BIOL Courses (Biology)
The first number is course level (1 = freshman, 2 = sophomore, 3 = junior, 4 = senior, 5 = graduate.
The middle two numbers are identifiers specific to the course
The last number is the number of credit hours

BIOL 1063 Introduction to Biological Science
A.C.T.S. Equivalent Course # BIOL 1004 when combined with BIOL 1071 Introduction to Biological Sciences Lab
3 credits: 3 hours lecture
Corequisite: ENGL 1013
Basic concepts of biology: cell and molecular biology, genetics, evolution, and ecology and the relevance of these topics to current events and issues. Designed for the non-science major.

BIOL 1071 Introduction to Biological Science Lab
A.C.T.S. Equivalent Course # BIOL 1004 when combined with BIOL 1063 Introduction to Biological Sciences
1 credit: 2 hours lab
Corequisite: ENGL 1013
Basic studies of plants and animals, cells, biochemistry, metabolism, and inheritance, designed to illustrate and complement concepts discussed in BIOL 1063. Designed for the non-science major.

BIOL 1102 Medical Terminology
2 Credits: 2 hours lecture
Prerequisite: Grade of “C” or above in ENGL 133, an English ACT of 19 or comparable test score, or instructor’s permission
A study of the language of medicine including word construction, definition, and use of terms related to all areas of medical science, focusing on the human body system.

BIOL 2041 Principles of Biology I Lab
1 credit: 2 hours lab
Corequisite: BIOL 2053
Laboratory exercises and demonstrations on the chemical basis of life, cell structure and function, metabolism, and genetics. Designed for biology and other life science majors or minors.

BIOL 2053 Principles of Biology I
3 credits: 3 hours lecture
Prerequisites: ACT composite of 22 or BIOL 1063 with a grade of “C” or above
The chemical basis of life, cell structure and function, metabolism, and genetics. Designed for biology and other life science majors or minors.

BIOL 2083 Principles of Biology II
A.C.T.S. Equivalent Course # BIOL 1014 when combined with BIOL 2091 Principles of Biology II Lab
3 credits: 3 hours lecture
Prerequisites: BIOL 2053 and BIOL 2041, each with a grade of “C” or above
Evolution, diversity, and ecology of organisms. Designed for biology and other life science majors or minors.
BIOL 2091 Principles of Biology II Lab  
A.C.T.S. Equivalent Course # BIOL 1014 when combined with BIOL 2083 Principles of Biology II  
1 credit: 2 hours lab  
Corequisite: BIOL 2083  
Laboratory exercises and demonstrations on animal and plant diversity, as well as structure, function, and behavior of these organisms. Designed for biology and other life science majors or minors.

BIOL 2143 General Botany  
A.C.T.S. Equivalent Course # BIOL 1034 when combined with BIOL 2071 General Botany Lab  
3 credits: 3 hours lecture  
Corequisite: ENGL 1013, BIOL 1063 or BIOL 2083 recommended  
Structure, physiology, and phylogeny of plants, fungi, and plant-like protista.

BIOL 2153 General Zoology  
A.C.T.S. Equivalent Course # BIOL 1054 when combined with BIOL 2161 General Zoology Lab  
3 credits: 3 hours lecture  
Corequisite: ENGL 1013, BIOL 1063 or BIOL 2083 recommended  
Animal kingdom: classification, phylogenetic relationships, morphology, function, and life histories of animals.

BIOL 2161 General Zoology Laboratory  
A.C.T.S. Equivalent Course # BIOL 1054 when combined with BIOL 2153 General Zoology  
1 credit: 3 hours laboratory  
Corequisite: BIOL 2153  
Study and dissection of representative animals, emphasizing morphology, phylogeny, and life histories.

BIOL 2171 General Botany Laboratory  
A.C.T.S. Equivalent Course # BIOL 1034 when combined with BIOL 2143 General Botany  
1 Credit: 3 hours laboratory  
Corequisite: BIOL 2143  
Morphological survey of plants, fungi, and plant-like protista, including the anatomy of seed plants.

BIOL 2233 Anatomy and Physiology I  
A.C.T.S. Equivalent Course # BIOL 2404 when combined with BIOL 2291 Anatomy and Physiology I Lab  
3 credits: 3 hours lecture  
Co-requisites: ENGL 1013, BIOL 1063 recommended  
A basic course in anatomy and physiology with emphasis on structure and function of cells, tissues, organs and systems in the human body.

BIOL 2243 Anatomy and Physiology II  
A.C.T.S. Equivalent Course # BIOL 2414 when combined with BIOL 2301 Anatomy and Physiology II Lab  
3 credits: 3 hours lecture  
Prerequisite: BIOL 2233  
A continuation of the basic course in anatomy and physiology with emphasis on structure and function of cells, tissues, organs and systems in the human body.

BIOL 2291 Anatomy and Physiology I Lab  
A.C.T.S. Equivalent Course # BIOL 2404 when combined with BIOL 2233 Anatomy and Physiology I  
1 credit: 3 hours lab  
Co-requisites: BIOL 2233  
Structure and function of cells, tissues, organs and systems in the human body.
BIOL 2301 Anatomy and Physiology II Lab
A.C.T.S. Equivalent Course # BIOL 2414 when combined with BIOL 2243 Anatomy and Physiology II
1 credit: 3 hours lab
Co-requisites BIOL 2243
Structure and function of cells, tissues, organs and systems in the human body.

BIOL 3324 Ornithology/Mammalogy
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Taxonomy and natural history of birds and mammals, emphasizing the local fauna. Offered: Spring, even-numbered years.

BIOL 3333 Molecular Biology
3 credits: 3 hours lecture
Prerequisites: BIOL 3553 or BIOL 3354
Study of genes and their activities at the molecular level with an emphasis on applications useful in the analysis of genomes and treatment of genetic diseases.

BIOL 3354 Genetics
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 2083 and BIOL 2091; CHEM 1113 and CHEM 1131
Principal laws of heredity, including Mendelian, molecular, and cytogenetics. Offered: Fall.

BIOL 3363 Cell Biology
3 credits: 3 hours lecture
Prerequisites: BIOL 3354 and CHEM 1113
Introduction to the structure and physiology of cells with an emphasis on molecular biology. A core course for biology majors.

BIOL 3384 Herpetology
NOTE: Same as WLF 3384
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Taxonomy and natural history of amphibians, reptiles, crocodilians, and turtles, emphasizing local fauna. Offered: Spring, odd-numbered years.

BIOL 3394 Ichthyology
NOTE: Same as WLF 3394
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Taxonomy and biology of fishes, emphasizing local fauna. Offered: Fall, even-numbered years.

BIOL 3413 Mammalogy
3 credits: 3 hours lecture
Prerequisites: BIOL 2153 and BIOL 2161
Taxonomy, morphology, physiology, behavior, ecology and conservation of mammals; emphasizing mammals that occur in the central and southeastern United States. Offered: Fall, odd-numbered years.
BIOL 3423 Plant Morphology
3 credits: 1 hour lecture, 6 hours laboratory
Prerequisite: BIOL 2143 and BIOL 2171
Structure, reproduction, and life histories of the vascular plants: ferns and fern allies, gymnosperms, and flowering plants.

BIOL 3434 Regional Flora
4 credits: 2 hours lecture, 6 hours laboratory
Prerequisite: BIOL 2143 and BIOL 2171
Identification and classification of the vascular plants of the southeastern United States, emphasizing flowering plants. Offered: Spring, odd-numbered years.

BIOL 3451 Mammalogy Lab
1 credit: 3 hours Laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Corequisite: BIOL/WLF 3413
Taxonomy and natural history of mammals, emphasizing Arkansas fauna. Offered: Fall, odd-numbered years.

BIOL 3484 General Ecology
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 1143, 1153, 1161 and 1171 and six hours of chemistry
Principles of ecology; study of environments and their components, the flow of energy and materials, ecological succession, pollution, and radiation ecology. Offered: Fall.

BIOL 3493 Environmental Science
3 credits: 3 hours lecture
Prerequisite: 3 hours of biology or earth science
NOTE: Same as ESCI 3493
A survey of the environment to provide an understanding of and respect for the ecosystems upon which the human species is dependent. Offered: Fall, even-numbered years.

BIOL 3503 Marine Biology
3 credits: 3 hours lecture
Prerequisites: BIOL 2153 and BIOL 2161
Study of the structure and function of the marine environment with emphasis on the fauna and ecology of the Gulf of Mexico. Optional field trip to the Gulf of Mexico.

BIOL 3511 Marine Biology Laboratory
1 credit: 2 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Study of the structure and function of the marine environment with emphasis on the identification of some of the common organisms of the Gulf of Mexico. Optional field trip to the Gulf of Mexico.

BIOL 3524 Ornithology
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Taxonomy and natural history of birds, emphasizing the local fauna. Offered: Spring, even-numbered years.
BIOL 3553 Microbiology
3 credits: 3 hours lecture
Prerequisites: six hours of chemistry & three hours of biology; or BIOL 2243/2301 & three additional hours of BIOL
The biology of microorganisms including bacteria, viruses, fungi, and protozoans, with emphasis given to their importance in health and disease.

BIOL 3561 Microbiology Lab
1 credit: 3 hours laboratory
Corequisite: BIOL 3553
A laboratory course designed to supplement the basic lecture course in microbiology with experimentation and demonstration.

BIOL 3574 Comparative Anatomy
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Structure, development, function, and evolution of organs and organ systems in the different vertebrate groups with emphasis on basic principles. Offered: Fall.

BIOL 358V Natural History
Variable credit
Prerequisite: 3 hours biology or 3 hours earth science
NOTE: May be taken for a maximum of 3 hours credit. Same as ESCI 358V, FOR 358V and WLF 358V.
A field course in earth science and biology of natural ecosystems, consisting of travel, study and/or research in unique natural areas of North America.

BIOL 3594 Invertebrate Zoology
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Classification, phylogenetic relationships, morphology, function, and life histories of invertebrates, emphasizing marine invertebrates and the economic importance of all invertebrate groups.

BIOL 3763 Evolution
3 credits: 3 hours lecture
Prerequisite: BIOL 2083
Study of evolutionary theory and processes, including selection, adaptation, and speciation. The course also explores classification of organisms and scientific nomenclature.

BIOL 3801 Mammalian Anatomy Laboratory
1 credit: 3 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
Basic mammalian anatomy, with emphasis on the human skeleton and cat organ systems.

BIOL 4594 Waterfowl Ecology
4 credits: 3 hours lecture, 3 hours lab
Prerequisites: BIOL 3484
Study of the natural history and taxonomy of waterfowl. Also focuses on ecological and political challenges facing waterfowl conservation across North America. Offered spring in odd numbered years.
BIOL 4624 Vertebrate Embryology
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 2153, 2161 and BIOL 3574
Embryonic development of the chordates as applied to amphioxus, frog, chick, and pig. Offered: Spring, even-numbered years.

BIOL 4634 Vertebrate Physiology
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisites: BIOL 3363 and eight hours of chemistry or instructor’s permission
Fundamental concepts of vertebrate physiology, emphasizing function, mechanism, and controls of the various vertebrate organ systems. Offered: Spring.

BIOL 4664 Mammalian Histology
4 credits: 2 hours lecture, 6 hours laboratory
Prerequisites: BIOL 2153 and BIOL 2161
A morphological study and identification of mammalian tissues (human when available) and their organization within mammalian organs.

BIOL 4673 Pharmacology
3 credits: 3 hours lecture
Prerequisite: junior or senior standing and permission of both the instructor and the School Dean
Study of the response of living organisms to drugs.

BIOL 469V Senior Research
Variable credit
Prerequisites: 20 hours of biology, eight hours of chemistry, senior standing, and approval of a project proposal by the School Dean
NOTE: Open only to biology majors and minors. May be repeated for a maximum of 6 hours of credit. Literature search and laboratory and/or field work on individual research projects.

BIOL 4724 Aquatic Biology
4 credits: 3 hours lecture and 3 hours of laboratory
Prerequisites: BIOL 2153, BIOL 2161, and six hours of chemistry
Chemical and biological studies of aquatic environments with emphasis on the geological and hydrological features of lakes and streams.

BIOL 4734 Animal Behavior
4 credits: 3 hours lecture, 3 hours laboratory
Prerequisite: BIOL 1063
Behavior of animals, focusing on evolutionary patterns and ecological significance. Topics include genetics of behavior, ethology, adaptation, fitness, reproductive tactics/mating systems, foraging, and social behavior.

BIOL 4741 Biology Seminar
1 credit: 1 hour lecture
Prerequisites: 20 hours of biology
A research course covering methods for writing papers and conducting public presentations on topics from the biological sciences. Offered: Fall.

BIOL 4753 Selected Topics in Biology
3 credits: 3 hours lecture
Prerequisites: junior or senior standing and permission of both the instructor and the School Dean
Selected topics in biology.
BIOL 479V Independent Study in Biology
Variable credit
Consult the Independent Study Courses subheading in the Academic Regulations section of this catalog for prerequisites and description.