



Major Map: Chemistry BS

Catalog Year: 2011-2012

The following is a sample course of study. It is the Student's responsibility to ensure that all program requirements are met. This guide is not a substitute for academic advisement.

Your path to graduation may vary based on factors such as college credit you earned while in high school, transfer work from other institutions of higher learning and placement in Mathematics. You are responsible for checking prerequisites to any courses.

| Course Subject and Title | Hrs. | Can be Upper Division | Transfer Course | Minimum Grade if Required | Date Completed | Final Grade | Pre-requisites met | Additional Critical Tracking Notes |
|--|------|-------------------------------------|--------------------------|---------------------------|----------------|-------------|--------------------------|---|
| Fall Semester Year 1: 16 hours | | | | | | | | |
| Chemistry 211, Gen Chem I (GER F.2.) | 4 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | *Chem BS freshmen who have not had 4 units of HS math starting at Algebra I must take Math 120 instead of Math 125. |
| Chemistry 211L, Gen Chem I Lab (GER F.2) | 1 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| First Year Writing—GER A.1. | 3 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| A&S 100 <or> CS 100—GER D. | 3 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Math 125, Trig—GER B.1.* | 2 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Constitution—GER F.1 a. <or> other GER | 3 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Spring Semester Year 1: 15 hours | | | | | | | | |
| Chemistry 212R, Gen Chem II (GER F.2.) | 4 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Chemistry 212LR, Gen Chem II Lab (GER F.2) | 1 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Math 210, Calculus I (GER B.2.) | 4 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Sophomore-level Writing—GER A.2. | 3 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Cultural Perspectives—GER C.2. <or> other GER | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Summer Semester Year 1 | | | | | | | | |
| May use summer semester to lighten fall and spring course loads. | | | | | | | | |
| Fall Semester Year 2: 16 hours | | | | | | | | |
| Chemistry 321, Organic Chem I | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | Take and pass WEPT—GER A.3. |
| Chemistry 321L, Organic Chem I Lab | 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Physics 240, Physics for Sci and Eng I | 5 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Math 220, Calculus II | 4 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Fine Arts—GER F.3a. <or> other GER | 3 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Spring Semester Year 2: 16 hours | | | | | | | | |
| Chemistry 322R, Organic Chem II | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Chemistry 322L, Organic Chem II Lab | 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Physics 250, Physics for Sci and Eng II | 5 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Math 250, Calculus III | 4 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Oral Argumentation—GER A.5 <or> other GER | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Summer Semester Year 2 | | | | | | | | |
| May use summer semester to lighten fall and spring course loads. | | | | | | | | |
| Fall Semester Year 3: 16 hours | | | | | | | | |
| Chemistry 341, Analytical Chem I | 4 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Chemistry 431, Physical Chem I | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Cluster—GER F.4. <or> other GER | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Soc & Behav Science—GER F.1b. <or> other GER | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Chem 4xx, Phys 3xx, Math 3xx, or Biol 3xx | 3 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Spring Semester Year 3: 12 hours | | | | | | | | |
| Chemistry 432, Physical Chem II | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Chemistry 437WI, Exp Physical Chem I (GER A.4.) | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Humanities—GER F.3b. <or> other GER | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Elective hours | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Summer Semester Year 3 | | | | | | | | |
| May use summer semester to lighten fall and spring course loads. | | | | | | | | |
| Fall Semester Year 4: 14 hours | | | | | | | | |
| Chemistry 410, Chemical Lit | 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | Apply for graduation. Take the EPP Exam. Take Chemistry Major Field Exam. |
| Chemistry 499, Research (Chem elective) | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Chemistry 367, Bioorganic Chem | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Chemistry 382, Inorg and Org Synthesis | 2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Elective hours | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Elective hours | 2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Spring Semester Year 4: 15 hours | | | | | | | | |
| Chemistry 451R, Inorganic Chem | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Chemistry 442R, Analytical Chem II | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Literature—GER E.1. <or> other GER | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Soc & Behav Science—GER F.1b. <or> other GER | 3 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| Philosophy—GER E.2. <or> other GER | 3 | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | |

*The above degree plan is for a student who is not also Pre-Medical or Pre-Dental. Please see advisor for those plans.



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Non-course requirements

Written English Proficiency Test (WEPT)
ETS Proficiency Profile (EPP) exam
Major Field Assessment exam

Met

The School reserves the right to make changes in courses, degree requirements and course schedules without notice.

Students are expected to maintain a quality of achievement significantly above minimum UMKC standards for degree work. Individual student progress will be monitored throughout the program. Satisfactory progress is required of all students for retention in the program. Students are expected to maintain academic standards, perform satisfactorily in courses, refrain from academic dishonesty, comply with the established University and teacher education timetables and requirements, and refrain from unethical or unprofessional behavior or behaviors that obstruct the training process or threaten the welfare of the student or others. Other circumstances involving student behavior will be addressed by the faculty on an individual basis.

Graduation Requirements Summary:

| Total Hours (120 minimum) | Total Upper-level (300/400) Hours (36 minimum) | Final Consecutive Hours at UMKC (30 hours minimum) | Major GPA (2.0 minimum) | University of Missouri GPA (2.0 minimum) |
|---------------------------|--|--|-------------------------|--|
| | | | | |

All students completing a Bachelor of Arts or a Bachelor of Science in the College of Arts and Sciences must successfully complete the following requirements in order to graduate:

Please see this website for a detailed listing of approved courses to fulfill the following General Education Requirements (GER):

http://www.umkc.edu/catalog/College_of_Arts_and_Sciences_General_Education_Requirements.html#192793

A. Communication (12 credit hours)

1. First Year Writing course
2. Sophomore-level Writing Intensive course
3. Passage of the UMKC Written English Proficiency Test (WEPT), the pre-requisite for any Junior/Senior-level (300/400) Writing Intensive course
4. Junior/Senior-level (300/400) Writing Intensive (WI) course
5. Oral argumentation course

B. Mathematical, Symbolic and Logical Reasoning (6 credit hours minimum)

1. First-level Mathematics course or demonstrated competency equivalent to four units (years) of high school math, beginning with Algebra I or higher
2. Second-level Mathematics course requiring extensive use of mathematical, symbolic or logical reasoning

C. Foreign Language and Culture (16 credit hours)

1. Three semesters of the same foreign language, required for all B.A. degrees (but not for B.S. degrees, as of Spring 2002)
2. Cultural Perspectives of an interdependent global environment

D. Computer and Information Technology (3 credit hours)

Competence equivalent to a programming course or software application course that includes substantial computer experience

E. Literature and Philosophy (6 credit hours)

1. Literature course
2. Philosophy course

F. Distribution Requirements for General Education

1. Social and Behavioral Sciences (three courses, 9 hours), chosen from at least two different departments:
 - a. Constitution Requirement—One course covering the United States Constitution and the Missouri State Constitution
 - b. Distribution Electives—Two courses from the social and behavioral sciences
2. Physical & Biological Sciences (two courses, 8 hours minimum, including one lab component)
3. Humanities and Fine Arts (two courses, 6 hours):
 - a. Fine Arts course
 - b. Humanities course
4. Interdisciplinary Cluster Course (one course, 3 hours). Every student is required to complete a junior/senior interdisciplinary cluster course.

A maximum of 3 hours of one-credit activity courses in physical education may be applied toward the 120 total minimum

All students completing a Bachelor of Science degree in Chemistry must meet the following conditions:

- The total credit hours of laboratory time in the required courses and any advanced elective laboratories must be at least 12. No more than 3 hours of Chem 495 and Chem 499 may be used in meeting the major course requirements.
- Chem 499 cannot be used to meet both laboratory requirements and the 3 hours of advanced work.
- All majors must receive a C- or better in all chemistry courses with an overall chemistry GPA of 2.0 for graduation.
- A minimum grade of C- is required for all prerequisite courses (including physics and mathematics courses). In exceptional cases, students may receive written consent by submitting a petition to the Chemistry Undergraduate Curriculum Committee which has to be approved to waive this requirement.
- Each chemistry major must be advised by the Chemistry Undergraduate Adviser every semester.
- For BS majors, a minimum of 12 credit hours in the Department of Chemistry at UMKC of which 9 out of the 12 hours must be at the 300/400 level is required for the completion of the degree. While credit for Biochemistry (LS BIOL 341, 365, or 366) may be used towards meeting major requirements, it does not count towards meeting the residency requirement.