Syllabus

Lecture: Days, Time, Location

Instructor: Dr. Leos Kral (office: Rm. 145A Biology Building)
email address lkral@westga.edu
Note: Best way to contact me is by email.

Office Hrs:
Monday:
Tuesday:
Wednesday:
Thursday
Friday:

Text: Molecular Ecology
by Joanna R. Freeland

Web Site: http://www.westga.edu/~lkral/
This web site contains links to this syllabus and the WebCT site which contains additional course content, a course calendar, study guides, grade book, announcements area and discussion area.

Note: Should any changes be made to this syllabus during the semester (such as changes in due dates, exam dates, or topics), these will be posted on the web site calendar, announcements and/or discussion area. It is your responsibility to log in at least once every other day.

Objectives: At the completion of this course students will be able to

1. describe and explain the types of molecular techniques utilized in ecology research.
2. explain how molecular genetics is used to study population genetics of individual and multiple populations.
3. explain how molecular techniques are used to characterize historical and current gene flow within and among populations in relation to geographic distribution of those populations.
4. explain how molecular techniques are used to study behaviors - particularly mating behavior.
5. describe and explain the concepts of conservation genetics.
6. know the practical applications of molecular ecology to law enforcement, agriculture and fishing.
7. apply principles learned to the analysis of relevant data sets.

Lecture Topics: Sequential listing topics.
1. Molecular genetics in ecology (Chapter 1)
2. Molecular markers in ecology (Chapter 2)
3. Genetic analysis of single populations (Chapter 3)
4. Genetic analysis of multiple populations (Chapter 4)
5. Phylogeography (Chapter 5)
6. Molecular approaches to behavioral ecology (Chapter 6)
7. Conservation genetics (Chapter 7)
8. Molecular ecology in a wider context (Chapter 8)
9. If time permits: Examination of some current research papers and utilization of some software packages to analyze genetic population data

Exam Schedule: Exam 1:
Exam 2:
Final Exam:

Writing Assignments:
1) Answers to study questions (Group I-A; WTL Exercise)
2) Editing of study question answers (Group I-B; WTL Exercise)
3) Essay type exams (Group I-B; WTL/WTC Exercise)
3) Lab report based on "reserch data" provided by instructor (Group II-WTC Assignment)

Group code explanations: http://www.westga.edu/~wac/wacfacultyinfo.htm

Due dates will be given at the time these exercises are assigned.

Grading:

Two hourly exams will be given during assigned class times during the semester and one final exam will be given during finals week. These exams will cover lecture material from the text and other sources that may be provided by the instructor. These exams will be of a "short answer/essay" type format. Students are expected to take all exams. All exams will only be given at the scheduled times on the scheduled days. Missed exams will be assigned a score of 0 points. It is recognized that emergency situations can occur where missing an exam is unavoidable. What constitutes an emergency situation is at the discretion of the instructor. Therefore, check with the instructor ahead of time to see if your situation qualifies. With proper documentation of the instructor approved emergency situation, a makeup exam can be taken. This option only pertains to the two hourly exams. The final exam can only be made up if the student qualifies for a grade of I (incomplete) under the university guidelines.

Each hourly exam (including the final exam) is worth 100 points.

Because this is a WAC course, a number of writing assignments will be incorporated. These assignments fall into two categories (see above). Writing to Learn (WTL) and Writing to Communicate (WTC). Only the WTC assignments will be formally graded by the instructor. Points will be given for the successful and on-time completion of the WTL only assignments.

All weekly study question answer sets will be worth 100 points in total. Each weekly answer set will be worth 100 points/(# of weekly question sets assigned).
Note that you can not receive points for answering questions if you were not in class for that lecture on which the questions were based.

All weekly answer set edits will be worth 100 points in total. Each weekly edit will be worth 100 points/(# of weekly homeworks assigned). Note that you can not receive points for "editing" an answer set that was not written because you were not in class for that lecture on which the questions were based.

First draft of the lab report will be worth 75 points.

Final lab report will be worth 25 points.

Note that you will not be able to write the lab report if you were not in class for the "lab exercise" during which the experiment will be simulated (explained) and the data provided. Attendance for the lab exercise is mandatory and this exercise can not be made up.

Your final grade in this course will be calculated from the exam scores and all writing/editing assignments according to the following formula:

\[
\% \text{grade} = \frac{\text{Exam1} + \text{Exam2} + \text{Final Exam} + \text{Writing Answers points} + \text{Editing Answers points} + \text{Draft Lab report points} + \text{Final Lab report points}}{600}
\]

Cheating will not be tolerated. Any student caught cheating will receive a grade of 0 points on that exam/assignment and that exam/assignment grade will not be dropped from the calculation of the course average. An F grade for the course may also be assigned at the instructor's discretion.

There will be no extra credit assignments so don’t ask.

This course can not be converted to honors credit.

Please Note: Grades are assigned on the basis of what you know as evaluated by exams and for writing assignments completed. If you have personal issues which prevent you from coming to class or studying, and subsequently, you do poorly on the exams and/or can not complete writing assignments, you are not entitled to a higher grade than your scores warrant due to hardship. If you can not devote the necessary time to this course, you should reduce your course load. It is better to do well over a longer period of time rather than badly in a shorter period of time.

Grading Scale: Percentage of all possible points:

- A = 90% - 100%
- B = 80% - 89%
- C = 70% - 79%
- D = 60% - 69%
- F = less than 60%.

How to Approach this Course:

1. Come to class and pay attention. Listen for what is being emphasized.
2. Read the text book and whatever other materials may be provided. While these are informative they do not always provide sufficient explanatory detail. Much of this detail will be provide during lecture. Be sure to take careful notes.

3. Don't just memorize but strive to understand. As much as possible ask yourself questions such as "why does this work", "how does this work", "what are the relationships between x and y", etc. Visualize processes understanding their purpose and mode of action. Basically, just keep in mind that "knowing" something means "understanding and comprehending". It does not mean memorizing a bunch of words.

4. Ask questions. If something is not clear, ask. Utilize office hours, ask during, and/or outside of class (but not before class), utilize the web based discussion area, or send me email (lkral@westga.edu).

5. Form study groups to explore the material.

6. Spend time studying and keep up. For best effect you should study at least 2 hours for each class period within a day of the class period. Studying for a few hours or even all night just before an exam is not sufficient to do well, or perhaps, even to pass the course.

Etiquette Rules:

1. Do not carry on a conversation while lecturing is in progress. This is both rude and disruptive to others.

2. Do not eat during class - the rustling of wrappers is disruptive to others.

3. Come to class on time.

4. Turn off or silence your beepers and cell phones.

5. Do not bring children to class.

Communication:

- All official communications from the University and from this instructor will be sent to your MyUWG email address. It is expected that you will access your email through the MyUWG portal on a daily basis. If I need to communicate with you personally about this course, I will do so by sending you email to your MyUWG account. Failure to read my emails will not be an excuse if a lack of response from you results in a lower grade in this course.