Course Syllabus and Lecture Schedule
Biology 201.006 - Ecology and Evolution
Spring 2017

Time: MWF 10:10-11am
Place: G200 Genome Science Building

Instructors:

Dr. Mara Evans (Ecology)
Office: 104A Wilson
Phone: 919-843-7107
Email: mara1@email.unc.edu
Office Hours: Th. 12:30-1:30pm (Use Sakai Sign-Up), or by appt.
(email)

Dr. Christopher Willett (Evolution)
Office: 2252 Genome Sciences
Phone: 919-843-8663
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Office Hours: TBA
Lab website: http://labs.bio.unc.edu/Willett/

Teaching Assistants:

Sara Snell
Office: Wilson 328
Email: ssnell@live.unc.edu
Office Hours: Weds 1-2, Wilson 328
and by appointment

Meggan Alston
Office: GSB 2242
Email: meggan.alston@unc.edu
Office Hours: Mon, 11:15-12:15, GSB
2242 and by appointment

Sections:
601 M 11:15-12:05 Wilson 202
602 M 12:20-1:10 Wilson 202
607 W 11:15-12:05 TBD
608 W 12:20-1:10 TBD

603 M 1:25-2:15 Wilson 202
604 M 2:30-3:20 Wilson 202
605 M 3:35-4:25 Wilson 202
606 M 4:40-5:30 Wilson 202

Welcome to BIOL 201 - Ecology and Evolution! With worldwide concerns like global warming, population growth, food and water security, and emerging diseases, it is important to understand the forces governing the living world on which we depend. The principles of evolution and ecology help make sense of the diversity of organisms and their interactions with each other and the physical world. Evolution provides the basis for understanding the origin of all biological phenomena. Ecology can be viewed as the theater within which the evolutionary play takes place. Evolution cannot be understood in the absence of ecology and ecology cannot be understood without evolution.
By the end of this course you will be able to do the following:

1. Explain the process of descent with modification and how biologists reconstruct the patterns of relationship among living things.
2. **Explain** the process of adaptation by natural selection and the role of interactions between organisms and their physical and biotic environments.

3. **Explain** how natural selection interacts with other evolutionary forces to shape genetic and phenotypic changes in populations over time.

4. **Explain** how the interactions between organisms and their environment are related to tradeoffs, feedback, networks at a variety of different scales.

5. **Apply** the principles of ecology and evolution to problems in environmental science and medicine, and at all levels of biological organization.

**Prerequisites:** BIOL 101 and CHEM 101. We assume that each of you has had the equivalent of a semester course in biology wherein you learned Mendelian genetics and enough basic biology to know the major groups of organisms and the terms used for describing them. We also assume a solid background in high school algebra.

**Course Website:** [http://sakai.unc.edu](http://sakai.unc.edu)

This syllabus, the lecture outlines, supplemental readings, and other useful materials will be posted on the course website throughout the semester. *It is your responsibility to check it and your UNC email account regularly.*

**Required Textbooks:**

1. SimUText Ecology electronic textbook. Available from the SimUText website:
   
   [https://www.simutext2.com/student/register.html#/key/UrZP-KHyP-dUcn-e5PS-G2qL](https://www.simutext2.com/student/register.html#/key/UrZP-KHyP-dUcn-e5PS-G2qL)

   Available from UNC Student Stores. See instructions for how to register under Sakai Announcements. Note: the link above is specific to our class.


**Readings:** Reading assignments are listed on the lecture schedule, and will be drawn either from the course textbooks or they will be papers posted on the course Sakai site. Readings should be completed prior to the lecture for which the reading is assigned.

**Guided Reading Questions** (GRQs): There are questions meant to assist you as you read the texts and are not graded. You will find the GRQs in the Resource folder on the Sakai site.

NOTE: Reading quizzes (via Sakai) and graded questions (via SimUText) are required and are graded based on correct answers. See below for more information.

**READING ASSIGNMENTS/QUIZZES (10% of your grade):** Accompanying every reading will be an assignment to test your comprehension of the reading. These assignments/quizzes must be completed by 11PM the day before class. Reading assignments/quizzes will be conducted via Sakai. Please see the lecture schedule for more details. These assignments/quizzes will be graded for correct answers. The purpose of these activities is to help you practice using your knowledge and ensure that you come to class prepared to engage more actively with the material you have read about. Although for some assignments these questions may show up within Simutext, for all assignments you are expected to answer them on Sakai prior to coming to class. They will be graded based on correct answers. No late assignments or quizzes will be accepted.
CLASS PARTICIPATION (8% of your grade): We will be using Learning Catalytics (LC) as our classroom response system. Registration instructions are available on the course Sakai site. If you already have an account from prior use of Pearson products there is no need to create another account. If you have never used Learning Catalytics, visit www.learningcatalytics.com to register yourself prior to class. You must register using your official UNC email address as your login name and your UNC PID as your student ID. No exceptions! Complete instructions for LC registration can be found in the called “Instructions to Register for Learning Catalytics” in the Welcome Announcement. If you already have an LC account from a previous class you do not need to create another account, just make sure you can log in successfully.

We strongly recommend a phone or a tablet and not a laptop. However, you may bring your laptop to class if you wish (but see the Digital Etiquette section below). Remember that when using a web browser to respond to poll questions, you need to log into your LC account first. There will be many opportunities for participation throughout the semester, and you will be given 12 “freebie points” to take into account technical difficulties or unexpected absences. These freebies are questions that you do not have to submit an answer to and you will still earn points for. As such, please do not email us about making up poll questions. Class participation questions will be graded 50% for effort, 50% for correct answer (some questions may have multiple correct answers). There will be opportunities during the semester when you can earn double participation points for a written question (aka “Double Days”). These days and questions will not be announced prior to class. You will work with your group members to complete these activities! If you miss class (for any reasons) you cannot make up your participation points, but you can use your “freebie points.”

GROUPS
Students learn more when they work in small groups of peers to discuss issues and solve problems. By Wednesday, September 6, you will be assigned to a group of 3 – 5 students. If you have a seating request (e.g. you must sit in the front of the room), please complete this form (https://goo.gl/forms/ijfVwDFzvnPIWZDh1) by Friday, September 1 at 5pm. In every class meeting, you will sit with your group in a designated area. We encourage you to get to know your group members because you will work with them throughout the semester. Collaborating with others is an important skill in all professions, and we are available to help you to solve interpersonal problems that may arise within your group.

If you are experiencing conflict with your group members, you may decide to invoke the “Terminator Clause.” When you work in a group, it is possible that some team members will contribute more than will others. Over time, this can be a critical problem if one person demonstrates a lack of commitment to the team (e.g., failing to contribute to group assignments). In such an instance, we reserve the right to “fire” that member. Firing involves a two-step process: First, the team (in consultation with us) gives the wayward member a warning that includes the wayward teammate negotiating with the entire team about how he or she is going to be a better teammate. Second, if the member continues to behave inappropriately, they will be terminated from the group. Assignments from the point of termination to the end of the semester will be completed as an individual. Bad teammates usually show their tendencies early, so let a problematic group member know his or her behavior is not acceptable early.

EXAMS (72% of your grade): There will be 3 midterms (16% each) and a final exam (24%). The midterm exams are not cumulative, except that the advanced material at the end of the course builds on the basic material taught in the beginning. The final exam is cumulative (details below). Exam questions will be taken from lectures, recitation material, and assigned readings. Exams will consist of a variety of question types including: true-false, multiple choice, fill in the blanks, and short answer.
Exam style questions will be given for practice during many lectures. Your final exam will be cover 50% material from the last portion of the class, 50% material you had been previously tested on.

Permission to miss a midterm examination will be granted only in extreme circumstances (e.g. severe illness), and must be obtained in advance (at least two hours before the exam starts, but the sooner you let me know, the better!). Please note that unless you are an athlete or affiliated with UNC athletics, missing an exam to spectate at a sporting event does not constitute an extreme circumstance. We will not give make-up midterm exams under ANY circumstance if you contact us once the class has already taken the exam. In the event that you obtain permission to miss one midterm examination, your overall exam grade will be based on the remaining three exams (24% each). Midterm exams that are missed without advance permission will be given a score of zero points. Students who miss two exams or fail to take the final exam, will fail the course.

RECITATION (10% of your grade): Ten percent of your grade will come from work done in and for your weekly recitation section. Refer to the separate recitation syllabus for details.

GRADE CALCULATION: Your letter grade will be based on the sum of your performances on quizzes, in-class participation, exams, and recitation according to the following scale:

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>93-100%</td>
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<tr>
<td>A-</td>
<td>90-92.9%</td>
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<tr>
<td>B+</td>
<td>86-89.9%</td>
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<td>B</td>
<td>83-85.9%</td>
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<tr>
<td>B-</td>
<td>80-82.9%</td>
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<tr>
<td>C+</td>
<td>76-79.9%</td>
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<tr>
<td>C</td>
<td>73-75.9%</td>
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<tr>
<td>C-</td>
<td>70-72.9%</td>
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<tr>
<td>D</td>
<td>66-69.9%</td>
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<tr>
<td>F</td>
<td>&lt;65.9%</td>
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In order to achieve a fair grade distribution, at the end of the semester, the instructors may adjust grade thresholds class-wide to improve your letter grades; the thresholds will under no circumstances be adjusted to lower your grades. There will be absolutely NO appeals regarding the final grading scale (e.g. "I earned a score of 89.9, can you round that to a 90?").

Grading disputes: Scores and final course grades will be changed ONLY in the event that an exam question was mis-graded or if exam points were totaled incorrectly. If your exam points were added incorrectly, please see your TA and we will be happy to make a correction. All other requests for exam re-grading must be in the form of a WRITTEN appeal to the professor teaching that material justifying why your answer should be accepted. This appeal should be attached to your original, unaltered exam to be re-graded and turned in to the professor (not the TA). In the event that you request a re-grade of more than one question, we reserve the right to re-grade the entire exam. All appeals for changes must be made within 10 days after the exam is returned. We will not re-grade any question or exam after the 10 days have elapsed.

Peer Mentors and Supplemental Instructors: This semester we will have two supplemental instructors and multiple peer mentors assisting our class. These are former BIOL 201 students who are volunteering their time to assist you both in and out of the classroom. Supplemental Instructors will hold 1-2 hours of supplemental instructions outside of class each week (time and locations will be posted to Sakai). These sessions will host 20-40 people. Peer Mentors will host one-on-one or small group tutoring sessions (times and locations also posted to Sakai). Please make use of these wonderful people. You will see them in class each week as they will be circulating and helping you address problems in class.

Office Hours: These are hours that we set aside each week to meet with you one-on-one or in small groups (bring a friend). You get to direct these conversations -- we can talk about whatever you want.
(the course, study skills, personal matters, major and career advice, internship opportunities, etc.). We look forward to learning about your Tar Heel experiences!

To reserve a time to meet during office hours, use the "sign-up" feature on Sakai. Walk-in appointments during scheduled office hours are welcome, but may need to wait if we are already with a student. **We may add hours some weeks as our schedules allow. You may also contact us to make an appointment outside these hours, but please give us 2-3 days advance notice.**

**Piazza:** This semester we will be hosting class discussions on Piazza! It will be the location where Peer Mentors and Supplemental Instructors post announcements about their hours and services. However, we view Piazza largely as a forum where students help each other. The teaching staff will weigh in occasionally, but only after we see your solid effort to tackle a question. The quicker you begin asking questions on Piazza, the quicker you will benefit from the collective knowledge of your classmates and instructors. We encourage you to ask questions when you are struggling to understand a concept—you can even do so anonymously. Rather than ask, “What is the answer to question 2?” please tell us what you think the answer is, and why you think it’s correct (or not), or tell your colleagues where you are stuck! This approach sparks conversation, which leads to learning. Also, please make sure to re-read the syllabus and lecture schedule **before** asking a logistics question! If you have any problems or feedback for the developers, email team@piazza.com.

→Sign up for our class page at: piazza.com/unc/fall2017/biol201006fall2017

**We are BIOL 201.006 (FALL 2017): Evolution and Ecology (Evans-Willett)**

**Email:** For questions of general interest to the class please use the Piazza forum as described above. For more personal questions we will make every effort to respond to your emails quickly (within 2 days, except weekends). Please email us and **include BIOL 201.006 in the subject line.** To comply with the Family Educational Rights and Privacy Act (FERPA), we are not allowed to respond to messages that refer to individual students or student progress in the course through non-UNC accounts, phone calls, or other types of electronic media.

**Digital Etiquette:** This course will require you to use a digital device during class time. Please be respectful of your classmates and restrict your use to course content. Despite what you may know about yourself, multi-tasking is actually a myth and the brain cannot perform two or more tasks simultaneously (it has to switch between tasks). Please be respectful of your own learning and those around you who will be distracted as you scroll through Instagram or catch up on basketball highlights.

If we see that you or your peers are distracted, we will ask you to put your devices away and you may forfeit your ability to earn participation points that day. There will be times when you have completed your work or answered a LC question, but your peers have not. We ask that you assist your peers when appropriate or use the time to review your notes while you wait. We understand that your devices connect you to your friends and family, but the classroom should be a place apart, however briefly, from the outside world and distractions. You will learn more if you concentrate on the course while you are here, and your classmates will thank you for not impeding **their** ability to learn. If you have to answer a text or a phone call, please step out of the room and return once you have completed your conversation.

**Students needing accommodations:** Please contact us within the first two weeks of class if you will need special accommodations.
HOW TO BE SUCCESSFUL IN BIOL 201

Attendance in lectures is essential for success in this course. If you must miss a lecture, obtain a set of notes from a friend (We will also post some lecture slides on the course website). Do the reading and the GRQs. before the lecture because it will be much easier for you to understand the lectures and to participate in class. After class, go back to the book and study the points that were stressed. There is more in the books than we can cover in class, but additional examples from the texts may prove very helpful on the exams.

Take hand written notes using the lecture outlines. ⇐ previous students report that this is VERY important for success in BIOL 201. Research shows that students who take handwritten notes learn more (Mueller et al. research paper posted to our Sakai site). Print out the lecture outlines before coming to class. The slides will be posted after class, and comparing your handwritten notes to the slides will be a great way to study.

Use our teaching staff! Attend Supplemental Instructions sessions or visit with a Peer Mentor regularly. Visit your TA or with me during office hours. Office hours are also a great opportunity to discuss matters unrelated to class (e.g. your research and career interests).

Uphold the Honor Code. Academic honesty means that we respect each other and the work that we do; this means we behave with integrity in and out of the classroom, and do not lie, cheat or steal (e.g. plagiarism is a form of stealing). The University of North Carolina at Chapel Hill has had a student-led honor system for over 100 years. It is our responsibility to report any instances of academic dishonesty and violations of the Honor Code. The student-led Honor System is responsible for adjudicating any suspected violations of the Honor Code. All suspected instances of academic dishonesty will be reported to the Honor System and students will receive a zero on the assignment or exam in question. Your full participation and observance of the Honor Code is expected. Please report any violations that you observe. Information, including your responsibilities as a student is outlined in the Instrument of Student Judicial Governance (here: https://studentconduct.unc.edu/sites/studentconduct.unc.edu/files/documents/Instrument.pdf).

Academic Honesty and Learning Catalytics: In order to earn your participation points you must be physically in the classroom and answer questions during class time. If it is determined that you are not physically present while answering poll questions you will automatically forfeit all participation points for the semester (8% of your grade) and your case will be reported to the UNC Honor Court (see Upholding the Honor Code above). We believe that honesty is important, and we know that you will learn more by being physically in class and problem solving with your classmates. If you have to miss class, remember that some points will be dropped at the end of the semester.

College can be challenging in unexpected ways. It is possible that at some point this semester your multiple competing personal responsibilities and interests may get in the way of your academic success. It is also possible that you may get sick or have other personal emergencies. The bottom line is this: asking for help is a sign of strength and self-care! Please ask for help early and often! Small problems are easier to cope with than waiting until the end of the semester when the issue has escalated. While we sincerely hope that you will let us know when things are not going well, here are other campus resources you can turn to, as well:
- **Dean of Students:** If at any time during the semester you experience a personal or family illness, loss, financial stress, academic access, living issues, interpersonal violence response, alcohol or similar substance related issues, and other forces that may interfere with your well-being and success and/or academic retention please contact the Dean of Students immediately (or contact your professors and we will do so for you). http://deanofstudents.unc.edu
• **Academic Advising:** Your academic advisers are familiar with all of the campus policies, procedures and requirements. [http://advising.unc.edu](http://advising.unc.edu)

• **UNC Learning Center:** A variety of services are offered at this center, located in the Student Academic Success Building (SASB). The resources include the writing center, academic coaching, study skills information, etc. Learn more about these free resources. [http://learningcenter.unc.edu](http://learningcenter.unc.edu)

• **Counseling and Psychological Services (CAPS):** If you are experiencing any distress please speak with a medical professional in a confidential setting. The CAPS office has daily drop in hours or you may call them for an appointment (919-966-2281) or schedule online (healthyheels.unc.edu). [http://campushealth.unc.edu/services/counseling-and-psychological-services](http://campushealth.unc.edu/services/counseling-and-psychological-services)

• **LGBT Center:** Provides educational services, resources and advocacy. [http://lgbtq.unc.edu](http://lgbtq.unc.edu)

• **Carolina Women's Center:** Aims to provide an equitable working and educational environment regardless of gender. Provides assistance to all individuals regardless of gender orientation. [http://womenscenter.unc.edu](http://womenscenter.unc.edu)

• **International Student and Scholar Services:** offers services to help international students adjust to life in North Carolina and UNC. [http://isss.unc.edu](http://isss.unc.edu)

We reserve to right to make changes to the syllabus, including the scheduled dates for exams or lecture topics, and the assignment of additional readings. These changes will be announced as early as possible so that students can adjust their schedules.

**Reading for Fun!** Curious about the topics we cover in this class? Here’s a list of books we recommend:

- **Why We Get Sick:** *The Science of Darwinian Medicine* by R.M. Nesse and G.C. Williams
- **The Journey of Man:** *A Genetic Odyssey* by Spenser Wells
- **The Beak of the Finch:** *A Story of Evolution in Our Time* by Jonathan Weiner
- **The World without Us** by Allan Weisman
- **The Sixth Extinction:** *An Unnatural History* by Elizabeth Kolbert
- **1491:** *New Revelations of the Americas Before Columbus* by Charles C. Mann
- **Silent Spring** by Rachel Carson
- **I Contain Multitudes** by Ed Yong
- **The Serengeti Rules** by Sean Carroll
- **A Planet of Viruses** by Carl Zimmer