B.S. IN BIOLOGY (AOC: Cell Biology & Molecular Genetics) — DEGREE REQUIREMENT CHECK SHEET for students who matriculated summer 2020 through spring 2022

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 (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>
<thead>
<tr>
<th>Required</th>
<th>Complete</th>
<th>Needed</th>
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<tbody>
<tr>
<td>Major Hours</td>
<td>30</td>
<td></td>
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<tr>
<td>Total College Hours</td>
<td>100</td>
<td></td>
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<tr>
<td>Total Credit Hours</td>
<td>120</td>
<td></td>
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<tr>
<td>300-499 level Hours</td>
<td>36</td>
<td></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. ______

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: ______

★ 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 300/310, SOC-S 371, SPEA-K 300, 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

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
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 Molecular Mechanisms of Development and Disease (3 cr.) (*spring*)
   - BIOL-M 416 Biology of AIDS (3 cr.) (*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 373 Mechanisms of Plant Development (4 cr.) (*fall*)
   - 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-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.)
   - BIOL-L 324 Human Molecular Biology Laboratory (3 cr.) (*spring*)
   - BIOL-M 435 Viral-Tissue-Culture Laboratory (3 cr.) (P or C: BIOL-M 430) (*spring*)
   - BIOL-S 211 Molecular 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**) (*fall*)
   - BIOL-Z 469 Endocrinology Laboratory (2 cr.) (*spring*)
   - 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.)

   → BIOL-L 410 Topical Issues in Biology (2–3 cr.) may be used towards the Area of Concentration depending on the topic covered and with approval of the Director of Undergraduate Studies.

**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