BIOLOGICAL SCIENCES REQUIRED CORE COURSES (40 CREDITS)

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)*

**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)*

**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)

**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 446 Herpetology (4)  
BIOL 452 Ornithology (4)  
BIOL 453 Mammalogy (5)

**General Biology Electives & Variable Credit Courses**

BIOL 322 Introductory Microbiology (5)##  
BIOL 413 Advanced Biostatistics (5)*  
BIOL 426 LAB Medical Microbiology Lab (2)  
BIOL 461LAB Community Ecology Lab (2)  
BIOL 295 / 495 Research (1-6)  
BIOL 299 / 499 Seminar (1-5)  
BIOL 298 / 498 Special Topics (1-6)  
BIOL 356 / 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)

*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 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.

Updated: 2.01.19
### 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

**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

**NOTE:** Courses can be counted only once.

### 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

**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

**NOTE:** Courses can be counted only once.

### 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

**Department-Approved Electives**
- 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

**TOTAL CREDITS**
- 100

**NOTE:** Courses can be counted only once.

### 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

**Department-Approved Electives**
- 9-21 Credits
- ONE course from the Molecular/Cell Group

**TOTAL CREDITS**
- 100

**NOTE:** Courses must come from different groups.

### B.A. Biology Major

**Biology Core Requirements**
- 40 Credits
- BIOL 181, 182, 183; CHEM 181, 182, 183 & Labs; BIOL 213; BIOL 321; BIOL 487

**Additional Required Courses**
- 5 Credits
- CHEM 361 Organic Chemistry I (3 credits) AND CHEM 361LAB Organic Chemistry I Laboratory (2 credits)

**Department-Approved Electives**
- 17-26 Credits
- ONE course from EACH of the following groups:
  - Biological Diversity
  - Evolution
  - Molecular and Cell Structure/Function

**TOTAL CREDITS**
- 62-72

**NOTE:** Courses can be counted only once.