

Syllabus – BIO 495
TROPICAL ECOLOGY
Spring 2002

Instructor: Dr. Richard D. Durtsche
Natural Sciences 535
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Office Hours: Tues., Thurs. 9:00 – 11:00 a.m.

Lectures: M & W 2:00 – 3:15 p.m.
Natural Sciences Room 534

Textbooks: Whitmore, T. C. 1998. *An Introduction to Tropical Rain Forests*. Oxford University Press, Oxford, UK.

Kricher, J. and W. E. Davis. 1999. *A Neotropical Companion*. Princeton University Press, Princeton, NJ.

Selected readings will be on reserve in the library under BIO 495.

Prerequisites: BIO 303, BIO 304, or consent of instructor.

Course Description and Objectives:

This is an upper division course designed to evaluate the uniqueness of increasingly threatened tropical forests. Emphasis will be on the New World tropics, including dry, moist, and wet forests. The course is organized into three major parts. A third of the course emphasizes abiotic features that give rise to tropical forests, their physical structure, and gap dynamics. Another third focuses on plant/animal interactions critical to the functioning of tropical communities. The final third examines the social, economic, and political issues affecting tropical forest use, conservation, and management. One major goal of the course is to make students aware of the importance of tropical forests, how they affect the lives of North Americans, and the global consequences of tropical deforestation. A second major goal is to improve the student's ability to clearly articulate scientific arguments in writing, to be able to find pertinent, up-to-date data, and to critically evaluate original scientific literature.

Course Policy and Student Evaluation:

Although I do not take roll, students are expected to attend all classes. If absent, it is the student's responsibility to find out what materials were covered. Pop quizzes cannot be made up. If you know that you will be absent on the day of a scheduled exam, please let me know ahead of time, so that it may be taken early. Make-up exams will not be given without a verifiable excuse for some event beyond the student's control. The course grade will consist of three exams including a comprehensive final exam, a review paper, several pop quizzes, short writing assignments, and a

class debate. Exams will consist of some combination of short answer, matching, fill in the blank, and essay questions. There is no possibility for extra credit projects.

The point values are as follow:

		<u>Grading Scale</u>	
Exam 1	100 points	A	90-100%
Exam 2	100 points	B	80-89%
Final Exam (Comprehensive)	100 points	C	70-79%
Review Paper on topic of student's choice	100 points	D	60-69%
Pop quizzes, short writing assignments, class debate	<u>100 points</u>	F	< 60%
Total Points	500 points		

Review Papers:

The review paper may be on any topic relating to tropical ecology, provided it is first approved by the instructor. To get ideas for a topic, peruse the general books on reserve and recent issues of Ecology, Biotropica, Journal of Tropical Ecology, Oecologia, and Trends in Ecology and Evolution. An outline of the review paper and a first draft are required before the final paper is due. Late papers will be docked 5 points for each day they are late. **NO CREDIT WILL BE GIVEN FOR PLAGERIZED WORK** (i.e., taking credit for the work of others, whether the work be of another student, or the work of a published author).

Academic Dishonesty:

Academic misconduct includes cheating (using unauthorized materials, information, or study guides), plagiarism, falsification of records, unauthorized possession of examinations, intimidation, and any other action that may improperly affect the evaluation of your performance. It also includes assisting others in any such acts or attempts to engage in such acts. Penalties may range from grade penalties (including lowering a student's semester grade or failing a student for the course) to disciplinary action from the University's Academic Misconduct Board (see the Student Handbook pages 63-64).

Cell Phones and Beepers:

Please turn off all cell phones and beepers when coming to class. Better yet, leave them out of the classroom. This is a common courtesy folks. Classroom distractions such as this only disrupt the flow of learning and the delivery of subject information.

Tobacco Products:

No tobacco products of any type (cigarettes, snuff, chewing tobacco, etc.) are allowed in or during class. Another courtesy.

A note for students with disabilities:

If you have a disability that may prevent you from fully demonstrating your abilities, you are encouraged to contact the Services for Students with Disabilities Office (572-5180). Also, please

contact me as soon as possible to discuss any accommodations that might be necessary to ensure your full participation and to facilitate your educational opportunities.

Remember, it is your responsibility to attend class, study, and fully understand the material presented in this course! An outline of topics to be covered is given below.

NOTE: This syllabus is subject to change at the discretion of the instructor.

TENTATIVE LECTURE SCHEDULE

<u>DATE</u>	<u>TOPIC</u>	<u>READING</u>
Jan. 7	Introduction – film ‘La Selva Verde’	Whitmore 1
9	Climate of the neotropics	Whitmore 2 Kricher 1
14	Nutrient cycling	Whitmore 8 Kricher 3
16	Forest structure	Whitmore 7 Kricher 2
23	Gap phase regeneration	
28	Maintenance of plant diversity	Whitmore 3
30	Tests of tropical community structure	
Feb. 4	Species diversity – I. Patterns (REVIEW PAPER TOPIC DUE)	Whitmore 4, 9
6	Species diversity – II. Hypotheses	
11	EXAM I	
13	Seasonal rhythms in flowering, fruiting, germination	Kricher 5
20	Pollination systems	Whitmore 5
25	Herbivory – impact on plant defenses	
27	Seed dispersal and seed predation	
Mar. 4	Forest animals I	Kricher 12, 13

	6	Forest animals II (REVIEW PAPER OUTLINE DUE)	
	11 - 15	SPRING BREAK (TROPICAL ECOLOGY LABORATORY)	
	18	GUEST: Dr. Charles Acosta, Tropical Coastal Aquatic Linkages	Kricher 11
	20	Defense against predation	Kricher 4
	25	Diapause and migration	
	27	EXAM II	
Apr	1	Indigenous populations and forest use	Whitmore 10 Kricher 7
	3	Value of tropical forests I (REVIEW PAPER 1 st DRAFT DUE)	Kricher 6
	8	Value of tropical forests II	
	10	Causes of tropical deforestation	
	15	FILM – ‘Paradise Reclaimed’	
	17	Consequences of forest destruction (REVIEW PAPER DUE)	
	22	Forest fragmentation / conservation	Kricher 14
	24	CLASS DEBATE: Are development and conservation compatible goals? (timber industry versus conservationists)	
	29	Global response to current crisis / future hopes	Whitmore 11
May	6	FINAL EXAM (Comprehensive) MONDAY 1:00 – 3:00 P.M.	