

# BIOLOGICAL SCIENCES

## Integrative Biology

College of Arts and Sciences • Department of Biological Sciences

### Degrees Available at SIUE

- B.A., B.S., Biological Sciences

### Why Integrative Biology?

Integrative biology serves as the broadest foundation for students interested in biological sciences. The specialized degree brings together multiple disciplines — evolution, physical sciences, and genetics, for example — to research the complex inter-relationships between living organisms and the environment. Integrative Biology is a strong platform from which to enter graduate school, pursue careers in biological research, or seek positions in applied sciences such as agriculture, conservation, and wildlife management.

### Integrative Biology at SIUE

SIUE offers multiple opportunities to pursue areas of interest in the biological sciences. Under Integrative Biology, students can concentrate in specific disciplines, such as botany, microbiology, genetics, or zoology. Many collaborative relationships between faculty in genetics and cell biology, evolutionary and organismal biology, environmental science and ecology, and pathology and physiology allow for comprehensive study and broaden the base of understanding to pursue multiple career options. The Biological Sciences Department is equipped with dedicated research facilities including tissue culture labs, warm and cold rooms, and a greenhouse. The 2,600-acre SIUE campus also is ideal for onsite study because it has a wide variety of natural areas including woods, grasslands, ponds, and a large reservoir.

### Career Outlook

Biological sciences graduates, especially those with specializations, are in demand. The integrative biology specialization is ideal preparation for students pursuing graduate degree options and serves as a general but comprehensive foundation for students interested in a wide variety of biological sciences careers.

### Admission Requirements

Students admitted to programs offered in the Department of Biological Sciences shall have met the University admission requirements and the following additional Department requirements:

- completion of all Academic Development courses required by the University
- completion of any courses required to address Department of Biological Sciences high school deficiencies
- maintenance of a cumulative grade point average of at least 2.0 in all courses
- application to a major and acceptance by the department

### Exit Requirements

Satisfactory completion of all university, program and departmental requirements as outlined in the undergraduate catalog.

### Other Biology Programs at SIUE

Ecology, Evolution & Environment, Genetic Engineering, Medical Sciences, Medical Technology, Secondary Education Certification, Combined Bachelor of Science and Doctor of Dental Medicine Program

### Faculty

#### Professors

**Ralph W. Axtell, Ph.D.**

1958, University of Texas – Austin

**Richard B. Brugam, Ph.D.**

1975, Yale University

**Paul W. Ferguson (Provost), Ph.D.**

1981, University of California – Davis

**Dennis J. Kitz, Ph.D.**

1980, University of Iowa

**Kevin G. Krajniak, Ph.D.**

1990, University of Florida

**Steven A. McCommas, Ph.D.**

1982, University of Houston

**Aldemaro Romero (Dean), Ph.D.**

1984, University of Miami

**Kurt E. Schulz, Ph.D.**

1991, University of Wisconsin - Madison

**Paul E. Wanda, Ph.D.**

1978, Pennsylvania State University

#### Associate Professors

**Elaine M. AbuSharbain, Ph.D.**

1992, Southern Illinois University Carbondale

**Paul E. Brunkow, Ph.D.**

1996, Arizona State University

**David D. Duvernell, Ph.D.**

1998, Virginia Tech

**Elizabeth J. Esselman, Ph.D.**

1996, The Ohio State University

**LuciAnn P. Kohn, Ph.D.**

1989, University of Wisconsin

**Zhi-Qing Lin, Ph.D.**

1996, McGill University

**Peter R. Minchin, Ph.D.**

1984, University of Tasmania

**William A. Retzlaff, Ph.D.**

1987, Clemson University

**Christopher W. Theodorakis, Ph.D.**

1994, University of Tennessee

#### Assistant Professors

**Kelly J. Barry, Ph.D.**

1992, University of Hawaii

**Richard L. Essner, Jr., Ph.D.**

2003, The Ohio State University

**Thomas J. Fowler, Ph.D.**

1993, The Ohio State University

**David H. Jennings, Ph.D.**

1997, University of Colorado

**Faith L.W. Liebl, Ph.D.**

2005, University of Illinois at Chicago

**Darron R. Luesse, Ph.D.**

2006, Indiana University, Bloomington

**Vance J. McCracken, Ph.D.**

2001, University of Illinois at Urbana-Champaign

**Jason Williams, Ph.D.**

2005, Miami University

## Sample Four-Year Curriculum - BS

	FALL	SPRING
YEAR 1	<b>CHEM 121A</b> General Chemistry I (INSM) (4) <b>CHEM 125A</b> General Chemistry Lab I (1) ENG 101 English Composition I (3) <b>MATH 125</b> Pre-Calculus Trig (INSM) (3) SPC 103 or 105 Speech Communication* (3) Total 14	<b>BIOL 150</b> Biol I (4) <b>CHEM 121B</b> General Chemistry II (DNSM) (4) <b>CHEM 125B</b> General Chemistry Lab II (1) ENG 102 English Composition II (3) <b>PHIL 106</b> Critical Thinking or MATH 106 Deductive Reasoning* (3) Total 15
YEAR 2	<b>BIOL 151</b> Plant Systems (4) <b>CHEM 241A</b> Organic Chemistry I (3) <b>STAT 244</b> Statistics (4) Introductory Fine Arts & Humanities (IFAH) (3) Introductory Social Sciences (ISS) (3) Total 17	<b>BIOL 220</b> Genetics (4) <b>CHEM 241B</b> Organic Chemistry II (3) <b>CHEM 245</b> Organic Chemistry Lab (2) Distribution Fine Arts & Humanities (DFAH) (3) Intro Fine Arts & Humanities (IFAH) or Social Science (ISS) (3) Total 15
YEAR 3	BIOL 319 Cell & Molecular Biology (4) Ecology, Evolution, & Behavior Elective (3-4) <b>PHYS 131A</b> College Physics I** or <b>PHYS 151</b> University Physics and <b>151L Lab</b> (5) Distribution Social Sciences (DSS) (3) Total 15-16	Biological Diversity Elective (3-4) Morphology, Physiology & Develop Elective (3-4) <b>PHYS 131B</b> College Physics II** or <b>PHYS 152</b> University Physics II and <b>152L Lab</b> (5) Intergroup Relations (IGR) (3) Total 14-16
YEAR 4	BIOL Elective 400 Level (3) Cellular & Molecular Biology Elective (3-4) Interdisciplinary Studies (IS) (3) International Issues, International Culture (II, IC) (3) Elective (3) Total 15-16	BIOL 497 Senior Assessment (2) BIOL Elective 400 Level (3) Elective (3) Elective (3) Elective (3) Elective (3) Total 17

\* Students pursuing a bachelor of arts degree will complete one year of foreign language in lieu of SPC 103/104/105 and PHIL 106/MATH 106  
 \*\* MATH 150 and PHYS 111 may be substituted for PHYS 131A and B

**TRANSFER STUDENTS** Maximize your transfer experience - complete the **bolded** courses/requirements pre-transfer **AND** satisfy the Illinois Articulation Initiative (IAI) General Ed Core or receive an AA, AS, or AAT (early childhood, special ed, or math) degree from an IAI community college. If 'Minor' requirements are shown, discuss careful course selection with the academic advising contact listed. Transfer Credit Equivalency Guides are located at [siue.edu/transfer/](http://siue.edu/transfer/)

BA degree requires two semesters of same foreign language.

### Academic Advising Information

College of Arts and Sciences Undergraduate Advising  
 Southern Illinois University Edwardsville  
 Campus Box 1609, Edwardsville, IL 62026-1609  
 618.650.5525  
[bhinter@siue.edu](mailto:bhinter@siue.edu)

### Contact Info

Department of Biological Sciences  
 College of Arts and Sciences  
 Southern Illinois University Edwardsville  
 Campus Box 1651, Edwardsville, IL 62026  
 618.650.3927

