

Spring 2025

# Forest Ecology

BIOL 377

MWF 11:30-12:20

ISC 137

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## Welcome!

We are excited that you will be joining us this semester as we explore forests!

## Course overview

We will be exploring many facets of forests this semester! We will start with a broad overview of many different forest types found across the globe. Then we will focus on variety of factors which influence forest dynamics using our local eastern deciduous forest (EDF) as our model system. These factors include abiotic and edaphic factors, biological interactions, dominant members, disturbance, succession, conservation, management, and sustainable use of the forest. As we develop our understanding of the complexities of EDF will apply our understanding to exploring in small groups how other global forest ecosystems are shaped by similar phenomena and share our findings with one another.

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## Course information

**Instructor:** Dr. Brian M. Hoven (*he/him/his*)   **Office:** ISC 257   **Lab:** ISC 240

**Contact:** e-mail: [bhoven@geneseo.edu](mailto:bhoven@geneseo.edu) (preferred)   **Phone:** (585) 245-5378

**Office hours:** ISC 232 (The Nucleus): M 1-2 PM W 1-3 PM; open door policy ISC 257

**Course description from Bulletin:** This course covers many aspects of forest ecology with a special focus on the eastern deciduous forest. The inhabitants, interactions, uses, dynamics, management and conservation of these ecosystems will be explored (3 credits). **Prerequisites:** Biol 117 and Biol 119

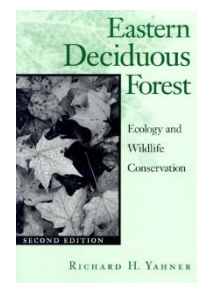
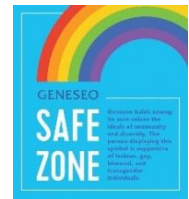
**Course website:** <https://mylearning.suny.edu/d2l/home/1870870>

**What you will need:** Internet access and laptop computer.

**Required textbook:** *Eastern Deciduous Forest: Ecology and Wildlife Conservation*.

Yahner, R. H. (2000). University of Minnesota Press. <https://doi.org/10.5749/j.ctttsrbh>

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## Land Acknowledgment

First, we'd like to begin with a land acknowledgment to protect and honor the history and people of the land on which we live. We believe that connecting to indigenous knowledge and practices increases our understanding of the natural world and thus acknowledging the original stewards of this land is an important part of biology education. Geneseo resides on the homeland of the Seneca Nation of Indians and Tonawanda Seneca Nation. We encourage you to learn more about these original occupants and those indigenous to other places you have lived using resources like the Native Land app and websites such as [sni.org](http://sni.org) to learn more about the community of more than 7,000 enrolled Indigenous Peoples, who continue to contribute to the region and beyond.

## What will you learn?

Successful students in this course will be able to:

- Describe what a forest is, and the major types found across the globe and how they differ
- Understand the origin of the EDF and how basic ecological processes as well as abiotic and edaphic factors continue to influence its development
- Recognize how below-ground biological interactions, pollination, and seed dispersal shape forest communities
- Distinguish how vertebrate and invertebrate herbivores as well as plant disease influence forest dynamics
- Understand how wildlife borne diseases influence human interactions with the EDF
- Appreciate the opposing roles disturbance and succession play in a healthy, dynamic forest ecosystem
- Recognize major native and invasive flora components of the EDF
- Distinguish how fragmentation, corridors, and biodiversity influence conservation considerations
- Understand how timber harvest and other human activities can be utilized as components in

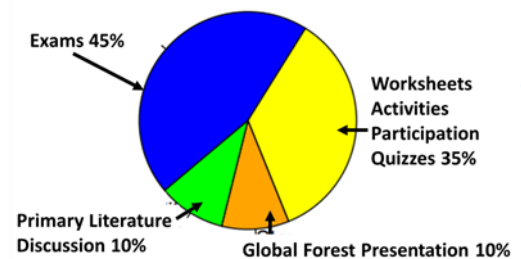
## Overview of course activities

This course will introduce you to many characteristics of forest ecology through lecture, discussion, presentations, and in class activities. Activities will focus on aspects of forest ecology including reading tree cores as well as exploring disturbance and disease dynamics in forest ecosystems. We will focus on developing our skills to effectively discuss primary literature exploring different attributes of forest ecology. We will also apply our understanding of forest ecology developed We will also learn how to key out and identify common flora of the EDF ecosystem.

## How is your grade determined?

### Exams 45% of grade

You will be assessed on your knowledge of material presented and discussed in class through four exams delivered during our lecture period. There will be four exams, each is worth 11.25% of your final grade. Throughout the semester, study questions will be provided in class to help guide your review. Upon completion of grading, exams will be handed back in class for student review. Once the feedback has been reviewed, the exam will be turned back into me. Exams will remain in my office; however, students may review and ask questions about any exam later in my office.



### Worksheets, Activities, Participation, and Quizzes 35% of grade

In addition to lecture, time in and outside of class will be dedicated to completing worksheets, activities, and quizzes. These assignments are meant to assist students in developing a better understanding of the concepts discussed in class. This category will also include participation in in-class activities. Online or paper quizzes to help you keep up with the course reading and lecture material.

## Global Forest Presentation 10% of grade

In the Global Forest Presentation, you and a partner will be responsible for developing an engaging and informative presentation that teaches your classmates about an assigned forest found in another part of the world. You and your partner will need to focus on many of the aspects we have discussed over the course of the semester. These presentations will be shared during the final exam time block for our course and will be presented in a pre-recorded video format. More information concerning this assignment will be presented and discussed later in the semester.

## Primary Literature Paper Discussion 10% of grade

You and a partner will be leading a discussion of an assigned primary literature paper on a forest ecology unit topic during a portion of an assigned class period. Students will choose their partner and both the paper and corresponding date will be selected at random early in the semester. More information concerning this assignment will be presented and discussed later in the semester.

## Grading Scale

A	93-100%	B	83-86.9%	C	73-76.9%
A-	90-92.9%	B-	80-82.9%	C-	70-72.9%
B+	87-89.9%	C+	77-79.9%	D	60-69.9%

I follow conventional rounding procedures, so a 92.94% would represent an A- (rounded down to 92.9%), while a 92.95% would be rounded up to 93.0% and an A.

## How to be successful in this course

### Come prepared for class and lab sessions

You will get more out of the course and each class session if you follow instructions on Brightspace for any necessary preparations like readings in our textbook, supplementary readings, watching videos, or viewing websites. It is your responsibility to check Brightspace and your e-mail frequently for course-related announcements. Make sure you set your notifications in Brightspace to keep up to date with course activities.

### Take advantage of course resources and study aids

I will provide study questions and lecture objectives for you to use to help guide your review of course material (please make use of the study questions and learning objectives to help you prepare for exams). PDFs of the lecture slides will also post on Brightspace following lecture.

### Ask me for help

*Office hours.* I will be available in **The Nucleus (ISC 232, no appointment necessary): Mondays 1-2 PM Wednesdays 1-3 PM, if my office door is open (ISC 257) feel free to stop in, or email for other times.** If my door is closed, then I am either in a meeting or working on something which requires my full attention. If that is the case, please send me an email and we can schedule a meeting for another time. When doing so, please suggest some possible times that you are available to meet in your email to make our correspondence more efficient.

### Email communication

The best way to communicate with me is via Geneseo email (**bhoven@geneseo.edu**). I will make every effort to respond to messages sent to him during the workday by 6pm the same day. However, be aware

that I check messages in batches 2-3 times/day, so may not respond immediately even during the workday. Emails sent after 5pm may not be answered until the following workday depending on my schedule outside of work. I typically take one day/week off from work and checks email on weekends only sporadically.

### Back up your work

Do yourself a favor to avoid last-minute computer calamities and stress by saving your work frequently and backing up your files using a cloud storage system like Google Drive, OneDrive, Dropbox, or some other service. CIT provides some [tips on data backup](#). Also, don't wait until the day before a deadline to get started!

### Timeliness and deadlines

Completing our work in a timely fashion is a vital element for success. Posted deadlines and your own personal deadlines keep the work manageable in the context of all your other courses, activities, and responsibilities. Likewise, I will also strive to return feedback on assignments and tests within **one week**, to help you monitor your learning. If you discover that a due date might be a problem, you should contact me immediately with a proposed solution so that we can negotiate a timeline that works for us both.

## Accessibility

SUNY Geneseo is dedicated to providing an equitable and inclusive educational experience for all students. The Office of Accessibility Services will coordinate reasonable accommodations for persons with documented physical, emotional, or cognitive disabilities, as well as medical conditions related to pregnancy or parenting. Students with letters of accommodation should submit a letter to each faculty member at the beginning of the semester and discuss specific arrangements. Please contact the [Office of Accessibility Services](#).

- **Student responsibility:** Please submit your letter of accommodations to us at the beginning of the semester (at least one week prior to the 1st test) and make an appointment to discuss arrangements.
- **Instructor responsibility:** We are committed to working with you to create a just learning environment while meeting the learning outcomes of the course. Unless you indicate otherwise, we will keep all accommodations confidential.

## What are our shared responsibilities to our learning community?

### Responsibilities to prioritize everyone's health and wellbeing

#### Illness

If at any time you fall ill, we ask that you protect our community and yourself by not coming to class. Lecture materials including presentation slides will be posted on Brightspace. Should you miss a class due to illness it is important that you try to get additional notes from other students and that you check Brightspace for assignments started in class. Please ask us for clarification about any work you might have missed. All assignments can be found in Brightspace in the corresponding unit's module.

#### Wellbeing

Prioritizing well-being can support the achievement of academic goals and alleviate stress. Eating nutritious foods, getting enough sleep, exercising, avoiding drugs and alcohol, maintaining healthy

relationships, and building in time to relax all help promote a healthy lifestyle and general well-being. Concerns about academic performance, health situations, family health and wellness (including the loss of a loved one), interpersonal relationships and commitments, and other factors can contribute to stress. We strongly encourage you to communicate any issues related to your well-being to us or other faculty and staff and seek support before you experience unmanageable stress or have difficulty with daily functioning. Dr. Leonard Sancilio, Dean of Students (585-245-5706), can assist and provide direction to appropriate campus resources. For more information, see [www.geneseo.edu/dean\\_students](http://www.geneseo.edu/dean_students).

### Mental Health

Mental health is no less important than physical health with respect to learning. As a student, you may experience a range of challenges that can impact your mental health and thus impact your learning; common examples include increased anxiety, shifts in mood, strained relationships, difficulties related to substance use, trouble concentrating, and lack of motivation, among many others. These experiences may reduce your ability to participate fully in daily activities and affect your academic performance. SUNY Geneseo offers free, confidential counseling for students at the Lauderdale Center for Student Health and Counseling (call 585-245-5716 to make an appointment), and seeking support for your mental health can be key to your success at college. You can learn more about the various mental health services available on campus at [health.geneseo.edu](http://health.geneseo.edu). **If you or a friend are feeling suicidal, are in mental health crisis, or need someone to talk to, call or text 988 for 24/7, confidential support to people in mental-health related distress.**

## Responsibilities to promote learning

Please arrive to class on time, stay through class, use your laptop and other technology only for class-related activities, and turn off your cell phone ringtones (including vibration mode).

### Technology

Technology can be beneficial to the process of your education. For this reason, laptops and smartphones are permitted so you can take notes and view classroom materials, as well take polls and quizzes. Please avoid using your phone for any reason not related to class (e.g., social media websites, e-mail, playing games, cell phone photography). These diversions can jeopardize your learning and distract those around you. Any student who disrupts lecture or distracts others may be asked to leave the classroom. If the behavior of other students around you affect your learning, please tell them or tell us. We understand that in some emergency situations a student may need to leave a cell phone turned on. If that is the case, tell your instructor before class that you may be contacted.

### Review Grades Often

Use your graded work to help you track your progress in the course. Any graded work may be submitted for re-evaluation along with a written appeal submitted via email and should include a brief explanation of your concerns, including your understanding of the test question or assignment directions and why you believe your work meets the requirements. Appeals should be sent in within one week of receiving the graded work. When you submit your appeal, we will schedule an individual conference to go over our response.

### Uphold the Student Code of Conduct

The Geneseo code of conduct asks all students to commit to behaviors so that all members of our community can fulfill the values of the college: Learning, Creativity, Belonging, Civic Engagement, and

Sustainability. Academic dishonesty and behavior that physically or psychologically harms others will be reported to the corresponding authorities. Academic dishonesty includes providing false information, cheating (seeking, receiving and/or offering unpermitted help) and plagiarism (representing work as your own when it was created by others, including AI such as ChatGPT). Collaborating on a test will result in a failing grade for the test and may result in a failing grade for the course.

In addition, all materials used in this course, including lectures, slides, videos, and handouts, have specific licensing and copyright restrictions that identify how they can be used, distributed, and adapted. We would rather work with you to solve problems before they become issues of misconduct, so please come talk to us early and often. For full details of the Student Code of Conduct, please see the [Student Handbook](#).

## Diversity & Equity

It is my intent to create a learning environment that supports all students. We believe the diversity that you bring to this class should be viewed as a resource, strength, and benefit. We strive to present materials and activities that are respectful of gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. Your suggestions are encouraged to improve the course's effectiveness personally, or for other students or student groups. For ideas, questions, or concerns related to diversity, equity, and inclusion in the Biology Department, please reach out to [bio-diversity@geneseo.edu](mailto:bio-diversity@geneseo.edu).

## Bias-Related Incidents

"We are here to listen, to learn, to teach, to debate, to change, to grow. We should all be safe to pursue these goals at SUNY Geneseo while being who we are. Together, we commit ourselves to pluralism, cultivating a community that respects difference and promotes a sense of inclusion and belonging." As this excerpt from our Community Commitment to Diversity, Equity, and Inclusion states, here at SUNY Geneseo, I want to provide a space where everyone feels welcome to learn and grow in their identities as well as in their role as students, faculty, and staff. If in the unfortunate instance you experience an incident of bias, I encourage you to reach out to the Chief Diversity Officer ([routenberg@geneseo.edu](mailto:routenberg@geneseo.edu)) and/or our University Police Department. In trying to create an environment that facilitates growth through diverse thoughts and ideas, reporting incidents of bias - including threats, vandalism, and microaggressive behaviors - can help bring a better understanding of our campus climate as well as provide opportunities for learning and restoring harm. For ideas, questions, or concerns related to diversity, equity, and inclusion in the Biology Department, please reach out to [bio-diversity@geneseo.edu](mailto:bio-diversity@geneseo.edu).

## Parents

Students who are parenting will be supported in this class. I ask that all students work with us to create a welcoming environment that is respectful to all forms of diversity, including diversity in parenting status. All exclusively breastfeeding babies are welcome in our class sessions as often as is necessary. For older children and babies, I understand that unforeseen disruptions in childcare or pandemic-related changes often put parents in the position of having to miss class to care for a child. While not a long-term childcare solution, occasionally bringing a child to lecture to cover gaps in childcare is perfectly acceptable, unless you or the child are ill. If babies and children come to class, we ask that you be mindful to avoid disrupting learning for other students. Finally, I understand that often the largest barrier to completing your coursework as a parent is the tiredness many parents feel in the evening once children have gone to sleep. While I maintain the same high expectations for all students in my

classes regardless of parenting status, I am happy to problem-solve with you in a way that makes you feel supported as you strive for school-parenting balance.

### **Religious Observances and Class Attendance/Deadlines**

If you anticipate an absence or conflict with an assignment deadline due to religious observances, please contact me as early in the semester as possible to make alternative arrangements for those days that you'll miss. Student attendance in classes on religious holidays is governed by New York State Education Law 224-a. See [calendar of major religious observances](#).

### **Military Obligations and Class Attendance**

Federal and New York State law requires institutions of higher education to provide an excused leave of absence from classes without penalty to students enrolled in the National Guard or armed forces reserves who are called to active duty. If you are called to active military duty and need to miss classes, please let me know and consult as soon as possible with the Dean of Students.

### **Food Security for SUNY Geneseo Students**

There are resources available for students who are food insecure. If you're unfamiliar with the phrase "food insecurity," you can learn more at the following link on Feeding America's website: [Understanding Food Insecurity](#).

The Pantry at Geneseo, our on-campus food pantry, works in partnership with the Geneseo-Groveland Emergency Food Pantry (GGEFP) and is facilitated by interns and volunteers working out of the Office of Student Volunteerism and Community Engagement as well as the School of Business, and the GOLD Leadership and Student Athlete Mentors programs.

Any student who is food insecure can submit a request here: [Food Pantry Request Form](#) to receive a bag of food that will provide them with items that will last a few days, including nonperishables and when available fresh fruits, vegetables, meat, and dairy. Once submitted, interns will connect directly with the student to communicate next steps and the time of your pickup. Pickups will take place in the MacVittie College Union, Room 114 - the GOLD Leadership Center.

This program will provide individuals with a bag of food up to once a month. We will do our utmost to ensure anonymity, while also working to destigmatize food insecurity in our community.

Students are also able to access the [Geneseo-Groveland Emergency Food Pantry](#) on their own if that is their preference. It is located at 31 Center St. and is open Tuesdays and Thursdays 10 AM - 2 PM and Wednesdays 4 - 6:30 PM.

If you have any questions about this process or anything relating to food insecurity, or have a need beyond what is outlined above, please refer to our website or contact us directly at [foodpantry@geneseo.edu](mailto:foodpantry@geneseo.edu) / 585-245-5893 or the Dean of Students at 585-245-5706.

### **Emergency Funding**

The college has three sources of emergency funding for students experiencing short-term financial crises. The [Camiolo Student Emergency Loan Fund \(SELF\)](#) provides short-term loans to students for situations both temporary and beyond their control. The SELF was established with the expectation that students who use the fund seek to "pay it forward" as soon as they are able by contributing to the fund so other students can be helped, too. While there is not a legal obligation, the donors hope that student loan recipients respect and honor the value of community and helping others in their time of crisis.

The [One Knight Student Aid Emergency Fund](#) assists Geneseo students who are facing financial emergencies mainly related to the COVID-19 pandemic. The fund offers grants (one-time award) depending on a student's documented financial need. For those students expecting a refund from financial aid, a Temple Hill loan of up to \$500 can be offered prior to the approved loan dispersal. If you are experiencing financial hardship, please contact the Dean of Students (585-245-5706), who can assist and provide direction to appropriate campus resources.

## What other resources are available to support your success?

Listed below are resources that can help support students' academic success and individual well-being.

### Geneseo Mission and Values

SUNY Geneseo has several core documents that articulate our shared commitments and learning objectives. These include:

- SUNY Geneseo Mission, Vision and Values: <https://www.geneseo.edu/about/mission-vision-and-values>
- Community Commitment to Diversity, Equity, and Inclusion: <https://www.geneseo.edu/diversity/commitment>
- Geneseo Learning Outcomes for Baccalaureate Education: <https://www.geneseo.edu/provost/globe-geneseo-learning-outcomes-baccalaureate-education>

### Academic Support Services

The campus provides a range of support services to help students thrive in their classes. These services include:

- Tutoring, both drop-in and by-appointment, with student tutors in the Writing Learning Center, the Math Learning Center, and a range of department-based tutoring centers
- Online tutoring through the SUNY-wide STAR-NY system ([www.starny.org/tutoring\\_schedule](http://www.starny.org/tutoring_schedule))
- Supplemental Instruction, in which trained student assistants review lecture material from specific classes
- Information on times and locations is available through the Center for Academic Excellence website at <https://www.geneseo.edu/academic-support-services>.

Additionally, the college offers a number of peer mentoring programs that are designed to reinforce good academic habits. These include:

- Academic Peer Mentors in the Office of Academic Planning and Advising provide students with promising study strategies and can host on-going appointments with students seeking an "accountability buddy". More information is available at [https://www.geneseo.edu/dean\\_office/academic-peer-mentors-0](https://www.geneseo.edu/dean_office/academic-peer-mentors-0).
- The ONYX Academic Success workshop series sponsored by the GOLD Leadership Program introduces students to a variety of study skills, time management techniques, and instruction on how to access campus resources for academic and career guidance. A full list of GOLD workshops can be accessed at <https://www.geneseo.edu/gold/app/browse>.



## Academic Integrity and Avoiding Plagiarism

Geneseo's Library offers frequent workshops to help students understand how to paraphrase, quote, and cite outside sources properly. These sessions are meant to educate about the importance of using original ideas and language, and how to incorporate paraphrases and quotes into writing. The complete list of library workshops can be found at [www.geneseo.edu/library/library-workshops](http://www.geneseo.edu/library/library-workshops).

Academic dishonesty includes cheating, knowingly providing false information, plagiarizing, and any other form of academic misrepresentation. College policies and procedures regarding academic dishonesty are available at [www.geneseo.edu/handbook/academic-dishonesty-policy](http://www.geneseo.edu/handbook/academic-dishonesty-policy).

## Computer and Technology Support

For assistance with your computer or mobile device, visit the CIT HelpDesk in Fraser. CIT provides self-help guides on a range of computer issues, including access to the campus network, Brightspace, printing, software guides, and other resources. The CIT Self Help Guides at [wiki.geneseo.edu/display/cit/CIT+Self+Help](http://wiki.geneseo.edu/display/cit/CIT+Self+Help) can be helpful in finding quick solutions to basic technology issues.

Geneseo students, faculty and staff have FREE access to the entire [LinkedIn Learning training library](https://wiki.geneseo.edu/display/cit/LinkedIn+Learning+Training+Library) (over 7,500 courses, including tutorials for software, digital tools, web development, programming, and design) through Geneseo's site license. For more information, [visit this wiki page](https://wiki.geneseo.edu/display/cit/LinkedIn+Learning+Training+Library). (<https://wiki.geneseo.edu/display/cit/LinkedIn+Learning+Training+Library>)

## Copyright Notice

The materials that are provided to you in this course have been created mostly by Biol 377 instructor or by the publisher of our textbooks. You should assume that all course materials are protected by legal copyright. Copyright protection means that reproduction of this material is illegal without the author's consent. Thus, students are prohibited from sharing or posting copyrighted material to any websites outside our course Brightspace site. Students are also prohibited from reproducing material to be shared with other more limited groups (e.g., sorority/fraternity test bank). Be aware that UUP (Union of University Professionals, the union representing faculty on this campus) is seeking to take legal action against these and other sites, and that posting or selling copies of materials to such sites may put a student in legal jeopardy.

## Schedule

All the concepts and skills we learn in the course are organized into four units, each addressing a major component of forest ecology. Readings refer to chapters in the textbook *Eastern Deciduous Forest*, other readings such as selections from other sources, and primary literature will be made available on Brightspace. The reading list may be amended during the semester, but the instructor will provide access to all additional materials. All lectures and assignments will be available on Brightspace. Additional short readings or other media to view before class will be posted on Brightspace. Please pay attention to Brightspace, emails, as well course and in person announcements for course updates. Exam dates will remain fixed unless changes are necessitated by changes due to severe weather or the public health situation. Class meeting times will be used for lecture, discussion, and activities to gain a better understanding of the concepts explored in this course.

### 1. The Forest (January 22-February 14)

*What is a forest and what factors influence its development?*

#### TOPICS:

1. Introduction to Forest Ecology
2. Forest Types
3. Origin of the Eastern Deciduous Forest (EDF)
4. Forest Ecosystem Ecology
5. Abiotic and Edaphic Factors

**READINGS:** EDF Chapters 1, 2, 3; FH Chapter 6, Overview of EDF paper and Mycorrhizae paper

**UNIT TEST** Monday, February 17

### 2. Interactions (February 19-March 12)

*How do interactions shape forest communities?*

#### TOPICS:

6. Mycorrhizae
7. Pollination & Seed Dispersal
8. Herbivory
9. Disease
10. Important plant species in our local forests

**READINGS:** EDF Chapter 4

**UNIT TEST** Friday, March 14

### 3. Disturbance and Succession (March 17-April 7)

*How can disturbance and succession be utilized to manage dynamic forest ecosystems?*

#### TOPICS:

11. Disturbance
12. Forest Fire: The Albany Pine Bush
13. Succession
14. Invasive Species
15. Fragmentation and Corridors

**NO CLASS: March 17-21 Spring Break**

**READINGS:** EDF Chapters 5, 6, 7; FH Chapter 5

**UNIT TEST** on Wednesday, April 9

### 4. Conservation (April 11-May 7)

*How can we protect and manage forests to meet sustainability goals?*

#### TOPICS:

16. Forest Conservation
17. Silviculture, Timber Harvest, & Forest Management
18. Reading the Forested Landscape
19. Climate Change Mitigation
20. Sustainable Future

**NO CLASS April 23 GREAT Day**

**READINGS:** EDF Chapters 8, 9, 10

**UNIT TEST** on Friday, May 7

**FINAL EXAM TIME:** Tuesday May 13, 12:00-2:30 PM; **Forest Presentation**