

3150 CHEMISTRY

Bachelor of Science or Bachelor of Arts 3150: Chemistry; and, 3150-02: Chemistry – Polymer Option

NOTE TO STUDENT: A student is expected to be familiar with the degree requirements. The following information has official approval of the Department of Chemistry but is intended only as a guide. **Freshman Year: A prospective major is urged to contact the Department of Chemistry during the freshmen year to schedule an appointment with an adviser in that department.** Official degree requirements are established at the time of admission to the degree-granting college.

FIRST YEAR

<u>Fall Semester</u>	<u>Semester Credit Hours</u>	<u>Prerequisites</u>
3150:151 Principles of Chemistry I (Lect. & Recitation) (Note d.)	3	Placement in 3450:149 or higher or permission
3150:152 Principles of Chemistry I Lab (Note d.)	1	3150:151 (co-req.)
3450:149 Precalculus Math (Note a.)	4	Placement Test or 3450:145
English Composition Requirement (Note b.)	4	Appropriate Placement by Adviser
Physical Education/Wellness (Note b.)	1-3	
Speech/ Oral Communication (Note b.)	<u>3</u>	
	16-19	

Spring Semester

3150:153 Principles of Chemistry II (Lect. & Recitation) (Note d.)	3	3150:151 & 152
3150:154 Qualitative Analysis (Note d.)	2	3150:151, 152; 3150:153 (co-req.)
3450:221 Analytic Geometry-Calculus I	4	3450:149 or Placement Test
English Composition Requirement (Note b.)	3	
Social Sciences Requirement (Note b.) -OR-		
Language Requirement (Note c.)	<u>3-4</u>	Appropriate Placement by Adviser
	15-16	

SECOND YEAR

<u>Fall Semester</u>		
3150:263 Organic Chemistry Lecture I (Note d.)	3	3150:153, 154
3150:265 Organic Chemistry Lab I (Note d.)	2	3150:263 (co-req.)
3150:265 Organic Chemistry I Discussion (Note d.)	0	3150:263 (co-req.)
3450:222 Analytic Geometry-Calculus II	4	3450:221
3650:291 Elementary Classical Physics I (Lect. & Lab) (Note f.)	4	3450:221
Elective -OR-		
Language Requirement (Note c.)	<u>3-4</u>	Appropriate Placement by Adviser
	16-17	

Spring Semester

3150:264 Organic Chemistry Lecture II (Note d.)	3	3150:263
3150:266 Organic Chemistry Lab II (Note d.)	2	3150:263; 3150:264 (co-req.)
3150:266 Organic Chemistry I Discussion II (Note d.)	0	3150:263; 3150:264 (co-req.)
3450:223 Analytic Geometry-Calculus III (Note e.) -OR-		3450:222
3400:210 Humanities in the Western Tradition I (Note e.)	4	3300:112 and 32 credits completed
3650:292 Elementary Classical Physics II (Lect. & Lab) (Note f.)	4	3650:291
Social Sciences Requirement (Note b.) -OR-		
Language Requirement (Note c.)	<u>3-4</u>	Appropriate Placement by Adviser
	16-17	

POLICY ALERT: 1) By the end of your first 48 credit hours attempted, you must have completed your General Education English, Math, and Communications (Speech) requirements; 2) By the end of your first 48 credit hours attempted, you must have declared a major and transferred to (been accepted by) a degree granting college at The University of Akron.

NOTES:

- All Chemistry majors should take the Math Placement Test. Those who qualify should begin with Analytic Geometry-Calculus I, 3450:221.
- Please see the General Education Guide <http://www.uakron.edu/advising/docs/GEN-EDUC.pdf>
- A student who plans to enter the Cooperative Education Program in chemistry should plan to take the foreign language in the first two years.** Completion of the second year of a foreign language or demonstrated equivalent competence is required.
- Students must receive a letter grade of C- or better in all required Chemistry courses, as well as a minimum GPA of 2.0 in Chemistry courses. If a student does not earn the required C- in a required Chemistry course, they need to repeat the course within one year. Having a letter grade of lower than a C- does not restrict the intercollege transfer as long as the Chemistry GPA is the minimum 2.0.
- Analytic Geometry-Calculus III (3450:223) is a requirement for the B.S. in Chemistry and the B.S. Polymer Option; however, Analytic Geometry-Calculus III is NOT required for a B.A. in Chemistry.
- Students pursuing a B.A. in Chemistry can take either Elementary and Classical Physics I & II (3650: 291 & 292) -OR- Physics for Life Sciences I & II (3650:261 & 262).

Department of Chemistry (330) 972-8385

Department Chair: Dr. Kim Calvo, Knight Chemical Lab, Room 207, (330) 972-7365

GENERAL INFORMATION: Chemistry is one of the physical sciences and deals with the nature and properties of matter. Some of the major functions of chemists are:

- To determine the properties and composition of matter
- To investigate the laws that govern the combination of atoms and molecules.
- To prepare new materials and find practical uses for them.

Nearly one-half of all chemists are engaged in research and development. Nearly one-fourth are engaged in management and administration. Many chemists are also involved in teaching, sales, and consulting.

*The employment outlook for chemists is expected to be good in the next decade. Starting salary for an individual with a Bachelor of Science in Chemistry is in the \$40,000 to \$42,000 a year range. *Source: Chemical and Engineering News

The B.S. degree in chemistry is designed for a student intending to pursue graduate studies in chemistry or a related science or to pursue an industrial or governmental research career in chemistry. However, a person may wish to use a good chemical background for future work in fields that connect chemistry with other disciplines, e.g., technical sales, patent law, company management, and environmental sciences. Such a student needs, in addition to chemistry, courses in such topics as economics, business administration, chemical engineering, polymer science, biology, and statistics.

The student should be aware also that a good route to admission to medical, dental or other professional school is through a major in chemistry. A B.A. program in chemistry provides a unique background which should be attractive to medical schools in the selection process. In the B.A. program, the student can fulfill all of the prerequisites for medical school and still have a background which is somewhat biochemically-oriented. In addition the B.A. program can allow the student to be broadly educated in the humanities. Furthermore, should the student with a B.A. degree in chemistry eventually decide against a medical degree, his/her background will be adequate for application to most graduate schools in chemistry, biochemistry, pharmaceutical chemistry, material science, etc. The B.A. degree is not recommended for one wishing to pursue a research career in chemistry or biochemistry.

The present B.S. degree in chemistry requires 45 semester hours of chemistry courses. The B.A. program has fewer chemistry and math course requirements and includes more electives. In this way a graduate who is not research-oriented can still obtain a sound background.

PLACEMENT: A student is encouraged to check with his/her major department and with the Center for Career Management, Simmons Hall 301, regarding employment opportunities in the field.

ARTS & SCIENCES: Degree requirements in the College of Arts & Sciences include the completion of the second year of a foreign language at the college level (in most majors), and 47 semester credits of 300/400 level courses, not including workshops or courses that meet the Humanities in the Western Tradition or Area Studies and Cultural Diversity (World Civ) requirements. (3450:221, 222, 223, 235; 3650:291, 292 & Physics for Life Science will be counted towards the 47 credits.)

TRANSFER TO THE DEPARTMENT OF CHEMISTRY (COLLEGE OF ARTS & SCIENCES): A student should apply to the College of Arts & Sciences to enter the department of Chemistry upon completion of 30 credits and a 2.0 or better overall GPA (including transfer work). In addition, the student must have achieved a 2.0 in all coursework in the major field (including transfer work). The 30 credits must include the completion of both English Composition courses and the General Education requirement level of mathematics. As well, a student entering the Department of Chemistry must obtain a grade of C- or better in all required Chemistry courses. This transfer process is completed through an appointment with an academic adviser, the Academic Advisement Center, Simmons Hall 205, 330-972-7430, or Summit College, Polsky 301, (330) 972-7220, depending upon the college in which you reside.

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