

Syllabus: Evolutionary genomics

Office Hours: By appointment

Course Requirements: This is a reading/discussion course, where the goal is to get acquainted with methods and approaches in evolutionary genomics by reading reviews and primary papers and discussing these in class. The reading load will be heavy – up to 3 papers a week that need to be read and digested.

ALL STUDENTS MUST READ THE REQUIRED READINGS FOR THE DAY. Students must each present and help lead discussion of specific papers. The student leader for each discussion will be chosen randomly at the start of each class, so all students must be prepared to lead discussion at every meeting. The discussion leader will summarize the papers assigned for the day and start the discussion rolling by posing 2-3 key questions.

For a final paper, I will require a 10-page review on an evolutionary topic in the format of Trends in Ecology and Evolution.

Grades will be based on paper (30%) and participation in discussions (70%). We will use the plus/minus grading system. A good review (worthy of being published) and lively, intelligent participation in all discussion will guarantee an A/A-. If you participate in some, but not all discussions, you may get a B-range grade. Non-participation in a majority of the discussions may mean a C!

January 28 **No Classes**

February 4 **Evolutionary Synthesis**

February 11 **Phylogenies**

February 25 **Neutral and Nearly-Neutral theories**

March 4 **Molecular Population Genetics: Demography**

March 11 **Molecular Population Genetics: Selection**

March 25 **Quantitative/Complex Traits (Guest Instructor: Richard Borowsky)**

April 1 **Complex Traits: Human Genetic Diseases**

April 8 **Domestication (Guest Instructor: Rachel Meyer)**

April 15 **Speciation Genomics**

April 22 **Adaptive Radiations**

April 29

Sociogenomics

May 6

Special Topic TBA (Guest Instructor: Jonathan Flowers)

May 13

Summary Discussion