

# Biology Minor

## Program requirements

The Biology minor requires 17 credits in addition to BIOL 198; at least 11 of the 17 credits must be from BIOL courses (List 1). No more than 3 credit hours of research credits (List 2) may count toward the minor, and no more than 3 credit hours of courses from List 3 may count toward the minor. Note that this means that only 3 credit hours of List 3 courses that are 4 credits hours or above will be counted.

## Required Courses (4 credit hours)

BIOL 198 Principles of Biology

4

## Biology Courses (at least 11 credit hours)

Any BIOL course (other than BIOL 198, BIOL 695 or BIOL 698). Biology course listing can be found in the University Course Catalog.

## Research Courses (up to 3 credit hours)

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| AGRON 598 Undergraduate Research in Agronomy                                  | 0-18 |
| AP 790 Problems in Anatomy and Physiology                                     | 1-18 |
| ASI 561 Undergraduate Research in Animal Sciences & Industry                  | 0-3  |
| BAE 497 Undergraduate Research Experience                                     | 0-3  |
| BAE 499 Honors Research in Biological Systems Engineering                     | 1-18 |
| BIOCH 599 Research Training in Biochemistry                                   | 1-3  |
| BIOL 695 Internship in Biology  | 1-3  |
| BIOL 698 Research in Biology  | 0-8  |
| CHE 497 Undergraduate Research Experience                                     | 0-3  |
| CHM 497 Research in Undergraduate Chemistry                                   | 1-3  |
| DAS 400 Undergraduate Research in Arts and Sciences                           | 0-3  |
| DAS 506 Undergraduate Cancer Research   | 1    |
| DMP 680 Problems in Pathobiology  | 1-5  |
| ENTOM 482 Research Experience in Entomology                                   | 1-3  |
| GEOG 497 Undergraduate Research in Geography                                  | 1-3  |
| KIN 597 Research Experience in Kinesiology                                    | 0-3  |
| PLPTH 495 Undergraduate Research in Plant Pathology                           | 0-3  |
| PSYCH 599 Research in Psychology  | 0-18 |
| WOEM 495 Undergraduate Research in Wildlife and Outdoor Enterprise Management | 0-3  |

Additional courses (except research courses) (up to 3 credit hours). Research Courses do not count toward the 3 credit hour limit.

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| AGCOM 712 Environmental Communication  | 3 |
| AGEC 525 Natural Resource and Environmental Economics                        | 3 |
| AGRON 205 Soils  | 3 |
| AGRON 251 Range Management   | 3 |
| AGRON 335 Environmental Quality  | 3 |
| AGRON 610 Biotechnology  | 3 |
| AGRON 620 Applied Crop Physiology  | 3 |
| AGRON 630 Crop Improvement and Biotechnology                                 | 3 |
| AGRON 645 Soil Microbiology  | 3 |
| AGRON 646 Soil Microbiology Laboratory                                       | 1 |
| AGRON 660 Grassland Monitoring and Assessment                                | 2 |
| AGRON 661 Grassland Monitoring and Assessment Lab                            | 1 |
| AGRON 680 Plant Genetics   | 3 |
| AGRON 681 Range Ecology  | 3 |
| AGRON 682 Grassland Fire Ecology   | 3 |
| AGRON 695 Climate Change and Agriculture                                     | 3 |
| AGRON 781 Ecology of Invasive Species  | 3 |
| AP 600 Introduction to Pharmacology for Health Professionals                 | 3 |
| AP 711 Stem Cells and Comparative Biomedicine                                | 2 |
| ASI 218 Fundamentals of Nutrition  | 3 |
| ASI 533 Anatomy and Physiology   | 4 |
| ASI 540 Principles of Animal Disease Control                                 | 3 |
| ASI 560 Course-Based Undergraduate Research in Animal Sciences<br>& Industry | 2 |
| ASI 658 Animal Growth and Development  | 3 |
| BAE 445 Biological Engineering Fundamentals                                  | 3 |
| BIOCH 521 General Biochemistry   | 3 |
| BIOCH 522 General Biochemistry Laboratory                                    | 3 |
| BIOCH 571 Medical Biochemistry   | 3 |
| BIOCH 755 Biochemistry I   | 3 |
| BIOCH 756 Biochemistry I Laboratory  | 2 |
| BIOCH 757 NMR Laboratory   | 1 |
| BIOCH 758 Protein Structure Laboratory                                       | 1 |
| BIOCH 765 Biochemistry II  | 3 |
| BIOCH 766 Recombinant DNA Laboratory I                                       | 1 |
| BIOCH 767 Recombinant DNA Laboratory II                                      | 1 |
| BIOCH 775 Molecular Biophysics   | 3 |
| CHM 315 Environmental Science: A Chemistry Perspective                       | 3 |
| DMP 690 Essential Practices for BSL-3 Research Settings                      | 1 |
| DMP 691 Introduction to High Containment Laboratory Topics and<br>Techniques | 3 |
| DMP 710 Introduction to One Health   | 2 |
| DMP 754 Introduction to Epidemiology   | 3 |
| DMP 770 Emerging Diseases  | 3 |
| ECON 527 Environmental Economics   | 3 |
| ENTOM 312 General Entomology   | 3 |
| ENTOM 625 Integrative Behavioral Ecology                                     | 3 |
| ENTOM 630 Introduction to Molecular Entomology                               | 3 |
| ENTOM 635 Insect Evolution   | 3 |
| ENTOM 649 Introduction to Arthropod Vectors of Human Pathogens               | 3 |
| ENTOM 652 Introduction to Insect Molecular Techniques                        | 2 |
| ENTOM 660 Introduction to Insect Genetics                                    | 3 |
| ENTOM 675 Introduction to Insect Physiology                                  | 3 |
| ENTOM 692 Insect Ecology   | 3 |
| ENTOM 695 Insect Taxonomy  | 3 |

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| FDSCI 600 Food Microbiology  | 2 |
| FDSCI 601 Food Microbiology Lab  | 2 |
| FNDH 400 Human Nutrition   | 3 |
| FNDH 620 Nutrient Metabolism   | 3 |
| FNDH 654 Pathophysiology and Clinical Evaluation                       | 3 |
| GEOG 445 Biogeography  | 3 |
| GEOG 460 Human Dimensions of Global Change                             | 3 |
| GEOG 508 Geographic Information Systems I                              | 4 |
| GEOG 605 Remote Sensing of the Environment                             | 3 |
| GEOG 608 Geographic Information Systems II                             | 3 |
| GEOG 761 Human Impact on the Environment                               | 3 |
| GEOL 650 Geomicrobiology   | 3 |
| KIN 601 Cardiorespiratory Physiology                                   | 3 |
| KIN 603 Cardiovascular Physiology                                      | 3 |
| KIN 607 Muscle Physiology  | 3 |
| KIN 609 Environmental Physiology                                       | 3 |
| KIN 611 Autonomic Neurophysiology                                      | 3 |
| KIN 615 Cardiorespiratory/Comparative Physiology in Health and Disease | 3 |
| KIN 617 Signaling Pathways in Physiology                               | 3 |
| KIN 657 Integrative Human Pathophysiology                              | 3 |
| LAR 298 Ethics and Environmental Dilemmas                              | 3 |
| PHILO 595 Environmental Ethics   | 3 |
| PLPTH 500 Principles of Plant Pathology                                | 3 |
| PLPTH 585 Crop Diseases  | 2 |
| PLPTH 610 Biotechnology  | 3 |
| PSYCH 470 Principles of Neuroscience                                   | 3 |
| STAT 703 Introduction to Statistical Methods for the Sciences          | 3 |
| WOEM 400 Pond and Sportfish Management                                 | 3 |
| WOEM 555 Big Game Management   | 3 |
| WOEM 560 Upland Game Bird Management                                   | 3 |
| WOEM 561 Waterfowl and Wetlands Management                             | 3 |
| WOEM 562 Advanced Wildlife Habitat Management                          | 4 |
| WOEM 620 Human-Wildlife Conflicts                                      | 3 |

## Total Hours Required: 21

No more than 6 hours of transfer course work can count toward the minor.