BIOL 4319-BIOLOGY OF MARINE MAMMALS

LECTURE SECTION
BIOL-4319
Tues, Thurs 8:00-9:15 AM
CI-126

INSTRUCTOR: Dr. Andreas Fahlman (Ph.D.)
Office: Harte Research Institute (HRI)-121
Office Phone: (361) 825-3489
E-mail: andreas.fahlman@tamucc.edu
Office Hours: Wednesday: 11:00 AM - 2:00 PM, Tuesday and Thursday 10:00-11:00 AM;

Students may make appointments to see me or at times other than those listed above. If I am unavailable or need to relocate during office hours, I will post a note on the door. I will only correspond by e-mail with students who use their official “islander” e-mail addresses.

COURSE DESCRIPTION: This course introduces students to the life history, evolution, physiology and ecology of marine mammals. Students will study the evolution of the various taxa of marine mammals, the differences in foraging behavior (benthic vs. pelagic, plankton vs. fish), ecology and physiology (diving, thermoregulation, water balance, locomotion, vision and acoustics) between and among species and taxa. The student will also study the history of whaling and marine mammal conservation.

STUDENT LEARNING OUTCOMES: The objective of this course is to provide students with a basic understanding of the life history of marine mammals. Students should attend and participate in lectures, read the assigned material, and mentally organize information from their instructors, and their readings. For all components that are examined within each topic in the schedule, the student will be expected to…
- Understand and correctly use the taxonomy of marine mammals
- Describe the life history of the major taxa
- Analyze selected physiological processes and explain their importance for marine mammals.
- Describe various strategies for marine mammal conservation and mitigation efforts

PREREQUISITES: Biology 1407 is required.


TENTATIVE LECTURE SCHEDULE:

<table>
<thead>
<tr>
<th>Section (dates)</th>
<th>Content</th>
<th>Pages</th>
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<tbody>
<tr>
<td>2. Lecture 3-4:</td>
<td>Evolution of Cetaceans and Pinnipeds, Oceanography and ecology...51-82, 111-119</td>
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<tr>
<td>3. Lecture 5-6:</td>
<td>Foraging Behavior and Ecology............................................312-355</td>
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One paragraph outline and title of term paper due Sept 11.

4. Lecture 7-9: Diving Physiology and Behavior ....................................................... 237-262

Oct. 7

Midterm 1

5. Lecture 10-11: Thermoregulation, Keeping Warm in Cold Water ...................... 213-223


8. Lecture 16-17: Sensory physiology, Cetacean Biosonar: Seeing without eyes .......... 145-157, 276-284; 288-305

Nov. 13

Midterm 2


3 page term paper on specific aspect of marine mammal biology due today (Nov 25)!


Dec 4

Final Exam

Apart from the due dates above, the schedule is tentative and will likely change throughout the semester. Changes to the schedule will be given in class.

FINAL GRADING: Your final letter grade will be based on the points you earn in the lecture. The final grading scale will also be determined at the end of the semester, but the cut-off for each grade will be no higher than the following:

A ≥ 90% > B ≥ 80% > C ≥ 70% > D ≥ 60% > F

Final course grades will be determined by the following:

<table>
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<tr>
<th>Lecture Examination (highest 1 of 2)</th>
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<tbody>
<tr>
<td>Term paper</td>
<td>30%</td>
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<tr>
<td>Final examination</td>
<td>40%</td>
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<td></td>
<td>100%</td>
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EXAMINATIONS The exam schedule is as follows: Midterm, 10/7, and 11/13, Final 12/4 (8:00-10:30). There is no make up exam. Any student who knows in advance that they will miss an exam due to official University business may notify Dr. Fahlman at least fourteen (14) days in advance to make arrangements to take the exam early. The date and time for the final exam are non-negotiable for any reason, unless a student have conflicting examinations on the same day that cannot be re-scheduled. The final exam will be comprehensive. The format for all exams may vary and may include multiple choice, short answer, essay, matching and definitions.

BONUS POINTS: Individual extra credit assignments will be available in this class (An
additional 5% of final grade). This will be a combination of class participation and class quizzes. Quizzes may be given unannounced before each lecture and these will be similar to questions on the test. **Bonus points (from quizzes, and assignment) cannot be made up—period. Class participation:** student may earn extra credits by actively participating in class discussions, by asking questions and answering questions given in class. Additional extra credits may be earned from the quizzes given in class. For this you need to register with TopHat Monocle

**TERM PAPER:** Each student is required to write a review term paper. This should be a 3 page long paper summarizing a certain topic in marine mammal biology. A one paragraph summary, or abstract, is due on or before class on September 19. The summary should concisely describe the topic of the term paper. This abstract counts for 5% of the total 30% of the term paper. Students are encouraged to discuss their paper with the instructor. The paper should consist of an abstract, background and conclusion. The abstract should summarize the background and conclusion, the background should summarize what is known about the specific topic, and the conclusion summarize the review and possible future prospects for studies.

**MY RULES**

**ATTENDANCE:** My attendance policy is the same as that stated in the University Catalog. Attendance is the student’s responsibility, and students are expected to attend, be on time for and remain the entire period in every class. Late arrival will not be accepted and I have a closed door policy during class. Attendance is not used to determine grades. In lecture, even when I take roll, I do not give—per se—a bonus for attendance, nor a penalty for absence (except for missing an examination, or an assignment). **I may choose to give information not covered in the book or quizzes which may count toward the grade.** Thus, coming to lecture on a regular basis should result in a higher grade, and if you come to class often, it will help you do well in this course.

**ABSENCES:** You are responsible for the material covered and assignments made in every lecture regardless of whether you attend it or not. “I came in late and didn’t hear about the assignment, or specific material,” is never an acceptable excuse. It is always your responsibility to determine what happened in class during your absence. If you are absent, tardy, or leave early, you will have to copy a classmates notes and handouts. I will not, “track down” absentees to make sure that they know about material not covered in the textbook. As note-taking is an important skill to develop, I do not “share” my notes or PowerPoints (including posting them on the web).

**Miscellaneous Policies Regarding Attendance:**
There are no make-up for missed work except for an excused absence. An excused absence allows us to make alternative arrangements for completing work and taking exams. The documentation required for an absence to be excused must be…
- from an appropriate source (e.g., doctor, dentist, funeral director) who states the nature of the event that caused (or will cause) your absence.
- in writing, on official stationery, and signed. (I do not return excuses to you.) Telephone calls, FAXes, and e-mails are not acceptable.
- presented prior to the absence for a scheduled event (e.g., university-sponsored activity, recognized religious holiday, military service).
- presented no more than one week after the date of an unexpected absence
When an excused absence is planned ahead, the student should consult with the Professor to be given a pre-test (see below). When the absence is an emergency (medical or otherwise), the Professor and TAs should be notified as soon as possible and the appropriate documentation submitted. In those cases, a make-up test will be given after the original test. This may vary in format and content at the discretion of the Professor, and scheduled in consultation with the student.

Unacceptable Excuses: Only unavoidable absences are excused, so you should schedule routine personal events (e.g., vacations, weddings, reunions, non-emergency medical or dental visits, parent-teacher conferences, household or auto repairs) to avoid conflicts with your classes. Oversleeping is never an acceptable excuse. Employment conflicts are not acceptable excuses for absences, tardiness, or leaving class early. (Once enrolled in a class, it is the student’s responsibility to arrange his or her work schedule so that no regularly scheduled class or examination time is missed.) Texas waives jury duty for students, so jury duty is not an acceptable excuse.

“Pre-Tests”: For some scheduled events (official University business, military duty, etc.), or an acceptable excuse, you may arrange to take a lecture examination before (but not after) its scheduled date. (You should take a test as close to its originally scheduled time as possible, but you may not take a test more than one week before its originally scheduled time. You must obtain your instructor’s approval at least two weeks before you wish to take the pre-test.). If you arrange to take any test at an alternate time and do not show for that appointment, then you forfeit the opportunity to take the test except at its originally scheduled time. Students who do not arrange to take examinations in advance will not be eligible for this special consideration. A written excuse from the university department involved or from the Office of Student Affairs is required.

The instructor—in consultation with Dr. Eliot Chenaux, Vice President for Student Affairs—will determine if circumstances warrant giving an individual a make-up test after the original test. A make-up test given after the original test may vary in format and content at the discretion of the Professor. The exam day will be scheduled in consultation with the student.

Late Assignments: You may always turn in assignments early. Except for excused absences, late assignments will not be accepted. If you know in advance that you will have an excused absence when an assignment is due, you must turn in that assignment before its due date. You should turn in assignments that were missed because of an unexpected, excused absence as soon as possible.

Any situations for which you cannot provide an acceptable excuse as outlined above (e.g., “I have an excuse, but it is too personal to discuss with you”) will be discussed with Dr. Eliot Chenaux, Vice President for Student Affairs.

CLASSROOM ETIQUETTE: You are adult University students. I will treat you as such, and I will expect you to act as such. You will act with courtesy and common sense. I will not tolerate disruptive, disrespectful, or abusive behavior/language directed toward anyone in this class (i.e., student or instructor). Violations range from talking during class to outright insubordination, and will result in penalties that range from the student being asked to stop to the student being “escorted” from the class - permanently. Cellular phones (including text messaging), pagers, and other “ beepers” must be turned off in the classroom. (I will make exceptions for certain
“emergency” personnel, but you must see me to obtain this.) Children are not allowed in the rooms during lecture, or when the child’s guardian is working or studying “after hours.”

REQUIRED BY THE UNIVERSITY

Academic Integrity/Plagiarism

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a grade of 0% for that assignment/test and a report being filed.

Dropping a Class

I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. The academic schedule for this semester can be found on the University web page and there is the date for the last day to drop a class with an automatic grade of “W” this term.

Classroom/professional behavior

Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

Grade Appeals (College of Science and Engineering Version)

As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure
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13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage (http://sci.tamucc.edu/students/GradeAppeal.html). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

Disabilities Accommodations

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

Statement of Academic Continuity

In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

Biology 4319: Marine Mammals
TERM PAPER INFORMATION

OUTLINE DUE: September 11 2014
PAPERS DUE: November 25 2014

Late papers will be penalized 10% per day late (One letter grade per day late)

OUTLINE REQUIREMENTS: Define intro, body paragraphs and conclusion in outline or paragraph format. Include title and at least 2 references. Points will be deducted for late papers.

PAPER REQUIREMENTS:
1. Title page: Includes title, your name and date.
   This should set up the info you will present in the body of the paper.
3. Body of paper: Several paragraphs with details of your topic. Elaborate on the information in your intro. This should be a well thought out and coherent description of your topic. Be careful not to ramble and avoid sounding like an encyclopedia entry. I want an in-depth discussion of a topic. Be particularly careful if you are writing on a topic from lecture such as thermoregulation or diving capability – you need to give more information than you were given in lecture.

**REMEMBER:** When you use scientific information that is not your research you must cite it in the text and include the reference. Use your references for examples on how to format this section.

4. Conclusion: 1-2 paragraphs relating the specifics of the body back to the general topic. Boldly state your point.

5. References: You must have at least 4 references for your topic. All should be books or scientific journals (no web sites, newspapers or magazines).

6. Formatting: 12 point font, minimum of 1.5 lines spacing, and a maximum of 3 pages, not including references.

7. Direct quotes are not used in science.

**BREAKDOWN OF HOW THE PAPER WILL BE GRADED:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARAGRAPH: Handed in on time and meets all of the above requirements</td>
<td>8 pts.</td>
</tr>
<tr>
<td>INTRODUCTION: clear, concise, with good general info</td>
<td>15 pts</td>
</tr>
<tr>
<td>BODY OF PAPER: background facts clear and accurate, detailed scientific info</td>
<td>40 pts</td>
</tr>
<tr>
<td>CONCLUSION: Concise summary, good synthesis of info</td>
<td>15 pts</td>
</tr>
<tr>
<td>STRUCTURE, CONTENT AND STYLE: Organized paragraph and sentence structure, correct spelling &amp; grammar, overall well researched, presented and organized.</td>
<td>10 pts</td>
</tr>
<tr>
<td>Correct reference citing in paper and acceptable references in number and type</td>
<td>12 pts</td>
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<tr>
<td>TOTAL:</td>
<td>100 pts</td>
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**Examples of paper topic:**

- Foraging strategies of male and female sea otters
- The effects of social structure on the evolution of Cetacean communication
- Adaptations in bottlenose dolphins to extend their aerobic dive limit
- Challenges faced by immature pinnipeds in the arctic environment
- Hypotheses for the evolution of drinking sea water by Northern fur seals