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| **Catalog Year 2019-2020**B.S., BiologyIntegrative Organismal Biology | ***(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 an efficient strategy only. Actual plans for individual students will vary based on advisor recommendations and academic needs. Official Program Requirements including Major, General Education, Elective, 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 Writing and Rhetoric I | 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, 1101L Biology I & Lab | 4 |  | GE | F, S, Su | MATH 1108 | MATH 1108 |
| GE Objective 4:  | 3 |  | GE | F, S, Su |  |  |
| Free Electives | 2 |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Two |
| GE Objective 1: ENGL 1102 Writing and Rhetoric II | 3 | C- | GE | F, S, Su | ENGL 1101 or equivalent |  |
| BIOL 1102 & 1102L Biology II & Lab | 4 |  |  | F, S | BIOL 1101 |  |
| GE Objective 6:  | 3 |  | GE | F, S, Su |  |  |
| GE Objective 2: COMM 1101 Principles of Speech | 3 |  | GE | F, S, Su |  |  |
| Free Electives | 2 |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Three |
| BIOL 2209 & 2209L General Ecology & Lab | 4 |  |  | F, S | BIOL 1101 & 1101L and BIOL 1102 & 1102L |  |
| GE Objective 5: CHEM 1111 & 1111L 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 |
| Free Electives | 2 |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Four |  |  |  |  |  |  |
| BIOL 2206 & 2207 Cell Biology & Lab | 4 |  |  | F, S | BIOL 1101 & 1102, CHEM 1111 & 1111L | CHEM 1112 & 1112L |
| Biology Elective | 4 |  |  |  |  |  |
| CHEM 1112 & 1112L General Chemistry II | 4 |  |  | F, S, Su | CHEM 1111 & 1111L , MATH 1143 or MATH 1147  |  |
| GE Objective 7 or 8 | 3 |  | GE | F, S, Su |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Five |  |  |  |  |  |  |
| BIOL 3358 Genetics | 3 |  | UM | F, S | BIOL 2206 or 2235 |  |
| Anatomy, Physiology, Development course (Upper Division) | 4 |  | UM |  |  |  |
| CHEM 3301, 3303 Organic Chemistry I & Lab | 4 |  | UM | F | CHEM 1112 & 1112L |  |
| GE Objective 6:  | 3 |  | GE | F, S, Su |  |  |
| Free Electives | 1 |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Six |  |  |  |  |  |  |
| BIOL 4417 Organic Evolution | 3 |  | UM | F, S | BIOL 3358 & 2209 |  |
| Diversity or Evolutionary course | 4 |  |  |  |  |  |
| CHEM 3302, 3304 Organic Chemistry II & Lab | 4 |  | UM | S | CHEM 3301 or permission of instructor |  |
| Upper Division Free Electives | 2 |  | UU |  |  |  |
| Free Electives | 2 |  |  |  |  |  |
|  Total | 15 |  |  |  |  |  |
| Semester Seven |  |  |  |  |  |  |
| Diversity or Evolutionary Course | 4 |  |  |  |  |  |
| Biology 4491 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 | 15 |  |  |  |  |  |
| Semester Eight |  |  |  |  |  |  |
| BIOL 4492 Senior Seminar | 1 |  | UM | F, S | Senior standing or permission of department |  |
| 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 |  |  |
|  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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| B.S., Biology, Integrative Organismal Biology |
| **2019-2020 Major Requirements** | **CR** | **2018-2019 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** | **36** |  ENGL 1102 | 3 |
| BIOL 1101 & 1101L Biology I & Lab  | 4 | 2. Oral Communication (3 cr. min) COMM 1101 | 3 |
| BIOL 1102 & 1102L Biology II & Lab | 4 | 3. Mathematics (3 cr. min) MATH 1160 | 3 |
| BIOL 2206, 2207 Cell Biology & Lab | 4 | 4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)** |
| BIOL 2209 & 2209L General Ecology & Lab | 4 |  |  |
| BIOL 3316 Biometry Lab | 1 |  |  |
| BIOL 3358 Genetics | 3 | 5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)** |
| BIOL 4417 Organic Evolution | 3 | CHEM 1111 & 1111L General Chemistry I & Lab | 5 |
| BIOL 4491 and 4492 Seminars | 2 | PHYS 1111 & 1111L | 4 |
| MATH 1160 Applied Calculus (Counted in GE Objective 3) |  |  |
| MATH 3350 Statistical Methods | 3 | 6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)** |
| CHEM 1111 & 1111L General Chem I & Lab (Counted in GE Objective 5) |  |  |
| CHEM 1112 & 1112L General Chemistry II & Lab | 4 |  |  |
| 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 (Counted in GE 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):** | **8** |  |  |
| BIOL 3301 & 3301L Anatomy & Physiology I & Lab | 4 |  Total GE | 39 |
| BIOL 3302 & 3302L Anatomy & Physiology II & Lab | 4 | Undergraduate Catalog and GE Objectives by [Catalog Year](https://www.isu.edu/advising/academic-support/general-education/)  *http://coursecat.isu.edu/undergraduate/programs/* |
| BIOL 3304 & 3304L Comparative Vert Morph & Phys & Lab  | 5 |
| BIOL 3324 &3324L Developmental Biology & Lab | 4 |  |  |
| BIOL 4404 Plant Physiology | 3 | **MAP Credit Summary** | **CR** |
| BIOL 4405 & 4405L: Plant Form and Function | 4 | Major  | 67 |
| BIOL 4419 & 4419L Mammalian Histology & Lab | 4 | General Education | 39 |
| BIOL 4443 Endocrinology | 3 | Upper Division Free Electives to reach 36 credits | 5 |
| BIOL 4464 Lectures in Human Physiology  | 4 | Free Electives to reach 120 credits | 9 |
| **Diversity or Evolutionary Courses** |  |  TOTAL | 120 |
| **Select 8 credits:**  | **8** |  |
| BIOL 2221 Fall Flora | 2 | **Graduation Requirement Minimum Credit Checklist** | **Confirmed** |
| BIOL 2214 Spring Flora | 2 | Minimum 36 cr. General Education Objectives (15 cr. AAS) | x |
| BIOL 3310 & 3310L Invertebrate Zoology & Lab | 4 | Minimum 15 cr. Upper Division in Major (0 cr. Associate) | x |
| BIOL 4406 & 4406L Plant Diversity & Evolution & Lab | 4 | Minimum 36 cr. Upper Division Overall (0 cr. Associate) |  | x |
| BIOL 4412 & 4412L Systemic Botany & Lab | 4 | Minimum of 120 cr. Total (60 cr. Associate) |  | x |
| BIOL 4423 General Parasitology | 3 |  |
| BIOL 4426 & 4426L Herpetology & Lab | 4 | ***MAP Completion Status (for internal use only)*** |
| BIOL 4427 & 4427L Ichthyology & Lab | 4 |  | *Date* |
| BIOL 4431 & 4431L General Entomology & Lab | 3 | *Department:*  |  |
| BIOL 4434 & 4434L Microbial Diversity & Lab | 4 | *CAA or COT:* |  |
| BIOL 4438 Ornithology | 4 | *Registrar:*  |  |
| BIOL 4441 & 4441L Mammology & Lab | 4 | **Complete College American Momentum Year****Math and English course in first year-Specific GE MATH course identified****9 credits in the Major area in first year****15 credits each semester (or 30 in academic year)****Milestone courses** |
| BIOL 4442 Plant Animal Interactions | 3 |
| BIOL 4495 Animal Behavior | 4 |
| **Biology Electives** | **8** |
| Students must fulfill a minimum of an additional 8 credits of biology electives for  |
| which they can select any course in Biology, includingIndependent 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 AMOEBA (Mentored Research Alliance,  |
| [BIOL 2280](https://next.coursecat.isu.edu/search/?P=BIOL%202280) and/or [BIOL 4480](https://next.coursecat.isu.edu/search/?P=BIOL%204480)). |
| **Advising Notes** |
| BIOL 2235 and 2235 L can substitute for BIOL 2206 and 2207 in the IOB option. |

 Form Revised 9.10.2019