

## **Forest Ecology FOR3153C Sections: 13H5 and 2265**

### **Overview**

3 Credits

Fall 2022

Canvas website: will be available by beginning of class

### **Meeting Times**

All students Thursday lecture 10:40 AM to 12:35 PM

All students attend the Thursday lecture

I will let you know before each class if we will meet in person or via zoom

If we meet in person, the meeting location is Psychology (PSY) 0130

Section 2265: Monday Lab 1:30 PM – 3:50 PM

Section 13H5: Wednesday Lab 1:30 PM – 3:50 PM

For both lab sections: meet in Newins-Zeigler 219 or in the breezeway below  
Newins-Zeigler to go out in the field

### **Instructor:** Stephanie Bohlman

Pronouns: She/Her/Hers

office: 349 Newins Ziegler Hall

School of Forest, Fisheries and Geomatics Sciences

352-846-3503                      sbohlman@ufl.edu

Please use the Canvas message/Inbox feature for fastest response

Office hours: available by email or phone; office visits available by appointment

### **Teaching Assistants:**

Susana Ruiz Diaz

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### **Course Description**

This course is designed to provide students with an overview of:

- ecological principles at four major scales of biological organization (individual, populations, communities, ecosystems) with an emphasis on forests
- applications of these principals to current environmental problems (biodiversity crisis, global environmental change, and others) impacting forests
- how forest ecologists answer questions with observations and experiments

### **Course Objectives**

In addition to gaining understanding of important ecological concepts, students will:

- develop and practice “ecological thinking” toward a question or problem (e.g. invasive species, salvage logging), analyzing how different abiotic and biotic factors and processes might affect the question/problem under investigation
- understand how ecological principles work across different forest types and spatial scales
- be able to read, interpret and use scientific literature, with a focus on interpreting graphs and tables
- learn how to make qualitative and quantitative field measurements with equipment
- develop an ecological question to investigate with a field study – designing and carrying out data collection, analyzing the data and presenting the analysis and conclusions
- make scientific arguments that are supported by data, logic and credible sources of information
- improve written and oral communication skills

**Course is Designed For:** Undergraduate Students

### **Format**

- Monday/Wednesday lab classes will be either in the classroom or in the field at various locations on and off campus. For off-campus field trips, we will drive in 15 passenger vans from campus to the off-campus site. For most field trips, you can also drive independently to the field trip sites.
- Thursday in-class time will be in-person or on zoom.
- As per university guidelines, mask (proper) wearing is EXPECTED when we are inside a classroom or van. I will follow guidelines as they evolve with the top priority of safety and health for students, Tas and faculty.
- Labs will involve active inquiry, formulating questions/hypotheses and collecting/analyzing data.
- Thursday in-class time will be spent mostly in student discussion
- Attendance of classes is mandatory and requires your active participation.
- Make up policy is listed below
- We will use internationally recognized teaching strategy called Team Based Learning for about half the Thursday lecture sessions
- You will be provided a list of activities to do to prepare for each class (readings, videos, recorded lectures, quizzes (IRAT), or prepare small assignments) that must be completed before class

### **Course Resources:**

**Book (REQUIRED):** Barnes, B. V., D. R. Zak, S. R. Denton and S. H. Spurr. 1998. **Forest Ecology.** Wiley Press. 4<sup>th</sup> edition.

In addition to, or in lieu of, purchasing/renting a new, used or rental copy, the textbook for this course, Forest Ecology, is available as a short-term loan to check out for two hours at a time at the Marston Science Library. Please visit the service desk and ask for the course reserve item for FOR3153C.

Other readings will be available to download via the Canvas website

### **Course Logistics**

Students may access lectures, assignments, readings, and supporting materials through the course Canvas site as they become available.

### **Communication**

- Course communication will occur via canvas email and announcements. Please check them once a day.
- Individual meetings can be arranged via email

### **Team Based Learning (TBL)**

TBL is a collaborative learning strategy that is based on individual assessments (IRAT) followed by team assessments (TRAT) and class discussions. We will use TBL for about half of our classes.

1. Prior to class individually: learn material by doing readings, watching prerecorded lectures and other videos, and/or preparing small assignments
2. Prior to class individually: take individual readiness assurance test (IRAT)
3. In class as a team: take team readiness assurance test (TRAT)
4. In class as a team: do application problem, where you take what you have learned and apply it to a real world problem
5. In class as a whole class: discuss TRAT and application problem

### **Group work**

You will be working mostly with the same group for the entire semester. Staying in the same teams is key element of Team Based Learning that has shown to promote group success. To be a good team member:

- Be respectful of everyone on your team. We all come from different backgrounds and bring different strengths to working together. Respect other people's opinions even if they are different from your own.
- Use appropriate, respectful language toward each other.
- Communicate frequently with each other. Explaining why you can't get to something right away is better than no communication with your team.
- Follow through on commitments
- Be a good listener as well as an active contributor to your group

### **Peer rating**

There is a lot of group work in this class, so some of your grade will depend on how well your group works as a whole. For group activities in the lab sessions, you will be required to submit a peer rating via the canvas website in which you rate and briefly describe the participation of each member in your group. This gives each student that chance to communicate if there are group members that are not participating and helps hold each student accountable. If a student is repeatedly indicated as having poor group participation, the student's grade will suffer a deduction for those activities. Peer ratings are never shared with other students. If you are having issues working with a member(s) of your group, please come talk to the teaching staff.

### **Assessments (final distribution may vary slightly from the one listed below):**

IRAT

15%

TRAT	10%
Team applications	15%
Exams (mid-term/final)	20%
Field and data exercises	20%
Final projects	20%

**All written assignments will be checked for plagiarism.** Electronically submitted assignments will be checked by software for plagiarism with other students' work from this and other classes, web and published literature including the textbook. Plagiarism will result in no credit for the assignment and follow-up according to university policies (see Academic Honesty section). The final report must be written individually. Do not copy written text from your group mates from this or other classes for the final report. Please see instructor or TA with any questions regarding what constitutes plagiarism. UF also provides some useful educational resources if you would like further clarification on what constitutes plagiarism and how to avoid it at: <http://biostat.ufl.edu/resources/student-resources/uf-student-support-links/academic-integrity-and-plagiarism/>

**Study Guides:** You will be required to read a portion of the required textbook as well as some additional readings. To help you pull out the most important information for this class, you will be given a study guide for each reading assignment. You will need to answer the study guide questions, always noting on which page(s) of the reading material the answer was found. You are also welcome to use other *credible* sources to help answer the questions, and please note where they came from (ie cite them). But the questions were derived exclusively from the textbook, and all the answers can be found in the assigned reading materials. If you fill out the study guides, by the end of the class, you will have a set of notes about forest ecology, written in your own words, that you can use a resource in this class but also in the future.

**Individual Readiness Assurance Tests (IRAT):** Completed individually. There will be  $\approx 7$  graded IRATs that cover the weekly material, including readings, study guides, pre-recorded mini-lectures and other videos. The IRAT makes sure you are ready to engage in the group and class activities of that week. While the IRAT questions mostly focus on the current week's topic/module, they may also require you to synthesize concepts from previous modules. The IRATs will be taken in the "quizzes" section of canvas. They are timed and can be taken only once. IRATs taken after when they are due will receive no credit.

**Team Readiness Assurance Tests (TRAT):** Completed as a group. There will be  $\approx 7$  graded TRATs that cover the weekly material, including readings, study guides, pre-recorded mini-lectures and other videos, thus covering the SAME material as the IRAT but allowing you to discuss and choose answers with your groups.

**Team Applications:** Completed as a group. Groups will use the information covered by the IRAT and TRAT and develop answers to real world problems.

**Midterm and Final:** The midterm and final will consist of multiple choice and/or short essay questions that will require you to synthesize and apply concepts from throughout the class, including lecture and labs.

**Group lab projects:** There will be several group lab projects. The data collection will be done as a group. Any written reports and worksheets required for **the lab project must be written and submitted by individual lab members in their own words, not written as a group.** All

worksheets, except for the final project report, will be submitted on paper (hard copy). If you are confused about whether you can use material another group member has prepared, or has been prepared by the group as a whole, please ask the instructors.

### **Field Laboratory**

Much of the lab work done in this course is conducted in the field, barring logistics challenges due to COVID or weather. For these field sessions, students will be active participants in making observations and taking measurements. Field trips will proceed under inclement weather conditions unless dangerous. Whenever field (outdoor) labs are scheduled, students need to wear appropriate field clothing and bring pencil/pen and a notebook. If an outdoor lab is scheduled and weather prevents completion of the lab, it will be rescheduled. Never assume the lab is cancelled. All field trips are mandatory. Transportation to off campus sites will be provided by 15-passenger vans with reduced passenger capacity so students can spread out. Mask wearing is expected in the vans. The departure point for field trips is always the breezeway underneath Newins-Ziegler Hall. We leave promptly at 11:45 am. We will not wait for late comers. Whenever possible, I will also choose sites for which you can drive yourself in your car to meet us at the field trip site. It is your responsibility to let the teaching staff know in advance of the field trip if you driving yourself, and get to the right place on time – we do not have time to track you down and will not wait for you. The labs are supervised by a combination of the instructor and/or the teachings assistants. Students will work often work independently in groups to collect observations and data. Reading the materials of the lab before the lab is essential to the students having a successful lab experience.

#### Things to bring in the field:

- 0) Masks! At least at the beginning of the semester, mask wearing is expected when indoors or in a van. Have when with you at all times.
- 1) Footwear, clothes and raingear. Do not wear sandals or shorts. On most trips, there is a good chance you will be walking through thick bushes and grasses. Wear long pants and closed-toed shoes you do not mind getting wet, or boots. If there is even a small chance of rain, bring a raincoat and/or umbrella. The field trips will proceed even if it is raining and you will *not* be excused from full participation in the activities if you are not dressed appropriately.
- 2) Water – Bring water! 4 hours is a long time to be in the hot sun. We will have a water cooler to refill your bottle.
- 3) A way to take notes in the woods (ie a small clipboard or pocket notebook), a pack to carry supplies, pencils (work at odd angles even when wet). Examples of waterproof field notebooks: <http://www.forestry-suppliers.com/search.asp?stext=rite%20in%20the%20rain> (these are not required, but can be handy in the field)
- 4) Insect repellent. You most likely encounter mosquitoes, tick and chiggers. Covering your body with long pants and a long shirt helps. Insect repellent (DEET or non-DEET based) is the next line of defense. To go all out against chiggers and ticks, you can use Repel Permanone applied to clothes. (Wal-Mart, Target etc. should have all the selection you need). NOTE: Permanone is extremely lethal to cats. It stays on your clothes for up to 6+ washes. Do NOT apply Permanone to your skin. Always thoroughly check your whole body for ticks upon return from the field.
- 5) Food: Field labs are long and conditions can be hot, wet or both. If you tend to lose energy during long stretches of outdoor activity, be sure to bring snacks and liquids to maintain your energy and be active in the field exercises. We do not provide food.
- 6) Snake Chaps: We will have snake chaps available if you choose to wear them.
- 7) Allergies: If you are allergic to insect bites, or if you have other medical conditions for which emergency treatment may be required, it is your responsibility to inform the instructors before the course starts, about: (1) your specific condition, (2) where you keep your medicine, and (3)

how to administer emergency treatment should the situation arise. Please let us help you be safe.

8) Appropriate behavior and language: You will spend a lot of time in the field with your lab members, teaching staff and guest lab leaders. You are expected to be respectful of everyone, recognizing the diversity of backgrounds of those involved in this class.

9) Please talk to me about any other issues or concerns you have about being out in the field, working with others, etc. I am happy to discuss any issues or discomforts you might have and work with you on a solution.

**Final lab project:** The final project will require each group with a research topic and data collection design and to collect data and analyze data. The final project will require the group to come up with a research topic and data collection design and to collect data and analyze data. Your group will prepare and give an oral presentation as a group to the rest of the class. Each member of the group will **receive the same grade** based on the oral group presentation. Students will be graded individually on their written reports. So that you do not write the report at the last minute, we will have you turn in sections of your report every few days. If you receive feedback from the instructors on these sections, you must incorporate improvements to these sections, based on the instructors' comments, in the final report. Plagiarism of group reports from other courses will result in a 0% grade for this assignment, and follow-up according to university policies (see Academic Honesty section).

### **Grades and Grade Points**

Grading follows University standards and will be based on the following scale: A 90-100, B+ 85-89.99, B 80-84.99, C+ 75-79.99, C 70-74.99, D+ 65-69.99, D 60-64.99, E < 60

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

### **Policies and Requirements**

This course plan and syllabus are subject to change in response to student and instructor needs. Any changes will be clearly communicated in advance through Canvas.

### **Late Submissions & Make-up Requests**

I encourage students to communicate with me as early as possible regarding missed classes – in many cases this would mean contacting me before you miss the class rather than afterward. After the initial contact with me regarding the missed class, please keep in contact with me if your circumstances change. In other words, early and frequent (as needed) communication will allow the make-up process to go as smoothly as possible. If students miss class for any reason, students need to complete a 750-1,000-word, integrated summary that demonstrates your understanding of ALL materials covered. The makeup assignment is due by 11:59 pm ONE WEEK from the day the class is missed. A zero for the day will be assigned if summary is late, poorly written, or lacking in substance

It is the responsibility of the student to access on-line lectures, readings, quizzes, and exams and to maintain satisfactory progress in the course. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

Computer or other hardware failures, except failure of the UF e-Learning system, will not excuse students for missing assignments. Any late submissions due to technical issues MUST be accompanied by the ticket number received from the Helpdesk when the problem was reported

to them. The ticket number will document the time and date of the problem. You **MUST** e-mail your instructor within 24 hours of the technical difficulty if you wish to request consideration.

For computer, software compatibility, or access problems call the HELP DESK phone number—352-392-HELP = 352- 392-4357 (option 2).

### **Respectful and Professional Conduct**

Although the science and management of forests are important to all humans on Earth, modern forest science and management was built on a small subset of voices. This is why integrating a diverse set of experiences is important for a more comprehensive understanding of natural resource science and management. We acknowledge that it is possible that there may be both overt and covert biases in the material due to the lens with which it was written, even though the material is primarily of a scientific nature. We will strive to address these issues by including material from diverse perspectives when possible and by creating a classroom environment conducive to respectful, professional communication.

This course will include students and teaching staff of different backgrounds, educational histories, ethnicities, economic backgrounds, ages, genders, and cultures. Because of the 4-hours of synchronous meetings as well as group work you do outside of class, we spend a lot of time together. You should expect to be treated with respect, and treat all participants (other students, teaching staff, guest lecturers) in this class with respect in actions, words and attitudes. Failure to do so will lead to follow up individually between the teaching staff and students, and/or follow-up with the department and/or college. Please contact the teaching staff if you have concerns.

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. Respect for individual differences and alternative viewpoints will be maintained at all times in this class. One's words and use of language should be temperate and within acceptable bounds of civility and decency. Friendly persuasion wins friends and influences people. Aggressively arguing your point often does the opposite and stops dialogue.

### **Communication Courtesy and Professionalism**

Just as in any professional environment, meaningful and constructive dialogue is expected in this class and requires a degree of mutual respect, willingness to listen, and tolerance of opposing points of view. **Respect for individual differences and alternative viewpoints will be maintained in this class at all times.** All members of the class are expected to follow rules of common courtesy, decency, and civility in all interactions. Failure to do so will not be tolerated and may result in loss of participation points and/or referral to the Dean of Students' Office.

### **Semester Evaluation Process**

Student assessment of instruction is an important part of efforts to improve teaching and learning.

**At approximately the mid-point of the semester**, the School of Forest, Fisheries and Geomatics Sciences will request anonymous feedback on student satisfaction on various aspects of this course. These surveys will be sent out through Canvas and are not required but encouraged. This is not the UF Faculty Evaluation!

**At the end of the semester**, Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via

GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

### **Academic Honesty Policy**

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. If you have any questions or concerns, please consult with the instructor or TAs in this class. Refer here to read the Conduct Code. <https://sccr.dso.ufl.edu/process/student-conduct-code/>

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct or appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated.

Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

### **Inclusive Learning Environment**

This course embraces the University of Florida’s Non-Discrimination Policy, which reads, *The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans’ Readjustment Assistance Act.*

If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see the instructor or refer to the Office of Multicultural & Diversity Affairs website: <http://multicultural.ufl.edu>.

### **Services for Students with Disabilities**

The Disability Resource Center (0001 Reid Hall, 352-392-8565) coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their

access needs, as early as possible in the semester. This website will connect you with the center <https://disability.ufl.edu/get-started/>

### **In-Class Recording**

recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability

### **Software Use**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

### **Campus Academic Resources**

- *E-learning Technical Support*: Contact the UF Computing Help Desk (<https://helpdesk.ufl.edu/>) at 352-392-4357 or via e-mail at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu).
- *Career Connections Center*: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services. <https://career.ufl.edu/>
- *Library Support*: Various ways to receive assistance with respect to using the libraries or finding resources. <http://cms.uflib.ufl.edu/ask>
- *Teaching Center*: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring. <https://teachingcenter.ufl.edu/>
- *Writing Studio*: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. <https://writing.ufl.edu/writing-studio/>
- *SFFGS Academic Hub* <https://ufl.instructure.com/courses/303721>

### **Student Life, Wellness, and Counseling Help**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university’s counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students.

Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *Counseling and Wellness Resources*: <http://www.counseling.ufl.edu/cwc/> or call 352-392-1575 for information on crisis services as well as non-crisis services.
- *U Matter, We Care*: If you or someone you know is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu), 352-392-1575, or visit <http://www.umatter.ufl.edu/> to refer or report a concern and a team member will reach out to the student in distress.
- *Student Health Care Center*: <https://shcc.ufl.edu/> Call 352-392-1161 for 24/7 information to help you find the care you need,
- *University Police Department*: Visit UF Police Department website (<https://police.ufl.edu/>) or call 352-392-1111 (or 9-1-1 for emergencies).
- *UF Health Shands Emergency Room / Trauma Center*: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website: <https://ufhealth.org/emergency-room-trauma-center>
- *GatorWell Health Promotion Services*: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website (<https://gatorwell.ufsa.ufl.edu/>) or call 352-273-4450.

### **Student Complaint Process**

The School of Forest, Fisheries and Geomatics Sciences cares about your experience and we will make every effort to address course concerns. We request that all of our online students complete a course satisfaction survey each semester, which is a time for you to voice your thoughts on how your course is being delivered.

If you have a more urgent concern, your first point of contact should be the SFFGS Academic Coordinator or the Graduate/Undergraduate Coordinator for the program offering the course. You may also submit a complaint directly to UF administration:

- *Student Complaints On-Campus*: Visit the Student Honor Code and Student Conduct Code webpage for more information. <https://sccr.dso.ufl.edu/policies/student-honor-%20code-student-conduct-code/>
- *On-Line Students Complaints*: View the Distance Learning Student Complaint Process. <https://distance.ufl.edu/getting-help/student-complaint-process/>

### **Materials and Supply Fee**

This course charges a Material-and-Supply Fee of \$58.18 per student. These fees are used to purchase items which are “consumed” while teaching the course, such as gasoline for field trips, flagging tape, and similar supplies.



**Calendar** All calendar items below will be on the course website. Details of most assignments are available to view on the canvas website a week before they are due, not earlier. All calendar items are subject to change and will be updated on the canvas course website calendar. Contact the instructor if you have questions.

week	lab	lecture topic
1	introductions to class	forest structure, function and composition
2	forest observations/sensors- outside near newins zeigler	abiotic factors/soil
3	HOLIDAY - no labs	tree biology
4	tree competition-ACF	community ecology; diversity
5	fire ecology-ACF	succession; fire
6	invasive species TBD	disturbance; forest health;
7	forest health-various locations	midterm
8	landscape patterns - OSBS	productivity; carbon cycling
9	soil, nutrient cycling - TBD	invasive species case study
10	develop project research proposal	nutrient cycling
11	develop project research proposal	wildlife
12	salvage logging case study	HOLIDAY
13	collect data	landscape/ global ecology
14	collect data	HOLIDAY
15	analyze data	final exam
16	student presentations	no class
finals week	report due	