UNIVERSITY OF CALGARY
FACULTY OF SCIENCE
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

1. **Course:** BIOLOGY 520 – Field Course in Tropical Biology

Lecture/Lab Sections: L01/B01 — on campus (11-15 May) - BI 499 - 9-12; 1-4
Belize (18 May – 1 June)

Instructor(s): R.M.R. Barclay (403) 220-3565 barclay@ucalgary.ca
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D2L site: BIOL 520 L01 - (Spring 2015) - Field Course In Tropical Biology

Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

2. **Prerequisites:** Third or higher-year standing and consent of the Department.

Note: See section 3.5.C in the Faculty of Science section of the online Calendar (http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html)

3. **Grading:** The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Taxon Exercise Report	10%
Exam (Friday, 15 May)	20%
Research Paper Summary	10%
Field Project Report	35%
Participation	25%

There will NOT be a final exam scheduled by the Registrar's office

A passing grade is required for the entire course, but not for any individual component.

4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in Section 3.6. It is the student's responsibility to familiarize himself/herself with these regulations. See also Section E.6 of the University Calendar

5. **Scheduled out-of-class activities:** Dates and times of approved class activities held outside of class hours.

18 May – 1 June: In the field at Lamanai Outpost Lodge, Belize.

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. **Course Materials:**

Recommended Reading: Instructors' handouts
Bridgewater, S. 2012. A Natural History of Belize: Inside the Maya Forest. University of Texas Press.
Forsyth, A. and K. Miyata. 1984. Tropical Nature. Simon & Schuster.
Copies (1-2) of these will be available in the classroom.

Other supplies: See suggested packing list

7. **Examination Policy**: No aids are allowed in examinations. Students should also read the Calendar, Section G, on Examinations.

8. **Writing across the curriculum statement:** e.g. "In this course, the quality of the student's writing in written reports will be a factor in the evaluation of those reports." See also Section E.2 of the University Calendar.

9. **Human studies statement:** indicating whether students in the course may be expected to participate as subjects or researchers. See also Section E.5 of the University Calendar.

STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS. Students are expected to be familiar with http://www.ucalgary.ca/pubs/calendar/current/sc-5-1.html of the on-line calendar.

See also http://www.ucalgary.ca/pubs/calendar/current/e-5.html

10. OTHER IMPORTANT INFORMATION FOR STUDENTS:

(a) Misconduct: Academic misconduct (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under Section K. Student Misconduct to inform yourself of definitions, processes and penalties.

(b) Assembly Points: In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on assembly points.

(c) Academic Accommodation Policy: Students with documentable disabilities are referred to the following links: Students with Disabilities: http://www.ucalgary.ca/pubs/calendar/current/b-1.html and Student Accessibility Services: http://www.ucalgary.ca/access/.

(d) Safewalk: Campus Security will escort individuals day or night (http://www.ucalgary.ca/security/safewalk/). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.

(e) Freedom of Information and Privacy: This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also http://www.ucalgary.ca/secretariat/privacy.

(f) Student Union Information: VP Academic Phone: 403 220-3911 Email: suvpaca@ucalgary.ca
SU Faculty Rep. Phone: 403 220-3913 Email: science1@su.ucalgary.ca, science2@su.ucalgary.ca and science3@su.ucalgary.ca;
Student Ombuds Office: 403 220-6420 Email: ombuds@ucalgary.ca; http://ucalgary.ca/provost/students/ombuds

(g) Internet and Electronic Device Information: You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

(h) U.S.R.I.: At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Department Approval ORIGINAL SIGNED Date_____

Associate Dean's Approval for
out of regular class-time activity: ORIGINAL SIGNED Date:_____
B520 co P15; 5/5/2015 10:33 AM

Course Objective

To provide students with an introduction to the diversity of animals and plants in the Neotropics, patterns of diversity on local and global scales, and with hands-on field work in forest and riverine sites in interior Belize. Topics include: tropical biology contrasted with temperate biology, introduction to taxa which are rare or absent from temperate areas, techniques of field sampling for invertebrates and vertebrates, aspects of biodiversity with respect to agriculture, and conservation efforts in developing countries.

Graded components:

Taxon exercise (10%): Two-page double-spaced paper on a group of animals or plants which may be encountered at the study site where we will be staying and which is either unique to or much more common in tropical areas than other places where you have spent time (i.e. Alberta/Canada). There will be a more detailed description of the exercise and a list of suggested taxa available on Monday of prep week. Information sources will be available in BI 499 or you can use other material in the library or online. You will be expected to give a five-minute oral presentation on your taxon on Friday, 15 May in the morning. The written exercise is due on **Monday, 18 May**.

Exam (20%): This will consist of a 60-minute quiz on **Friday, 15 May** on material from the lectures and readings during the preparation week.

Paper Summary (10%): Students will provide a two-page double-spaced summary of a relevant research paper dealing with biodiversity and conservation issues in Belize or the tropics (preferably the Neotropics). A variety of titles will be available for you to consider or you may choose one of your own provided it is: a) recent and b) approved. You will be asked to do an oral summary of the contents of the paper while at the field site. **You may turn the written summary in at any time prior to the departure from Lamanai.**

Field Project (35%): Students will prepare a brief proposal for a short-term project, collect data to address the question in the proposal and write a report on the data. Topics for projects may be selected by students from a suggested list or proposed independently, subject to approval by the instructor. Students will normally work in groups of three or four. You should be prepared to give a brief presentation of your results on the last one or two evenings. The report/paper will be due on **Sunday, 31 May by 4 pm.** There will be a more detailed description of the field project made available to you during the course.

Participation (25%): This portion of the grade will consist of the instructors' evaluation of: a) student participation in field exercises and discussions on the trip and during the preparation week and b) a field notebook recording events of interest or significance which occur during the trip. The notebook is due **Monday, 1 June in the airport in Calgary** (in other words, you bring them home and give them to us - if you are not returning immediately, you can give them to us in Belize).

TENTATIVE LECTURE SCHEDULE

Recommended Reading: **Materials posted on D2L**

May 11 – a.m.
Introduction – People, Course Objective, Course Components
Belize – Where are we going? What is there? History, culture, politics and more - RB
Belize – Biological background – geology, climate, habitats and the bigger picture (Guatemala, Mexico and Central America) - RL

May 11 – p.m.
Biodiversity – Definitions, patterns and comparisons - RB
Measuring diversity – RL

May 12 – a.m.
Tropical forests – global comparisons; characteristics of tropical forests; soils, forest structure, adaptations - RL

May 12 – p.m.
Guest Lecture – Cara Tremain (Field Director, Ka'kabish Archaeological Project & Ph.D. candidate, Department of Anthropology & Archaeology, University of Calgary) – Mayan Archaeology and Ka'kabish
Conservation issues (habitat loss, fragmentation, alien species, etc.) - RB

May 13 – a.m.
Vertebrates of Belize - RB
Introduction to bats – behaviour and ecology - RB

May 13 – p.m.
Sampling for diversity and observing natural history of tropical animals and plants - RL
Demonstration of equipment – RB/RL
Introduction to tropical insects - RL

May 14 – a.m.
Hymenoptera (ants, bees and wasps) and their role in tropical forests – ant-plant associations, leafcutter ants, bee pollination, social wasps of the tropics, bird-wasp interactions - RL

May 14 – p.m.
Economic/subsistence crops - RL
Video: The Chocolate Farmer

May 15 – a.m.
Student presentations of animals and plants of Belize
Taxon assignment report due **Monday, 18 June** (**10% of final mark)**

May 15 – p.m.
Exam on lecture material and assigned background readings (**20% of final mark**)
Equipment Distribution
Discussion, concerns, questions etc.

Grading Scale	Cutoff
A+	90
A	87
A-	84
B+	81
B	78
B-	74
C+	70
C	66
C-	62
D+	56
D	50
F	<50