August 7, 2018

Course Title: Computational Biology
Course Number: GBIO 408/508
Course Date: Fall 2018
Course Meeting Times: Tuesday-Thursday 1-3:50
Course Meeting Location: Biology Building 412

Course Faculty: Dr. April Wright
Office: Biology Building 403
Office Phone: 5556
Email: april.wright@selu.edu
Office Hours: Monday and Wednesday, 10:45-12:30, and by appointment

Course Description In this course, we will explore the fundamentals of managing data and performing analyses computationally. This course is intended for biologists who do not have experience with programming or computational sciences.

Course Objectives

- Work with data using programming
- Make appropriate visualizations of data
- Create computational reports from raw data
- Use revision management to track changes to data and code
- Distribute analyses to colleagues

Assessment A grade of 'C" or better in this course is required to satisfy the curriculum requirements for the College of Science and Technology. There are a total of 700 points in this course. They are distributed as follows:

- **Projects:** 100 pts each
- **Homeworks:** 100 pts (10 points each)
- **Classroom exercises:** 100 pts

- **Presentation:** 100 pts

Grades will be assigned as follows:

A: 630-700 points, B: 560-629 pts, C: 490-559 pts, D: 420-489, F: Below 419 pts

Attendance and Make-Up

Attendance is expected, and completion grade activities will be turned in almost every class period. Homeworks will be posted via the course Moodle. Homework will be due every Friday on non-exam weeks. Because they will be available for the entire week before they are due, **no make ups** will be available for assignments unless prior approval is granted.

If you are aware in advance of absences, please let me know. The more information we have, the easier it is for me to accommodate you.

Important Dates

- Sept. 12: Academic Checkpoint 1
- Oct. 10: Academic Checkpoint 2
- Nov 2: Withdrawal deadline
- Nov 30: Last day of classes

Schedule

Lectures will be posted the day before they are given by 5 pm.

- Week of Aug. 20: Introduction to Python and JupyterHub
- Week of Aug. 27: Working with Data I
- Week of Sept. 3: Working with Data II
- Week of Sept. 10: Visualization, Project 1 due
- Week of Sept 17: Project Structuring
- Week of Sept 24: Programming I
- Week of Oct 1: Revision management
- Week of Oct 8: Programming II
- Week of Oct 14: Project II due

- Week of Oct 21: Making a Python Package
- Week of Oct 28: Deploying an analysis
- Week of Nov 6: Making notebooks and posters
- Week of Nov 12: Project III
- Week of Nov 19: Advanced Topics
- Week of Nov 25: Final project workweek
- Final: Monday, December 3, 10:15 a.m. - 12:15 p.m.