



## **Rain Forest Ecology and Conservation Syllabus** **Monday/Wednesday, 8:05-9:25am, JTB 120**

### **Instructor:**

Donald Feener  
Biology 308  
Email: donald.feener@utah.edu  
Office hours: by appointment  
(he/him/his)

**Time and Location:** MW, 8:05-9:25, JTB 120.

**Course Description:** The tropics are the cradle of the world's biodiversity. This course focuses on tropical biodiversity from the perspective of ecological and evolutionary sciences. In addition, we will explore conservation and sustainability issues associated with tropical forests.

This class fulfills an elective credit for **Latin American Studies, Biology, and Environmental Studies**. Biology 1210 is a prerequisite.

**General Education Requirement fulfillment:** Science Foundation (SF) and International (IR), Sustainability (SUSL).

### **Expected Learning Outcomes:**

At the end of this course students should be able to:

- Explain geophysical processes causing tropical climates.
- Describe structural features and ecosystem processes in the tropics, and how they differ from temperate zone processes.
- Describe latitudinal diversity patterns and provide multiple hypotheses for the patterns.
- Give multiple examples of highly specialized ecological interactions in the tropics, involving pollination, seed dispersal, plant-herbivore interactions, mimicry, and social insects.
- Describe human impacts on tropical ecosystems, from early human expansion out of Africa to present-day globalization.
- Describe the impact of the tropics on human economy and culture.

- Identify threats facing tropical ecosystems today, and describe approaches to conservation of tropical diversity.

In addition, writing assignments, oral presentations, and quantitative analysis of ecological data will improve skills in communication and quantitative reasoning.

### Required readings:

Forsyth, A., and K. Miyata. 1984. *Tropical Nature: Life and Death in the Rain Forests of Central and South America*. Touchstone, New York, New York.

Articles provided on Canvas.

### Evaluation Methods and Criteria:

Species Account (20%)

Geography Account (20%)

Oral Presentations (2) (5% each)

Midterm exams (2) (15%each)

Final exam (20%)

A	90-100	B-	70-74	D+	50-54
A-	85-89	C+	65-69	D	45-49
B+	80-84	C	60-64	D-	40-44
B	75-79	C-	55-59	E	0-39

**Exams:** There will be two midterm exams and a final. Exams will be based on topics covered in class and student written work. Exams will be composed of short answer questions (definition, fill-in-the-blank, multiple choice, true/false) and essay questions (long and short, interpretation of graphs and figures). The final exam will be partially comprehensive and partially on the information presented since the previous midterm exam. Exams must be written in blue or black ink.

**Species account:** In week 1, you will be assigned a genus or species of tropical organism. Your job is to find a recent technical scientific article about the taxon. The article should be published in a peer-reviewed journal and should be about the ecology, evolutionary biology, or taxonomy of the taxon. You will write a paper that contains the following elements: (1) the biology of wild populations (not the domesticated version) of your organism, (2) a summary of its interaction with and importance to humans, (3) a summary of the focal article, and (4) specific suggestions for further research. The report should contain at least ten references. The report should be between 2000 and 3000 words, not including the references. Final reports will be posted to Canvas and available to the entire class.

**Geography Account:** In week 1, each student will be assigned a location in the tropics (usually a country or region of a country). The assignment is to investigate the geography of your place, the status of habitats, and current conservation efforts. Topics to cover include: weather and climate, native flora and fauna, land use and conserved areas, current threats, and current conservation efforts. As part of the report, select one NGO that is working on conservation in the region and give a description of their structure, work, and results. The report should contain at least ten references. The report should be

between 2000 and 3000 words, not including the references. Final reports will be posted to Canvas and available to the entire class.

**Peer Review:** There will be a review process for the Species and Geography Accounts (see separate document).

**Oral Reports:** You will give two 5-minute, 5-slide oral reports, one on your species account and one on your geography account. Slides should be a single .ppt or .pptx file. The first slide should be a title slide with title of talk and your name. The remaining 4 slides should be the content, text and images only, with no animations or sound. They should be Mac-friendly, since they will be shown using a Mac. After each talk there will be 5 minutes for questions and discussion.

### **Course Policies**

**Rescheduled, Make-Up, Or Missed Exams:** With few exceptions, there will be no make-up exams, and a missed exam will be given a score of 0. Requests to reschedule an exam will only be granted for medical reasons (requiring a written note from a medical doctor), legal reasons (requiring a note from an officer of the law), religious reasons, or official University business (chapter VII section 15 of the University's policies and procedures): "The University expects regular attendance at all class meetings... Students absent from class to participate in officially sanctioned University activities (e.g., band, debate, student government, intercollegiate athletics) or religious obligations, or with instructor's approval, shall be permitted to make up both assignments and examinations..." Requests to reschedule an exam must be submitted in writing prior to the exam, and must include all necessary supporting documents. Rescheduled exams may be given orally, at the discretion of Dr. Feener. Make-up exams must be completed within 2 weeks of the original exam date.

**Grading Disagreements:** Questions about grading and scores will be considered only if received by Dr. Feener within one week of the time that the exam was returned to you. When an exam is returned for regrade, the entire exam will be regraded.

**Content Accommodations:** The content of this course fulfills legitimate pedagogical goals. We do NOT grant content accommodations. Students are responsible for all material presented in the lectures and required reading. Attendance accommodations are made according to University policies and procedures (chapter VII section 15; see above): "Students absent from class to participate in officially sanctioned University activities (e.g., band, debate, student government, intercollegiate athletics) or religious obligations, or with instructor's approval, shall be permitted to make up both assignments and examinations..."

### **University Policies**

**Course Conduct:** All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook.

Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.

**The Americans with Disabilities Act.** The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

**University Safety Statement.** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit [safeu.utah.edu](http://safeu.utah.edu).

**Addressing Sexual Misconduct.** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

**Drop, Withdrawal or Incomplete:** The University of Utah drop and withdrawal dates are on the class schedule. Also see <http://registrar.utah.edu/academic-calendars/index.php>. University policy allows assignment of a grade of incomplete (I) if 80% or more of the course work has been completed. We will consider assigning an "incomplete (I)" only under exceptional circumstances unrelated to academic performance, and only if a student is passing the course with a C or better when the "Incomplete" is requested.

**Wellness Statement:** Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to

succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at [www.wellness.utah.edu](http://www.wellness.utah.edu) or 801-581-7776.

**Diversity / Inclusivity Statement:** It is the intent of the instructors that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is our intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let us know ways to improve the effectiveness of the course for you personally or for other students or student groups.

**English Language Learners:** If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (<http://writingcenter.utah.edu/>); the Writing Program (<http://writingprogram.utah.edu/>); the English Language Institute (<http://continue.utah.edu/eli/>). Please let us know if there is any additional support you would like to discuss for this class.

**I will be using CANVAS to post readings, announcements, and to disseminate other information. CANVAS will also be used for submission of written assignments. PLEASE ENABLE CANVAS TO NOTIFY YOU FOR ANNOUNCEMENTS OR POTENTIAL CHANGES IN CLASS PLANS OR SYLLABUS.**

### Topic Schedule

<b>Date</b>	<b>Topic</b>	<b>Reading Assignment</b>
Aug	19 M	Introduction
	21 W	Species Mixer. Geography and Climate
	26 M	Climate
	28 W	Nutrient Cycling
		FM-1
		FM-2
Sep	2 M	Labor Day
	4 W	Rainforest Structure
	9 M	Rainforest Diversity
	11 W	Rainforest Diversity
	16 M	Pollination
	18 W	Pollination
	23 M	<b>MIDTERM I</b>
	25 W	Seed Dispersal
	30 M	Seed Dispersal
	2 W	Mimicry
		FM-3,4
		FM-5,6
		FM-7
		FM-11
		FM-9
		FM-10
		FM-12,14
Nov	4 M	Nocturnal Life
	6 W	Interactions
	11 M	Interactions
	13 W	Biogeography
	18 M	Biogeography
	20 W	Conservation
	25 M	Conservation
	26 W	Conservation
		FM-15
		FM-8,13
		FM-16
		FM-17
Dec	2 M	Conservation
	4 W	Conservation
	10 Tu	<b>FINAL EXAM, 8:00-10:00am</b>

### Assignment due dates

Date	Assignment
Aug	19 M
	21 W
	26 M
	28 W
Sep	2 M Labor Day
	4 W
	9 M
	11 W
	16 M <i>Species submission due</i>
	18 W <i>Species reviews due</i>
	23 M <b>MIDTERM I</b>
	25 W <i>Species revision due. Oral presentations.</i>
	30 M <i>Oral presentations</i>
Oct	2 W <i>Oral presentations</i>
	6-13 <i>Oral presentations</i>
	14 M <i>Species final revision. Oral presentations</i>
	16 W <i>Oral presentations</i>
	21 M <i>Oral presentations</i>
	28 M <b>MIDTERM II</b>
	30 W
Nov	4 M
	6 W <i>Geography submission due</i>
	11 M <i>Geography reviews due</i>
	13 W <i>Oral presentations</i>
	18 M <i>Geography revision due. Oral presentations</i>
	20 W <i>Oral presentations</i>
	25 M <i>Oral presentations</i>
	26 W <i>Oral presentations</i>
Dec	2 M <i>Oral presentations</i>
	4 W <i>Geography final revision. Oral presentations</i>
	10 Tu <b>FINAL EXAM, 8:00-10:00am</b>

**Due dates for Oral Presentation slides are the day before your scheduled talk, 11:59pm.**