PCB 3354 - Tropical Ecology and Conservation
Fall 2014, 3 credits

Instructor: Dr. Gregg Klowden (pronounced "Cloud - in")
Office: Room 202A, Biological Sciences
Office Hours: Mondays, Wednesdays, Fridays 12:00-1:00, or by appointment.
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I receive a large volume of emails from several courses. To help me help you, please include:

- Your first and last names
- Course name

* I will try to respond to emails within 48 hours however, response time may be greater.
* Please plan accordingly by not waiting to the last minute to contact me with questions or concerns.
* Due to confidentiality, I will only reply to questions emailed from your Knights email.
* Any questions about grades must be discussed in person and cannot be discussed via email.
* Please do not use the Webcourses mail system for correspondence.

Class Meeting Times: Tuesdays and Thursdays 1:30-2:50 pm in BIO 209

Intended Audience: Biological Science majors & minors.

Course Prerequisite: Principals of Ecology (PCB 3044C) with a grade of C or better

Course Description: This course is an introduction to the geography, ecology, and environmental problems encountered in various tropical ecosystems with particular emphasis towards terrestrial systems in tropical rainforests. You will study species diversity, community structure and biogeographic patterns of tropical flora and fauna in various ecosystems and the main abiotic and biotic characteristics that contribute to their distribution, abundance and dynamics including climate, hydrology, soils, nutrient cycles, species interactions and coevolution. In the last part of the course you will study the effects of human activities on species, biological communities and ecosystems and consider various conservation issues and strategies from both theoretical and practical standpoints.

Course Goals: I want you to take several things away from this course. I want to move beyond the "Discovery Channel" approach to the tropics and, while keeping a sense of the wonder of tropical diversity, help you develop a sound background in modern tropical ecology and conservation, and the tools to continue learning about and acting on behalf of tropical ecosystems. Specifically, by the end of the course:

1. You should have an understanding of modern ecological and evolutionary theory that applies to "how the tropics work", and why tropical ecosystems are different (if they are) from temperate systems. For example, why are there are so many species in the tropics? How is species diversity maintained? How do physiological and behavioral adaptations shape interactions among organisms?

2. "The Tropics" are not monolithic – there are high diversity rain forests, low diversity dry forests, coastal mangroves, alpine páramo, seasonally flooded forests, and many kinds of agro-ecosystems - these systems vary widely in what makes them work. I want you to have a working knowledge of ecosystem diversity in the tropics, and its biogeographic distribution.

3. You should come away from the course with a critical understanding of threats to tropical ecosystems - exactly how do land-use change, global climate change, fire and other anthropogenic factors affect tropical ecosystems? How do current human activities differ from those of the last several thousand years?

Required Resources:
A. Text: Kricher, John. 2011. Tropical Ecology. Princeton University Press. Available at Book Store.

B. UCF Library Webpage Access: Necessary in order to be able to download articles from research journals..

C. Webcourses.ucf.edu: Tropical Ecology is a web-enhanced class. Announcements, lecture notes, grades, study tips, and relevant web links will be made available at this site. Use your PID and myUCF password to log in. Before emailing me, please check this site for frequently asked questions.

Student Responsibilities:

Etiquette – Students should show proper classroom etiquette. Students should show up to class on time. *Please do not be late or leave early, this disrupts the class.* If this is unavoidable then you should sit near the door to reduce disruption to the class. All cell phones, pagers, etc. should be turned OFF (not on vibrate) when entering the classroom. Students should not disrupt other students (or the instructor) in class by talking unless instructed to do so by the instructor.

Email and Webcourses:

You will be expected to have daily access to Webcourses since I will be consistently posting assignment updates, additions, changes, clarifications, etc. All students at UCF are required to obtain a Knight's Email account and check it regularly for official university communications. If you do not own a computer, there are computers accessible to you in all UCF's computer labs, and most computer labs have computers connected to the internet. For further information on computer labs, please see the following website: http://registrar.sdes.ucf.edu/webguide/index_quickfind.aspx.

Readings – Readings are designed to coincide with and supplement the lecture component of the course. The order of reading assignments which generally follow the book chapter order are listed below. You are expected to have read the material prior to class.

Exams – There will be three midterm exams. The questions will be a mixture of multiple choice, fill in the blank and short answer essay. All questions will pertain to material covered in lectures, textbook readings and additional assignments. Please bring a #2 pencil with you to each exam. Cell phones and PDAs must be turned off and stowed during the exam period. Grades will be posted on *WebCourses* and I will inform the class when they are posted. Exams can be reviewed individually in my office hours.

> Late for the exam policy - If you arrive late for any exam you will be allowed to take the test if noone has yet turned in an exam. However, you must turn in the test paper at the regular scheduled end of the test. You will not be allowed extra time unless a documentable emergency has occurred.
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> Makeup Exam Policy - If you miss an exam, you will not automatically be granted a make-up: these will be given only in exceptional circumstances, with written documentation from a competent authority (physician, coach, counselor, etc.). Make up exams, IF permitted, will be in essay format. Unexcused absence from an exam will result in a failing grade for the missed exam.

Research Proposal - An important goal for this semester is to write a proposal for research. This proposal will detail the experimental design to answer a set of hypotheses / questions concerning the distribution and abundance of any organism or group of organisms in a tropical rainforest. You probably want to know why this is a worthwhile goal. Most of you will take one of several career paths after undergraduate school: a professional position related to biology, medical school, or graduate school. In any of these careers, you will likely read and evaluate research or research proposals or you will write research proposals and do research. Developing and writing a research proposal in this course will improve your evaluation and writing skills in general and specifically for research proposals. Even if you do not take any of the above career paths, there is something in this for you: improved writing skills, improved interpersonal skills from working with a group, and improved evaluation and interpretation of research literature. I also believe that the detailed development of hypotheses, an essential precursor to good research, is often simplified when teaching the scientific process. In short, this will help you learn how science is done.

This project will be done in a group of 4 students and will involve 3 phases:

1. Preporposal
2. Proposal
3. Oral Presentation

Specific details of the expectations for this project will be distributed under spererate cover.

Research Proposal Reviews – Each student will be given 2 of his peers proposals to review. Reviewing a proposal involves a lot more than assessing compliance, style, and checking for typos. Reviewers will consider innovation, intellectual merit, clarity, budget, and timeline and will ultimately submit a recommendation for or against "funding". The quality of your review will determine your grade on this assignment.

Optional Book Review Assignment: This assignment is OPTIONAL. Due December 1 at 11:59 pm submitted via Webcourses. If you choose to do this, it will be worth 3% of your total grade, replacing 3% of your lowest exam grade (making that one exam worth 20% rather than 23%). If you choose, pick an ecology themed book (see approved books below) of at least 300 pages or more to read and write a summary report demonstrating that you read the entire book and your understanding and opinions of the book. Summaries should be 500 to 750 words, no more, no less. Reviews should be for this class only and not a book used in another class. Summaries

must be entirely your own work. Plagiarism will not be tolerated and will result in a failing grade for the course. I reserve the right to orally quiz you about the book if I suspect you have not read it.

Note - Optional assignments are not extra credit however like extra credit can boost your grade. As opposed to extra credit, which can be neutral or help your grade, optional assignments can benefit your grade IF you do a good job but could hurt your grade if you do a poor job. If you choose not to do the assignment it will not affect your grade. I design it this way as a way to encourage you to take the assignment seriously and to do a good job and to avoid you turning in a hastily prepared assignment in hopes of getting a point or two.

Books approved for review are:

1. At the end of most chapters in our text are suggestions for further reading. You may choose from one of these so long as they are at least 300 pages.

2. You may choose one of my suggestions below:

The Beak of the Finch by Jonathan Weiner
Voyage of the Beagle by Charles Darwin
On the Origin of Species by Charles Darwin
Diversity of Life by E.O. Wilson
Song of the Dodo by David Quaman (excellent!)
The Reluctant Mr. Darwin by David Quammen
How and Why Species Multiply by P. Grant and R. Grant
Ever Since Darwin by Stephen Jay Gould
What Evolution Is by Ernst Mayr
The Selfish Gene Richard Dawkins
The Greatest Show on Earth Richard Dawkins
The Extended Phenotype by Richard Dawkins
Evolution's Rainbow Joan Roughgarden
Amazon Expeditions by Paul Colinvaux

3. You may suggest a book not on either of these lists but it cannot be one you have or are reading for another course and you must first email me for approval.

Performance Evaluation:	Proportion of grade
Midterm exams (3 x 23%)	69%
Potential Research Topics	1%
Annotated Bibliography	2%
Research preproposal	5%
Research proposal	14.0%
Proposal reviews	3.0%
Oral Presentation	6.0%

Grading Scale

A	93.0 – 100%	C	73.0 - 76.9%
A-	90.0 - 92.9%	C-	70.0 - 72.9%
B+	87.0 - 89.9%	D+	67.0 - 69.9%
B	83.0 - 86.9%	D	63.0 - 66.9%
B-	80.0 - 82.9%	D-	60.0 - 62.9%
C+	77.0 - 79.9%	F	0 - 59.9%

Grade Rounding Policy: The overall semester grade will not be rounded. In other words, either you have the grade or you don't. In other words, a 79.99 is still a 'C'. As there are many students in this class I strive for consistency and fairness. For this reason, there will be no exceptions to this policy and no other adjustments will be made (i.e. No additional curving or extra credit will be offered).

Ethics - UCF faculty supports the UCF Creed. Integrity - practicing and defending academic and personal honesty - is the first tenet of the UCF Creed. This is in part a reflection of the second tenet, Scholarship: - I will cherish and honor learning as a fundamental purpose of membership in the UCF community. - Course assignments and tests are designed to have educational value; the process of preparing for and completing these exercises will help improve your skills and knowledge. Material presented to satisfy course requirements is therefore expected to be the result of your own original scholarly efforts.

Plagiarism and cheating - presenting another's ideas, arguments, words or images as your own, using unauthorized material, or giving or accepting unauthorized help on tests - contradict the educational value of these exercises. Students who attempt to obtain unearned academic credentials that do not reflect their skills and knowledge can also undermine the value of the UCF degrees earned by their more honest peers.

UCF faculty members have a responsibility for your education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to infringements of academic integrity. Penalties can include a failing grade in an assignment or in the

course, the issuance of a 'Z' grade on your transcripts or suspension or expulsion from the university. See http://www.osc.sdes.ucf.edu/ for more information about UCF's Rules of Conduct.

Dr. Klowden will issue a failing grade of "F" for the entire course for anyone caught cheating.

Disability Access Statement:
The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students who need accommodations must be registered with Student Disability Services, Ferrell Commons Room 185, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.

Final Note:
The professor(s) reserve the right to change the syllabus and management of the class at any time during the semester. These changes will be announced in lecture.

TENTATIVE Course Calendar (subject to change)

***Indicates that attendance is mandatory (Each unexcused absence on these days will result in 5% reduction to your final grade)

Week	Date	Reading	Important dates
1	8/19	Syllabus / Chapter 1 – What and Where are the Tropics	
	8/21	Chapter 3 – Inside tropical rainforests: structure	
2	8/26***	Chapter 4 – Inside tropical rainforests: Biodiversity	Organize Proposal Groups***
	8/28	Chapter 4 (continued)	
3	9/2***	Chapter 4 (continued)	- Potential research topics due - Proposal Working Groups***
	9/3	Chapter 5 – Rain forest tree species richness	
4	9/9	----------	Exam 1 – chapters 1, 3, 4, 5
	9/11	Chapter 6 - Forest development and dynamics	
5	9/16***	Review Exam 1	- Annotated bibliography due (1:30 pm) - Proposal Working Groups***
	9/18	Chapter 7 - Biotic interactions and coevolution in rainforests	
6	9/23	Chapter 8 - Trophic dynamics in evolutionary context	Preproposal Due (1:30 pm)
	9/25	Chapter 8 (continued)	
7	9/30***	----------	Proposal Working Groups***
	10/2	Chapter 10 - Nutrient cycling and Tropical Soils	
8	10/7	----------	Exam 2 – chapters 6, 7, 8, 10
	10/9	Chapter 11 - Tropical savannas and Dry Forests	
9	10/14***	Review Exam 2	Proposal Working Groups***
	10/16	Chapter 12 - Other Tropical Ecosystems	
10	10/21***	----------	Proposal Working Groups***
	10/23	Chapter 12 (continued)	
11	10/28	Chapter 14 - Forest fragmentation and biodiversity	Proposals due (1:30 pm)
	10/30	Chapter 15 – Conservation Outlook for the Tropics	
12	11/4	Chapter 15 (continued)	Proposal reviews due (1:30 pm)
	11/6	----------	Exam 3 – chapters 11, 12, 14, 15
13	11/11	No Classes - Veteran's Day	
	11/13***	Review Exam 3	Presentation Working Groups***
14	11/18***	----------	Presentations 1-6***
	11/20***	----------	Presentations 7-12***
15	11/25***	----------	Presentations 13-18***
	11/27	No class - Thanksgiving	EC book review due Monday 12/1 by 11:59pm
Final	12/9	----------	Final Exam: 1:00 – 3:50 pm