

## **Graduate Certificate in Bioinformatics**

### **I. Entrance Requirements and Expectations**

Students will be accepted in two categories: those who have been admitted to an advanced degree program at Ohio University and those who possess a bachelor's or advanced degree but are not currently in a degree program at OU.

1. Students entering the graduate program should have background in both computer science and biology as indicated by their undergraduate transcripts. Students should have successfully completed courses (C or better) in general biology, genetics, calculus, discrete mathematics, statistics, and computer programming. Students without these prerequisites may be admitted but may need to take additional coursework to satisfy deficiencies. Prerequisites may be waived for life experiences but would need to be negotiated between the student and his/her advisor.
2. Students not currently enrolled in a graduate program at OU must have fulfilled the following requirements:
  - a. Earned bachelor's degree or advanced degree from an accredited college or university.
  - b. Minimum undergraduate GPA of 3.0 or an earned graduate or professional degree.
3. Students must earn a 3.0 GPA in the required courses in the certificate to remain in the program.

## Course Requirements

### I. Core Biology Requirements (choose one from each group)

#### A. Biochemistry

CHEM 589 Basic Biochemistry (5) or  
CHEM 590 General Biochemistry I (4)

#### B. Genetics/Molecular Biology

MCB 720 Molecular and Cell Biology (4) or  
BIOS 525 Evolutionary Genetics (4) or  
BIOS 526 Molecular Genetics (3) or  
BIOS 527 Mechanisms of Gene Regulation (3) or  
PBIO 580 Molec. Approaches to Systematics, Ecology and Evolution (3) or  
PBIO 475 Plant Speciation and Evolution (3) or

### II. Core Computer Science Course

CS 504 Design and Analysis of Algorithms (4) or  
CS 562 Database Systems (4) or  
CS 512 Parallel Computing I (4) or  
CS 641 Medical Image Analysis (4)

### III. Bioinformatics Specialty Courses

PBIO/CS 516 Problem Solving using Bioinformatics Tools (4) and  
CS 517 Programming for Bioinformatics (4) and  
CS 518 Statistical Foundations of Bioinformatics (4) and  
CS 615 Bioinformatics Research Seminar (4)