GENETICS 4230L: EVOLUTIONARY BIOLOGY LABORATORY
Spring 2011, 3 credits

Class meetings: Tuesdays and Thursdays, 9:30 am – 12:15 pm. Life Sciences C104.

Instructors and their contact information:

Dr. Kelly Dyer
Email: kdyer@uga.edu, Phone: 706-542-3154, Office: Life Sciences C226
Office hours: by appointment (please email)
Dr. John Wares
Email: jpwares@uga.edu, Phone: 706-542-7720, Office: Life Sciences C326
Office hours: By appointment (please email)
Ms. Carmen Rodriguez, Lab manager
Email: crodrig@uga.edu

Course Description: In this class we will explore how evolution operates (via the processes of mutation, selection, gene flow, and drift) and the consequences of evolution in action (via the study of adaptation and speciation). We will combine wet lab and analytical activities to expose you to a variety of methods and questions in modern evolutionary genetics.

Prerequisites: You should have already taken GENE 3000 (Intro to Evolution); this course may also be taken as corequisite with instructor permission. You will also need to have a firm grasp of Mendelian genetics and the basics of macromolecular structure and biochemistry involved in genetics. Basic algebra and statistics will be required.

Textbook: Lab handouts and papers for discussion will be distributed via eLC. There is no required textbook for this course; however, we suggest you keep an evolutionary biology textbook handy as a reference. We strongly recommend the following book as a resource for analyses, lab write-ups, and presentations: A Student Handbook for Writing in Biology, 3rd Edition. 2009. By Karin Knisely. It is available at the bookstore listed under this course.

Grading: your overall grade in this class will be based on the following distribution:

Attendance and participation, 5 points per class. Unexcused absence, late arrival, disruptive behavior will be counted against you.

Quizzes, 10 points each, to be completed at the beginning of some classes, and will generally be unannounced. Material will be based on reading necessary to participate in lab that day.

Lab notebook, 25 points. In a single bound notebook you will need to take very careful notes of what you do during each experiment. May be assessed multiple times for 25 points each assessment.

Assignments, 25 points each. Not all labs will have write-ups, and in some cases you will turn in shorter assignments rather than a full report.

Lab reports, 100 points each

Presentations, 50 points each

The final number of points may vary. Late assignments will be docked 10% per day. A "B" is considered the average grade in this class, with the approximate grade distribution following the

quartiles: A is 92.5 or above, A- is 90-92.49, B+ is 87.5-89.99, B is 82.5-87.49, B- is 80-82.49, and so on. If necessary we will curve to class advantage. No makeup points will be given; if you have legitimate excused absences with documentation, your grade will be based on the remaining scores.

Electronics: Please turn your phone off during class and office hours.

Religious Holidays: If you plan to miss a class because of a religious holiday, you must talk to one of the instructors at least fourteen days prior to the class to make arrangements to make-up missed work.

Honor Code: All students will abide by the UGA Student Honor Code: "I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others." All suspected incidences of academic dishonesty, as outlined under prohibited conduct in the UGA academic honesty policy (http://www.uga.edu/ovpi/honesty/sect05.htm), will be treated following UGA guidelines (http://www.uga.edu/ovpi/honesty/culture_honesty.htm). You will be working closely with partners in this lab, but your work must be your own, reflect your own thought, show your own math and reasoning, and so forth.

Disclaimer: The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

Acknowledgments: Credit is due to the many colleagues who provided ideas and imagery for this lab manual. The cover illustration is by Charles Darwin, of course. Wherever appropriate, we have tried to provide reference information throughout the text, which is an annual work in progress; your help in notifying us of errors, missing information or references, or ways in which it could be improved are greatly appreciated.