

B.S. WITH A MAJOR IN BIOLOGY WITH LIFE SCIENCE TEACHING CERTIFICATION

The study of biology is an excellent way to prepare for a career in teaching because it provides the student with a solid foundation in science as well as in teaching. Students who plan to earn a B.S. with a major in biology with life science teaching certification should consult regularly with the coordinator of advising of the School of Education.

To earn a B.S. with a major in biology with life science teaching certification, you must fulfill the requirements specified by the IPFW School of Education and fulfill the requirements of IPFW and of the School of Arts and Sciences with the exception of the foreign language requirement (see Parts 3 and 7).

The School of Education requires that you first complete EDUA F300, EDUC W200/M101, and EDUC K201 before you are permitted to take professional education courses. Prior to your junior year, you must successfully complete the Pre-Professional Skills Test (PPST) before admission to the teacher education program. The PRAXIS II Specialty Area Exam must be completed before or during the student-teaching semester, normally in your senior year. To be eligible to apply for teacher licensure, you must earn a GPA of 2.00 or higher in each general education area. You should work closely with your advisor to ensure completion of general education requirements for teacher licensing. You must also earn a cumulative GPA of 2.50 or higher in your major area and the professional education courses. Each professional education course must be completed with a grade of C or better.

Students who qualify may elect to do an independent project supervised by a faculty member. Credits earned in these courses (BIOL 295 or BIOL 595) cannot be used to satisfy A/B-elective requirements.

Course Number and Title Credits

IPFW General Education Requirements

Area I—Linguistic and Numerical Foundations

COM 114 *Fundamentals of Speech Communication* 3

One of the following 3

ENG W131 *Elementary Composition I*

ENG W140 *Elementary Composition—Honors*

MA Mathematics course approved for 3

IPFW General Education Area I

Area II—Natural and Physical Sciences

BIOL 117 *Principles of Ecology and Evolution* 0

(credits included in Biology Core, below)

CHM 115 *General Chemistry* 0

(credits included in Supporting Courses, below)

Area III—The Individual, Culture, and Society 6

See Part 2 General Education Requirements for approved courses

Area IV—Humanistic Thought 6

See Part 2 General Education Requirements for approved courses

Area V—Creative and Artistic Expression 3

See Part 2 General Education Requirements for approved courses

Area VI—Inquiry and Analysis

One of the following (credits included in 0

Supporting Courses, below):

CHM 224 *Introductory Quantitative Analysis*

CHM 321 *Analytical Chemistry I*

School of Arts and Sciences Requirements

English Writing

ENG W233 *Intermediate Expository Writing* 3
Core and Concentration (Major) Courses
BIOL 117 *Principles of Ecology and Evolution* 4
BIOL 119 *Principles of Structure and Function* 4
BIOL 217 *Intermediate Ecology* 3
BIOL 218 *Genetics and Molecular Biology* 4
BIOL 219 *Principles of Functional Biology* 3
BIOL 491 *Senior Biology Seminar* 1
Supporting Courses (40–42 credits)
CHM 115–116 *General Chemistry* 8
CHM 254-255-256-258 *Organic Chemistry and Laboratory* 8

One of the following: 4

CHM 224 *Introductory Quantitative Analysis*
CHM 321 *Analytical Chemistry I*

One of the following: 3

CS 106 *Introduction to Computers*
CS 107 *Introduction to Computers for Science Majors*

MA 229 *Calculus for the Managerial, Social, and Biological Sciences I* 3

STAT 240 *Statistical Methods for Biology* 3
STAT 340 *Elementary Statistical Methods II* 3

One of the following sequences 8–10

PHYS 201–202 *General Physics I–II* (10 credits)
PHYS 220–221 *General Physics* (8 credits)
General Elective Courses (10–12 credits)

Those courses with a laboratory are indicated by an asterisk (*).
You must complete at least one course with a laboratory in each group.

A-Electives (organismal, population, community, and ecosystem)

BIOL 335–336 *Animal Behavior and Laboratory 3–4**
BIOL 345 *Vertebrate Biology 4**
BIOL 434 *Marine Community Ecology 3**
BIOL 445 *Aquatic Biology 3**
BIOL 502 *Conservation Biology* 3
BIOL 505 *Biology of Invertebrate Animals 3**
BIOL 543 *Population Ecology 4**
BIOL 556–558 *Physiology I and Laboratory 3–5**
BIOL 579 *Fate of Chemicals in the Environment 3**
BIOL 580 *Evolution* 3
BIOL 582 *Ecotoxicology* 3
BIOL 586 *Topics in Behavior and Ecology* 3
BIOL 592 *The Evolution of Behavior* 3
BIOL 598 *Biology of Fish 4**
ENTM 306–307 *General Applied Entomology and Laboratory 3**

B-Electives (molecular, cellular, and organ-system)

BIOL 215 *Basic Human Anatomy 4**
BIOL 315 *Developmental Anatomy 4**
BIOL 350 *Plant Physiology 4**
BIOL 381–382 *Cell Biology and Laboratory 3–4**
BIOL 437 *General Microbiology (required) 4**
BIOL 455–456 *Animal Physiology and Laboratory 4**
BIOL 506 *Human Molecular Genetics* 3
BIOL 509–584 *Molecular Biology and Applications and Laboratory 3–4**
BIOL 515 *Molecular Genetics* 3
BIOL 516 *Molecular Biology of Cancer* 3
BIOL 533 *Medical Microbiology* 3

BIOL 537–565 *Immunobiology and Laboratory**3
BIOL 540 *Biotechnology* 3
BIOL 544–546 *Principles of Virology and Laboratory*3
BIOL 559 *Endocrinology* 3
BIOL 566–567 *Developmental Biology and Laboratory**3–4
BIOL 569 *Cellular Neurobiology* 3

School of Education Requirements (35 credits)

Prior to being admitted to the teacher education program, you must complete Group I courses and pass the PPST.

GROUP I

EDUA F300 *Invitation to Teaching* 2

EDUC W200/M101 *Microcomputers for Education: 1
An Introduction and Lab/Field
Experience*

EDUC K201 *Schools, Society, and Exceptionality* 1

GROUP II

EDUC K206 *Teaching Methods for Students 3
with Special Needs*

EDUC H340 *Education and American Culture* 3

EDUC P250/M201 *General Educational Psychology 3
and Lab/Field Experience*

EDUC P253/M301 *Educational Psychology 3
Secondary Teachers and
Lab/Field Experience*

EDUC Q400 *Man and Environment: 3
Instructional Methods*

EDUC X401 *Critical Reading in the Content Area* 3

EDUC M449/M401 *Methods of Teaching Science 3
in the Secondary Schools and
Lab/Field Experience*

EDUC M480 *Student Teaching in the 10
Secondary School*

Total 131–135

LIFE SCIENCE TEACHING MINOR

If you are already licensed or qualified to be licensed in another area, you may earn a life science teaching minor by completing the following 29 credits with a grade of C or better in each course.

Course Number and Title Credits

EDUC Q400 *Man and Environment: 3
Instructional Methods*

BIOL 117 *Principles of Ecology* 4

BIOL 119 *Principles of Structure* 4

BIOL 217 *Intermediate Ecology* 3

BIOL 218 *Genetics and Molecular Biology* 4

BIOL 219 *Principles of Functional Biology* 3

CHM 115–116 *General Chemistry* 8

Total 29