



Westminster College
Department of Biology
Fall, 2007

Tropical Ecology: Nicaragua

Biology 520

INSTRUCTOR Dr. Ann Throckmorton
Associate Professor of Biology

Office: 311 Hoyt Science Center

Phone: 724-946-7209

e-mail: athrock@westminster.edu

Office hours: 11:00 – 12:30 Tuesday
10:30 – 11:30 Monday and Friday
or by appointment

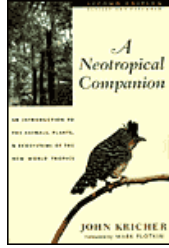
COURSE DESCRIPTION

This is a course on the ecology, natural history, and geology of Nicaragua. It is paired with Bio 521 – the travel portion of the course – which will take place in January, 2008. In the classroom, basic ecological principles will be studied and applied to tropical environments, concentrating on important tropical ecosystems such as rain forests, cloud forests, coral reefs, savannahs, and mangroves. We will also study some important groups of Nicaraguan plants and animals, discussing adaptations of these unique organisms, biodiversity, and some of the threats that Central American creatures face. While we are in Nicaragua, information from the classroom will be used to understand the biological, geological, and cultural observations that are made as we travel throughout the country.

LECTURE Wednesday 6:30 - 9:00 p.m. 152 Hoyt Science Center

Attendance in class is expected. Because your success in this course is strongly dependent on your presence in class and your participation, you should make an effort to be present at all class sessions. If you miss class, it is your responsibility to contact me and to obtain lecture notes and assignments that were given during your absence.

REQUIRED MATERIAL



A Neotropical Companion, 1999, by John Kricher, 2nd edition, Princeton University Press

The Naturalist in Nicaragua, 1874, by Thomas Belt, free download available from Project Gutenberg, <http://www.gutenberg.org/dirs/etext04/ntnccg10.txt> or on the r-drive.

GRADING

You will be given separate grades for the on-campus portion of the course (Bio 520) and the travel portion (Bio 521). For Bio 520, grades will be based on lecture exams, assignments, and a presentation and paper, weighted as follows:

lecture exams (3)	60% of final grade
assignments	25% of final grade
individual research paper	15% of final grade

Your final grade in Bio 520 will be based on the following scale:

Above 93%: A	87% - 90%: B+	77% - 80%: C+	67% - 70%: D+	Below 60%: F
90% - 93%: A-	83% - 87%: B	73% - 77%: C	63% - 77%: D	
	80% - 83%: B-	70% - 73%: C-	60% - 73%: D-	

You will receive information about the requirements and grading for Bio 521 prior to leaving for Nicaragua.

METHODS OF INSTRUCTION

1. Lectures and discussion: These will follow the tentative schedule printed below. I expect you to attend class, pay attention, and participate actively in discussions by answering questions, asking questions, and making comments. You will get more out of the lecture if you have done the reading ahead of time. Part of each class will probably be devoted to discussing the travel portion of the course (requirements, destinations, what to expect, what to pack, etc.)
2. Reading: The textbooks I have chosen provide a good general introduction to tropical ecology. Most of the topics that we will approach in the class are covered by in those books. Thus, the readings will serve to augment lecture and to provide material for discussion. In addition to the textbook, I may place materials for you to read on reserve in Mack Science library or on the r-drive.
3. Assignments: In most cases, assignments in the class will relate to the material that we will be discussing the next week. Their purpose is to prepare you for the discussion or to give you more information or a different viewpoint on the material that is covered in the reading. Assignments may be turned in late as long as we haven't discussed them in class, but a late-penalty will apply.
4. Exams: there will be three exams in the class. In addition to lecture material, the final will also include questions related to student presentations. You should expect multiple choice, short answer, and essay questions on the exams.
5. Research paper: Each person in the class will write a paper (minimum 10 pages) on some aspect of Nicaragua or Central American ecology, history, or culture. The paper will be due on the day of the final exam. The paper is worth 15% of your final grade in the class.

COURSE POLICY ON EXAMS AND ASSIGNMENTS

Unless otherwise stated, assignments should be turned in by 5:00 p.m. on the day that they are due (usually the Tuesday before class). Late assignments will be accepted but a late penalty will apply; the number of points subtracted will vary in proportion to the time elapsed since the due date.

You may turn in assignments in three ways:

1. hard copy: the least desirable method. Hand the paper to me, slide it under my office door, or give it to the biology secretary to deliver to us. *Do not use campus mail.*
2. in the Assignments folder on the course r-drive: if you save a file to the r-drive, the name of the file must contain your name and some indication of what it contains (e.g., the name of the file could be "Smith, Assignment 5"). Remember, you must save the file to another drive, then copy it to the r-drive. If you try to save directly to the r-drive, the network will only write a blank temporary file and you will lose all of your work. Once you have saved something to the Assignments folder you will be unable to retrieve it, open it, or delete it.
3. as an e-mail attachment. Again, the name of the file must contain your name and some indication of what it contains. To send an e-mail attachment, open a new message and fill in the address and subject. Then hit the attach button (marked with a paperclip): an "attach file" box will come up. Locate and select the file that you want to attach. Hit OK and send the message as usual. You can find out if *we* have received and opened the message by looking in the Sent Items folder in your mailbox.

You must take the exams at the scheduled time unless you have talked to me prior to the exam and been excused. Valid excuses include such things as serious illness or injury and personal and family emergencies. I will give make-up exams only if you have notified me before the day of the test.

STATEMENT OF ACADEMIC INTEGRITY

Academic integrity is central to the purpose and pursuit of any academic community. In this class, I expect you to adhere to the principles of academic integrity stated in the [Westminster College handbook](#) and to maintain the highest standards of academic honesty and integrity, in keeping with the philosophy and purposes of the College.

"Academic dishonesty is a profound violation of this expected code of behavior. It can take several forms, including, but not limited to, plagiarism, cheating, purposely altering the work of another (without that person's permission), misrepresentation of attendance in class or at a College event, misrepresentation of work, facts or experimental results, unauthorized use of or intentional intrusion into another's computer files and/or programs, intentional damage to a computer system, unauthorized use of library materials and privileges, or engaging in any activity which attempts to alter or harm another's academic standing." (Westminster College Handbook, p. 84)

I expect students to work independently on exams and assignments. Plagiarism on assignments or cheating on exams will result in a failing grade on that particular assignment or exam.

TENTATIVE SCHEDULE OF TOPICS

DATE	TOPIC	TEXTBOOK READING
08/29	Introduction to the course Defining the tropics	Kricher: pp. 3-6
09/05	Tropical climates, ecosystems, and soil	Kricher: chapter 1, pp. 7-16 Belt: p. 30
09/12	Major tropical ecosystems Volcanoes and succession	Kricher: chapter 1, pp 16- 20 Belt: pp. 122-125
09/19	Rainforest structure and diversity	Kricher: chapter 2, pp 21-37 Belt: pp. 32
09/26	How a rainforest functions	Kricher: chapter 3, pp 44-52, 55-60
10/03	Exam #1	
10/10	Savannas and dry forests Cloud forests	Kricher: chapter 10 Kricher: Chapter 9, pp. 220-223
10/17	Coral reefs	Kricher: chapter 11, pp. 247-250
10/24	Mangroves and seagrass beds	Kricher: chapter 11, pp. 239-246
10/31	Evolutionary patterns in the tropics Coevolution	Kricher: chapter 4, pp. 74-87 Belt: 6-8, 16, 112-114 Kricher: Chapter 5, pp. 126-135 Belt: pp. 8, 19-23, 36-40, 54-55, 81-84
11/07	Exam #2	
11/14	Deforestation and conservation of biodiversity Slash and burn agriculture Disturbance and ecological succession	Kricher: chapter 14, pp. 334-335, 339- 376 Kricher: chapter 7, pp. 175-180 Kricher: chapter 3, pp. 63-69 Belt: pp. 71-72
11/28	Deforestation and conservation of biodiversity (continued)	
12/05	Nature and people in Nicaragua	Kricher: Chapter 7 Belt: pp. 34-35
12/11	Reading Day	
12/12 6:30-9:00	Final Exam	

Kricher, *A Neotropical Companion*

Belt, *A Naturalist in Nicaragua*

Westminster College Department of Biology
New Wilmington, PA 16172