permission should be obtained prior to enrollment); these may not include workshops		

Chemistry Requirements [1]

Code	Title	Hours
CHEM 151	Principles of Chemistry I	3
CHEM 152	Principles of Chemistry I Laboratory	1
CHEM 153	Principles of Chemistry II	3
CHEM 154	Qualitative Analysis	2
CHEM 263	Organic Chemistry Lecture I	3
CHEM 264	Organic Chemistry Lecture II	3

CHEM 265	Organic Chemistry Laboratory I	2
CHEM 266	Organic Chemistry Laboratory II	2
CHEM 313	Physical Chemistry Lecture I	3
CHEM 314	Physical Chemistry Lecture II	3
CHEM 380	Advanced Chemistry Laboratory I	2
CHEM 381	Advanced Chemistry Laboratory II	2
CHEM 423	Analytical Chemistry I	3
CHEM 424	Analytical Chemistry II	3
CHEM 472	Advanced Inorganic Chemistry	3
Total Hours		**38**

[1] If a grade of less than C- is earned in a required chemistry course, the student must successfully repeat that course within a year.

Polymer Requirements

Code	Title	Hours
PLYS 403	Polymer Chemistry	3
PLYS 404	Polymer Physics	3
or PLYS 405	Polymer Science Laboratory	
CHEM 499	Research Problems in Chemistry	1-9
or PLYS 499	Research Problems in Polymer Science	
Total Hours		**7-15**

Physics Requirements

Code	Title	Hours
PHYS 291	Elementary Classical Physics I	4
PHYS 292	Elementary Classical Physics II	4
Total Hours		**8**

Mathematics Requirements

Code	Title	Hours
MATH 221	Analytic Geometry-Calculus I	4
MATH 222	Analytic Geometry-Calculus II	4
MATH 223	Analytic Geometry-Calculus III	4
MATH 335	Introduction to Ordinary Differential Equations	3
Total Hours		**15**

Recommended Sequence

1st Year		
Fall Semester		**Hours**
	Writing Requirement	3
CHEM 151	Principles of Chemistry I	3
CHEM 152	Principles of Chemistry I Laboratory	1
MATH 221	Analytic Geometry-Calculus I	4
Select one of the following:		3-4
	Beginning Language I	
SLPA 101	American Sign Language I [1]	
	Hours	**14-15**
Spring Semester		
	Writing Requirement	3
CHEM 153	Principles of Chemistry II	3
CHEM 154	Qualitative Analysis	2
MATH 222	Analytic Geometry-Calculus II	4
Select one of the following:		3-4
	Beginning Language II	
SLPA 102	American Sign Language II [1]	
	Hours	**15-16**
2nd Year		
Fall Semester		
CHEM 263	Organic Chemistry Lecture I	3
CHEM 265	Organic Chemistry Laboratory I	2
MATH 223	Analytic Geometry-Calculus III	4
PHYS 291	Elementary Classical Physics I	4
	General Elective	3
	Hours	**16**
Spring Semester		
CHEM 264	Organic Chemistry Lecture II	3
CHEM 266	Organic Chemistry Laboratory II	2
PHYS 292	Elementary Classical Physics II	4
	Speaking Requirement	3
	General Elective	3
	Hours	**15**
3rd Year		
Fall Semester		
CHEM 313	Physical Chemistry Lecture I	3
CHEM 380	Advanced Chemistry Laboratory I	2
CHEM 423	Analytical Chemistry I	3
MATH 335	Introduction to Ordinary Differential Equations	3
	Social Science Requirement [1]	3
	Humanities Requirement [1]	3
	Hours	**17**
Spring Semester		
CHEM 424	Analytical Chemistry II	3
CHEM 314	Physical Chemistry Lecture II	3
CHEM 381	Advanced Chemistry Laboratory II	2
	Social Science Requirement [1]	3
	Arts Requirement [1]	3
	Hours	**14**
4th Year		
Fall Semester		
CHEM 472	Advanced Inorganic Chemistry	3
PLYS 403	Polymer Chemistry [3]	3
	Arts/Humanities Requirement [1]	3
	Complex Issues Requirement [1,2]	3
	General Elective	3
	Hours	**15**
Spring Semester		
	Global Diversity Requirement [1,2]	3
	Domestic Diversity Requirement [1,2]	3
	General Elective	3
Select one of the following:		3
PLYS 404	Polymer Physics [3]	

PLYS 405	Polymer Science Laboratory [3]	
Select one of the following:		3
PLYS 499	Research Problems in Polymer Science [3]	
CHEM 499	Research Problems in Chemistry	
	Hours	**15**
	Total Hours	**121-123**

1. These courses fulfill General Education requirements. Unless a course is specified, refer to the General Education guide at https://bulletin.uakron.edu/undergraduate/general-education/. It is recommended that General Education courses be selected to satisfy major or minor requirements, or to double dip between multiple tiers (i.e. Chemistry majors are encouraged to take SOCIO 100 Introduction to Sociology and/or SOWK 244/344 Death and Dying to satisfy the Domestic Diversity Requirement, as well as part of the Social Science Requirement).
2. If requirement has been satisfied by previous coursework, credits should still be filled as general electives.
3. Classes are part of an in-progress curriculum change and are what students should take moving forward based on availability.