NSCI 696E: GROUP STUDY: ANALYSIS OF HIGH-THROUGHPUT SEQUENCING DATA

The executive summary:
This is a project-based course that will provide hands-on experience in the analysis of a variety of high throughput sequencing data in small groups under the supervision of a faculty mentor.

Each group will pick data that they are interested in, identify relevant tools for its analysis, and carry out that analysis. Groups will report to the class on their progress on a regular basis, and make a final presentation at the end of the course.

Course content:

Course Learning Objectives	Course Content/Topics
Finding data relevant to a student's research interests.	Overview of the biological problems that are currently being addressed by high throughput sequencing data
Developing skills for performing collaborative computational work	Introduction of tools and practices that support group work on computational analyses.
Find appropriate methodologies for analysis of high throughput sequencing data	How to read the bioinformatics literature and identify relevant tools.
Apply selected methodologies to the group's data	The group's progress will be monitored through bi-weekly presentations and meetings with their faculty mentor.
Analyze the data and suggest directions for future work	The groups will receive feedback in the classroom and in their meetings with their faculty mentor.
Develop the ability to present their work to a diverse group of students.	Final presentations and project reports that will be made at the end of the course.

Course Topics/Units/Weekly Schedule

Week	Lecture Content
1-2	Find student research interests and divide them into groups with common interests and complementary expertise; match students with faculty mentors.
3-5	Groups will develop their research proposals
6-13	Groups will report on their progress to the class and receive feedback and guidance; each group will make a report every other week.
14-16	Groups will make final presentations on their work

Assessment Components

Assessment Components	Percentage of Grade
project proposal	20
bi-weekly progress reports	20
project final presentation	30
project final report	30