Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and 2 copies. Attach a course syllabus to each.

1. This request is submitted by the Department of Wildlife & Fisheries Sciences

2. Course prefix, number and complete title: WFSC 633 - Conservation Genetics

3. Course description (not more than 50 words): Genetic concepts and techniques relevant to management and conservation of biological diversity; research and conservation strategies within a conservation genetics framework.

4. Prerequisite(s): Introductory courses in genetics and ecology. Cross-listed with GENE 633

5. Is this a variable credit course? □ Yes □ No If yes, from ________ to ________.

6. Is this a repeatable course? □ Yes □ No If yes, this course may be taken ________ times. Will the course be repeated within the same semester/term? □ Yes □ No

7. Has this course been taught as a 489/689? □ Yes □ No If yes, how many times? ________ Indicates the number of students enrolled for each academic period it was taught. Fall 2007 = ________

8. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

   MS WFSC, PhD WFSC, MS GENE, PhD GENE

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

10. Prefix | Course # | Title (exclude punctuation)

| WFSC 633 | CONSERVATION GENETICS |

Lect. | Lab | SCH | Subject Matter Content Code | Admin. Unit | Acad. Year | FICE Code |
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Approval recommended by:

Head of Department: Dr. Lackey

Date: 6/18/08

Chair, College Review Committee: Dr. Wills

Date: 10/27/08

Head of Department (if cross-listed course): Dr. Wills

Date: 8/13/08

Dean of College: Dr. Wills

Date: 11/6/08

Submitted to Coordinating Board by:

Date: 

Effective Date: 

To have this form reviewed, please send to Linda F. Lacey, Mail Stop 1265 or fax to 847-8737.

OAR/AS-504
Conservation Genetics WFSC/GENE 633  
Fall 2008
Course Syllabus

The purpose of this course is to provide students with a review of genetic concepts and techniques that are relevant to the management and conservation of biological diversity. After the course, students are expected to be able to critically examine research and conservation strategies within a conservation genetics framework. The format of the course includes lectures and student presentations/discussions.

Instructor:
Dr. Luis Hurtado  
Dept. of Wildlife and Fisheries Sciences  
979-8627-4662  
lhurtado@tamu.edu  
Office Hours at 110E Old Herman Heep Bldg. (HLB) by appointment.

Level = 6

Prerequisites:
An introductory course in general genetics and a course related to ecology or biological conservation.

Course topics and tentative calendar

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| Lecture 1-2 | Introduction. Chapters 1-2  
Genetic markers. Chapters 3-4 |
| Lecture 3-4 | Random mating populations: Hardy Weinberg. Chapter 5.  
| Lecture 5-6 | Effective population size: Chapter 7  
Natural Selection. Chapter 8 |
| Lecture 7-8 | Population Subdivision. Chapter 9  
Multiple loci. Chapter 10 |
| Lecture 9-10 | Quantitative genetics. Chapter 11.  
Mutation. Chapter 12. |
| Lecture 11-12 | Inbreeding Depression. Chapter 13.  
Demography and extinction. Chapter 14. |
Units of conservation. Chapter 16. |
| Lecture 15-16 | Hybridization. Chapter 17.  
Conservation breeding and management. Chapter 18. |
| Lecture 19-22 | Bioinformatics |
| Lecture 23-24 | Review/ Catch up/ Invited speaker |
| Lecture 25-27 | Student presentations of final projects |
Lecture 28  
Open discussion, critique of course, suggestions, problems encountered during course, etc.

Course credit:
3 semester hours, based on 3 one-hour lectures per week.

Textbook:

Other material:


Papers from relevant journals such as Molecular Ecology, Conservation Genetics, Genetics, Marine Biology, etc., will be discussed.

List of assignments, tests, etc.
All students are expected to complete a comprehensive final paper, which include a presentation; present at least one article each week; participate in lecture; and complete homework and quizzes.

Grading:
Grades will be based on Final Paper (25%), presentation of final paper (10%), regular lecture presentations (20%), lecture participation (10%), homework (10%), exams (20%), and editorial service (5%).

[91–100% = A; 81–90% = B; 71–80% = C; 61–70 = D; 60 or less = F]

Attendance:
Attendance is obligatory. The format of the course involves a great deal of student participation through discussions, presentations, and computer work. Furthermore, lecture participation represents a high percentage of the final grade. Two missing lectures without a valid justification will result in the loss of 10% of the final grade. Four missing lectures without a valid justification will result in the loss of 20% of the final grade. Additionally, the corresponding percentage of quizzes and homework due at the missing lecture will be reduced from the final grade. Missing more than four lectures without a valid university excused absence will result in an F grade for the course.

Final paper:
Complete a grant proposal with the format of an NSF Doctoral Dissertation Improvement Grant. See guidelines and related information in http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5234&org=DEB. The proposal should be on a conservation genetics study. It should include: (1) project summary (200 words); (2) a
project description limited to 8 single-spaced pages including figures and tables (in our case we will do 8 pages); and (3) budget and budget justification for no more than $12,000 for up to 24 months.

Important dates:
September 15: by this date the student should have met with me to discuss the grant topic. **Failure to do so will result in a loss of 5% of the final grade.**
September 27: by this date the student should have sent me by email an outline of the proposal and a list of at least 15 papers with the abstracts that will be used in the proposal. **Failure to do so will result in a loss of 5% of the final grade.**
October 30: due date for the student to sent me by email a draft of the proposal, which will be reviewed by another graduate student. **If the final paper is handed in at a later date it will result in a loss of 10% of the final grade.**
November 15: due date for the editors to send me their comments on the proposal.
November 27: presentation of the final paper to the lecture. **Failure to do the presentation will result in a loss of 10% of the final grade.**
December 4: due date to send me a ‘corrected’ final version of the proposal. It should include a 1-2 page letter explaining how the comments of the editor were addressed. **If the corrected final paper is handed in at a later date it will result in a loss of 10% of the final grade.**

Weekly presentations
Each student is responsible for a ten minutes presentation summarizing the main findings of a conservation genetics paper (a student can present more than one paper, but the duration of the student presentation should be maintained in ten minutes). **Failure to present in a given week will result in a loss of 5% of the final grade.**

Homework and quizzes
Homework will be only accepted the following lecture after it was requested, as well as any take-home quizzes. **Failure to return homework or take-home quizzes on time will result in the corresponding percentage of the final grade.**

**Americans with Disabilities Act (ADA) Policy Statement**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Cain Hall or call 845-1637.

**Academic Integrity Statement**

"An Aggie does not lie, cheat, or steal or tolerate those who do."
Refer to the Honor Council Rules and Procedures on the web [http://www.tamu.edu/aggiehonor](http://www.tamu.edu/aggiehonor)