



# B.S. Biology: Pre-Medical & Other Health Careers Requirements

Students in our program learn about fundamental biological concepts and principles, scientific thinking and experiment design. KU students have been preparing for and successfully entering medical, veterinary, or dental schools for years, thanks to strong academics and a supportive faculty.

*Note that all students must achieve 120 undergraduate credits and a minimum 2.0 overall GPA to graduate. The final GPA requirement for Biology: Molecular/Micro/Cell is 2.0. At least four courses in the major program must be at the 300- or 400-level. Students must earn a C or better in BIOL 104.*

## **Required Biology Core Courses – 23 credits**

BIOL 104 Principles of Biology (4 credits)  
BIOL 106 Introduction to Zoology (4 credits)  
BIOL 108 Introduction to Botany (4 credits)  
BIOL 216 Genetics (3 credits)  
BIOL 224 Applied Environmental Microbiology (3 credits)  
BIOL 270 Research Methods (3 credits)  
BIOL 380 Senior Seminar (2 credits)

## **Required Pre-Medical Core Courses – 10 to 11 credits**

BIOL 264 Comparative Anatomy (4 credits)  
BIOL 346 Molecular Biology (3 credits) or BIOL 350 Cell Biology (3 credits)  
BIOL 122 Anatomy & Physiology II (3 credits) or BIOL 235 General Physiology (4 credits)

## **Biology: Pre-Medical Major Electives – 15 to 18 credits**

*Select four courses from the following and one Biology Field Elective:*

BIOL 252 Cell Physiology & Metabolism (3 credits) or CHEM 312 Biochemistry II (4 credits)  
BIOL 306 Food Microbiology (3 credits)  
BIOL 330 Histology (3 credits)  
BIOL 334 Medical Parasitology (3 credits)  
BIOL 336 Medical Microbiology (3 credits)  
BIOL 354 Developmental Biology (3 credits)  
BIOL 356 Immunology (3 credits)  
BIOL 370 Research (3 credits) or BIOL 390 Internship (3 credits)  
CHEM 310 Biochemistry I (4 credits)  
BIOL 460 Cancer Biology (3 credits)

### ***Biology Field Elective***

*Select one course:*

BIOL 218 Vertebrate Biology (3 credits)  
BIOL/EVSC 222 Environmental Biology (3 credits)  
BIOL/MRSC 226 Marine Biology (3 credits)  
BIOL 230 Taxonomy of Vascular Plants (3 credits)  
BIOL 244 Ecology (4 credits)  
BIOL 302 Entomology (3 credits)  
BIOL 308 Ornithology (3 credits)  
BIOL 314 Animal Behavior (3 credits)  
BIOL 322 Population and Community Ecology (3 credits)  
BIOL 324 Plant Ecology (3 credits)

BIOL 342 Herpetology (3 credits)  
BIOL 332 Aquatic Ecology (3 credits)  
BIOL 358 Conservation Biology (3 credits)  
Biology courses offered at Chincoteague Field Station (200-level or above)

### **Other Required Courses – 11 to 12 credits**

*Note that CHEM 100 General Chemistry I and CHEM 102 General Chemistry II are included as part of Directed General Education requirements listed below.*

CHEM 214 Organic Chemistry I (4 credits)  
CHEM 216 Organic Chemistry II (4 credits)  
MATH 106 Trigonometry (3 credits) or MATH 115 Precalculus (3 credits) or MATH 181 Calculus (4 credits)

### **Directed General Education Courses – 12 credits**

*These courses are required for the major and satisfy the general education requirement “Understanding Science and Technology.”*

CHEM 100 General Chemistry I – Category C1 (4 credits)  
CHEM 102 General Chemistry II – Category C2 (4 credits)  
PHYS 40 General Physics I (4 credits) or PHYS 100 Physics I – Category C3 (4 credits)

### **University Electives – 11 to 16 credits**

**Program Plan Code:** BS\_BIOL\_PRMD

**Effective Date:** Spring 2020



# B.S. Biology: Pre-Medical & Other Health Careers Major Check Sheet

Student Name:

Student ID Number:

This check sheet provides a mechanism for students and advisors to keep track of a student's progress in the program. Please refer to the program requirements for more details regarding options.

*Note that all students must achieve 120 undergraduate credits and a minimum 2.0 overall GPA to graduate. The final GPA requirement for Biology: Pre-Medical & Other Health Careers is 2.0. At least four courses in the major program must be at the 300- or 400-level. Students must earn a C or better in BIOL 104.*

## Required Biology Core Courses – 23 credits

BIOL 104 Principles of Biology ( <i>must earn a C or better</i> )	4 credits	Grade:
BIOL 106 Introduction to Zoology	4 credits	Grade:
BIOL 108 Introduction to Botany	4 credits	Grade:
BIOL 216 Genetics	3 credits	Grade:
BIOL 224 Applied Environmental Microbiology	3 credits	Grade:
BIOL 270 Research Methods	3 credits	Grade:
BIOL 380 Senior Seminar	2 credits	Grade:
<b>Total Credits</b>	23 total credits	

## Required Pre-Medical Core Courses – 10 to 11 credits

BIOL 264 Comparative Anatomy	4 credits	Grade:
BIOL 346 Molecular Biology <i>or</i> BIOL 350 Cell Biology	3 credits	Grade:
BIOL 122 Anatomy & Physiology II <i>or</i> BIOL 235 General Physiology	3-4 credits	Grade:
<b>Total Credits</b>	10-11 total credits	

## Biology: Pre-Medical Major Electives – 15 to 18 credits

Course 1:	credits	Grade:
Course 2:	credits	Grade:
Course 3:	credits	Grade:
Course 4:	credits	Grade:
Biology Field Elective:	credits	Grade:
<b>Total Credits</b>	15-18 total credits	

## Other Required Courses – 11 to 12 credits

*CHEM 100, CHEM 102, and PHYS are required and are included as part of Directed General Education.*

CHEM 214 Organic Chemistry I	4 credits	Grade:
CHEM 216 Organic Chemistry II	4 credits	Grade:
MATH 106 <i>or</i> MATH 115 <i>or</i> MATH 181	3-4 credits	Grade:
<b>Total Credits</b>	11-12 total credits	

## Directed General Education Courses

*These courses are required for the major and satisfy the general education requirement "Understanding Science and Technology."*

CHEM 100 General Chemistry I	4 credits	Grade:
CHEM 102 General Chemistry II	4 credits	Grade:
PHYS 40 General Physics I <i>or</i> PHYS 100 Physics I	4 credits	Grade:

**University Electives – 11 to 16 credits**

Course 1:	credits	Grade:
Course 2:	credits	Grade:
Course 3:	credits	Grade:
Course 4:	credits	Grade:
<b>Total Credits</b>	11-16 total credits	

**Summary of Graduation Requirements**

Total credits from major courses	<b>60</b>
Total credits from general education program	<b>44</b>
Total credits from university electives	<b>16</b>
<b>Minimum total credits to graduate</b>	<b>120</b>
<b>Minimum overall GPA</b>	<b>2.0</b>
<b>Minimum GPA in major program</b>	<b>2.0</b>

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# B.S. Biology: Pre-Medical and Other Health Careers Track 8-Semester Planner

Student Name:

Student ID Number:

*Each semester listed below provides information including course categories, typical credit hours (CH.), and space to add specific course selections. This planner is only a suggested path. Consult with your program advisor regarding your unique plans and interests as you make choices about your schedule.*

## **First Semester Plan**

Gen Ed	CHEM 100 (Category C1)	4 CH.	Selection:
Gen Ed	MATH Course (Category C2)	3 CH.	Selection:
Gen Ed	FYSM 100	3 CH.	Selection: FYSM 100
Major	BIOL 104	4 CH.	Selection:
<b>Total</b>		<b>14 CH.</b>	

## **Second Semester Plan**

Gen Ed	Category B	3 CH.	Selection:
Gen Ed	Category C2 (MATH 181 recommended)	3-4 CH.	Selection:
Major	BIOL 106	4 CH.	Selection:
Major	CHEM 102	4 CH.	Selection:
<b>Total</b>		<b>14-15 CH.</b>	

## **Third Semester Plan**

Gen Ed	Category B	3 CH.	Selection:
Gen Ed	Category C3	4 CH.	Selection:
Major	BIOL 224	3 CH.	Selection:
Major	BIOL 270	3 CH.	Selection:
Major	CHEM 214	4 CH.	Selection:
<b>Total</b>		<b>17 CH.</b>	

## **Fourth Semester Plan**

Gen Ed	Category A1	3 CH.	Selection:
Gen Ed	PHYS 40 or PHYS 100 (Category C3)	4 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Major	BIOL 216	3 CH.	Selection:
Major	CHEM 216	4 CH.	Selection:
<b>Total</b>		<b>17 CH.</b>	

***Fifth Semester Plan***

Gen Ed	Category B	3 CH.	Selection:
Gen Ed	Category D	3 CH.	Selection:
Major	BIO Elective (CHEM 310 recommended)	3-4 CH.	Selection:
Major	BIOL 264	3 CH.	Selection:
Major	BIOL 346 or BIOL Elective	3 CH.	Selection:
<b>Total</b>		<b>15-16 CH.</b>	

***Sixth Semester Plan***

Gen Ed	Category A2	3 CH.	Selection:
Gen Ed	Category D	3 CH.	Selection:
Major	BIOL Elective or BIOL 350	3 CH.	Selection:
Major	BIOL 235 General Physiology	3 CH.	Selection:
<b>Total</b>		<b>12 CH.</b>	

***Seventh Semester Plan***

Gen Ed	Category A3	3 CH.	Selection:
Gen Ed	Category A4	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Major	BIOL Elective	3 CH.	Selection:
Major	BIOL 108	4 CH.	Selection:
<b>Total</b>		<b>16 CH.</b>	

***Eighth Semester Plan***

Gen Ed	Category D	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Major	BIOL Elective	3 CH.	Selection:
Major	BIOL Field Elective	3 CH.	Selection:
Major	BIOL 380	2 CH.	Selection:
<b>Total</b>		<b>14 CH.</b>	

***Additional Notes:***

1. MATH 105 or ALEKS Math placement score greater than 60 is a prerequisite for MATH 106 or MATH 115. ALEKS Math placement score greater than 75 is needed for MATH 181 (4 credits). Calculus is required for many medical schools, and a statistics class (which would include PSYC/SOCI 200, MATH 140, or MATH 150) is also important.
2. Elective Courses (University Electives) should be chosen in consultation with the student's academic advisor.
3. CHEM 310 (Biochemistry) and either PHYS 42 or 102 (Physics II) are required for most medical schools and to perform well on the MCAT.
4. No single course can count toward more than one category. At least three BIOL courses must be at 300-400 level.

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