SIO 127: Marine Molecular Ecology
Spring 2018

Lectures: TTh 9:30=10:50 Eckart 236

Instructor: Ron Burton
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Office hours – by arrangement –please email to set up a time

Course mechanics

Text: Molecular Ecology (2nd edition, 2011) Freeland, Kirk and Petersen. Available electronically from the UCSD Library (FREE TEXTBOOK!)

Readings: Additional readings (research papers and review articles) will be assigned along the way.

Assignments - there will be a couple of homework assignments designed to get you engaged in the material and allow me to make sure we are all on the same page. In addition to readings, there will be two one-page papers.

- **Homework assignments (including two 1 page papers) — 50 pts**
- **Midterm — 100pts**
- **Final — 100pts**

Discussion (occasional and optional): Th 11:00-11:50 Eckart 236

Yes, there is a TritonEd Course Website – readings and lecture notes will be posted.

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Tentative Lecture and Exam Schedule

Lecture Schedule

April 3	Lecture 1	Introduction to Molecular Ecology Assignment: Read Chapter 1 in Freeland et al. Textbook
April 5	Lecture 2	DNA Barcoding
April 10	Lecture 3	Barcoding, Metabarcoding, Metagenomics
April 12	Lecture 4	Genetic markers
April 17	Lecture 5	Population genetics 1: drift and effective population size
April 19	Lecture 6	Population genetics 2: migration and natural selection
April 24	Lecture 7	Functional ecology: molecular adaptations at single loci
April 26	Lecture 8	Functional ecology: transcriptomics and regulatory variation
May 1	Lecture 9	Natural Selection
May 3	Lecture 10	Mating systems
May 8	**Midterm**	
May 10	Lecture 11	Population structure
May 15	Lecture 12	Phylogeography
May 17	Lecture 13	Hybrid breakdown
May 22	Lecture 14	Guest Lecture
May 24	Lecture 15	Guest Lecture
May 29	Lecture 16	Speciation
May 31	Lecture 17	Fisheries genetics
June 5	Lecture 18	Conservation genetics 1
June 7	Lecture 19	Conservation genetics 2
June 12	**Final (Tuesday, 8-11am)**	