

# BSC - BIOLOGICAL SCIENCE

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## **BSC 3424 Nanotechnology**

**Credit Hours:** 3

**Prerequisites:** CHM 2211 and CHML 2211 - both courses with a grade of "C" or higher

This course will cover a broad range of subjects in the field of nanotechnology with particular emphasis on the fundamentals of nanotechnology and nanoscience; tools for making and measuring nanostructures; introduction to nanoelectronics, nanocomposites, and nanocatalysis; and applications of nanotechnology in biomedical and engineering fields.

## **BSC 4434 Bioinformatics**

**Credit Hours:** 3

**Prerequisites:** PCB 3063 with a grade of "C" or higher

This course introduces students to the field of bioinformatics, specifically exploring theory and application of methods used to analyze large-scale biological data sets. Students will apply computational and statistical theories to high-throughput genomic data. The main focus of the course is distinguishing between the available tools while learning about genomics, structural bioinformatics, and functional genomics.

## **BSC 4870 Principles of Pharmacology**

**Credit Hours:** 3

**Prerequisites:** BSCC 1010, BSCC 2094, and CHM 2210 - all courses with a grade of "C" or higher or completion of an AS in Veterinary Technology, Dental Hygiene, Medical Laboratory Technology, Respiratory Technology or Nursing

This course focuses on the biological mechanisms of drug absorption, distribution, metabolism, excretion, and mechanisms of action with an emphasis on cellular responses to drugs. Students will learn the basic mathematical principles of pharmacokinetics and receptor binding as well as the relationship between drug concentration and effects. The mechanisms of action and side effects of selected classes of drugs will be covered as well as background information on the pathological conditions they treat.

## **BSC 4911 Individual Mentored Research in Biology/Biotechnology**

**Credit Hours:** 1

**Prerequisites:** Bachelor level biology/biotechnology course with a grade of "C" or higher

**Lab Fee:** Yes

Permission of the instructor required. Under faculty direction, students will engage in Biology/Biotechnology research individually or in a student group. Students will complete at least 2 of the following tasks: identify a novel research question, analyze literature, design an experiment to test the question, acquire skills for experimentation, collect data, analyze data and/or present findings. The course will conclude with a written research report. It is recommended that students take either BSCC 2910, CHMC 2910, IDH 2009, or IDS 2911 prior to taking this course. This course may be repeated for a maximum of four credits.