EVS 430/530: Tropical Environmental Ecology
Fall 2008: Tuesday-Thursday 3:30pm-4:45pm
Friday Hall - Room 2052

Instructor: Dr. Jamie Rotenberg
Office: Friday Hall Room 2059 email: rotenbergj@uncw.edu
Office Phone: 962-7549 web: http://people.uncw.edu/rotenbergj
Office hours: Tuesday & Thursday 11:30-12:30pm and 2:30-3:30pm or by appointment.

Required Texts:

A Neotropical Companion, by John Kricher.

Tropical Ecosystems and Ecological Concepts by Patrick L. Osborne
Publisher: Cambridge University Press (2000)

Agroforestry and Biodiversity Conservation in Tropical Landscapes, by Gotz Schroth,
Gustavo A.B. Da Fonseca, Celia A. Harvey, Claude Gascon, Heraldo L. Lasconclos,

Recommended Texts:

An Introduction to Tropical Rain Forests, by Timothy C. Whitmore
Publisher: Oxford University Press; 2nd edition (1998)

Outside readings: Available as needed during the course on my website

Prerequisites: Course prerequisite is EVS 195, Introduction to Environmental Studies
(or equivalent) or by permission of instructor.

COURSE DESCRIPTION:

An in-depth introduction to the issues, debates, and conservation of tropical environments, especially focusing on current ecological, social, and economic environmental problems. Emphasis will be on the Neotropics, located in Central and South America and the Caribbean, though all tropical locations, Asian, African, Australian, and Polynesian will be covered. You will be responsible for learning a certain amount of terminology for this course. The course goal is to give you a
knowledge base sufficient to understand concepts and issues concerning environmental ecology in the tropics.

**COURSE OBJECTIVES:**

Students will gain an understanding of environmental issues that face the tropics today with emphasis on tropical forests and other tropical terrestrial systems. The course will be divided into three main areas: Introduction to the Tropics and Environmental Issues, Ecology of Tropical Environments, Solutions to Tropical Environmental Problems. Objectives include:

1. To have students understand the basic terminology and concepts necessary to discuss tropical environmental and ecological issues.
2. To have students understand the major current tropical environmental issues.
3. To have students understand the consequence of not resolving current environmental problems, and to understand how future solutions can be realized.

**CLASS POLICIES:**

- **Attendance:** Attendance is required. An attendance sheet will be passed out at the beginning of each class. Be sure to sign in. If you skip class and fall behind, it is up to you, not me, to make up the work. (See Attendance policy under Grading.)
- **Courtesy:** Please be courteous to your fellow students. Do your best to arrive on time so as not to disrupt the class. If you arrive late or must leave early, please do so quietly.
- **Turn off all cell phones and beepers before entering the classroom!**
- **If you have special needs please see me as soon as possible so your needs can be accommodated.**

**COURSE WEBSITE:**

My website is [http://people.uncw.edu/rotenbergj](http://people.uncw.edu/rotenbergj). Look for EVS 430. Here you will find a copy of this syllabus, handouts, review sheets, and other important course information including internet links to reading assignments. What you will not find here are my class notes! If you miss a class for any reason, it is your own responsibility to get the notes from a classmate or see me at office hours. Do not request notes from me via email. I will not send them to you, nor will I respond to this type of email!

**GRADING:**

**Exams:**

There will be one midterm and a semi-cumulative final during the semester. Exams will be based on lecture, readings and in-class discussions. Exams will be a combination of multiple choice, fill-in definitions, and essays. Students are expected to take both
examinations. **Note the dates of the exams!** Zeros will be given for unexcused absences. According to university regulations, you must take the final exam at the scheduled time – **NO EXCEPTIONS!** Tickets home, weddings, birthdays, minor illness, work, forgetting the exam time/day, etc. are not valid excuses for missing the final and will earn you a failing grade in the class. Students who miss an exam with a **valid excuse** must have a written excuse from the Dean of Students. **Instructor's consent is required for all make-up examinations.** **Makeup exams will be entirely essay/short answer format. There is no extra credit!**

**Attendance and Participation:**

Attendance is **mandatory** and classroom participation is strongly encouraged. Attendance will be taken at the beginning of each day of class. A sign-in sheet will be passed, and it is your responsibility to sign in. Students are expected to attend class on a regular basis and come to class prepared to discuss the readings and assignments scheduled for that day. As such, it constitutes 14% (50pts.) of the final grade. The instructor reserves the right to modify course requirements (e.g., pop-quizzes, special assignments, papers, projects, etc.) whenever there is evidence that students are not attending and coming to class prepared. Excessive tardiness is the same as being absent.

Each recorded absence in excess of two (2) will result in the automatic loss of five (5) points per absence from your attendance/participation grade. For example, four (4) recorded absences will result in the loss of ten (10) points. Students must attend at least 80% of the classes in order to pass the course. In other words, six (6) or more absences will result in the automatic assignment of the grade of “F” for the semester.

**Discussion Days, Groups and Virtual Eco-Trip Solution Project:**

Ten (10) class days of the semester (plus one “Demo-day”) will be “Discussion Days” and will have assigned readings from our textbook. Study and knowledge of these readings are necessary and mandatory for your participation. To help with the general “flow” of discussion, here is a guide for our Discussion Days:

Before the scheduled Discussion Day, one (or two) undergraduate students will pair-up with a graduate student and select one or two topics to serve as discussion Leaders (sign-up sheet). Leaders will also prepare: a) a one-page review sheet from the assigned reading for the group (copied and distributed the day of the discussion; and, b) a list of 5-10 questions to be kept by the Leaders to use to stimulate discussion. The rest of the class will participate in the discussion by forming two (2) Groups. Groups will be assigned sides, either “for” or “against”, (pro-con, etc.) to support or refute the topic and each of the two leaders will join one or the other group of their choice. Group Leaders will briefly summarize the topic for the class. Then, each group will have 10 minutes to discuss and develop their strategy to argue “for” or “against” the topic.
Important: The topic you choose for discussion will be your Virtual Eco-Trip Solution Project! This is the course “term paper” (see below for details!)

Your final grade will be based on the following:

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<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
<th>Points</th>
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<tbody>
<tr>
<td>Midterm exam</td>
<td>29%</td>
<td>100</td>
</tr>
<tr>
<td>Final</td>
<td>29%</td>
<td>100</td>
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<tr>
<td>Attendance/Participation</td>
<td>14%</td>
<td>50</td>
</tr>
<tr>
<td>Virtual Eco-Trip</td>
<td>29%</td>
<td>100</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>350</strong></td>
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**Grading Scale:**

- A 100 – 94%
- A- 93 – 90%
- B+ 89 – 87%
- B 86 – 84%
- B- 83 – 80%
- C+ 79 – 77%
- C 76 – 74%
- C- 73 – 70%
- D+ 69 – 67%
- D 66 – 64%
- D- 63 – 60%
- F 59% AND BELOW

**Statement of Academic Integrity**

All students should be familiar with The Code of Student Life regarding academic misconduct, particularly plagiarism and cheating. It is UNCW’s stated policy that no form of dishonesty among faculty or students will be tolerated. Although all members of the university community are encouraged to report occurrences of dishonesty, honesty is principally the responsibility of the individual. Reporting and adjudication procedures have been developed to enforce the policy of academic integrity, to ensure justice, and to protect individual rights. This is found in Section V – Academic Honor Code (See UNCW Policies page - [http://www.uncw.edu/policies/](http://www.uncw.edu/policies/)).

**University Statement on Academic Expectations**

"In choosing UNCW, your have become part of our community of scholars. We recognize that the UNCW learning experience is challenging and requires hard work. It also requires a commitment to make time available to do that hard work. The university expects you to make academics your highest priority by dedicating your time and energy to training your mind and acquiring knowledge. Academic success in critical thinking and problem solving prepares you for the changes and challenges you will encounter in the future. Our faculty and academic support resources are readily available as partners in this effort, but the primary responsibility for learning is yours."

**Disability Accommodation**

Appropriate accommodations for students with disabilities will be made as specified in federal regulations. If you have a disability and need accommodation, please follow this procedure. First, contact and register with the office of Disability Services in Westside
Hall (x3746). Second, obtain a copy of your accommodation letter, and then make arrangements to speak with me.
TENTATIVE LECTURE SCHEDULE

Part 1. Introduction to the Tropics and Tropical Environmental Issues

Thursday, Aug 21: Course Introduction & Major Environmental Issues in the Tropics – Overview
Kricher-14; Schroth-1&2; Osborne-8; Whitmore-10


Thursday, Aug 28: What are the Tropics? Tropical Climates and Ecosystems
Kricher-1&2; Osborne-1; Whitmore-2

Tuesday, Sep 2: What are the Tropics? Tropical Climates and Ecosystems - Other Tropical Environments (conclude)
Kricher-1&2; Osborne-1; Whitmore-2

Thursday, Sep 4: Threats and Human Impacts in the Tropics and Discussion of “Are we on the Verge of a Mass Extinction in Tropical Rain Forests?” (website paper)
Kricher-14; Osborne-8.19, 13; Whitmore-10

Tuesday, Sep 9: Economic Valuation of the Tropics – Money vs. People vs. Nature
Osborne -13; Whitmore-10 and Discussion of “A second look at the economics of natural management systems in tropical mixed forests.” (website paper)

Part 2. Ecology of Tropical Environments – What makes the tropics so special?

Thursday, Sep 11: Rainforest Structure and Diversity
Kricher-2; Osborne-8; Whitmore-8

Tuesday, Sep 16: Tropical Ecology: The Basics including population and community tropical ecology
Osborne-pages given in class; Schroth-2,3

Thursday, Sep 18: Tropical Ecology: How a Rainforest Functions
Kricher-3; Osborne-8

Tuesday, Sep 23: Why are there so many plants and animals in the tropics? Tropical Adaptations and High Species Diversity Hypotheses and Discussion of “Tropical forests: Their richness in Coleoptera an other arthropod species” (website paper)

Thursday, Sep 25: “Medicine Man”

Tuesday, Sep 30: “Medicine Man” (conclusion) &; The Neotropical Pharmacy
Kricher-6,

Thursday, Oct 2: MIDTERM EXAM
Tuesday, Oct 7: Fall Break

Part 3. Solutions to Tropical Environmental Problems

Thursday, Oct 9: “Now that we know something about the tropics, How do we do our Virtual Eco-Trip Solution Project?”

Tuesday, Oct 14: What is Agroforestry? and the Role of Agroforestry in Biodiversity Conservation
   Schroth – 1

Thursday, Oct 16: DEMO-DISCUSSION DAY: The Economic Valuation of Agroforestry’s Environmental Services
   Schroth – 4   -- Virtual Eco-Trip Letters due today –


Thursday, Oct 23: DISCUSSION DAY 2: Complex Agroforests: Their Structure, Diversity, and potential role in Landscape Conservation – Schroth 10

Tuesday, Oct 28: DISCUSSION DAY 3: The Biodiversity and Conservation Potential of Shifting Cultivation Landscapes   Schroth – 8

Thursday, Oct 30: DISCUSSION DAY 4: Chocolate Forests and Monocultures and Biodiversity Conservation in Neotropical Coffee Plantations – Schroth 6 & 9


Tuesday, Nov 11: DISCUSSION DAY 7: Hunting in Agroforestry Systems and Landscapes: Conservation Implications in West-Central Africa and Southeast Asia – Schroth – 14


Thursday, Nov 20: DISCUSSION DAY 10: Agroforestry and Biodiversity: Improving Conservation Outcomes in Tropical Northeastern Australia – Schroth – 18

Tuesday, Nov 25: Virtual Eco-Trip Solution Project paper due

Thursday, Nov 27: THANKSGIVING HOLIDAY

Tuesday, Dec 2: Climate Change and the Tropics - Graduate Student Day - TBA

Tuesday, Dec 9: FINAL EXAM  3:00pm-6:00pm
The VIRTUAL ECO-TRIP SOLUTION PROJECT (VESP)

The Virtual Eco-Trip Solution Project (VESP) requires you to work with a team to investigate a tropical environmental problem and devise a practical, implementable solution based on your analysis of the nature and causes of the problem. You will develop a management plan from implementation. Each team of students will “virtually” (via the WWW), plan, propose, estimate costs, etc. and then “go” on a trip to a location in a tropical country to “carry-out” the project. The due dates for all parts of this assignment are listed in the course schedule. All late assignments will be penalized at a rate of 10% or the equivalent of one letter grade per late day. No exceptions!!

You will:
1. First, select a chapter from one of our discussion days (Schroth text). Then, find either a Non-Governmental Organization (NGO) and/or a field station to “collaborate” with to do your project. The NGO and/or field station needs to be associated with a nature preserve or national park, or with a human community that is closely associated with a park or preserve. It can be the same one from the chapter or a different one.
2. Identify the environmental problem. You need to be able to complete the statement, “The problem we chose is environmentally important because . . . .”
3. Develop your solution based on your analysis of the nature and causes of the problem by developing a management plan.
4. Establish your main goal and at least three (3) objectives as to how you will implement your solution.
5. Develop a hypothesis and prediction statement for the outcome of your project.
6. Determine what will be your “deliverable”. This will be what you will “leave behind” so that your solution will remain.

Your grade for this assignment consists of two (2) parts:

1) Letter of intent to NGO or reserve  25 pts (group)
3) Final Paper      75 pts (individual)
Total      100 pts

1) Letter to NGO or reserve: Each group shall prepare a one-page letter addressed to the NGO or nature reserve that you would like to collaborate with. The letter should contain:
   a. Address and country location of NGO or reserve, including the URL.
   b. Brief description of NGO/reserve
   c. Identify the environmental problem and then continue with the statement beginning, “The problem we chose is environmentally important because . . . .”
   d. Briefly describe project goal and plan.

   NOTE: FAILURE TO HAND IN A LETTER WILL RESULT A “F” GRADE FOR THE PAPER
2) **Final Paper:** Each student shall prepare a 10-page (grad students 15-page), final solution management project paper (8 or 13 pages of text + 2 pages of Bibliography). Include numbers 1-6 above and a conclusion. Be sure to place these items in sections/headings such as **Introduction, State of the problem, Solution/Management Plan, Predicted Results, Deliverable/Conclusion, and Bibliography.** Double-space and use 10 or 12pt font.

Completed Research Proposals will be submitted to your instructor for grading as noted in the lecture schedule. Penalties for late submissions for any part of the paper are will be strictly adhered to!

Good luck and happy travels!!

In regards to your projects, please note the UNCW “Statement of Academic Integrity” listed above especially regarding plagiarism. Plagiarism is taking credit for someone else’s words or ideas by not quoting or citing those words or ideas. Taking data or graphs from another work without citation also is plagiarism. Paraphrasing by changing only a few words in the text here and there without citation is plagiarism. If you do any of these things, you are in violation of the UNCW Code of Student Life and Academic Honor Code. Plagiarism is a serious academic offense. If you plagiarize, you lose the respect of your colleagues and your professors. Don’t be stupid. If you plagiarize, you are cheating. Any student caught plagiarizing on written assignments will automatically receive an F in the course and will be reported to the Dean of Students. Expulsion from the university may occur as well.

**NOTE TO GRADUATE STUDENTS:** PLEASE SEE PROFESSOR FOR MORE INFORMATION ON YOUR PAPER AND IN-CLASS REQUIREMENTS.