

BIOLOGICAL SCIENCES REQUIRED CORE COURSES (40 CREDITS)

updated
2.01.19

BIOL 181 General Biology I (5)
CHEM 181 General Chemistry I (4) / Lab (1)
BIOL 213 Introductory Biostatistics (4)

BIOL 182 General Biology II (5)
CHEM 182 General Chemistry II (4) / Lab (1)
BIOL 321 Genetics (5)

BIOL 183 General Biology III (5)
CHEM 183 General Chemistry (4) / Lab (1)
BIOL 487 Biology Capstone (1)



*ALONG WITH CORE COURSES, CHOOSE FROM
COURSE GROUPS ACCORDING TO YOUR
SPECIALIZATION & DEGREE REQUIREMENTS*

Structure / Function Group

BIOL 343 Plant Anatomy (5)
BIOL 353 Integrative Anatomy (6)
BIOL 354 Developmental Biology (5)*
BIOL 355 Human Anatomy & Physiology (5)***#
BIOL 356 Human Anatomy & Physiology (5)***#
BIOL 422 Immunology (5)*
BIOL 423 Techniques in Immunology & Virology (5)*
BIOL 426 Medical Microbiology (3)
BIOL 441 Plant Physiology (5)*
BIOL 454 Histology (3)
BIOL 455 Integrative Animal Physiology (5)#
BIOL 457 Fundamentals of Neuroscience (5)*
BIOL 459 Winter Biology (4)*

Biological Diversity Group

BIOL 323 Microbiology (5)
BIOL 341 Plant Taxonomy (5)
BIOL 344 Dendrology (4)
BIOL 351 General Entomology (5)
BIOL 352 Parasitology (5)
BIOL 421 General Virology (5)*
BIOL 443 Mycology (5)
BIOL 444 Algae and Bryophytes (5)
BIOL 445 Field Mycology (5)
BIOL 450 Ichthyology (4)
BIOL 451 Herpetology (4)
BIOL 452 Ornithology (4)
BIOL 453 Mammalogy (5)

Ecology Group

BIOL 360 General Ecology (5)
BIOL 362 Biomes of Pacific Northwest (4)
BIOL 377 Regional Natural History (2)***
BIOL 377 Regional Natural History Lab (3)***
BIOL 420 Environmental Microbiology (5)
BIOL 459 Winter Biology (4)*
BIOL 461 Community Ecology (3)
BIOL 462 Wildlife & Fisheries Ecology (5)
BIOL 463 Limnology (5)
BIOL 464 Terrestrial Plant Ecology (5)
BIOL 466 Conservation Biology (5)
BIOL 467 Biological Field Techniques (5)

Molecular & Cell Group

BIOL 323 Microbiology (5)
BIOL 354 Developmental Biology (5)*
BIOL 421 General Virology (5)*
422 Immunology (5)*
BIOL 423 Techniques in Immunology & Virology (5)*
BIOL 425 Molecular Biotechnology (5)
BIOL 428 Nutrigenomics (5)
BIOL 430 Cell Biology (5)
BIOL 431 The Cell Biology of Cancer (3)
BIOL 441 Plant Physiology (5)*
BIOL 457 Fundamentals of Neuroscience (5)*

General Biology Electives & Variable Credit Courses

BIOL 322 Introductory Microbiology (5) ##
BIOL 413 Advanced Biostatistics (5)*
BIOL 426LAB Medical Microbiology Lab (2)
BIOL 461LAB Community Ecology Lab (2)
BIOL 295 / 495 Research (1-6)
BIOL 299 / 399 / 499 Seminar (1-5)
BIOL 298 / 398 / 498 Special Topics (1-6)
BIOL 396 / 496 Individual Study (1-6)
BIOL 405 Current Topics in Biology (2-5)
BIOL 490 Cooperative Education (1-12)
BIOL 491 Workshop (1-6)
BIOL 492 Lab Experience Teaching Bio. Science (2)

Evolution Group

BIOL 353 Integrative Anatomy (6)
BIOL 371 Paleobiology (4)
BIOL 421 General Virology (5)*
BIOL 465 Biology of Animal Behavior (4)
BIOL 470 Mechanisms of Evolution (5)

*Course is in at least one other group & may be counted only once. ***BIOL 355 must be paired with BIOL 356. A student cannot receive credit for 355/356 and 305/306. ***BIOL 377 must be paired with BIOL 377Lab #As of Fall 2014, students can only receive credit toward their major for BIOL 355/356 OR BIOL 455 ##BIOL 322 for non majors but can count toward degree unless BIOL 323 credits are earned. NOTE: See CWU catalog and Major Advisor regarding variable credit courses (incl. BIOL 405, which counts in multiple groups) for info on pre-reqs & repeating for credit.

B.S. Ecology and Evolutionary Biology Specialization		
Biology Core Requirements	40 Credits	BIOL 181, 182, 183; CHEM 181, 182, 183 & Labs; BIOL 213; BIOL 321; BIOL 487
Additional Required Courses	25 Credits	CHEM 361 & Lab AND MATH 170 OR MATH 172 AND PHYS 111 OR PHYS 181 OR PHYS 121 AND BIOL 360 AND BIOL 470
	10-21 Credits	ONE course from the Biological Diversity Group. ONE additional course from Ecology OR Evolution. ONE course from Molecular/Cell OR Structure/Function
Department-Approved Electives	14-25 Credits	Choose from the Ecology, Evolution, Molecular/Cell, Structure/Function, and Biological Diversity Group (or non-biology science courses as approved by your advisor).
TOTAL CREDITS	100	<i>NOTE: Courses can be counted only once.</i>

B.S. Biomedical Science Specialization		
Biology Core Requirements	40 Credits	BIOL 181, 182, 183; CHEM 181, 182, 183 & Labs; BIOL 213; BIOL 321; BIOL 487
Physics Sequence	15 Credits	Choose from PHYS 111, 112, 113 series OR PHYS 181, 182, 183 series OR the PHYS 121, 122, 123 series
Additional Required Courses	17-29 Credits	CHEM 361 & Lab, CHEM 362
		THREE courses from the Ecology, Evolution, Molecular/Cell and Structure/Function Course Groups <i>Each course must come from a different group.</i>
Department-Approved Electives	16-28 Credits	Choose from the Ecology, Evolution, Molecular/Cell, Structure/Function, and Biological Diversity Group (or non-biology science courses as approved by your advisor).
TOTAL CREDITS	100	<i>NOTE: Courses can be counted only once.</i>

B.S. General Specialization		
Biology Core Requirements	40 Credits	BIOL 181, 182, 183; CHEM 181, 182, 183 & Labs; BIOL 213; BIOL 321; BIOL 487
Additional Required Courses	10 Credits	CHEM 361 & Lab --AND-- PHYS 111 OR PHYS 181 OR PHYS 121
	17-31 Credits	ONE course from EACH of the following groups: Biological Diversity, Ecology, Evolution, Molecular/Cell, and Structure/Function
Department-Approved Electives	19-33 Credits	Choose from the Ecology, Evolution, Molecular/Cell, Structure/Function, and Biological Diversity Group (or non-biology courses as approved by your advisor)
TOTAL CREDITS	100	<i>NOTE: Courses can be counted only once.</i>

CWU
Biological Sciences

B.S. & B.A. Major
Degree Options

B.S. Molecular and Cell Biology Specialization		
Biology Core Requirements	40 Credits	BIOL 181, 182, 183; CHEM 181, 182, 183 & Labs; BIOL 213; BIOL 321; BIOL 487
Additional Required Courses	21 Credits	BIOL 425, BIOL 430, CHEM 361 & Lab, CHEM 362, CHEM 431
	9-21 Credits	ONE course from the Molecular/Cell Group TWO courses from the Ecology, Evolution or Structure/Function Groups. <i>NOTE: Courses must come from different groups.</i>
Department-Approved Electives	18-30 Credits	Choose from the Ecology, Evolution, Molecular/Cell, Structure/Function, and Biological Diversity Group (or non-biology courses as approved by your advisor).
TOTAL CREDITS	100	<i>NOTE: Courses can be counted only once.</i>

B.A. Biology Major		
Biology Core Requirements	40 Credits	BIOL 181, 182, 183; CHEM 181, 182, 183 & Labs; BIOL 213; BIOL 321; and BIOL 487
Additional Required Courses	5 Credits	CHEM 361 Organic Chemistry I (3 credits) CHEM 361LAB Organic Chemistry I Laboratory (2 credits)
Department Approved Electives	17-26 Credits	ONE course from EACH of the following groups: Biological Diversity Ecology Evolution Molecular and Cell Structure/Function
TOTAL CREDITS	62-72	<i>NOTE: Courses can be counted only once.</i>