UNIVERSITY OF ALBERTA
BIOLOG 495: MARINE ECOLOGY FIELD METHODS IN SOUTHERN AFRICA
SYLLABUS

Instructor: Brad Magor (Department of Biological Sciences)

Coordinators: Katie Reeve-Arnold (Coordinator of Marine Research All Out Africa)

Office: AOA Marine Research and Community Projects Office, Tofo, Mozambique

Where: Tofo, Mozambique

When: June 5–30, 2017

Course Outline

Biology 495: Marine Ecology Field Methods in Southern Africa is designed to give students the opportunity to gain first hand experience at doing fieldwork and in the design, execution and analysis of data. This course will provide you with knowledge of a variety of field techniques including animal behavior studies, coral reef sampling, photo identification, population estimation, and an understanding of the social impacts on conservation and management of marine resources. Emphasis is on “doing” things, and we will also emphasize the basics of sound experimental design and field protocol development. The course is held at AOA Marine Research and Community Projects office in Tofo, Mozambique. We will work with flora and fauna in their natural setting.

Outcomes:

The aim of the course is to develop the following knowledge and skills:

1. Introduce students to the diversity and physical processes of southern African marine habitats with a focus on the sub-tropics.
2. Demonstrate an understanding of, and competency in, marine field procedures, such as: identification common fish, coral, and other marine life; scuba diving and underwater transects for monitoring fish populations; quadrat and photo sampling of coral and sea urchins; identification and analysis of plankton communities; and behavioral observation of large fish and mammals.
3. Design basic sampling protocols and use the above techniques to answer ecological questions.
4. Follow the design steps between question formulation, data needs, data collection protocols, data entry, and basic analysis.
5. Independently formulate an ecological question and carry out the field techniques, data collection, and simple analyses to answer the question.
6. Communicate research finding into a research report and presentations.
**Reading**

We will distribute key papers prior and during to the course. Recommended reading: http://www.sinauer.com/marine-community-ecology-and-conservation-613.html#table_of_contents

**Grading**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Grade (%)</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Module Assignments</td>
<td>22</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Written report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draft Intro. &amp; Methods</td>
<td>6.0</td>
<td>Monday June 12</td>
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<tr>
<td>Draft Data Analysis and Results (outline or draft of Discussion)</td>
<td>6.0</td>
<td>Wednesday, June 21</td>
</tr>
<tr>
<td>Final report</td>
<td>50</td>
<td>Friday, June 30</td>
</tr>
<tr>
<td>Report presentation</td>
<td>16</td>
<td>TBD, June 27-30</td>
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**Field/Labs (20%) – see handout**

Lab 1 (Test June 9):
1. Fish, Urchin and Benthic ID Test (7 %)

Lab 2 (Due June 12):
2. Marine Animal Movement review (5 %)

Lab 3 (Due June 13):
3. Littoral zone animal succession (5%)

Lab 4 (Due June 16):
4. Plankton ID (5 %)

**Grade Evaluation:**
Assessment and Grading Policy available at: https://policiesonline.ualberta.ca/PoliciesProcedures/Policies/Assessment-and-Grading-Policy.pdf

Grades are unofficial until approved by the Department and/or Faculty offering the course. Assignment of Grades: The University of Alberta uses a letter grading system with a
four-point scale of numerical equivalents for calculating grade point averages. The final grades in this course will be determined from the total raw score (from both lecture and lab) of all the students in this lecture section. This will be done after the final total raw scores are graded as percentages throughout term. Letter grades will NOT be calculated for individual course requirements/assignments. The following cut-offs will be used to assign letter grades:

<table>
<thead>
<tr>
<th>Letter</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>90-100</td>
</tr>
<tr>
<td>A</td>
<td>85-89</td>
</tr>
<tr>
<td>A-</td>
<td>80-84</td>
</tr>
<tr>
<td>B+</td>
<td>77-79</td>
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<tr>
<td>B</td>
<td>73-76</td>
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<tr>
<td>B-</td>
<td>70-72</td>
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<tr>
<td>C+</td>
<td>67-69</td>
</tr>
<tr>
<td>C</td>
<td>63-66</td>
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<tr>
<td>C-</td>
<td>60-62</td>
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<tr>
<td>D+</td>
<td>55-59</td>
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<tr>
<td>D</td>
<td>50-54</td>
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<tr>
<td>F</td>
<td>0-49</td>
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Missed Term Exams and Assignments:
For an excused absence where the cause is religious belief, a student must contact the instructor(s) within two weeks of the start of Fall or Winter classes or within three days of the start of Spring or Summer classes, to request accommodation for the term (including the final exam, where relevant). Instructors may request adequate documentation to substantiate the student request.

A student who cannot write a term exam, quiz or complete a term assignment due to incapacitating illness, severe domestic affliction or other compelling reasons can apply for: deferral of the weight of the missed term work/exam to other term work or term exam, or an extension of time to complete an assignment, or a make-up assignment. In all cases, instructors may request adequate documentation to substantiate the reason for the absence at their discretion. Deferral of term work is a privilege and not a right; there is no guarantee that a deferral will be granted. Misrepresentation of Facts to gain a deferral is a serious breach of the Code of Student Behaviour.

Student grievances:
Given that we are not on campus, if you have any grievances (i.e., grading or other academic issues, or any inappropriate misconduct) that you feel can not be discussed with your instructors, TA or Manager of SAFS, please contact the Associate Chair of Undergraduate Students, Department of Biological Sciences, Dr. Jocelyn Hall (Email: jocelyn.hall@ualberta.ca; Phone: 780-492-8611).

Student Responsibilities:
ACADEMIC INTEGRITY:
"The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.governance.ualberta.ca) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University."

All forms of dishonesty are unacceptable at the University. Any offence will be reported to the Associate Dean of Science who will determine the disciplinary action to be taken. Cheating, plagiarism and misrepresentation of facts are serious offences. Anyone who engages in these practices will receive at minimum a grade of zero for the exam or paper in question and no opportunity will be given to replace the grade or redistribute the weights. As well, in the Faculty of Science the sanction for cheating on any examination will include a disciplinary failing grade (NO EXCEPTIONS) and senior students should expect a period of suspension or expulsion from the University of Alberta. Some assignments are in groups and collaboration is encouraged, however students must be aware of the acceptable level of collaboration. Please review the Appropriate Collaboration link on the Office of Student Judicial Affairs website (http://www.osja.ualberta.ca/Students/AppropriateCollaboration.aspx)

CODE OF CONDUCT:
As students of the University of Alberta, you are expected to conform to the guidelines in the Code of Student Behaviour. The Code of Student Behaviour, as set out in the General Faculties Council (GFC) Policy Manual, is available online at www.governance.ualberta.ca. Outside of the classroom, students are also responsible for their actions and must abide by the Code of Student Behaviour. The Director has the authority to enforce the Code of Student Behaviour and in consultation with the Associate Dean, Undergraduate of the Faculty of Science deals with any infractions. Dismissal from SAFS is an option.

Southern African Field School has a partnership with All Out Africa, our on the ground support team. All students are expected to adhere to All Out Africa’s code of conduct - All participants joining an All Out Africa Experience are expected to behave in a civil and responsible manner being considerate to fellow participants, staff, local community members and the environment. Any participant, who misbehaves, is disruptive or threatens the safety of any other participants or All Out Africa Staff may be found guilty of misconduct and as such will be subject to disciplinary action. This includes behaviour such as serious rowdiness or drunkenness, failure to turn up to experience activities without notice, violating the laws or regulations of the particular location.

Every reasonable effort will be made to resolve any disciplinary matter before it becomes serious, however, we reserve the right to take appropriate action in the event of misconduct including issuing verbal and written warnings. In cases of very serious or repeated misconduct, we reserve the right to expel the perpetrator from the experience
without a refund. If a diversion in the experience is necessitated by the misconduct of a participant, that participant will be liable for costs incurred by All Out Africa.

**CELL PHONES:** Cell phones are to be turned off during lectures, labs and seminars. Cell phones are not to be brought to exams.

**STUDENTS ELIGIBLE FOR ACCESSIBILITY-RELATED ACCOMMODATIONS (students registered with Specialized Support & Disability Services - SSDS):** Eligible students have both rights and responsibilities with regard to accessibility-related accommodations. Consequently, scheduling exam accommodations in accordance with SSDS deadlines and procedures is essential. Please note adherence to procedures and deadlines is required for U of A to provide accommodations. Contact SSDS (www.ssds.ualberta.ca) for further information.

**RECORDING AND/OR DISTRIBUTION OF COURSE MATERIALS:** Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

**Disclaimer:** Any typographical errors in this Course Outline are subject to change and will be announced in class. The date of the final examination is set by the Registrar and takes precedence over the final examination date reported in this syllabus.

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