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.

Graduate student will also critically review assigned passages in text and enhance
those passages using primary research papers cited as sources for those passages.
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) Lab report
Enhanced data set than that for 4xxx-W lab report. Graduate students must attend and participate in the "undergraduate lab" and an additional time will be arranged for a "graduate student lab".
2) Enhancements to text based on data and interpretation of research papers.

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.

Commenting on study question answer sets will be worth 50 points.

Lab report will be worth 100 points.

Text enhancements will be worth 150 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/commenting assignments according to the following formula:

\[
\% \text{grade} = \frac{\text{Exam1} + \text{Exam2} + \text{Final Exam} + \text{Commenting points} + \text{Lab report points} + \text{Text enhancement points}}{600}
\]

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**.

**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 PowerPoint slides. While these are informative they do not always provide sufficient explanatory detail. 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 and lab 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.