### B.S. IN BIOLOGY (AOC: Cell Biology & Molecular Genetics) — DEGREE REQUIREMENT CHECK SHEET for students who matriculated summer 2018 through spring 2020

**Student Name/ID:** _____________________________________  **Purpose:** ______________________________        **Date:** ___________________

**Credit hours:**
- Currently enrolled in: ______ semester: ______________
- Currently enrolled in: ______ semester: ______________

**AFTER SUCCESSFUL COMPLETION OF CURRENT ENROLLMENT, YOU NEED THE FOLLOWING:**

**IUB GENERAL EDUCATION REQUIREMENTS:**

- **Foundations:**
  - English Composition
  - Mathematical Modeling (fulfilled by major)

- **Breadth of Inquiry:**
  - Arts & Humanities (A&H)–6 credits; need: ______
  - Social & Historical (S&H)–6 credits; need: ______
  - Natural & Mathematical (N&M)–fulfilled by major

- **World Languages & Cultures:**
  - World Language–4th semester proficiency
  - OR World Cultures–6 credits
  - OR Approved international experience

**TOTAL HOURS REQUIREMENTS:**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Required</th>
<th>Complete</th>
<th>Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Hours (A)</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Elective Hours (B)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective Outside Hours (C)*</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total College Hours (A+B)</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Credit Hours (A+B+C)</td>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300/400-level Hours</td>
<td>36</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IUB COLL. Res. after 60 credits</td>
<td>36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Maximum of 20 Elective Outside Hours (C) allowed*

**CASE REQUIREMENTS:**

- Public Oral Communication (COLL-P 155)
- English Composition
- Mathematical Modeling (fulfilled by major)
- Critical Approaches to the Arts and Sciences–must be done at IUB
- CASE A&H–2 courses; will count 2 GenEd; need: ______
- CASE S&H–2 courses; will count 2 GenEd; need: ______
- CASE N&M–fulfilled by major
- Intensive Writing (IW)–must be done at IUB inside the College
- Foreign Language (FL)–3rd semester proficiency

**BIOLOGY MAJOR REQUIREMENTS:**

*Major requirements must be completed with a C- or better. ★ Chemistry, physics, statistics, and math requirements must be completed with a C- or better, but they do not count toward major GPA or major hours.*

- 30 major hours: _____ needed
- 18 BIOL hours at 300/400 level: _____ needed
- Major GPA and concentration GPA ≥ 2.000. Major GPA: ______  Concentration GPA: ______

**BIOLOGY**

- BIOL-L 111
- BIOL-L 112
- BIOL-L 113 [ASURE: BIOL-X 150]
- BIOL-L 211 (P: L 112 and CHEM-C 117)
- BIOL-L 311
- BIOL-L 318
- Four Biology lectures (see reverse for list)
  - __________ (IUB)
  - __________ (IUB)
  - __________ (Advanced skills)
- Two Biology labs (see reverse for list)
  - __________ (IUB)
  - __________ (IUB)

**CHEMISTRY**

- CHEM-C 117 and CHEM-C 127
- CHEM-C 341
- CHEM-C 342
- CHEM-C 343

**PHYSICS**

- PHYS-P 201
- PHYS-P 202

**STATISTICS**

- PSY-K 300/310, SOC-S 371, SPEA-K 300, LAMP-L 316, MATH-M 365, OR STAT-S 300/303

**MATH**

- MATH-M 211 OR MATH-M 119 and M 120 OR MATH-V 119 and M 120

**GenEd residency complete:** Yes  No  If no, you need: ______

**IPRP:** Yes  No  If yes, needed credit hours may not be accurate.

**Overall College GPA of 2.000 or higher is required.**
Biology B.S. degree with Area of Concentration: Cell Biology & Molecular Genetics

The following must equal at least 18 credit hours to fulfill the requirement for the Area of Concentration. **Two** of the upper-level lectures and **both** of the upper-level labs must be taken on the IU Bloomington campus.

**Required Lecture Courses**

a. BIOL-L 312 Cell Biology (3 cr.)

b. Biochemistry; choose **one (1)** of the following options:
   - BIOT-T 440 Structure, Function, & Regulation of Biomolecules (3 cr.)
   - CHEM-C 383 Human Biochemistry (3 cr.)
   - CHEM-C 483 Biological Chemistry (3 cr.)
   - CHEM-C 484 Biomolecules and Catabolism (3 cr.)

**Elective Lecture Courses**

Complete **two (2)** of the following lectures; **at least one must be from the Advanced Skills Lecture list.**

Advanced Skills Lecture list

- BIOL-B 371 Ecological Plant Physiology (3 cr.)
- BIOL-L 410 Topical Issues in Biology (Approved topic: Genetics of Behavior) (3 cr.)
- BIOL-L 411 Transcription, Epigenetics, and Human Disease (3 cr.)
- BIOL-L 412 Analysis of Cancer Research (3 cr.)
- BIOL-L 417 Stem Cells in Development, Disease, and Regeneration (3 cr.)
- BIOL-L 485 Genetics, Biological Research (3 cr.)
- BIOL-L 486 Advanced Cell Biology (3 cr.)
- BIOL-L 487 Molecular Mechanisms of Development and Disease (3 cr.)
- BIOL-M 416 Biology of AIDS (3 cr.)
- BIOL-Z 466 Endocrinology (3 cr.)

Lecture Elective list

- Additional course from the Advanced Skills Lecture list
- BIOL-B 373 Mechanisms of Plant Development (4 cr.)
- BIOL-L 321 Human Immunology (3 cr.)
- BIOL-L 331 Introduction to Human Genetics (3 cr.)
- BIOL-L 388 Digital Biology: A Survey of Topics in Bioinformatics and Genomics (3 cr.)
- BIOL-M 430 Virology Lecture (3 cr.)
- MSCI-M 480 Molecular Biology of Cancer (Approved topic: Cell Signaling and Fate) (3 cr.)

**Laboratory Courses**

Complete **two (2)** of the following lab courses; **at least one lab** must be from the Required Laboratory list.

Required Laboratory list:

- BIOL-L 313 Cell Biology Laboratory (3 cr.)
- BIOL-L 319 Genetics Laboratory (3 cr.)

Elective Laboratory list:

- Additional course from the Required Laboratory list
- ANAT-A 464 Human Tissue Biology (4 cr.)
- BIOL-L 323 Molecular Biology Laboratory (3 cr.)
- BIOL-L 324 Human Molecular Biology Laboratory (3 cr.)
- BIOL-M 435 Viral Tissue Culture Laboratory (3 cr.) (P or C: BIOL-M 430)
- BIOL-S 211 Molecular Biology, Honors (5 cr.) – Important: only 1 credit hour of BIOL-S 211 may count toward the Concentration Hours requirement
- BIOL-Z 469 Endocrinology Laboratory (2 cr.)
- BIOT-T 315 Biotechnology Laboratory (3 cr.)
- BIOT-T 425 Lab in Macromolecules (3 cr.)
- ASURE students: BIOL-X 325 ASURE Biology Research Lab 2 (3 cr.) requires approval of D.U.S. to count in this Area of Concentration

**Notes:**

- Except for the GPA requirement, a grade of C- or higher is required for a course to count toward a requirement in the concentration.
- A GPA of at least 2.000 for all courses taken in the concentration—including those where a grade lower than C- is earned—is required.
- Most courses have prerequisites. Always check the Bulletin and the Schedule of Classes for course information before taking a course.

Subplan code: CLBIMGNCON