INTD 198: Freshman Honors Seminar
Section 010: Bioinformatics and Molecular Evolution
Fall 2006

Time/place: M 4-4:50pm, Arjona 311 (facilitators meeting)
W 4-4:50pm, Arjona 311/ITE 134 (lecture/lab activities)

Instructor: Ion Mandoiu, ion@engr.uconn.edu
Office hours: ITE 261, MW 11:30am-1pm or by appointment

Faciliatators: Cynthia Fong, Cynthia.Fong@uconn.edu
Brandon Dionne, Brandon.Dionne@uconn.edu

Course overview: Bioinformatics is an emerging discipline that applies computational and statistical analysis techniques to high-throughput molecular biology data in the quest to advance our understanding of basic biological processes. This course will introduce students to the core concepts of bioinformatics, emphasizing their tight link with molecular evolution. Class discussions of underlying biological, statistical, and algorithmic concepts will be combined with hands-on laboratory sessions introducing students to popular bioinformatics tools.

Textbooks: There are no required textbooks for the class; we will use mostly online materials.

Tentative list of topics: basic concepts of molecular biology, DNA mapping and sequencing, sequence alignment, gene prediction, evolutionary trees, genome rearrangements.

Grading policy: Grading will be based on participation, WebCT postings, and in-class assignments (30%), homework assignments (30%), and a final project giving you the opportunity to study a bioinformatics problem in more depth (40%). Suitable final project topics include surveys of bioinformatics topics not covered in the lectures, experimental comparison of existing bioinformatics tools, etc. An initial proposal, progress reports, and an 8-10 page written report will be required. When appropriate, projects may be done in small groups.

Academic Honesty: You are expected to adhere to the highest standards of academic honesty. Collaboration on the homework is not allowed. Collaboration and teamwork are encouraged on the term projects; however, teamwork requires instructor's prior approval and must be justified by the difficulty of the project.