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| **Catalog Year 2022-2023**BS BiologyIntegrated Organismal Biology Concentration (IOB) | ***(For internal use only)***[ ]  *No change*[ ]  *UCC proposal* |

A Major Academic Plan (MAP) is one way to complete a degree in a set number of semesters. The *example* below is only one strategy. Actual plans for individual students will vary based on advisor recommendations and academic needs. Official Program Requirements including Major, General Education, Electives, and university requirements (see pg.2) are based on Catalog Year.

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| **Course Subject and Title** | **Cr.**  | **Min.** **Grade** | **\*GE,** **UU or UM** | **\*\*Sem. Offered** | **Prerequisite** | **Co Requisite** |
| Semester One |
| GE Objective 1: ENGL 1101 English Composition | 3 | C- | GE | F, S, Su | Appropriate placement score |  |
| GE Objective 3: MATH 1160 Applied Calculus | 3 | C- | GE | F, S, Su | MATH 1143 or 1147 or equivalent |  |
| GE Objective 5: BIOL 1101/L Biology I, Lab | 4 |  | GE | F, S, Su | Placement in MATH 1108 | MATH 1108 |
| GE Objective 4:  | 3 |  | GE | F, S, Su |  |  |
| Free Electives | 3 |  |  |  |  |  |
|  Total | 16 |  |  |  |  |  |
| Semester Two |
| GE Objective 1: ENGL 1102 Critical Reading and Writing | 3 | C- | GE | F, S, Su | ENGL 1101 or equivalent |  |
| BIOL 1102/L Biology II, Lab | 4 |  |  | F, S | BIOL 1101/L |  |
| BIOL 1191 Wonder about Biology | 1 |  |  |  |  |  |
| GE Objective 6:  | 3 |  | GE | F, S, Su |  |  |
| GE Objective 2: COMM 1101 Principles of Speech | 3 |  | GE | F, S, Su |  |  |
|  Total | 14 |  |  |  |  |  |
| Semester Three |
| BIOL 2209/L General Ecology, Lab | 4 |  |  | F, S | BIOL 1101/L and BIOL 1102/L |  |
| GE Objective 5: CHEM 1111/L General Chemistry I, Lab | 5 |  | GE | F, S, Su | MATH 1143 or 1147 or equivalent |  |
| MATH 3350 Statistical Methods | 3 |  | UM | F, S | MATH 1160 or 1170 C- minimum Grade |  |
| BIOL 3316 Biometry Lab | 1 |  | UM | F,S | MATH 3350 | MATH 3350 |
| Upper Division Free Electives | 3 |  | UU |  |  |  |
|  Total | 16 |  |  |  |  |  |
| Semester Four |  |  |  |  |  |  |
| BIOL 2206, 2207 Cell Biology, Lab | 4 |  |  | F, S | BIOL 1101/L, BIOL 1102/L, CHEM 1111/L | CHEM 1112/L |
| Biology Elective | 3 |  |  |  |  |  |
| CHEM 1112/L General Chemistry II, Lab | 4 |  |  | F, S, Su | CHEM 1111/L, MATH 1143 or MATH 1147  |  |
| Anatomy, Physiology, Development Course | 3 |  |  |  |  |  |
|  Total | 14 |  |  |  |  |  |
| Semester Five |  |  |  |  |  |  |
| BIOL 3358 Genetics | 3 |  | UM | F, S | BIOL 2206 or 2235 |  |
| Anatomy, Physiology, Development course (Upper Division) | 3 |  | UM |  |  |  |
| CHEM 3301, 3303 Organic Chemistry I, Lab | 4 |  | UM | F | CHEM 1112/L |  |
| GE Objective 6:  | 3 |  | GE | F, S, Su |  |  |
| Upper Division Free electives | 2 |  | UU |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Six |  |  |  |  |  |  |
| BIOL 4417 Organic Evolution | 3 |  | UM | F, S | BIOL 3358, BIOL 2209/L |  |
| Diversity or Evolutionary Course | 4 |  |  |  |  |  |
| CHEM 3302, 3304 Organic Chemistry II, Lab | 4 |  | UM | S | CHEM 3301 or permission of instructor |  |
| GE Objective 7 or 8 | 3 |  | GE | F, S, Su |  |  |
| Free Electives | 2 |  |  |  |  |  |
|  Total | 16 |  |  |  |  |  |
| Semester Seven |  |  |  |  |  |  |
| Diversity or Evolutionary Course | 3 |  |  |  |  |  |
| Biology 4491/4492 Senior Seminar | 1 |  | UM | F, S | Senior standing or permission of department |  |
| PHYS 1111, 1113 General Physics, Lab | 4 |  |  |  | MATH 1143 or 1147 or equivalent |  |
| GE Objective 4:  | 3 |  | GE | F, S, Su |  |  |
| Upper Division Free electives | 3 |  | UU |  |  |  |
|  Total  | 14 |  |  |  |  |  |
| Semester Eight |   |  |  |  |  |  |
| Anatomy, Physiology, Development Course | 4 |  |  |  |  |  |
| BIOL 4432 Biochemistry | 3 |  | UM | F,S | BIOL 1101, CHEM 3301 |  |
| Biology Elective | 4 |  |  |  |  |  |
| GE Objective 9:  | 3 |  | GE | F, S, Su |  |  |
| Free Elective | 1 |  |  |  |  |  |
|  Total  | 15 |  |  |  |  |  |
| \*GE=General Education Objective, UU=Upper Division University, UM= Upper Division Major\*\*See Course Schedule section of Course Policies page in the e-catalog (or input F, S, Su, etc.)  |

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| **2022-2023 Major Requirements** | **CR** | **GENERAL EDUCATION OBJECTIVES****Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9** | **36 cr. min** |
| **MAJOR REQUIREMENTS** | **67** | 1. Written English (6 cr. min) ENGL 1101 | 3 |
| **Core Requirements** | **35** |  ENGL 1102 | 3 |
| BIOL 1101/L Biology I, Lab  | 4 | 2. Spoken English (3 cr. min) COMM 1101 | 3 |
| BIOL 1102/L Biology II, Lab | 4 | 3. Mathematics (3 cr. min) MATH 1160 or 1153 | 3 |
| BIOL 1191 Wonder about Biology | 1 |  |  |
| BIOL 2206, 2207 Cell Biology, Lab | 4 | 4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)** |
| BIOL 2209/L General Ecology, Lab | 4 |  |  |
| BIOL 3358 Genetics | 3 |  |  |
| BIOL 3316 Biometry Lab | 1 | 5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)** |
| BIOL 4417 Organic Evolution | 3 | PHYS 1111/L | 4 |
| BIOL 4491 and 4492 Seminar | 1 | CHEM 1111/L | 5 |
| MATH 1160 Applied Calculus (3 credits counted in Objective 3) |  |  |
| CHEM 1111/L General Chemistry I, Lab (5 credits counted in Objective 5) | 6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)** |
| CHEM 1112/L General Chemistry II, Lab | 4 |  |  |
| MATH 3350 Statistical Methods | 3 |  |  |
| CHEM 3301, 3303 Organic Chemistry I, Lab | 4 | One Course from EITHER Objective 7 OR 8 **(1course; 3 cr. min)** |
| PHYS 1111, 1113 General Physics, Lab (4 credits counted in Objective 5) | 7. Critical Thinking |  |
| **CHOOSE Two (7 cr. minimum)** | **7** | 8. Information Literacy  |
| PHYS 1112, 1114 General Physics II, Lab | 4 | 9. Cultural Diversity **(1 course; 3 cr. min)** |
| BIOL 4432 Biochemistry  | 3 |  |  |
| CHEM 3302, 3304 Organic Chemistry II, Lab | 4 | General Education Elective to reach 36 cr. min. **(if necessary)** |
| **Anatomy, Physiology & Development courses** |  |   |  |
| **Select 8 credits (Upper Division):** | **10** |  Total GE | 39 |
| BIOL 3301/L Advanced Anatomy & Physiology I, Lab | 4 | Undergraduate Catalog and GE Objectives by [Catalog Year](https://www.isu.edu/advising/academic-support/general-education/)  |
| BIOL 3302/L Advanced Anatomy & Physiology II, Lab | 4 |
| BIOL 3303/L Principles of Animal Physiology, Lab | 4 |  |  |
| BIOL 3314/L Comparative Vertebrate Anatomy, Lab  | 4 | **MAP Credit Summary** | **CR** |
| BIOL 3324/L Developmental Biology, Lab | 4 | Major  | 67 |
| BIOL 4404/L Plant Physiology | 4 | General Education  | 39 |
| BIOL 4432 Biochemistry | 3 | Upper Division Free Electives to reach 36 credits | 8 |
| BIOL 4433/L Microbial Physiology, Lab |  | Free Electives to reach 120 credits | 6 |
| BIOL 4443 Endocrinology | 3 |  TOTAL | 120 |
| PSYC 3301 Abnormal Psychology | 3 | **Graduation Requirement Minimum Credit Checklist** | **Confirmed** |
| PSYC 3352 Cognitive Neuroscience | 3 | Minimum 36 cr. General Education Objectives (15 cr. AAS) | Yes |
| PSYC 4431 Behavioral Neuroscience | 3 | Minimum 15 cr. Upper Division in Major (0 cr. Associate) | Yes |
| PSYC 4445 Learning and Behavior | 3 | Minimum 36 cr. Upper Division Overall (0 cr. Associate) | Yes |
| **Diversity or Evolutionary Courses** |  | Minimum of 120 cr. Total (60 cr. Associate) | YEs |
| **Select 8 credits:**  | **8** |  |  |
| BIOL 2212 Fall Flora | 2 | ***MAP Completion Status (for internal use only)*** |  |
| BIOL 2214 Spring Flora | 2 |  | *Date* |
| BIOL 4423 General Parasitology | 3 | *Department:*  |  |
| BIOL 4426/L Herpetology | 4 | *CAA or COT:* |  |
| BIOL 4427 Ichthyology  | 4 | *Registrar:*  |  |
| BIOL 4431/L General Entomology, Lab | 3 | **Advising Notes** |
| BIOL 4434/L Microbial Diversity, Lab | 4 | BIOL 2235/L can substitute for BIOL 2206 and 2207 in the IOB option. |
| BIOL 4435 Vertebrate Paleontology, Lab | 4 |  |  |
| BIOL 4438 Ornithology | 4 |  |  |
| BIOL 4441/L Mammalogy, Lab | 4 |  |  |
| BIOL 4442 Plant Animal Interactions | 3 |  |  |
| BIOL 4495 Animal Behavior | 4 |  |  |
| **Biology Electives** | **7** |  |  |
| Min. additional 7 credits of upper division biology electives for which they can select any upper division course in Biology, including Independent Problems ([BIOL 4481](https://next.coursecat.isu.edu/search/?P=BIOL%204481) and/or [BIOL 4482](https://next.coursecat.isu.edu/search/?P=BIOL%204482)) and/or Mentored Research Alliance ([BIOL 2280/4480](https://next.coursecat.isu.edu/search/?P=BIOL%204480)).  |  |  | Form Revised 9.10.2019 |