

## Biological Sciences

Biological Sciences is an appropriate major for students wishing to pursue a career in secondary-school biology education, a pre-professional human-health curriculum, or an interdisciplinary program in ecology. Students in the major must choose one of these specializations to complete their degree. The Biological Sciences major provides interdisciplinary training for specific career paths in the life sciences. The curriculum is drawn from the resources of four life-science disciplines (Microbiology, Physiology, Plant Biology, and Zoology), each of which has its own undergraduate degree.

Students with a major in Biological Sciences may not select one of the four life-science areas as a minor, and students electing to pursue a double major may not use more than 11 semester hours of biological sciences courses to satisfy the requirements for both majors. In addition to biological sciences courses, students are required to take courses in physical sciences and mathematics.

Students planning a major in Biological Sciences should consult with the Director of the School of Biological Sciences for program information and assignment to a program for faculty mentoring. Students cannot repeat a majors course or its equivalent in which a grade of B or better was earned, without consent of the Director of the School of Biological Sciences.

## Bachelor of Science (B.S.) Biological Sciences (School of Education)

### Biology Education Specialization

This specialization prepares students for certification as secondary-school biology teachers. Course requirements match content areas specified by the Illinois State Board of Education for teacher licensure in science with a designation in biology. The degree is awarded by the School of Education, but is taught collaboratively between the School of Education and the School of Biological Sciences.

### B.S. Biological Sciences - Biology Education Specialization Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements - To include MATH 109; BIOL 211-advanced UCC Group II Science; CHEM 200/201-advanced UCC Group I Science; PSYC 102-Social Science; EDUC 214-advanced UCC Social Science; EDUC 211-advanced UCC Multicultural; and PHIL 307I-UCC Humanities. <sup>1</sup>	39
Biological Sciences Major Requirements <sup>2</sup>	55-56
Life Science	
BIOL 211, BIOL 213 <sup>3</sup>	5 (+3)
BIOL 304, BIOL 305, BIOL 306, BIOL 307	12
BIOL 202, PH 101, HND 101, KIN 101 or PHSL 201, PHSL 208 <sup>4</sup>	2 (+2)
MICR 301; or PLB 300; or ZOOL 220	4-5

Degree Requirements	Credit Hours
Six hours of 400-level electives in BIOL, MICR, PHSL, PLB, or ZOOL	6
BIOL 485, MICR 495, PHSL 490, PLB 480, or ZOOL 482	1
Mathematics and Statistics	
MATH 109 <sup>5</sup>	(+3)
MATH 282 or PLB 360 or QUAN 402	3
Physical Science	
CHEM 200, CHEM 201, CHEM 202, CHEM 210, CHEM 211, CHEM 212 <sup>6</sup>	7 (+3)
GEOL 220 and GEOL 223, or GEOL 221 and GEOL 224, or GEOL 222 and GEOL 223	4
PHYS 103, PHYS 203A, PHYS 203B, PHYS 253A, PHYS 253B	11
Professional Education Sequence	
EDUC 360, EDUC 468	6
EDUC 301, EDUC 302, EDUC 303, EDUC 308, EDUC 313, EDUC 319, EDUC 401A	24
Total	126-127

<sup>1</sup> ENGL 101 and ENGL 102 with a grade of C or better are required for admission to the Teacher Education Program. PHIL 307I should be taken to satisfy three hours of the Humanities requirement of the University Core Curriculum.

<sup>2</sup> A minimum 2.75 grade point average in all Biological Sciences major courses is required.

<sup>3</sup> Satisfies the Life Science (Group II) requirement of the University Core Curriculum. BIOL 211, BIOL 212, and BIOL 213 with grades of C or better are required for admission to the Teacher Education Program.

<sup>4</sup> Satisfies the Human Health requirement of the University Core Curriculum.

<sup>5</sup> Satisfies the Mathematics requirement of the University Core Curriculum.

<sup>6</sup> Satisfies the Physical Science (Group I) requirement of the University Core Curriculum.

# Bachelor of Science (B.S.) Biological Sciences (School of Biological Sciences)

## Biomedical Science Specialization

Designed for Biological Sciences majors planning careers as biomedical researchers, chiropractors, dentists, medical doctors, optometrists, pharmacists, physical therapists, physician assistants, or podiatrists. Pre-professional students must register with the College of Agricultural, Life, and Physical Sciences Pre-Health Professions Advisement Office.

## B.S. Biological Sciences - Biomedical Science Specialization Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements	39
Biological Sciences Major Requirements	70-72
BIOL 211, BIOL 212, BIOL 213 <sup>1</sup>	9 (+3)
BIOL 305, BIOL 306, BIOL 409 <sup>2</sup>	9
CHEM 200, CHEM 201, CHEM 202, CHEM 210, CHEM 211, CHEM 212, CHEM 340, CHEM 341 <sup>3</sup>	12(+3)
CHEM 442 and CHEM 443, or CHEM 350 and CHEM 351	5
MATH 108 and MATH 109, or MATH 111 or MATH 141 or MATH 150 <sup>4</sup>	1-3(+3)
MATH 282 or QUAN 402 or PLB 360	3
MICR 301, MICR 302 <sup>5</sup>	7
BIOL 485 or MICR 495 or PHSL 490 or PLB 480 or ZOOL 482	1
PHSL 310	3(+2)
PHYS 203A, PHYS 203B, PHYS 253A, PHYS 253B	8
Twelve hours of life science electives chosen from the following: BIOL 304, MICR 403, MICR 421, MICR 425, MICR 441, MICR 453, MICR 460, MICR 470, MICR 477, MICR 480, MICR 481; PHSL 301, PHSL 320, PHSL 401A, PHSL 401B, PHSL 410A, PHSL 410B, PHSL 430, PHSL 433, PHSL 450, PHSL 462, PHSL 470, PHSL 492; PLB 317, PLB 419, PLB 425, PLB 427, PLB 438, PLB 471, PLB 475; ZOOL 407, ZOOL 426, ZOOL 432, ZOOL 433, ZOOL 438, ZOOL 472	12

Degree Requirements	Credit Hours
Additional School of Biological Sciences Academic Requirements:	
Supportive Skills: CS 105 or CS 200B or CS 201 or CS 202; ENGL 290 or ENGL 291 or ENGL 391; or any two-semester sequence of a foreign language. <sup>6</sup>	6
Electives <sup>7</sup>	3-5
Total	120

<sup>1</sup> Students must have a grade point average of 2.0 or better in these biological science requirements. Satisfies the three-hour University Core Curriculum Group II Science requirement.

<sup>2</sup> Students must have a grade point average of 2.0 or better in these biological science requirements.

<sup>3</sup> Satisfies the three-hour University Core Curriculum Group I Science requirement.

<sup>4</sup> Satisfies the three-hour University Core Curriculum Mathematics requirement. Students should consult with the Pre-Health Professions Advisement Office about additional mathematics recommendations for particular programs.

<sup>5</sup> Students must have a grade point average of 2.0 or better in these biological science requirements.

<sup>6</sup> Supportive skills courses are not required for students with three years of foreign language in high school, but computer science and technical writing courses are recommended.

<sup>7</sup> Students are strongly encouraged to obtain research experience under the supervision of a faculty mentor. To prepare for an undergraduate research project, students should consider enrolling in UNIV 301A. Credit for research experience can be obtained by enrolling in MICR 490, PHSL 492, PLB 493A-C, or ZOO 492.

## Ecology Specialization

Ecology is an important topic for students wishing to pursue careers in any aspect of the natural sciences, including environmental science, ecosystem management, teaching, and basic research. The track in ecology is also appropriate for students planning to pursue graduate studies in the natural sciences. Students pursuing the Ecology track can specialize in Environmental Studies by selecting the corresponding minor.

## B.S. Biological Sciences - Ecology Specialization Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements	39
Biological Sciences Major Requirements	72
BIOL 211, BIOL 212, BIOL 213 <sup>1</sup>	9 (+3)
BIOL 304, BIOL 305, BIOL 307 <sup>2</sup>	9

Degree Requirements	Credit Hours
CHEM 200, CHEM 201, CHEM 202, CHEM 210, CHEM 211, CHEM 212, CHEM 340, CHEM 341, CHEM 350 <sup>3</sup>	15(+3)
MATH 141 <sup>4</sup>	1(+3)
MATH 282 or PLB 360 or QUAN 402	3
MICR 301 <sup>5</sup>	4
PHSL 310	3(+2)
PHYS 203A and PHYS 253A, or PHYS 205A and PHYS 255A	4
PLB 300	4
ZOOL 220	5
Life Science electives: At least seven hours of Microbiology, Plant Biology or Zoology 400-level courses, including one of: MICR 423, MICR 454, MICR 470, MICR 477; PHSL 433; PLB 416, PLB 435, PLB 440, PLB 443, PLB 444, PLB 445, PLB 451, PLB 452; ZOOL 410, ZOOL 411, ZOOL 415, ZOOL 435, ZOOL 440, ZOOL 443, ZOOL 444, ZOOL 445, ZOOL 458, ZOOL 468, ZOOL 469, ZOOL 471, ZOOL 490	7
Ecology electives: at least five credits chosen from the following (including at least one lab course): ANTH 410K; FOR 331, FOR 402, FOR 406, FOR 415, FOR 452, FOR 454A-D; GEOG 439; GEOL 425, GEOL 428; PLB 351; CSEM 240, CSEM 370, CSEM 441; ZOOL 351	5
MICR 490 or PLB 492 or PLB 493A or ZOOL 491 or ZOOL 492 or ZOOL 493 or ZOOL 496 or ZOOL 497	3
Additional School of Biological Sciences Academic Requirements:	
Supportive Skills: at least six credit hours chosen from CS 105 or CS 200B or CS 201 or CS 202; ENGL 290, ENGL 291 or ENGL 391; or any two semester sequence of a foreign language <sup>6</sup>	6
Electives	3
<b>Total</b>	<b>120</b>

<sup>1</sup> Students must have a grade point average of 2.0 or better in these requirements for biological sciences. Satisfies the three-hour University Core Curriculum Group II Science requirement.

<sup>2</sup> Satisfies the three-hour University Core Curriculum Group II Science requirement.

<sup>3</sup> Satisfies the three-hour University Core Curriculum Group I Science requirement.

<sup>4</sup> Satisfies the three-hour University Core Curriculum Mathematics requirement.

<sup>5</sup> Students must have a grade point average of 2.0 or better in these requirements for biological sciences.

<sup>6</sup> The supportive skills requirement may also be met by one of the following: (a) completing three years of one language in high school with a grade of C or better; or (b) earning eight credit hours of 100-level course in one language by proficiency examination.

## **Biological Sciences Minor**

A minor in Biological Sciences consists of a minimum of 21 credit hours and must include BIOL 211, BIOL 212, BIOL 213 (12 credit hours), and nine credit hours of BIOL 304, BIOL 305, BIOL 306, BIOL 307, BIOL 409 or BIOL 415. A student with a major in one of the four life sciences may not take a minor in Biological Sciences. Program must approve all minors.

## **Technology Fee**

The College of Agricultural, Life, and Physical Sciences assesses undergraduate majors a technology fee of \$4.58 per credit hour up to 12 credit hours. The fee is charged Fall and Spring semester.

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