This course will be centered on the relations between molecular biology and evolutionary theory and ecology, shifting concepts of the gene, and molecular phylogenetics.


**Assessment**:
- Test: 20%
- Research Proposal: 10%
- Group presentation: 20%
- Essay: 50%. Due: December 1

**REMEDIATION ASSESSEMENT.** No obligatory presentations, final essay 70%.

A 2% penalty will be applied each day to all work submitted after due dates (non-negotiable without a medical note). Work will not be accepted more than one week beyond the due date. Up to 10% of final mark will be deducted for lack of class attendance and participation. 5% deducted for two classes missed; 10% for three classes missed.

**Proposals**: Assessment will be based on formulation of the research question, brief discussion of its significance, how it will be investigated, and an indicative bibliography. Two double spaced pages plus bibliography.

**Presentation**: Assessment will be based on the organization, oral and visual presentation of the research. 60 minutes per group plus 15 minutes for discussion. 10% will be deducted for presentations exceeding the allotted length of time.

**Essay**: Length 2500 words per student: Essays will be assessed according to the following criteria:
- identification, understanding, and analysis of primary sources.
- ability to locate the topic within its larger historical setting
- organisation of argument and structure
- awareness of limits to knowledge
- style and overall presentation
Classes:
September 8: introduction and
September 15 the rise of classical molecular biology and beyond
September 22: molecular phylogenetics
September 29: holiday
October 6: symbiosis and lateral gene transfer, proposals due

October 13: Thanksgiving

October 20: test questions assigned Sept 22.

October 27: workshop

November 3

November 10
**Wolbachia**  Molecular Ecology

November 17
**The RNA World**  Circadian rhythms

November 24
**The Histone Code**  Viruses and Introns

December 1
**Hybridization**  Microbial Ecology

**The Neutral Theory of Molecular Evolution**