

College Document # CCC16

UCC Document # 26
Review Type: Edit Exp Full

CATALOG YEAR 2016-2017

COLLEGE/SCHOOL/SECTION: College of Arts and Sciences

Course: Add: Delete:
(check all that apply) Change: Number Title SCH Description Prerequisite x

Prerequisites changed for the following

BIOL 2421 General Microbiology

BIOL 3403 Human Anatomy

BIOL 3406 Evolution

BIOL 3407 Animal Behavior

BIOL 3410 Ecology

BIOL 3412 Cell Biology

BIOL 3413 Introduction to Genetics

BIOL 3414 Invertebrate Zoology

BIOL 3416 Introduction to Biological Statistics

BIOL 4402 Mammalogy

BIOL 4404 Herpetology

BIOL 4408 Entomology

BIOL 4411 Animal Nutrition

Justification:

Attempt to shorten and simplify the prerequisites and make them more consistent and less ambiguous.

All minors will be able to take all of these courses except BIOL3412 and BIOL 3413., but chemistry majors with biology minor will be able to take BIOL3412 and BIOL 3413.

Approvals:

Chair
Department Curriculum Committee

Chair
Department

Chair
College Curriculum Committee

Dean

Provost

Signature

Date

Neal McReynolds

Digitally signed by Neal McReynolds
DN: cn=Neal McReynolds, o=Texas A-M Interantional
University, ou=Department of Biology and Chemistry,
email=nmcreynolds@tamiu.edu, c=US
Date: 2015.10.09 10:14:33 -06'00'

Dan Mott

Digitally signed by Dan Mott
DN: cn=Dan Mott, o=TAMU, ou=B&C,
email=dmott@tamiu.edu, c=US
Date: 2015.10.09 11:25:38 -05'00'

Monica Mendez

Digitally signed by Monica Mendez
DN: cn=Monica Mendez, o=Texas A&M International
University, ou=Dept of Biology & Chemistry,
email=monica.mendez@tamiu.edu, c=US
Date: 2015.10.19 18:38:04 -05'00'

Frances Bernat

Digitally signed by Frances Bernat
DN: cn=Frances Bernat, o=TAMU, ou=COAS,
email=frances.bernat@tamiu.edu, c=US
Date: 2015.10.20 08:57:33 -05'00'



11/04/15

BIOL 2421 (BIOL 2421)

General Microbiology

Four semester hours.

A survey of microbiology. Topics include structure, growth, reproduction, metabolism, genetics, and taxonomy of microorganisms; a survey of microorganisms of soil, water, foods, and industry. Prerequisites: BIOL 1306/1106, ~~BIOL 1311/1111 or BIOL 1413~~ and CHEM 1311/1111. Lecture /laboratory. Lab fee: \$30.

BIOL 3403

Human Anatomy

Four semester hours.

A laboratory-based intensive study of the gross structure of organs and organ systems. Suggested for prehealth professional students. Prerequisites: **Eight hours of lower-level major's biology** ~~BIOL 1306/1106, BIOL 1311/1111, and BIOL 1413~~ or permission of instructor. Lecture/laboratory. Lab Fee: \$30.

BIOL 3406

Evolution

Four semester hours. (FL)

Genetic and ecological basis of evolutionary changes within populations of plants and animals. Historical, morphological, biochemical, behavioral, and biogeographical evidence will be considered. Prerequisite: **Eight hours of lower-level major's biology or permission of instructor.** ~~BIOL 1306/1106, BIOL 1311/1111, BIOL 1413 or BIOL 2421.~~

BIOL 3407

Animal Behavior

Four semester hours. (FL)

An evolutionary perspective of behavioral diversity in animals. Topics covered will include the genetics of behavior and levels of selection, predator/prey interactions, mating systems, parental care, resource competition, feeding ecology, communication, social behavior and learning. Students will begin developing and testing their own hypotheses in animal behavior. Field work required. Prerequisite: **Eight hours of lower-level major's biology including BIOL 1413 or permission of instructor.** ~~BIOL 1306/1106, BIOL 1311/1111 or BIOL 1413.~~ Lab Fee: \$30.

BIOL 3410

Ecology

Four semester hours. (SP)

A study of inter-relationships of plants and animals and their natural environment. Topics include distribution and abundance of plants and animals with respect to population, community, and ecosystem structure and function. Emphasis will be placed on local flora, and fauna. Extensive field work required. Prerequisite: **Eight hours of lower-level major's biology or permission of instructor. ~~BIOL 1306/1106 and BIOL 1311/1111 or BIOL 1413.~~** Required for biology majors. Lab fee: \$30.

BIOL 3412

Cell Biology

Four semester hours.

An introduction to the structure and function of eukaryotic cells. Emphasis is placed on the biochemical and biological characteristics of macromolecules and organelles. The major experimental tools used in modern cell biology are presented in the context of research. Topics include membranes, structure and function of proteins, energy conversion, the maintenance of cellular compartments, and transmembrane and cell-cell signaling. Prerequisites: **Eight hours of lower-level major's biology ~~BIOL 1306/1106 and BIOL 1311/1111, BIOL 1413 or BIOL 2421~~** and CHEM 2423 or permission of instructor. Lab fee: \$30.

BIOL 3413

Introduction to Genetics

Four semester hours.

A study of the basic principles of the science of heredity, with an emphasis in classical and molecular genetics. Classical and molecular approaches are discussed as applied to a range of organisms from bacteria to man. Prerequisites: **Eight hours of lower-level major's biology and CHEM 1412 ~~BIOL 1306/1106 and BIOL 1311/1111, BIOL 1413 or BIOL 2421 and CHEM 2423~~** or permission of instructor. Lab fee: \$30.

BIOL 3414

Invertebrate Zoology

Four semester hours. (SP)

The class serves to give the student an appreciation for invertebrate form, function, natural history, evolution and systematics. Field work required. Prerequisite: **Eight hours of lower-level major's biology including BIOL 1413 ~~BIOL 1306/1106 and BIOL 1311/1111 or BIOL 1413~~** or permission of instructor. Lab fee: \$30.

BIOL 3416

Introduction to Biological Statistics

Four semester hours.

An introduction to statistical methodology applied to biology. Topics covered include the scientific method, biological experimental design, data management, probability distributions, hypothesis testing, analysis of variance, regression analysis, correlation analysis, analysis of frequencies, and an introduction to multivariate analysis. A special emphasis will be given to the application of these techniques for the student's own research. Lecture/laboratory.

Prerequisite: **Eight hours of lower-level major's biology**
~~BIOL 1306/1106, 1311/1111, 1413~~ or permission of instructor.

BIOL 4402

Mammalogy

Four semester hours. (FL)

A study of anatomy, evolution, distribution, systematics, ecology, and physiology of mammals, with special emphasis on local representatives. Prerequisite: **Eight hours of lower-level major's biology including BIOL 1413** ~~BIOL 1306/1106 and BIOL 1311/1111 or 1413~~ or permission of instructor. Lab fee: \$30.

BIOL 4404

Herpetology

Four semester hours.

A study of the anatomy, evolution, distribution, systematics, ecology, and physiology of amphibians and reptiles; primarily North American species with special emphasis on local representatives. Prerequisite: **Eight hours of lower-level major's biology including BIOL 1413** ~~BIOL 1306/1106, BIOL 1311/1111 and BIOL 1413~~ or permission of instructor. Saturday field trips required. Lab fee: \$30.

BIOL 4408

Entomology

Four semester hours. (SP)

An introduction to the study of insects (and arachnids). Topics will include anatomy and physiology, evolution, ecology, and behavior. Special emphasis will be placed on insect diversity and identification of local families of insects (and arachnids). A collection of local representatives is required. Prerequisite: **Eight hours of lower-level major's biology including BIOL 1413** ~~BIOL 1306/1106 and BIOL 1311/1111 or 1413~~ or permission of the instructor. Saturday field trips required. Lab Fee: \$30.

BIOL 4411

Animal Nutrition

4 semester hours

A study of nutritive requirements for domestic animals, including ruminants and monogastrics. Topics covered include the digestive system, nutrient metabolism, design of diets from available feed stuffs, and an introduction to feed and labeling laws. **Eight hours of lower-level major's biology including BIOL 1413.**