**BINF 634 Fall 2025 Bioinformatics Programming**

**Instructor** - Dr.Jeff Solka (jsolka@gmu.edu)

**Meeting Place** – Online, See Blackboard site
**Meeting Time** - 4:30-7:10 pm Mondays

**Course Description:** This course will provide an introduction to Bioinformatic Programming using Python. Some of the topics that will be covered include rudimentary language syntax, dictionaries,  functions, data structures, libraries, MySQL, visualization, and BioPython. GMU Blackboard will be used to conduct the course.

**Prerequisites:** Rudimentary biological background such as taught in BIOL 482 or the equivalent or instructor permission. Rudimentary programming background such as taught in IT 108 or CS 112 or the equivalent or instructor permission.

**Required Text:**

*Python for Biologists* by Dr. Martin Jones

*Advanced Python for Biologists* by Dr. Martin Jones

*Biological Data Analysis with Python*, Pandas and Seaborn by Dr. Martin Jones

**Integrated Development Environment (IDE):**

We will be using Google Colab (<https://colab.research.google.com/>) to produce Python Jupyter notebooks (https://jupyter.org/)

**Grading:**

* Python skill-building programming assignments (50%):
	+ 5 graded programming assignments. There is **no collaboration** with other students on these assignments. There is no use of artificial intelligence (AI) aided code environments on these assignments.
	+ Programming assignments must be turned in on time except in the case of a documented medical emergency.

• Quizzes (25%):

* + Eight Blackboard quizzes which cover recent material and outside-of-class readings. Quizzes are **closed-book**, **closed-notes**, and **timed** (about 30 minutes each). Quizzes will be conducted synchronously during the class meeting. There are no makeups for these, but I'll **drop your bottom two scores**. Also, there is **no collaboration** with other students on the quizzes.
* Take home Final Exam (25%):
	+ Open-book, open notes
	+ **University Mandated Final Exam Policy**

 “AP.3.10.1 Absences from Final Exams

Absences from final exams will not be excused by the instructor except for sickness on the day of the exam. Other causes must be approved by the student's academic dean or director. The effect of an unexcused absence from an undergraduate final exam shall be determined by the weighted value of the exam as stated in the course syllabus provided by the instructor. If absence from a graduate final exam is unexcused, the grade for the course is entered as F. See AP.3.3 Additional Grade Notations for information on being absent with permission.”

**Grading** will be on the following scale. 93-100  (A), 90-92 (A-), 87-89 (B+), 83-86 (B), 80-82(B-), Below 80 C. Student averages will be rounded to the closest integer to determine final letter grades.