

**Indiana State University – Biology Curriculum Guide***First-Year Advisor* Dr. Peter Scott (peter.scott@indstate.edu)*Chairperson* Dr. Christopher Murphy (Christopher.Murphy@indstate.edu)**THE BIOLOGY MAJOR CURRICULUM (67 hours total, including prerequisites courses)****I. Biology Core (24 hours)**

Course	Credits
BIO 101 & 101L – Principles of Biology I & Lab	4
BIO 102 & 102L – Principles of Biology II & Lab	4
BIO 380 & 380L – Genetics & Lab	4
BIO 330 & 330L – General Physiology & Lab	4
BIO 350 & 350L – Ecology and Evolution & Lab	4
BIO 374 & 374L – Cellular and Microbial Biology & Lab	4
BIO 380 & 380L – Genetics & Lab	4

**II. Prerequisites for the Biology Major (27–28 hours)**

Course	Credits
Statistics or calculus (BIO 485, MATH 131 or 241)	3 – 4
CHEM 105 & 105L – General Chemistry I & Lab	4
CHEM 106 & 106L – General Chemistry II & Lab	4
CHEM 351 & 351L – Organic Chemistry II & Lab	4
CHEM 352 & 352L – Organic Chemistry I & Lab	4
PHYS 105 & 105L – General Physics I & Lab	4
PHYS 106 & 106L – General Physics I & Lab	4

**III. Biology Electives (Minimum of 16 hours)**

Course	Credits	Course	Credits
BIO 406 & 406L – Cell and Tissue Culture & Lab	4	BIO 447 – Comparative Morphology of Vascular Plants	3
BIO 407 – Immunity to Infectious Agents	3	BIO 450 – Advanced Ecology	3
BIO 408 & 408L – General Immunology & Lab	4	BIO 451 – Field Study of Ecosystems	3
BIO 412 – Pathophysiology	2	BIO 454 – Animal Behavior	3
BIO 417 – Cellular and Molecular Biology I	3	BIO 455 – Humans and the World Environment	3
BIO 418 – Cellular and Molecular Biology II	3	BIO 458 & 458L – Wildlife Management	3
BIO 421 – Entomology	3	BIO 465 – Fundamentals of Tree-Ring Research	3
BIO 424 & 424L – Vertebrate Zoology & Lab	4	BIO 482 & 482L – Recombinant DNA	4
BIO 425 & 425L – Herpetology & Lab	3	BIO 485 – Introduction to Biometry	3
BIO 426 & 426L – Ornithology & Lab	4	BIO 487 – Bioinformatics	3
BIO 427 & 427L – Plant Taxonomy & Lab	3	BIO 490 – Seminar in Life Sciences	1 – 2
BIO 428 & 428L – Mammology & Lab	3	BIO 491 – Special Topics in Life Sciences	1 – 4
BIO 431 – General Endocrinology	3	BIO 492 – Special Problems in Life Sciences*	1 – 3
BIO 432 – Vertebrate Physiology	3	BIO 497 – Current and Historical Issues in Science and Capstone Research	1
BIO 433 – Reproductive Physiology	3	BIO 498 – Capstone Research	1
BIO 437 & 437L – Plant Physiology & Lab	4	BIO 499 – Research Capstone Presentations	1
BIO 445 – Plant Anatomy	3		

\*Four credits of BIO 492 can be used toward the biology elective requirement.

**Indiana State University**  
**Biology Major**  
**Four-Year Sequence**

This is a general sequence that applies to a “typical” student. Your advisor will work with you to determine your specific schedule.

<b>Year 1 – Fall Semester</b>	<b>Credits</b>	<b>Year 1 – Spring Semester</b>	<b>Credits</b>
BIO 101 & 101L	4	BIO 102 & 102L	4
CHEM 105 & 105L	4	CHEM 106 & 106L	4
ENG 101 or 107	3	ENG 105 (if you took ENG 101 in the fall)	3
Prerequisite math or Math 131	3-4	COMM 101 or MATH 131	3
Total	14-15	Total	14
<b>Year 2 – Fall Semester</b>	<b>Credits</b>	<b>Year 2 – Spring Semester</b>	<b>Credits</b>
BIO 350 & 350L and/or BIO 380 & 380L	4	BIO 330 & 330L and/or BIO 374 & 374L	4
CHEM 351 & 351L	4	CHEM 352 & 352L	4
Foundational Studies Course	3	Foundational Studies Course	3
Foundational Studies Course	3	Foundational Studies Course	3
		Foundational Studies Course	3
Total	14	Total	17
<b>Year 3 – Fall Semester</b>	<b>Credits</b>	<b>Year 3 – Spring Semester</b>	<b>Credits</b>
Complete Fall core course not yet taken (350 & 350L or 380 & 380L)	4	Complete Spring core course not yet taken (330 & 330L or 374 & 374L)	4
PHYS 105 & 105L	4	PHYS 106 & 106L	4
ENG 305 or 305T	3	BIO elective	4
Foundational Studies Course	3	Foundational Studies Course	3
Upper Division Integrative Elective	3	Foundational Studies Course	3
Total	17	Total	18
<b>Year 4 – Fall Semester</b>	<b>Credits</b>	<b>Year 4 – Spring Semester</b>	<b>Credits</b>
BIO elective	4	BIO elective	4
BIO elective	4	BIO elective	4
BIO or other elective	3-4	BIO or other elective	3-4
Foundational Studies Course	3	Upper Division Integrative Elective	3
Upper Division Integrative Elective	3		
Total	17-18	Total	14-15