



## Major Map: BS Science

Emphasis: Clinical Laboratory Sciences

Catalog year: 2013-2014

<http://sbs.umkc.edu/>

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 slightly 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. | Upper Division | Transfer Course | Minimum Grade if Required | Date Completed | Final Grade | Pre-requisites met | Additional Critical Tracking Notes                                      |
|---|------|----------------|-----------------|---------------------------|----------------|-------------|--------------------|---|
| <b>Fall Semester Year 1: _13_ hours</b>   |      |                |                 |                           |                |             |                    |   |
| BIOLOGY 108/108L General Biology I & Lab  | 3/1  |                |                 | C-                        |                |             |                    | BIOLOGY 108 and 109 may be taken in any order.                          |
| CHEM 211/211L General Chemistry I & Lab   | 4/1  |                |                 | C-                        |                |             |                    |   |
| GER (ex. COMM-ST 110)   | 3    |                |                 | C-                        |                |             |                    |   |
| BIOLOGY 115 First Year Seminar  | 1    |                |                 | C-                        |                |             |                    |   |
| <b>Spring Semester Year 1: _16_ hours</b>   |      |                |                 |                           |                |             |                    |   |
| BIOLOGY 109/109L General Bio II & Lab   | 3/1  |                |                 | C-                        |                |             |                    | Math Entrance Exam Is required to enroll in Math 210, 216, or STAT 235. |
| CHEM 212R/212L General Chem II & Lab  | 4/1  |                |                 | C-                        |                |             |                    |   |
| MATH 210 Calc I, MATH 216 Biomath I, or STAT 235  | 3-4  |                |                 | C                         |                |             |                    |   |
| GER (ex. English 110)   | 3    |                |                 |                           |                |             |                    |   |
| <b>Summer Semester Year 1</b>   |      |                |                 |                           |                |             |                    |   |
| May use summer semester to lighten fall and winter course loads.                              |      |                |                 |                           |                |             |                    |   |
| <b>Fall Semester Year 2: _16_ hours</b>   |      |                |                 |                           |                |             |                    |   |
| BIOLOGY 202 Cell Biology  | 3    |                |                 | C-                        |                |             |                    |   |
| PHYSICS 210 General Physics I   | 4    |                |                 | C-                        |                |             |                    |   |
| GER* (ex. Social & Behavioral Science)  | 3    |                |                 |                           |                |             |                    |   |
| GER* (ex. English 225)  | 3    |                |                 |                           |                |             |                    |   |
| GER* (ex. Humanities)   | 3    |                |                 |                           |                |             |                    |   |
| <b>Spring Semester Year 2: _15_ hours</b>   |      |                |                 |                           |                |             |                    |   |
| BIOLOGY 206 Genetics  | 3    |                |                 | C-                        |                |             |                    | Take and pass WEPT.   |
| CHEM 320 Elem. Organic Chemistry  | 4    |                |                 | C-                        |                |             |                    |   |
| CHEM 320L Organic Chemistry Lab   | 1    |                |                 | C-                        |                |             |                    |   |
| PHYSICS 220 General Physics II  | 4    |                |                 | C-                        |                |             |                    |   |
| GER* (ex. Constitution Requirement)   | 3    |                |                 |                           |                |             |                    |   |
| <b>Summer Semester Year 2: ___ hours</b>  |      |                |                 |                           |                |             |                    |   |
| Apply to Clinical Program- Admission to Clinical program is competitive and is not guaranteed |      |                |                 |                           |                |             |                    |   |
| <b>Fall Semester Year 3: _15_ hours</b>   |      |                |                 |                           |                |             |                    |   |
| LS BIOC 341 Basic Biochemistry  | 3    |                |                 | C-                        |                |             |                    | Apply for graduation. Take EPP.   |
| LS PHYS 316 Physiology  | 3    |                |                 | C-                        |                |             |                    |   |
| LS MCRB 313 Microbiology  | 3    |                |                 | C-                        |                |             |                    |   |
| LS MCRB 313WL Microbiology Lab  | 3    |                |                 | C-                        |                |             |                    |   |
| GER* (ex. Higher Order Thinking)  | 3    |                |                 |                           |                |             |                    |   |
| <b>Spring Semester Year 3: _16_ hours</b>   |      |                |                 |                           |                |             |                    |   |
| LS MCRB 435 Immunology  | 3    |                |                 | C-                        |                |             |                    |   |
| Biology Elective  | 3    |                |                 | C-                        |                |             |                    |   |
| CHEM 341 Analytical Chem. Quant.  | 4    |                |                 | C-                        |                |             |                    |   |
| GER* (ex. Social & Behavioral Science)  | 3    |                |                 |                           |                |             |                    |   |
| GER* (ex. Fine Art)   | 3    |                |                 |                           |                |             |                    |   |
| <b>Summer Semester Year 3: ___ hours</b>  |      |                |                 |                           |                |             |                    |   |
| Clinical Program at Affiliate Hospital  |      |                |                 |                           |                |             |                    |   |
| <b>Fall Semester Year 4: _15_ hours</b>   |      |                |                 |                           |                |             |                    |   |
| Clinical Program at Affiliate Hospital  |      |                |                 |                           |                |             |                    |   |
| <b>Spring Semester Year 4: _15_ hours</b>   |      |                |                 |                           |                |             |                    |   |
| Clinical Program at Affiliate Hospital  |      |                |                 |                           |                |             |                    |   |

**Non-course requirements**

Written English Proficiency Test (WEPT)

**Met**



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ETS Proficiency Profile (EPP)



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 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:

|  |   |   |                              |
|--|---|---|------------------------------|
| <b>Total Hours: 120 minimum, 36 of which are Upper Level (300-400 level)</b> | <b>Totals Hrs at UMKC: 30 hours minimum</b> | <b>Math and Science hours: 60 minimum</b> | <b>UMKC GPA: 2.0 minimum</b> |
|  |   |   |                              |

All students completing a Bachelor of Science in the School of Biological Sciences must successfully complete the following requirements to be recommended for graduation: <http://www.umkc.edu/catalog/School of Biological Sciences General Education Requirements.html>

- A. Communicating (9 credit hours)**
  - a. Writing and Critical Analysis (English 110 and 225)
  - b. Oral Argumentation/Speech (Communication Studies 110 or 140)
- B. Higher Order Thinking, Managing Information, and Valuing (6 credit hours)**
  - a. Students must successfully complete 6 hours from at least two different fields, chosen from the following list:
    - i. PHILOS 210 or PHILOS 222, HISTORY 201, HISTORY 202, HISTORY 206 or HISTORY 208, ANTHRO 103, SOCIO 101 or SOCIO 103, COMP-SCI 100 or above, MATH 210, 216, or STAT 235
- C. Social and Behavioral Sciences (9 credit hours)**
  - a. Constitution course chosen from: History 101, 102, 360R, or Political Sciences 210
  - b. Six additional credit hours from at least one field other than above, chosen from economics, history, political science, psychology, sociology, social science, geography, criminal justice
- D. Humanities and Fine Arts (6 credit hours)**
  - a. One 3 credit hour course chosen from English, communication studies, foreign Language, or philosophy.
  - b. One 3 credit hour course chosen from art/art history, conservatory or theater.
- E. Mathematics (3 credit hours)**
  - a. Students majoring in Biology will fulfill this requirement with the biology major's mathematics requirement of MATH 210 Calculus I, MATH 216 Biomathematics I, or STAT 235, Elementary Statistics.
- F. Life and Physical Sciences (9 credit hours)**
  - a. Students majoring in biology will fulfill this requirement as a part of their major.
- G. Total Credit Hours**
  - a. In addition to the specific area requirements listed above, students must meet other University graduation requirements including, but not limited to, 120 total credit hours, 60 credit hours from a four-year institution if coursework is transferred from a non-Missouri institution, unless described otherwise in a specific articulation agreement with the School of Biological Sciences; 36 junior/senior level credit hours, taking the EPP Exam and the Major Field Exam, residency requirements, minimum GPA standards, and other requirements that may be specified.

In addition to meeting the general education degree requirements outlined above, students pursuing the B.S. degree in Medical Technology must meet the following requirements: <http://www.umkc.edu/catalog/Bachelor of Science in Medical Technology.html>

- 1. Biology Course Requirements:**
  - a. The following core courses (17 credit hours): Biology 108, 108L, 109, 109L, 202, 206, LS BIOC 341, LS MCRB 313, 313WL, 435, and LS PHYS 316.
  - b. In addition, students must take three or more hours, one hour of which must be upper-level, to be chosen from: Bio 328, 328L/WL, LS ANAT 118, LS ANAT 118L, LS MCRB 431, LS 401, LS BIOC 430, LS BIOC 360L/WL.
  - c. A total of 32 credit hours of biology courses must be completed with grades of C- or better and at least 16 of these must be at the 300/400-level. Ten credit hours from the 30-credit-hour clinical year is counted toward the 42 credit hours required for a B.S. degree. A minimum of 16 credit hours of biology courses must be taken at the School of Biological Sciences.
- 2. Additional Sciences and Mathematics Course Requirements**
  - a. The following courses must be completed with grades of C- or better: MATH 210 or 216, MATH 220, 226, or STAT 235, Physics 210 and 220 or 240 and 250, Chemistry 211, 211L, 212R, 212LR, 320, 320L, and 341.
- 3. Clinical Program**

Students must satisfactorily complete a clinical program at an affiliated hospital. This will allow the student to earn 30 credit hours toward the bachelor's degree. Ten of the clinical hours are allowed as upper-level biology credit toward the 42 hours required and 20 clinical hours are allowed as upper-level general science credit. Completion of the clinical program fulfills the Biology synthesis requirement, and the Major Field Exam is waived as the student is off campus their final year.