

MSU Denver  
Department of Biology

**REQUIREMENTS FOR A MAJOR IN BIOLOGY**  
**for 2020-2021 or future catalogs ONLY**

A grade of "C-" or better is required for each BIO prefix course to count towards the major

**Required Biology Courses for both the B.A. or the B.S. Degree**

<b>BIO 1080-3</b> General Biology I.....	3
<b>BIO 1090-1</b> General Biology Lab I.....	1
<b>BIO 1081-3</b> General Biology II.....	3
<b>BIO 1091-1</b> General Biology Lab II.....	1
 <b>BIO 3520-3</b> General Ecology .....	 3

**Take ONE of these Genetics options:**

- BIO 3600-4** General Genetics (no lab) ..... 4  
**OR**  
 **BIO 3610-4** Genetics: Principles & Analysis (has lab)..... 4

**Pick ONE of these options:**

- Option 1:** **BIO 2100-5** General Botany  
OR  
 **Option 2:** **BIO 2400-5** General Microbiology  
OR  
 **Option 3:** **Both BIO 2310-4 and BIO 2320-4** (Anatomy & Physiology I & II)  
(You must take both semesters to get credit for this option)  
OR  
 **Option 4:** **Either BIO 3200-4** Invertebrate Zoology or **BIO 3260-4** Vertebrate Zoology  
(If you wish to take both zoology courses, the other will count as an upper division  
elective)

**Students are required to take a Senior Experience course:**

Fulfills Senior Experience Requirement	
<input type="checkbox"/> <b>BIO 4050-3</b> Advanced Cell & Molecular Biology <input type="checkbox"/> <b>BIO 4230-3</b> Issues in Conservation Biology <input type="checkbox"/> <b>BIO 4300-3</b> Neurobiology <input type="checkbox"/> <b>BIO 4820-4</b> Developmental Biology <input type="checkbox"/> <b>BIO 4850-3</b> Evolution	<input type="checkbox"/> <b>BIO 4510-4</b> Microbial Ecology <input type="checkbox"/> <b>BIO 4540-4</b> Plant Ecology <input type="checkbox"/> <b>BIO 4550-4</b> Animal Ecology

**Elective Biology courses:** Biology courses from 2000, 3000, and 4000 must be completed to bring the total of biology courses approved for the major to 40 credits. *At least 21 of these Biology credits must be from the 3000 or 4000 courses of the Department of Biology.*

Total Credit Hours in Biology (minimum of 40) \_\_\_\_\_

Upper Division Biology Credit Hours (minimum of 21) \_\_\_\_\_

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**B.S. Non-Bio Course Requirements:**

CHE 1800-4 Gen Chemistry I \_\_\_\_\_  
CHE 1801-1 Gen Chemistry I Lab \_\_\_\_\_  
CHE 1810-4 Gen Chemistry II \_\_\_\_\_  
CHE 1811-1 Gen Chemistry II Lab \_\_\_\_\_

**B.A. Non-Bio Courses Requirements:**

\*CHE 1100-4 Principles of Chem \_\_\_\_\_  
CHE 2100-4 Intro to Org/Biochem \_\_\_\_\_

~OR~

**CHOOSE YOUR PATH:**

CHE 3100-4 Organic Chemistry I \_\_\_\_\_  
CHE 3120-1 Organic Chemistry I Lab \_\_\_\_\_  
AND

CHE 3110- 3 Organic Chemistry II \_\_\_\_\_

~OR~

°CHE 3090- 4 Survey of Organic Chem \_\_\_\_\_

CHE 3120-1 Organic Chemistry I Lab \_\_\_\_\_  
AND

°CHE 4310-4 Biochemistry \_\_\_\_\_

CHE 1800-4 Gen Chemistry I \_\_\_\_\_

\*CHE 1801-1 Gen Chemistry I Lab \_\_\_\_\_

CHE 1810-4 Gen Chemistry II \_\_\_\_\_

\*To use CHE 1100 or 1800 for the Natural and Physical Sciences requirement, students must take the corresponding lab (CHE 1150 or CHE 1801, respectively).

- ° Note on CHE 3090 – Survey of Organic Chemistry - this class is no longer being offered
- ° Note on CHE 4310 – Biochemistry – requires completion of both Organic Chemistry I and II

**Math Requirement:**

Two Semesters of Math: \_\_\_\_\_

One Semester of Math: \_\_\_\_\_

**Choose from the following math courses:**

MTH 1108-1109 (Stretch College Algebra)\*, MTH 1111 and MTH 1101 (College Algebra with lab), MTH 1110 (College Algebra), MTH 1112 (College Algebra through Modeling), MTH 1120 (Trigonometry), MTH 1115 and MTH 1116 (College Algebra through Modeling with lab), MTH 1210 (Intro to Statistics), MTH 1410 (Calculus I)\*\*

\*MTH 1108-1109 is a Stretch Course and only counts as ONE of the required math courses for the BIO BS.\*

\*\*Students planning to take Calculus must take MTH 1108-1109, MTH 1110, or MTH 1111\*\*

For General Studies Requirements (33 cr. total), please visit

<http://www.msudenver.edu/advising/facultystaff/generalstudiesrequirements/>

**Total Credits (Minimum 120)** \_\_\_\_\_

**Total Upper Division Credits**  
**(Minimum 40 TOTAL)** \_\_\_\_\_

**What is your Minor?**  
**(required)** \_\_\_\_\_