BI 340: Field Studies in Tropical Biology  
Course Syllabus  
Summer 2010

Instructors  
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Course description  
Field Studies in Tropical Biology (BI340) is a 3-credit course offered in the first summer session 2010. This course introduces students to the biological complexity of the tropics through participatory field experiences in the ecologically diverse Central American country of Belize. Field trips and exercises are conducted in two of the most species rich ecosystems on the planet, the neo-tropical rainforest and coral reef. Saint Anselm faculty (Dr. Eric Berry and Dr. Lori LaPlante) and local experts will lecture on a variety of topics including the natural history of tropical biota, patterns of species diversity, rainforest ecology and conservation, ethnobotany, and coral reef ecology.

Prerequisite: 1 yr of college-level biology; permission to register by instructor

Course dates: 26 May – 11 June 2010

Classroom (on campus): Goulet 2304, class begins at 9 AM

Course grade  
Grade % Grade %
A >93 C 74-76
A- 90-93 C- 70-73
B+ 87-89 D+ 67-69
B 84-86 D 64-66
B- 80-83 D- 60-63
C+ 77-79 E <60

Points Distribution
Quizzes\(^a\) (3 @ 50 points) 150
Research article proficiency\(^b\) 30
Field notebook\(^c\) 50
Participation / Attitude\(^d\) 30
Total Points 260

\(^a\)Quizzes will include any of the following: multiple choice, matching, true/false, fill-in-the-blank, short answer, and essay questions.

\(^b\)Research Article Proficiency. Each student will be assigned a peer-reviewed journal article highlighting a plant, animal, or system that we will encounter in Belize. The student will write a short summary of the article (1 page max, 1.5 line spacing, 1” margins, 20 pts) and give a brief synopsis (10 pts) of the study to the class while in Belize.

\(^d\)Final Assessment. In lieu of a final examination, the final assessment in BI340 will be your field notebook which is a cumulative record of all course activities. Each student will be given a water proof notebook to record field observations in the form of numerical data, sketches, tables, graphs, and personal notes. Notebooks will be graded for both content and organization, so keep a neat and well-ordered record of each field exercise.
Participation / attitude. Due to the hands-on nature of this course and the extended time spent in the field with classmates it is extremely important that each student participates in the field exercises and maintains a positive attitude throughout the coursework.

Attendance
Attendance is required at all lectures, class meetings, and activities. Unexcused absences or tardiness will directly affect a student’s overall course grade.

Academic honesty
The standards of academic honesty are very high at Saint Anselm, and it is recommended that you review the policy set forth in your 2009-10 Course Catalogue (pp. 26-28). Depending on the severity of the infraction cases of cheating or plagiarism may result in a failing grade of the assignment/exam in question, failing grade in the course, or expulsion.

Courtesy and respect
This course is conducted in remote areas of a developing country, and many of the conveniences we take for granted at home (long hot showers, flushing toilets, etc.) may not be available. You will observe people and things that are very different from our own culture. Always be respectful of the cultural differences you encounter among your hosts, and avoid judging others in a narrow-minded way.

Be flexible
As is typical in field courses (particularly one in a developing country), things may not always go as planned. Being flexible and maintaining a positive attitude will make the adventure enjoyable and memorable.

Drug/alcohol abuse
Any drug or alcohol abuse will not be tolerated and violates the Course Participation Agreement. Anyone caught abusing drugs or alcohol will be returned home immediately at his/her own expense. Such action will constitute withdrawal from the course with a ‘W’ being recorded on the student’s transcript.
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<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Lecture Topics / Field Activities</th>
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<tbody>
<tr>
<td>26 May</td>
<td>Morning (9 am)</td>
<td>Course introduction/expectations&lt;br&gt;Lecture: Introduction to terrestrial biomes&lt;br&gt;Afternoon Research article work time&lt;br&gt;</td>
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<tr>
<td></td>
<td>Afternoon</td>
<td>Research article work time&lt;br&gt;</td>
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<td>27 May</td>
<td>Morning</td>
<td>Lecture: Tidepool communities and animal behavior&lt;br&gt;Afternoon Transit to Portsmouth (meet at 1:00 PM)&lt;br&gt;Exercises: 1) Tidepool diversity (LT 5:14 PM, 0.4 ft, sunset 8:11 PM)&lt;br&gt;2) Animal ethograms&lt;br&gt;Evening Dinner provided in Portsmouth</td>
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<td></td>
<td>Afternoon</td>
<td>Lecture: Temperate forest structure and composition&lt;br&gt;Transit to Pulpit Rock, Bedford, NH&lt;br&gt;Exercise: Field data collection and analysis&lt;br&gt;Evening BBQ dinner provided&lt;br&gt;</td>
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<td>28 May</td>
<td>Morning</td>
<td>Lecture: Introduction to terrestrial biomes cont.&lt;br&gt;Reading discussion: 1 – In the Realm of the Tropics, 2 – Fertility&lt;br&gt;Lecture: Vegetation sampling methods&lt;br&gt;Afternoon&lt;br&gt;</td>
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<td>Lecture: Temperate forest structure and composition&lt;br&gt;Transit to Pulpit Rock, Bedford, NH&lt;br&gt;Exercise: Field data collection and analysis&lt;br&gt;Evening BBQ dinner provided&lt;br&gt;</td>
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<td>29 May</td>
<td>Morning</td>
<td>Lecture: Coral reef ecology&lt;br&gt;Research article work time / study time&lt;br&gt;Afternoon Research article work time / study time&lt;br&gt;Quiz 1 (meet at 3:00pm)&lt;br&gt;Research article synopsis due&lt;br&gt;Evening Double check packing supplies (passports, snorkel gear, etc.)&lt;br&gt;</td>
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<td>30 May</td>
<td>Morning</td>
<td>Meet for airport departure @ 3:45am (parking lot behind Goulet Science Building)&lt;br&gt;7:05–10:30am Flight #AA2189: Boston, MA to Miami, FL&lt;br&gt;12:40–12:50pm Flight #2173: Miami, FL to Belize City, Belize&lt;br&gt;Afternoon Swim, relax, and dinner&lt;br&gt;Evening Exercise: Nocturnal zoo hike&lt;br&gt;</td>
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<td>31 May</td>
<td>Morning</td>
<td>Lecture: MBWS Savanna structure and composition&lt;br&gt;Exercise: Field data collection and analysis&lt;br&gt;Afternoon Riparian forest ecology&lt;br&gt;Exercise: Canoe Sibun river / Snorkel lessons&lt;br&gt;Evening Reading discussion: 13 – Jerry’s Maggot&lt;br&gt;</td>
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<td>1 June</td>
<td>Morning</td>
<td>Travel to Cockscomb Basin Wildlife Sanctuary (CBWS) with en-route stop at Blue Hole National Park for swim at inland cenote and pack lunch&lt;br&gt;Afternoon Lecture: Introduction to CBWS&lt;br&gt;Swim / Reading / Rest&lt;br&gt;Evening Reading discussion: 15 – Night Walks&lt;br&gt;Exercise: Nocturnal jungle hike&lt;br&gt;</td>
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| 2 June| Morning| Lecture: CBWS Rainforest structure and composition  
Exercises: Field data collection and analysis |
|       | Afternoon| Reading discussion: 3 – Canyons of Light, 4 – Hangers-On, 5 – Matapalo  
Exercises: Trail hike and hunt for organism adaptations |
|       | Evening | Reading discussion: 14 – Singing in the Rain                                                   |
| 3 June| Morning| Montane structure and composition  
Exercises: 3km hike to ridge-top overlook |
|       | Afternoon| Reading discussion: Social Behavior of ants, 11 – Crypsis  
Exercises: Trail hike: Animal adaptations and behavior |
|       | Evening | Field notebooks: data analysis, discussion questions                                             |
| 4 June| Morning| Reading discussion: 6 – Listen to the Flowers, 7 – Eat Me, 8 – Bugs and Drugs  
Exercises: Trail hike and hunt for organism adaptations |
|       | Afternoon| Reading discussion: 16 – The Eternal Tropics  
Study / Field notebooks |
|       | Evening | **Quiz 2 – Tropical Savanna and Rainforest Communities**                                         |
| 5 June| Morning| Finish Savanna and Rainforest notebook sections  
Bus to Dangriga, Water taxi to Tobacco Caye |
|       | Afternoon| Island orientation, Snorkeling do’s and don’ts  
Snorkel: Patch reef  
Exercises: Introduction to fish and coral identification |
|       | Evening | Discuss exercises  
Lecture: Belizean Coral Reef (Jasinski) |
| 6 June| Morning| Snorkel: Patch reef and channel  
Exercises: 1) Fish morphology, 2) Fish Coloration |
|       | Afternoon| Snorkel: Patch reef  
Exercises: 1) Coral habitats |
|       | Evening | Discussion |
| 7 June| Morning| Snorkel: Whale Shoals, Forereef  
Exercises: 1) Fish Schooling, 2) Coral Disease (Part 1), 3) Forereef |
|       | Afternoon| Snorkel: Patch reef (South Water Caye)  
Exercises: 1) Coral transect, 2) Coral Disease (Part 2) |
|       | Evening | Brief Lecture: Nocturnal Adaptations  
Snorkel: Night snorkel  
Exercise: Nocturnal Fish Community |
| 8 June| Morning| Lecture: Mangrove and Seagrass biology  
Snorkel: Seagrass bed  
Exercises: Seagrass structure and composition |
|       | Afternoon| Brief lecture: Fish Reproduction  
Snorkel: Patch reef  
Exercises: Fish Reproduction |
<p>|       | Evening | Discussions |</p>
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| 9 June| Morning    | Brief lecture: Bird Identification and behavior  
Boat excursion: Frigate and booby colony  
Snorkel: Mangroves (Man-O-War Caye)  
Exercise: Bird survey |
|       | Afternoon  | Exercise: Tropical Intertidal Diversity (South Water Caye: LT 2:30 PM, -0.06 ft)                |
|       | Evening    | Discussion: Intertidal diversity of temperate and tropical reefs                                  |
| 10 June| Morning    | **Quiz 3 - **Tropical Reef Communities / Pack and clean                                      |
|       | Afternoon  | Boat ride to Dangriga (brief shopping) followed by excursion to Gales Point Village:  
boat tour of Southern Lagoon Wildlife Sanctuary to view manatee  
Bus transfer to Hotel in Belize City                       |
| 11 June| 11:25–3:35pm | Flight #AA 2172: Belize City to Miami, FL – **Notebooks Due**                              |
|       | 6:40–9:55pm | Flight #AA 672: Miami, FL to Boston, MA                                                               |
|       |            | Shuttle ride back to Saint Anselm College                                                               |