



Westminster College
Department of Biology
Spring, 2007

Tropical Ecology: Kenya

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: Monday 9:20 - 10:20
Friday 11:30 - 12:30
Tuesday 9:20 - 10:50

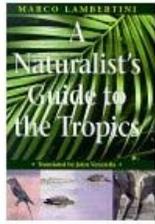
COURSE DESCRIPTION

This is a classroom and field course on the ecology, natural history, and geology of Kenya. It is paired with Bio 521 – the travel portion of the course – which includes 18 days of travel from May 20 to June 7, 2007. In the classroom, basic ecological principles will be studied and applied to tropical environments, concentrating on important tropical ecosystems such as the savannah, rain forests, dry forests, deserts, and lakes. We will also study some important groups of Kenyan plants and animals, discussing adaptations of these unique organisms, biodiversity, and some of the threats that Kenyan creatures face. While we are in Kenya, 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. If you miss class, it is your responsibility to find out what you have missed and to make arrangements for getting lecture notes and making up assignments. If you know ahead of time that you will be absent, you should contact me so we can make arrangements for making up what you will miss.

REQUIRED MATERIAL



A Naturalist's Guide to the Tropics, by Marco Lambertini, 2000, 2nd edition, University of Chicago Press

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 an individual presentation and paper.

lecture exams (2)	50% of final grade
assignments	30% of final grade
individual presentation	10% of final grade
research paper	10% 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 for Bio 521 prior to leaving for Kenya.

METHODS OF INSTRUCTION

1. Lectures and discussion: These will follow the schedule printed below. I expect you to attend class, pay attention, and participate actively in class 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 textbook I have chosen provide a good general introduction to tropical ecology. Many of the topics that we will approach in the class are covered by the book. Thus, it will serve to augment lecture and to provide material for discussion. In addition to the textbook, I will place materials for you to read on reserve in the 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.
4. Exams: there will be two exams in the class, a mid-term and a final. 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. Individual presentation and paper: Each person in the class will be responsible for preparing an in-class presentation on some aspect of Kenyan ecology, history, or culture. In addition, you will write a paper (minimum eight pages), due the day of the final exam.

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 me. *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. We will give make-up exams only if you have notified me before the day of the test.

TENTATIVE SCHEDULE OF TOPICS

DATE	TOPIC	TEXTBOOK READING
January 17	Introduction to the course	
January 24	Defining the tropics Tropical climates Tropical soils	Chapter 2 Chapter 3
January 31	The flora of the tropics	Chapter 4
February 07	The fauna of the tropics	Chapter 5
February 14	Tropical forests	Chapter 6
February 21	Tropical forests	Chapter 6
February 28	Midterm exam	
March 03 - 13	Spring break	
March 14	No class	
March 21	The savannah	Chapter 9
March 28	The savannah	Chapter 9
April 04	Deserts	Chapter 10
April 05 - 09	Easter break	
April 11	Freshwater ecosystems The Great Rift Valley	
April 18	Presentations	
April 25	Presentations	
May 02	The tropics in peril	Chapter 11
May 09	Reading Day	
May 11	Final Exam (6:30-9:00)	

All readings in Lambertini, *A Naturalist's Guide to the Tropics*



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Tropical Ecology: Kenya

Biology 521

COURSE DESCRIPTION

This is the travel portion of Tropical Ecology: Kenya which began in January. Travel will take place from May 20 to June 7, 2007. During that time, you will see many of the things that you've heard about and apply the knowledge that you gained in the classroom. For example, you learned basic ecological principles of tropical environments: where are the tropics? What climatic conditions prevail there? What geological and historical forces have shaped the land and organisms of the area? You also studied some important tropical ecosystems that we will visit: savannahs, rainforests, dry forests, and lakes. You learned about some important Kenyan plants and animals, especially about the evolution and adaptations of those unique organisms, biodiversity, and some of the threats that those creatures face. Finally, you learned about the history, cultures, and traditions of the Kenyan people. While we are in Kenya, all of that information will be used to understand the biological, geological, and cultural observations that you make as we travel.

GRADING

Your grade in this course will be based on a journal, organism list, final essays, and participation, weighted as follows:

journal	50% of final grade
organism list	10% of final grade
final essays	30% of final grade
participation	10% of final grade

Your final grade in Bio 521 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 a grade for Bio 521 once we get back from the trip.

METHODS OF INSTRUCTION

1. **Journal:** Your journal will serve as a permanent record of what you saw and did while you were in Kenya. It will include a variety of things: a recounting of what we did each day, especially observations about the ecology of the areas we visit and the organisms we see, personal remarks and reactions, notes from lectures, drawings, interesting facts, etc. Thus, it will be much more than just a personal diary. It must also demonstrate what you saw and learned on the trip. You will be graded on the content and quality of your writing, especially scientific observations – how observant you were and how well you applied what you learned in the classroom to practical experiences that you had. You should take some time every evening to write in your journal. Don't think that you can neglect your journal for several days, then remember everything that you saw and did!
2. **Organism list:** During the trip, you will see many unique plants and animals. We will have books that will help you identify many of those organisms. Our guides will also be able to help you with identifications. Mark a place in the back of your journal where you can keep track of what you see. Have separate pages for plants and animals. When you see a new animal or plant, write down its name, where you saw it, and the date. You will be graded on the completeness of your list. There will be some species that I will expect to see in everyone's lists. Other species will only appear on the lists of those who have been most observant and most diligent in finding out the names of the plants and animals that we see.
3. **Final essays:** These are major essays designed to illustrate what you saw and what you learned while we were traveling. You will be expected to apply information from the classroom to on-site observations and experiences. Several questions will focus on Kenyan plants, animals, and ecosystems and on basic ecological principles. Other questions may concentrate on Kenyan culture and society, especially as they relate to ecology and biodiversity. You will receive the questions soon after we get to Kenya so you can begin to make appropriate observations and notes in your journal. You will write the essays at the end of the trip and turn them in soon after we return.
4. **Contribution to the group:** This subjective grade will be based on several things:
 - Participation in group activities: all group activities are mandatory, unless I have excused you from them.
 - Contribution to group efforts: From time to time, there may be chores to be done. In particular, while we're traveling there will be luggage to unload and other necessary tasks. If that happens, I expect everyone to help out. Don't just rely on our guides or other people to do the work. We need to work together to make sure that everything gets done quickly and efficiently.
 - Punctuality: we have a lot of things to do and see while we're in Kenya. We don't need to waste time waiting for one or two late people. If you need a wake-up call or a reminder to get somewhere on time, just ask.
 - Attitude: this can work for you or against you. My hope is that everyone will be able to get along and make each others' trip more enjoyable, without a lot of fighting or complaining. Help out people who need it. Share exciting discoveries. Organize fun activities. Make an effort to make other people happy (or at least, not make them unhappy). If you do, in the long run it will be a better trip for everyone.

ITINERARY

- May 20 Depart the U.S.
- May 21 Arrive in London and connect with your flight to Kenya. Arrive in Nairobi. Overnight at the Kentmere Club, northwest of Nairobi.
- May 22 Orientation. Visit the David Sheldrick Wildlife Trust orphanage for baby elephants and rhinos. Lunch at the Carnivore Restaurant. Afternoon lecture on the politics and economy of Kenya, followed by a visit to an arts and crafts market.
- May 23 Travel to Amboseli National Park, just northwest of Mount Kilimanjaro. Game drive to see elephants, hyenas, and baboons.
- May 24 Early morning game drive. Learn about the Amboseli Elephant Research Project. Early afternoon lecture on the Amboseli Elephant Research Project followed by another game drive. Before dinner, we'll see a video about the social behavior and communication of elephants. Free in the evening to watch for and listen to animals in the savannah around the lodge.
- May 25 Early morning game drive. Learn about Amboseli National Park. Afternoon visit to a local school to meet the children. Late afternoon game drive.
- May 26 Travel to Mount Kenya and the Kenya Biosphere Reserve. Afternoon hike in the forest and lecture about Mount Kenya. At night, observe wildlife coming to the waterhole. Watch for giant forest hogs, elephants, leopards, civets, waterbuck, and white-tailed mongoose.
- May 27 Travel to Samburu National Reserve. Afternoon game drive along the northern Ewaso Ngiro River to see Somalia ostrich and Grevy's zebra. Evening lecture about the animals of Samburu Nature Reserve.
- May 28 Full day game drive. Visit to a local Samburu village with a lecture about the Samburu culture and people. Evening lecture about Samburu culture.
- May 29 Travel to Lake Elementaita. Afternoon hike around the lake with a Masai guide to learn about local medicinal plants and their use in the daily lives of the Masai tribe. Watch for flamingos, water buffalo, gazelles, jackals, lions, cheetahs, and leopards.
- May 30 Travel to Lake Nakuru National Park. Afternoon lecture on the lake ecosystems and flamingos. Watch for the critically endangered black rhinoceros as well as buffalo, waterbucks, hippos, baboons, hyrax, and giraffes.
- May 31 Travel to Kakamega. Rainforest Reserve in the Congo-West African Equatorial rainforest.. Lecture about local wildlife and ecosystems and the human-wildlife conflict in Africa. Afternoon free. Evening lecture about tropical rainforests.
- June 01 Guided hike through the rain forest to learn about medicinal plants and local animals. Afternoon hike to an observation tower and lookout hill for stunning views of the rain forest.
- June 02 Travel to Lake Naivasha. Evening lecture on freshwater and soda lakes of the Great Rift Valley.
- June 03 Morning boat ride and wildlife viewing on Lake Naivasha. Travel to Masai Mara National Reserve on the northern edge of the Serengeti plains. The reserve is home to the highest concentration of animals in Africa. Stay at the Nyumbu Camp, an eco-friendly camp in the Ngila Plains in the midst of the wildebeest migration path.
- June 04 Morning and afternoon game drives. Watch for the "big five" – elephant, lions, leopards, rhinos, and water buffalo. Evening lecture on Masai Mara and management of the reserve.

June 05	Early morning game drive. Visit a Masai village; meet the people and learn about Masai culture and traditions. Afternoon game drive, then hike with a Masai guide to an overlook hill. Watch for signs of zebra, topi, impala, and hyenas.
June 06	Travel to Nairobi, arriving by early afternoon. Prepare for our flight home. Late night flight to the U.S.
June 07	Arrive home.

Flights

May 20th

Pittsburgh to Philadelphia	depart 3:30 p.m.	arrive 4:37 p.m.	US Air flight 4070
Philadelphia to London	depart 7:05 p.m.	arrive 7:05 a.m.	British Airways flight 66
London to Nairobi	depart 10:20 a.m.	arrive 8:45 p.m.	British Airways flight 65

June 6th

Nairobi to London	depart 11:25 p.m.	arrive 5:55 a.m.	British Airways flight 64
London to Philadelphia	depart 11:45 p.m.	arrive 2:30 p.m.	British Airways flight 67
Philadelphia to Pittsburgh	depart 5:25 p.m.	arrive 6:38 p.m.	US Air flight 3597

Contact information

Holbrook Travel www.holbrooktravel.com

800-451-7111 or 352-377-7111

Kelly Jarvis – travel consultant Kelly@holbrooktravel.com 1-800-375-2414

Nature Expeditions Africa Ltd. www.natureexpeditions.com

254-020-4347417 or 254-020-4347508

Converting currency

100 Kenyan shillings = approximately \$1.50

\$1 = approximately 65 shillings

Time zones

Nairobi is seven time zones ahead of Pittsburgh

London is five times zones ahead of Pittsburgh

Nairobi is two time zones ahead of London

Phone calls

To call from the U.S. to Kenya: dial 011 254 (area code, without the first 0) (phone number)

011 is the international prefix used to dial somewhere outside of U.S.A..

254 is the international code used to dial to Kenya.

To call from Kenya to the U.S.: dial 000 1 (area code) (phone number)

000 is the international code used to dial out of Kenya

1 is the international code used to dial to the U.S.