Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**REQUIRED BIOLOGY (20 hrs)**

 \_\_\_\_\_BIOL 1440 Biology I **#\*\***

 \_\_\_\_\_BIOL 1441 Biology II **\*\***

 \_\_\_\_\_BIOL 2490 Genetics **\*\***

 \_\_\_\_\_BIOL 3402 Cell Biology **\*\***(MATH 1390or higher/CHEM 2401) [UD Core: I, C]

 \_\_\_\_\_BIOL 3403 General Ecology (BIOL 1441, Stats course) [UD UCA Core: I]

**REQUIRED CHEMISTRY (16 hrs)**

 \_\_\_\_\_CHEM 1450 College Chemistry I

 \_\_\_\_\_CHEM 1451 College Chemistry II

 \_\_\_\_\_CHEM 2401 Organic Chemistry I

 \_\_\_\_\_CHEM 3411 Organic Chemistry II

**REQUIRED PHYSICS (8 hrs)**

 \_\_\_\_\_PHYS 1410 College Physics I

 \_\_\_\_\_PHYS 1420 College Physics II

**REQUIRED MATHEMATICS (7 hrs)**

\_\_\_\_\_MATH 1491 Calculus for the Life Sciences **OR**

MATH 1496 CALCULUS I **\***

 \_\_\_\_\_MATH 2311 Statistical Methods I **OR**

 PSYC 2330 Psychological Statistics

(any LD stats class will work, these are the most common)

***Graduation Requirements* for *the B.S. Degree in Biology include successful completion of a minimum of 120 hours, which must include 40 hours of upper division (3000-4000 level) and the General Education (LD Core and UD Core) requirements.***

**Gulf Coast Research Laboratory Summer Field Program**

Contact Dr. Rick Noyes at (450-5926) or refer to the bottom of the Dept.

of Biology page on the UCA Undergraduate Bulletin.

**Teacher Licensure**

A student desiring to pursue a BSE in Science and Technology with a Biology Concentration should consult the science education advisor in the Department of Biology (Amanda Smith, asmith180@uca.edu).

# If composite ACT is below 21: BIOL 1400 with a C or better **AND** CHEM 1301 or CHEM 1450 with a C or better is a prerequisite for enrollment in BIOL 1440.

**\*** Require prerequisites. See Undergraduate Bulletin for details at uca.edu/ubulletin/courses.

**\*\*** A “C” or better grade is required for advancement to subsequent courses.

**\*\*\*** Up to 4 hrs may count as biology elective credit with dept. approval.

**\*\*\*\*** Require prerequisites not normally taken by UCA Biology majors.

*Revised: Summer 2025*

# BIOLOGY ELECTIVES\*

*\* Required Prerequisite (BIOL 2490) Genetics*

**Major without a minor: (28 hrs)** chosen from the following courses, including a minimum of four (4) laboratory courses

**Major with a minor or double major: (20 hrs)** chosen from the following courses, including a minimum of four (4) laboratory courses – **Note: minor only has 32**

**Upper Div Hrs you need 40**

**Cellular and Molecular Concepts Electives:**

\_\_\_\_\_BIOL 3310 Neuroethology: The Neural Basis of Natural Behaviors

\_\_\_\_\_BIOL 3420 General Microbiology

\_\_\_\_\_BIOL 4340 Immunology (BIOL 3402)

\_\_\_\_\_BIOL 4350 Current Topics in Cell Biology (BIOL 3402)

\_\_\_\_\_BIOL 4405 Developmental Biology (BIOL 3402)

\_\_\_\_\_BIOL 4414 Molecular Mechanisms of Aging (BIOL 3402) [UD UCA Core: Z]

\_\_\_\_\_BIOL 4421 Pathogenic Microbiology (BIOL 3402) [UD UCA Core: Z]

\_\_\_\_\_BIOL 4425 Experimental Neurobiology (CHEM 1450/PHYS 1420) [UD Core: Z]

\_\_\_\_\_BIOL 4431 Experimental Molecular Biology

**Biological Structure and Function Electives:**

\_\_\_\_\_BIOL 3370 Principles of Neuroscience

**\_\_\_\_**\_BIOL 4311 Pathophysiology \*\*\*\* (BIOL 2405 or 3407 or 4460)

**\_\_\_\_**\_BIOL 4320 Human Neuroscience Methods (BIOL 3402)

**\_\_\_\_**\_BIOL 4330 Principles of the Cardiovascular System (BIOL 3402)

 \_\_\_\_\_BIOL 4351 General Pharmacology **\*\*\*\*** (BIOL 2405 or 2407 or 4460)

\_\_\_\_\_BIOL 4360 Endocrinology (BIOL 3402)

\_\_\_\_\_BIOL 4370 Current Topics in Physiology (BIOL 3402)

\_\_\_\_\_BIOL 4430 Comparative Vertebrate Anatomy

\_\_\_\_\_BIOL 4450 Plant Ecophysiology (MATH 2311)

\_\_\_\_\_BIOL 4460 Animal Physiology (BIOL 3402)

\_\_\_\_\_BIOL 4400 Histology (BIOL 3402)

**Diversity of Organisms Electives:**

\_\_\_\_\_BIOL 3410 Vertebrate Zoology

\_\_\_\_\_BIOL 3470 Plant Biology

\_\_\_\_\_BIOL 4401 Invertebrate Zoology

\_\_\_\_\_BIOL 4404 Plant Biodiversity

\_\_\_\_\_BIOL 4406 Mammalogy (BIOL 3402, recommended BIOL 3410 or 4415)

\_\_\_\_\_BIOL 4407 Ornithology (BIOL 3403, recommended BIOL 3410 or 4415)

\_\_\_\_\_BIOL 4418 Herpetology (BIOL 3403)

\_\_\_\_\_BIOL 4440 Entomology

\_\_\_\_\_BIOL 4455 Ichthyology (Biology of Fishes)

\_\_\_\_\_BIOL 4461 Parasitology

**Ecology and Evolutionary Biology Electives:**

\_\_\_\_\_BIOL 3360 Intro. to Marine Biology (CHEM 1451, PHYS 1410)

\_\_\_\_\_BIOL 4415 Mechanisms of Evolution

\_\_\_\_\_BIOL 4435 Animal Behavior (CHEM 1451, MATH 2311) [UD UCA Core: Z]

\_\_\_\_\_BIOL 4443 Freshwater Ecology (BIOL 3403)

\_\_\_\_\_BIOL 4465 Environ. Toxicology (CHEM1451, MATH2311, PSCI3312) [UD Core:Z]

\_\_\_\_\_\_\_\_BIOL 4480 Paleobiology

\_\_\_\_\_ENVR 3410 Environmental Theory and Appl. (SCI 3410) [UD Core: D,C]

 **Additional Qualified Electives:**

\_\_\_\_\_BIOL 3315 Women/Minorities in STEM [UD Core: D]

\_\_\_\_\_BIOL 4V00 Field Studies in Biology

\_\_\_\_\_BIOL 4195 Biology Capstone (BIOL 3402 or 3403) [UD UCA Core: Z]

\_\_\_\_\_BIOL 4445 Biometry (MATH 2311)

\_\_\_\_\_BIOL 3V45 Internship **\*\*\***

\_\_\_\_\_BIOL 4V55 Independent Study **\*\*\***

\_\_\_\_\_BIOL 4V85 Undergraduate Research **\*\*\*** [UD UCA Core: Z]

\_\_\_\_\_BIOL 4V90 Special Topics in Biology **\*\*\***

\_\_\_\_\_CHEM 4320/4121 Biochemistry I & Lab (CHEM 3411)

\_\_\_\_\_PHYS 3412 Introduction to Biophysics (PHYS 1420 or P HYS 1442; and MATH 1491 or MATH 1496)