BINF 730 – Biological Sequence Analysis

Course Time: Mondays 4:30 - 7:10 pm
Course Location: Room 012, Science and Technology II, Fairfax Campus
Instructor: Saleet Jafri, 703-993-8420, sjafri@gmu.edu
Office Hours: By appointment in Occoquan Building Room 328G
Course Web Page: http://www.binf.gmu.edu/jafri/binf730/

Prerequisites: Knowledge of a programming language (C, C++, Java, Basic, or FORTRAN).
Required Textbooks: Understand Bioinformatics by Zvelebil and Baum. 2007. Garland.


Course Description:
In recent years, there has been a explosion in the amount of biological information available due to technology developed by efforts such as the Human Genome Project. Bioinformatics is the field that includes the development and implementation of mathematical and computer techniques to analyze this data. In this course, the fundamental mathematical and algorithmic theory behind current bioinformatics techniques will be taught. The student will implement these methods. They include hidden Markov models, the dynamic programming algorithm, genetic algorithms, simulated annealing, neural networks, and information theory. The biological background will be provided in the course.

Grading Policy:
The course grade will be determined as follows-  
90-100 A
80-89.9 B
70-79.9 C
0-69.9 F

Problem sets will be assigned as homework several times during the semester. They will be due two weeks after they are assigned. The assignments will be posted on the course web page. Late homeworks will not be accepted.

All students are expected to complete the final project and make a presentation at the announced time.

Academic Honesty Policy:
Academic dishonesty will not be tolerated. This includes cheating, plagiarism, and falsification of academic records. That being said, you can help each other out on the homework (this does not mean that you can copy each other's homework).

Important Dates:
Monday, January 24, 4:30 - 7:10 pm - First Day of Class
Monday, March 7, 4:30 - 7:10 pm - Mid-Term Exam
Monday, March 14, 4:30 - 7:10 pm - No class due to Spring Break  
Monday, April 4, 4:30 pm - Final Project Proposals Due  
Monday, May 2, 4:30 - 7:10 pm - Final Project Presentations  
Monday, May 16, 4:30 - 7:15 pm - Final Exam

Sage Advice: If you want to do well in course: 1) Do all the problem sets. 2) Read the text book and any other assigned reading. 3) Ask questions in class and office hours. 3) If you are having difficulty doing the problem sets, be sure to get help. I encourage the students discussing the course material and problems, but require everyone to do the work - NO COPYING.

Saleet Jafri  
Mon Dec 18 13:36:35 EST 2006