## Biology, B.S., Cell and Molecular Concentration

**Department of Biology, 303-556-3213, Science Building 2042**

This sheet applies to the 2014-15 catalog only. It does not replace the full catalog or departmental advising sheets as official statements of requirements. Students with declared majors must work with a faculty advisor on course selection and sequencing to ensure a timely graduation.

<table>
<thead>
<tr>
<th>General Studies</th>
<th>41-42</th>
<th>Students who have reached junior standing (60 hrs) should request a CAPP (graduation compliance report) and review it with a faculty advisor.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major courses</td>
<td>35</td>
<td></td>
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<tr>
<td>CCA courses</td>
<td>8</td>
<td></td>
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<tr>
<td>Minor/second major in Chemistry</td>
<td>26</td>
<td></td>
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<tr>
<td>Electives</td>
<td>10</td>
<td></td>
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<tr>
<td>Total to graduate (min. 40 hrs upper-division)</td>
<td>120 min.</td>
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</tbody>
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*TO BE COMPLETED WITHIN FIRST 30 COLLEGE-LEVEL CREDIT HOURS*

**Written Communication**

- **ENG 1010** (3 hrs) Composing Arguments*
- or **ENG 1008/1009** (6 hrs.) Intro to Composition, Parts 1 & 2*
- **ENG 1020** (3 hrs) Freshman Comp: Analysis, Research, & Documt.

(ENG 1020 must be completed within 45 credit hours)

**Oral Communication***

- (3 hrs)

**Quantitative Literacy***

- **MTH 1110** (4 hrs.) College Algebra or higher level math
- **MTH** (3-4 hrs.)

**Arts and Humanities**

- (3 hrs.)
- (3 hrs.)

**Historical**

- (3 hrs.)

**Natural and Physical Sciences**

- **CHE1800** (4 hrs.) General Chemistry I
- **CHE1810** (4 hrs.) General Chemistry II
- **CHE1850** (2 hrs.) General Chemistry Lab

**Social and Behavioral Sciences I**

- (3 hrs.)

**Social and Behavioral Sciences II**

- (3 hrs.)

**Global Diversity**

- (3 hrs.) may be satisfied within General Studies

**MAJOR COURSES (Please see Faculty Advisor in BIO department)**

- **BIO 1080** (3 hrs.) General Biology I
- **BIO 1090** (1 hrs.) General Biology Lab I
- **BIO 1081** (3 hrs.) General Biology II
- **BIO 1091** (1 hrs.) General Biology Lab II
- **BIO 2400** (5 hrs.) General Microbiology
- **BIO 3020** (2 hrs.) Laboratory Techniques
- **BIO 3050** (4 hrs.) Cell and Molecular Biology
- **BIO 3600** (4 hrs.) General Genetics
- or **BIO 3610** (4 hrs.) Genetics: Principles and Analysis
- **BIO 3980 or 4980** (2 hrs.) Internship/Independent Study
- **BIO 4060** (2 hrs.) Cellular and Molecular Biology Laboratory
- **BIO 4510** (4 hrs.) Microbial Ecology (Senior Experience)

Additional upper-division, biology courses must be completed. The total number of semester hours required in biology is 40, 21 of which must be upper-division (3000-4000 level courses). Electives must be chosen from the following list, unless pre-approved by a biology faculty advisor:

- **BIO 3350** (4 hrs.) Immunology
- **BIO 4050** (4 hrs.) Advanced Cell and Molecular Biology
- **BIO 4070** (3 hrs.) Biology of Cancer
- **BIO 4440** (3 hrs.) Virology
- **BIO 4470** (4 hrs.) Microbial Genetics
- **BIO 4820** (4 hrs.) Developmental Biology

**Required Non-Biology courses**

One year of math starting with MTH 1110 or higher (see General Studies)

**CHEMISTRY MINOR REQUIRED or second major in Chemistry.**

### Multicultural Requirement

(may be satisfied within General Studies, major, minor or elective)

**MINOR (required)**

**ELECTIVES**

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