CS 590 Introduction to Bio-informatics
Spring 2021

1st Quiz Guide

Date and time
Friday Feb. 19th , 4:30 – 5:00 P.M. (ET115)

Major topics:

Understanding Genetics
- The Genome
- What is a cell?
- What is a chromosome?
- What is DNA?
- What is a gene?
- How genes work?
- What is a gene mutation?
- What is genome editing?

Introduction to R
- R IDE and Commands
- R Objects
- Common Data structures:
  - Vector
  - Data frame
  - Matrix
  - List
- Defining and using functions
- Selection and loops
- Packages
- Data exploration and visualization

Sequence Data

- DNA data
- Sequences as strings
- Data Storage and formats
- Database searching
- The Bioconductor package
- Reading/writing sequence data

Sequence Statistics

- Sequence length
- Base composition
- GC variation
- Sliding window plot
- Word representation