Course overview

This course is an introduction to ecological and evolutionary theory. Although ecology and evolution are presented as separate disciplines, their interaction is emphasized and proficient knowledge of how ecology and evolution interact is a major learning goal and requirement for passing this course.

While the course presents an integrated view of ecology and evolution, in the first half of the class, the focus is on evolution. Macroevolutionary concepts are discussed in detail, but my presentation of the course is admittedly biased towards population genetics and microevolutionary theory. The emphasis on microevolutionary mechanisms partly reflects the fact that this is my area of expertise and I feel most comfortable teaching this material. But more importantly, I believe that a solid background in microevolutionary mechanisms helps to reinforce the connection between heredity (i.e. genetics) and

I use a rank-based (or "stack rank") grading system; this means that you will be evaluated based on how well you perform (in terms of your point total) relative to other students in the class.

When possible, I like to use natural breaks in the point distribution to determine letter grades. For example, if there is a substantial point differential separating the top five students in the class from the remaining students, these top students would typically receive an "A". Conversely, natural breaks at the bottom of the distribution determine those students that do not pass (i.e., D/F). In the case that discrete natural breaks in the distribution do not exist, I will use quartiles of the distribution to assist in parsing the distribution.

There a total of 900 points that can be earned in this course, 450 points from lecture exams, 400 points from laboratory exercises, and 50 points for attendance. There will be three unit exams (all multiple choice format), each worth 100 points. My multiple choice tests are designed to be challenging; I expect the median score to be ≤ 65. There will also be a cumulative final (essay questions) worth 150 points. For students near the "borderline" (i.e., at or just below the cutoff for a passing "C"), your performance on this final test may influence my decision as to whether you will pass or fail. I will also consider your performance on this test if you fall near the cutoff between other letter grades (e.g., C/B and B/A).

The laboratory exercises come in various formats, but a big chunk of your score will be based on a written scientific paper near the end of the semester. We will prepare for the full paper with another laboratory exercise, earlier in the semester, where you will to write a methods and results section. All other labs are worth 30 points each. Unless otherwise noted, labs are always due at the beginning of the next lab. Labs that are turned in late will be penalized 5 points/day.

Note that laboratory exercises comprise ~44% of your final grade. This means that a strong performance in lab can raise your rank considerably; conversely, a poor performance in lab can also drop your class rank. In my opinion, success in the laboratory part of this class is primarily a function of effort and attention to detail. It is the primary manner by which effort is evaluated.

Effort in this course will also be gauged via attendance. I will randomly survey attendance in lecture 10 times during the course. Every time that you are present you will receive five points, for a total of 50 possible points.

"Required" texts:

1) Population Genetics and Microevolutionary Theory by

Attendance is requisite for all laboratories and is strongly encouraged for lecture (worth 50 points). If you miss a lab, you will receive zero points for that lab! If you are sick, a note is required from a health professional on official letterhead…and you must contact me ASAP (i.e., preferably via email the lab you are going to miss). Other excuses will be considered on a case by case basis. If you have a planned absence, you may participate in the other lab sections…but, for field trips, you may have to arrange your own transportation (i.e., if no space is available). It is very important that you are not late for lab, especially field trips.

Although I will not take role every day of class, I may occasionally give a quiz or additional test questions (as required) during lecture.