Antarctic Science and Conservation (FW 467): 4 credits

Course description: Antarctica is the coldest, driest, and windiest place on earth, and its remoteness has captured the human imagination for centuries. As the only continent designated as a “natural reserve, devoted to peace and science,” Antarctica provides a unique opportunity for research into global environmental processes, as well as an excellent example of large-scale international conservation efforts. Through this course we will explore the history, geology, climate, and ecosystems of Antarctica, with special emphasis on current conservation issues. The course will focus on critical thinking skills, which will be developed through a research paper on a topic of interest, an internal peer review process, and discussions of relevant case studies in Antarctic research and conservation. This course combines approximately 120 hours of instruction, online activities, and assignments for 4 credits.

Instructor:
Dr. Michelle Kappes
Department of Fisheries and Wildlife
Oregon State University
(541) 737-1959
michelle.kappes@oregonstate.edu

Office hours: TBA or by appointment. During office hours I will be available to chat via the collaboration function on Blackboard or to meet with students in my office on the OSU campus (Nash Hall, Room 158). I will check the course daily (except weekends) but I will not be online 24 hours a day. As such, please be patient with your questions and I will get back to you in a timely manner.

Course format: This course will be delivered via Blackboard, through which you will interact with your classmates and with me. Within the Blackboard course site you will access the syllabus, lectures, and learning materials; discuss issues and submit assignments; take quizzes; e-mail other students and the instructor; participate in online activities; and display your work. To preview how an online course works, visit the Ecampus Course Demo at: http://ecampus.oregonstate.edu/coursedemo/. For technical assistance, Blackboard and otherwise, see: http://ecampus.oregonstate.edu/services/technical-help.htm

Learner outcomes:
After taking this course, students should be able to:

• Describe the biophysical processes sustaining Antarctic ecosystems and the implications of altering those components.
• Critically evaluate different perspectives of relevant conservation issues.
• Demonstrate the use of logic and reasoning to synthesize information and arrive at defensible conclusions.
• Identify biases and assumptions in their own work and the work of others.

Resource expectations: Access to a computer with MS Office (Word and Powerpoint)

Prerequisites: Upper-division standing; BI 370 or equivalent recommended.
**Required texts:** There are no required text books. Readings will come from the primary literature, agency reports or online sources, and will be posted to Blackboard.

**Evaluation of student performance:** Learning outcomes will be measured via weekly quizzes, discussion boards, a research paper, an internal peer review process, and a final presentation.

**Assignments and grading:**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight (%)</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>20%</td>
<td>50 pts</td>
</tr>
<tr>
<td>Discussion boards</td>
<td>20%</td>
<td>50 pts</td>
</tr>
<tr>
<td>Research paper</td>
<td>24%</td>
<td>60 pts</td>
</tr>
<tr>
<td>Peer review</td>
<td>18%</td>
<td>45 pts</td>
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<tr>
<td>Final presentation</td>
<td>18%</td>
<td>45 pts</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
<td><strong>250 pts</strong></td>
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**Grading policy:** Grades will be calculated as a straight percent of the total possible score:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>92-100%</td>
</tr>
<tr>
<td>A-</td>
<td>90-91%</td>
</tr>
<tr>
<td>B+</td>
<td>88-89%</td>
</tr>
<tr>
<td>B</td>
<td>82-87%</td>
</tr>
<tr>
<td>B-</td>
<td>80-81%</td>
</tr>
<tr>
<td>C+</td>
<td>78-79%</td>
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<tr>
<td>C</td>
<td>72-77%</td>
</tr>
<tr>
<td>C-</td>
<td>70-71%</td>
</tr>
<tr>
<td>D+</td>
<td>68-69%</td>
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<tr>
<td>D</td>
<td>62-67%</td>
</tr>
<tr>
<td>D-</td>
<td>60-61%</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60%</td>
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</tbody>
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**Late policy:** Our work week will span from Monday through Sunday; all assignments, quizzes, and discussion boards must be received via Blackboard by midnight (US Pacific Time Zone; GMT-8) Sunday night the week they are due. Late assignments will have 10% of the grade deducted for each day late.

**Incompletes:** Incomplete (I) grades will be given only in emergency cases and if the student has turned in at least 80% of the points possible (i.e., everything but the final presentation).

**Quizzes:** Quiz questions will be essay, short answer, multiple choice, or true-false, and will test your comprehension of the material covered that week (assigned readings, weekly lectures, posted videos, or online content). There will be five quizzes worth 10 points each, for a total of 50 points.

**Discussion boards:** Weekly discussions will take place in the second half of the quarter, when we start to focus on case studies of conservation issues in the Antarctic. I will post a topic/question to get the discussion started, and active participation is required. There will be five discussion boards worth 10 points each, and these will be graded based on quality and content of posts.

**Research paper:** Based on primary sources, students will develop a ~1500 word paper that investigates a topic of interest to the student. Topic ideas must be submitted to the instructor for approval during Week 2, and must include discussion of a related conservation issue. For instance, if you were interested in Antarctic geology, you could discuss opposing views related to resource exploration and extraction in the Antarctic. Papers will be graded based on the quality of the literature review, how well differing perspectives are critically evaluated, and whether potential biases are addressed with respect to their topic.

**Peer review:** Students will undergo an internal peer review process, whereby they will provide feedback on three student papers (~250 words each) and receive feedback on their research paper. Reviews will be graded based on how well they address biases and assumptions in the work of their peers, as well as how well overall comments would improve the quality of the paper. Instructor feedback will also be
provided to each student and the three associated reviewers, so that students learn both how to improve their writing, as well as their ability to provide constructive feedback.

**Final presentation:** Students will incorporate the feedback they received during the peer review process to develop a final PowerPoint presentation on their topic of interest. The same peer reviewers will view the presentation and associated script, and provide final comments on the presentation. Final review will assess whether the student successfully incorporated peer and instructor feedback when creating the presentation.

**Students with Disabilities:** Accommodations are collaborative efforts between students, faculty, and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 541-737-4098.

**Course policies:** We will learn about Antarctic science and conservation through a combination of lectures, readings, videos, discussion boards, and assignments. This course covers a large amount of material over a relatively short term. IT IS THE STUDENT’S RESPONSIBILITY TO KEEP ON TRACK WITH CONTENT AND ACTIVITIES THROUGHOUT THE TERM.

**Student conduct:** The University and our Department expect students to conduct themselves and to perform their work in a professional, honest, ethical, and civil manner. Students are expected to respect the University’s regulations regarding civility, and to treat all others with the same respect as they would want afforded to themselves. Disrespectful behavior to others (e.g., harassment, personal insults, inappropriate language) or disruptive behaviors in the course (e.g., persistent and unreasonable demands for time and attention both in and out of the classroom) is unacceptable and can result in sanctions as defined by Oregon Administrative Rules Division 015 Student Conduct Regulations.

**Academic integrity:** Students are expected to comply with all regulations pertaining to academic honesty. Academic dishonesty is defined as an intentional act of deception in which a student seeks to claim credit for the work or effort of another person or uses unauthorized materials or fabricated information in any academic work. Engaging in any of the above described activities are grounds for dismissal from and earning a failing grade in this course. YOU are responsible for knowing the rules, regulations, and ethics associated with these policies. For more information on plagiarism, please visit: http://osulibrary.oregonstate.edu/instruction/classign/Plagiarism.html, or contact the office of Student Conduct and Community Standards at 541-737-3656.

**Technical assistance:** If you experience computer difficulties, need help with downloads, or you encounter errors or problems while in the online course, contact the OSU Help Desk: 541-737-3474; osuhelpdesk@oregonstate.edu, or visit http://tss.oregonstate.edu/OCH/.

**Course Evaluation:** We encourage you to provide an online evaluation of this course at the end of the term. Instructions will be sent by Ecampus, and you will need to login to “Student Online Services” to respond to the online questionnaire. The results on the form are anonymous and are not tabulated until after grades are posted.
Weekly Schedule:

Week 1
• Introduction and course outline
• History of Antarctic exploration
• Quiz 1

Week 2
• Territorial claims and the Antarctic Treaty
• Geological history
• Quiz 2 and topic submission for research paper

Week 3
• Glaciology and ice
• Weather and climate
• Quiz 3

Week 4
• Antarctic flora and fauna
• Adaptation to an extreme environment
• Quiz 4

Week 5
• Physical oceanography of the Southern Ocean
• Marine food webs and Antarctic krill
• Quiz 5 and research paper due

Week 6
• Antarctic predators: seabirds and marine mammals
• Case Study: Antarctic penguins, baleen whales, and krill
• Discussion 1

Week 7
• Environmental management in the Antarctic
• Case Study: CCAMLR and the Antarctic krill fishery
• Discussion 2 and provide peer review

Week 8
• Global climate change and current research
• Case Study: the proposed Ross Sea Marine Protected Area
• Discussion 3

Week 9
• Living and working in Antarctica today
• Case Study: Penguin Science DVD
• Discussion 4

Week 10
• Discussion 5, student presentations, and final reviewer comments