## Biology Course Lists

### Upper Division Biology Course Lists 2015-2016

Courses that appear on more than one List cannot count toward two list requirements. BIOL 399 may be used only toward the Biology Core requirement OR List II.

**BIOL 351 is not part of the Core requirements in catalogs prior to 2010.**

ONE credit of BIOL 492, 493 and 496 may count toward the upper division biology requirement for any concentration for catalogs prior to 2015. Other catalogs, read your degree requirements.

### BIOL 301(310X) Fossil Record 3 X X

### BIOL 302 Evolutionary Survey of Vascular Plants 4 X X

### BIOL 303 Molecular Genetics 4 X X

### BIOL 305 Introduction to Conservation Biology 3 X

### BIOL 320 Invertebrate Zoology 4 X

### BIOL 341 Principles of Ecology 3 X

### BIOL 346(346X) Human Anatomy 3 X

### BIOL 351** Microbiology before 2010 4 X X

### BIOL 360 Biomatics I 3 X X X

### BIOL 361 Biomatics II 3 X X X

### BIOL 402X Genomics, Proteomics, & Bioinformatics 3 X

### BIOL 403X Biological Discoveries 3 X

### BIOL 408X Molecular Biology 3 X X

### BIOL 407X Bioinformatics 3 X X X

### BIOL 409 Virology 3 X

### BIOL 412 Molecular Evolution 3 X X

### BIOL 414 Endocrinology 3 X X

### BIOL 417(417X) Biochemical Adaptations 3 X X

### BIOL 418(418X) Microbial Ecology 3 X X X

### BIOL 419X Concepts in Pharm & Med Bioche 3 X X

### BIOL 420X Introduction to Restoration Ecology 3 X

### BIOL 422 Taxonomy of Vascular Plants 4 X

### BIOL 421X General Pharmacology 3 X X

### BIOL 423X Ecosystem Management 3 X

### BIOL 425 Genomics 3 X

### BIOL 426 Plant Anatomy 3 X

### BIOL 427 Bryology 3 X

### BIOL 431 Idihotology 4 X

### BIOL 432 Herpetology 4 X

### BIOL 433 Otolithology 4 X

### BIOL 434 Mammalogy 4 X

### BIOL 437 Entomology 4 X

### BIOL 438X Soil Plant Water Relations in And Env 3 X

### BIOL 440 Mammalian Physiology 3 X

### BIOL 441 Field Ecology 3 X

### BIOL 442 Principles of Plant Physiology 4 X

### BIOL 444 Principles of Plant Ecology 3 X

### BIOL 445 Cell Physiology 3 X X

### BIOL 447 Adv Comparative Animal Physiology 3 X

### BIOL 449X Comparative Nutrition 3 X X

### BIOL 451(350)455 Comparative Vertebrate Anatomy 2/3 X

### BIOL 452X Behavioral Endocrinology 3 X X

### BIOL 453 Immunology 3 X

### BIOL 456 Microbial Physiology 3 X X

### BIOL 461X Comparative Biomechanics 3 X

### BIOL 464X Bacterial Pathogenesis 3 X

### BIOL 465 Vertebrate Embryology 4 X

### BIOL 466 Developmental Biology 3 X X

### BIOL 468 Histology 4 X

### BIOL 470X Topics in Applied Microbiology 3 X X

### BIOL 471 Aquatic Ecology 3 X

### BIOL 472 Limnology 3 X

### BIOL 473 Adv Topics in Cell and Molecular 3 X

### BIOL 475X Neurobiology 3 X X

### BIOL 479X Cancer Cell Biology removed CAD 91472 3 X X

### BIOL 480 Introduction to Biological Modeling 3 X X X

### BIOL 481 Advanced Cell Biology 3 X

### BIOL 485 Microbial Genetics 3 X

### BIOL 486 Animal Behavior 3 X X

### BIOL 487 Principles of Systematics 3 X

### BIOL 489 Developmental Genetics 3 X

### BIOL 490 Biogeography 3 X

### BIOL 492 Undergraduate Research 1

### BIOL 493 Undergraduate Seminar 1

### BIOL 495 Biology Colloquium 1

### BIOL 496 Advanced Topics in Modern Biology 1

### BIOL 499 Undergraduate Teaching Assistant 1

See note above. "Check your degree requirements!"

### UNLV College of Sciences Advising Center, MPE A-130; sci.advising@unlv.edu; 702-895-2077 www.unlv.edu/sciences/advising

### NSHE Transfers

Only credits transfer to UNLV from other institutions. grades do not transfer and do not affect GPA at UNLV (this includes other Nevada institutions).

- If you receive a passing grade at UNLV and you choose to retake the class, you must do so at UNLV. NOT at CCSD or other NSHE institutions.
- If you fail a class at UNLV, you may retake the class at CSN or other NSHE institutions.

BIOL 251G (Honors Microbiology) from CSN may fill a requirement for BIOL 351 (BS Biology) at UNLV.

### Credit Load

The university considers 12 semester credits as the minimum full-time undergraduate credit load. The maximum credits allowed during a regular semester are 17 for freshmen level, and 18 for sophomore, junior, and senior levels.

### Biomedicine or Graduate School

It is strongly recommended that students interested in biomedicine or graduate school take additional appropriate upper-division biology courses and research units to meet their elective credit requirements. Make an appointment to see the Pre-health Advisor. 702-895-2077

Four- and five-year degree plans can be found at http://sciences.unlv.edu/advising/degreeworksheets

### B.S. Biology

To earn a Bachelor of Science degree in Biology, students must satisfy the general education core curriculum required by the university and the College of Sciences, plus the program requirements of the Department of Life Sciences. The departmental program includes courses in biology, chemistry, physics and mathematics. Biology majors choose one of eight areas of concentration: Biotechnology, Cell and Molecular Biology, Comprehensive, Ecology and Evolutionary Biology, Education, Integrative Physiology, Microbiology, and Preprofessional.

The Biotechnology concentration provides strong preparation for careers in biotechnology, biomedical science research and the pharmaceutical industry, as well as for transition to graduate or other advanced educational programs.

The Cell & Molecular concentration provides Biological Sciences majors with the intellectual tools essential for careers in biotechnology and biomedical science research, as well as for transition to graduate PhD programs in Biology, and Cell and Molecular Biomedical research.

The Comprehensive concentration provides the educational background necessary for a career in modern life science, including all requirements for admission to graduate school or related postgraduate study. The comprehensive curriculum provides a solid foundation in fundamental areas of biology while permitting wide choice in course selection, allowing majors to explore and develop their education.

The Ecology & Evolution concentration is recommended for those students who desire a strong foundation in evolution, and whose interests are at the interface between organisms and their environments.

The Education concentration is designed for students seeking exceptionally strong backgrounds for professional teaching careers that include biology as a first teaching field. Students also enroll in course work to satisfy the Minor in Secondary Science Education in the UNLV College of Education.

The Integrative Physiology concentration provides the biology major with the intellectual and technical tools essential for success in a broad array of life sciences careers including application to all the health care-related professional schools, graduate school, or related postgraduate study as well as biomedical science research. IP provides an in-depth examination of how animals and/or plants work from the molecular to the cellular level of organization to a systems level understanding and up to the integration of physiology with behavior and evolutionary processes.

The Microbiology concentration provides the biology major with intellectual and technical skills required for success in the broad area of microbiology which includes clinical, environmental, ecological, evolutionary, molecular, metabolic and physiological perspective of microbes, including aspects of virology and immunology.

The Preprofessional concentration provides Biological Sciences majors with the intellectual tools essential for application to health care related professional schools, including medical, dental, veterinary, optometric and related programs.

Many of the eight areas of specialization provides an excellent and well-rounded background for those interested in applying for professional schools including medical, dental, veterinary. Most degrees in biology ensure the course work required for professional school is completed at the time of graduation.