**B.S. IN BIOLOGY (AOC: Cell Biology & Molecular Genetics) — DEGREE REQUIREMENT CHECK SHEET**

For students who matriculated summer 2022 through spring 2024

<table>
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<th>Credit hours:</th>
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<tbody>
<tr>
<td>Currently enrolled in: _____ semester: ______________</td>
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<td>Currently enrolled in: _____ semester: ______________</td>
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**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 A&H here; need: ______
- CASE S&H—2 courses; will count 2 GenEd S&H here; need: ______
- CASE N&M—4 courses; fulfilled by major
- Intensive Writing (IW)—must be done at IUB inside the College
- Foreign Language (FL)—3rd semester proficiency
- CASE Culture Studies: Diversity in U.S. course—must be done at IUB

**BIOLOGY MAJOR REQUIREMENTS:**

Major requirements must be completed with a C- or better. Chemistry, physics, statistics, and math Addenda 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 300-499 level: _____ needed
- Major GPA and concentration GPA ≥ 2.000. Major GPA: _____ Concentration GPA: _____

**IUB GENERAL EDUCATION REQUIREMENTS:**

- Foundations:
  - English Composition (minimum grade of C required)
  - 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
- GenEd residency complete: Yes No If no, you need: ______

**TOTAL HOURS REQUIREMENTS:**

<table>
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<tr>
<th>Total Credit Hours</th>
<th>Required</th>
<th>Complete</th>
<th>Needed</th>
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<tr>
<td>120</td>
<td>30</td>
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<tr>
<td>300-499 level Hours</td>
<td>36</td>
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<tr>
<td>IUB COLL Res. after 60 Hours</td>
<td>36</td>
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**IPRP (in-progress repeated course):** Yes No If yes, credit hours showing as needed in your AAR may not be accurate. Ask an advisor!

**College GPA of at least 2.000 is required. _____**

- Four Biology lectures (see reverse for list)
  - ____________ (IUB)
  - ____________ (IUB)
  - ____________ (Advanced Skills)
  - ____________

- Two Biology labs (see reverse for list)
  - ____________ (IUB)
  - ____________ (IUB)

Lectures + labs must = at least 15 credit hours

**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**

- EAS-E 314, PSY-K 300/K 310, SOC-S 371, SPEA-K 300, SPH-Q 381, LAMP-L 316, MATH-M 365, OR STAT-S 300/S 303

**MATH**

- MATH-M 211 OR MATH-M 119 and MATH-M 120 OR MATH-V 119 and MATH-M 120
Biology B.S. degree with Area of Concentration: Cell Biology & Molecular Genetics
The following must equal at least 15 credit hours. Two of the upper-level lectures and both of the upper-level labs must be taken on the IU Bloomington campus.

1. **Cell Biology. One (1) course:**
   - BIOL-L 312 Cell Biology (3 cr.) (fall and spring)

2. **Biochemistry. One (1) course:**
   - BIOT-T 440 Structure, Function, & Regulation of Biomolecules (3 cr.) (spring)
   - CHEM-C 383 Human Biochemistry (3 cr.) (fall and spring)
   - CHEM-C 483 Biological Chemistry (3 cr.) (fall and spring, sometimes summer)
   - CHEM-C 484 Biomolecules and Catabolism (3 cr.) (fall and spring)

3. **Advanced Skills Lecture. One (1) course:**
   - BIOL-B 371 Ecological Plant Physiology (3 cr.) (fall)
   - BIOL-L 410 Topical Issues in Biology (topic requires approval of D.U.S.) (2–3 cr.) (fall and spring)
   - BIOL-L 411 Adv. Gene Reg.: Transcription, Epigenetics, & Disease (3 cr.) (spring)
   - BIOL-L 412 Analysis of Cancer Research (3 cr.) (on hiatus)
   - BIOL-L 413 Translational Medicine: From Bench to Bedside (3 cr.)
   - BIOL-L 417 Stem Cells in Development, Disease, Regeneration (3 cr.) (spring)
   - BIOL-L 485 Genetics, Models of Human Disease, Research (3 cr.) (fall)
   - BIOL-L 486 Advanced Cell Biology (3 cr., P: BIOL-L 312) (spring)
   - BIOL-L 487 Molec. Mech. of Develop. and Disease (3 cr.) (spring, rarely offered)
   - BIOL-M 430 Virology Lecture (3 cr.) (P or C: BIOL-M 430) (spring)
   - BIOL-Z 462 Genetics of Behavior (3 cr., P or C: BIOL-L 311) (spring)
   - BIOL-Z 466 Endocrinology (3 cr.) (variable, usually fall)

4. **Lecture Elective. One (1) course:**
   - Additional course from the Advanced Skills Lecture list
   - BIOL-B 412 Mechanisms of Plant Development (1 cr.) (on hiatus)
   - BIOL-L 321 Human Immunology (3 cr.) (spring)
   - BIOL-L 331 Introduction to Human Genetics (3 cr.) (fall and spring)
   - BIOL-L 388 Digital Biology: A Survey of Topics in Bioinformatics and Genomics (3 cr.) (spring)
   - BIOL-L 410 Topical Issues in Biology (topic requires approval of D.U.S.) (2–3 cr.) (fall and spring)
   - BIOL-M 430 Virology Lecture (3 cr.) (spring)
   - MSCI-M 480 Molecular Biology of Cancer: Cell Signaling & Fate (3 cr.) (spring)

5. **Required Laboratory. One (1) course:**
   - BIOL-L 313 Cell Biology Laboratory (3 cr.) (fall and spring)
   - BIOL-L 319 Genetics Laboratory (3 cr.) (fall and spring)

6. **Elective Laboratory. One (1) course:**
   - Additional course from the Required Laboratory list
   - ANAT-A 464 Human Tissue Biology (4 cr.) (fall and spring)
   - BIOL-L 323 Molecular Biology Laboratory (3 cr.) (fall and spring)
   - BIOL-L 324 Human Molecular Biology Laboratory (3 cr.) (fall and spring)
   - BIOL-M 435 Viral-Tissue-Culture Laboratory (3 cr.) (P or C: BIOL-M 430) (spring)
   - BIOL-S 211 Molecula Biology, Honors (5 cr.) – Important: only 1 credit hour of BIOL-S 211 may count toward Concentration Hours (fall)
   - BIOL-X 325 ASURE Biology Research Lab 2 (3 cr., approval of D.U.S. required)
   - BIOL-Z 469 Endocrinology Laboratory (2 cr.) (spring, rarely offered)
   - BIOT-T 315 Biotechnology Laboratory (3 cr.) (fall and spring)
   - BIOT-T 425 Lab in Macromolecular Production, Purification (3 cr.) (fall)
   - BIOT-X 325 ASURE Biotechnology Research Lab 2 (3–4 cr.)

**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