

Introduction to Ecological Genetics

Syllabus

ECL242/PHR242

Winter Quarter, 2009

Subject to update

Last updated: January 28, 2009



Instructor

Holly Ernest

Wildlife Ecological Genetics, School of Veterinary Medicine

258 CCAH

hbernest@ucdavis.edu

Class time and location

Tues and Thurs 10-11:50

2030 Valley Hall (Vet Med campus) – see class web site for directions. Some sessions in 2020 Science Lab Building (computer labs) and session in Dr. Ernest's DNA lab

Required text

Trevor Beebee and Graham Rowe. An Introduction to Molecular Ecology. 2nd edition Oxford Press. 2008. On reserve in Shields Library; for sale at UCD Main book store, Amazon.com, and other online sources). Other readings as assigned.

Office hours: Tues and Thurs following class or by appointment.

Lab teaching assistants

Mandi Finger, Ecology PhD student in Genomic Variation Laboratory

Lisa Goldberg, Laboratory Manager for Wildlife Ecological Genetics Laboratory

Guest Lecturers

Jay Sexton, Josh Israel, Josh Hull, Melissa Baerwald, Charlie Nicolet

Course objectives

1. Students will gain understanding of the scope of genetics application for research in ecology and wildlife population health.
2. Students will become familiar with laboratory and computational techniques commonly used for ecological genetics research.
3. Students will gain knowledge and skills in development of well-designed questions, hypotheses and research projects, grant writing abilities, basic data analysis techniques, and problem-solving in the field of ecological genetics.

Grading

- Class attendance and participation 20%
- Homework 20%
- Midterm Exam (Tuesday Feb 3 from 10-11am) 30%
- Presentation of journal articles 30%





Class participation

Students are expected to come to class having read reading assignments and be actively engaged (thinking, asking questions, commenting, etc). Class participation will be graded on attendance, asking and answering questions in lectures and lab-discussion periods, intelligently and creatively commenting on course material. Missing up to two lectures and up to one lab session are ok, but students are responsible for all material presented and you will want to secure material missed during absences from your class-mates. Contact me if you need to miss more than this. Sorry, but no make-up labs will be available.

Written work is to be submitted electronically to the SMARTSITE web site drop box. If for some reason it does not work, email it to Dr. Ernest hbernest@ucdavis.edu

Grading Criteria. A letter grade will be given based on cumulative points from all assignments.

<u>Total Points</u>	<u>Grade</u>
100-95	A
90-94	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
etc....	

Course Web sites

Smartsite.ucdavis.edu

http://www.vetmed.ucdavis.edu/vgl/wildlife/Ecological_Genetics_Course.html

On Reserve at Shields

- A primer of population genetics Daniel L Hartl
- Conservation and the genetics of populations Fred W. Allendorf and Gordon Luikart
- Molecular markers, natural history, and evolution John C. Avise
- Primer of Ecology, 3rd edition Nicholas Gotelli
- An introduction to ecological genomics Nico M. van Straalen and Dick Roelofs.
- Our required text – Beebee & Rowe, 2nd edition



Readings as in Beebee and Rowe Introduction to Molecular Ecology 2008 2nd edition text
Articles = journal papers pertinent to class topics – to be assigned

Course Schedule subject to adjustments – check Course SmartSite for updates

2030 Val = 2030 Valley Hall Vet Med Complex Lec=lecture Disc=discussion

CRN's for graduate students to register:

Ecology graduate students: CRN 29972

Students in all other graduate groups: CRN 46224

*Undergraduate students - contact instructor for permission. Contact me with your interest and background. Undergrad prerequisites: at least 3rd year of college and have taken a genetics course.

Disability: If you have a disability which requires modification in seating, testing conditions, etc., please contact Dr. Ernest during the first week. We will follow the guidelines of the UCD Student Disability Center <http://sdc.ucdavis.edu/>.

Academic misconduct: Academic misconduct, such as cheating on tests or plagiarism in papers, will be reported to the Office of Student Judicial Affairs. Any concerns about misconduct should be brought to the attention of the instructor. For more information on U.C. Davis' Code of Academic Conduct see <http://sja.ucdavis.edu/cac.html>.

Cell phones on silent during class please.