

Bioinformatics



Bioinformatics Focus

Advances in Bioinformatics and Computational Biology are making critical contributions to disease detection, drug design, agriculture and environmental sciences through the development of computational methods including simulation and modeling, database design, high-performance computing, pattern recognition methods, search algorithms, statistical methods and visualization techniques.

Bioinformatics and Computational Biology is increasingly recognized as a distinctive scientific discipline combining aspects of computer science, statistics, mathematics, and biology, as well as related areas such as biochemistry and physics. The Department of Computer Science and Engineering addresses the growing national and regional demand for trained multidisciplinary scientists.

Course Requirements

We have a strong group of faculty who are experts in computer vision, graphics, multimedia and algorithm design, and we will offer several courses related to game design and implementation. The bioinformatics focus also encourages students to take several key courses from other departments, including biology and chemistry. The recommended courses are:

Computer Science Electives:

- CSCE 555 Algorithms in Bioinformatics
- CSCE 565 Computer Graphics
- CSCE 567 Visualization Tools
- CSCE 569 Parallel Computing
- CSCE 582 Bayesian Networks /Decision Graphs

Biology:

- BIOL 101 Biological Principles I
- BIOL 102 Biological Principles II
- BIOL 301 Ecology and Evolution
- BIOL 302 Cell and Molecular Biology
- BIOL 303 Fundamental Genetics

Chemistry:

- CHEM 111 General Chemistry I
- CHEM 112 General Chemistry II
- CHEM 333 Organic Chemistry I

