

Conservation Biology

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Abstract

Conservation biology is the science responsible for quantifying the current state of and threats to biodiversity on Earth, for understanding the reasons that place some populations at greater risk of extinction than others, and for providing solutions for minimizing the loss of biodiversity. This course aims to explore each of these areas in order to achieve a clear understanding of their importance within the field of conservation biology. We will cover the basic foundations in each area and investigate how those foundations have been expanded upon in order to address concerns specific to conservation issues. We will read selected papers from the primary scientific literature and will undertake the analysis of data as might be presented to a practicing conservation biologist. The overall goal of this course is to provide both broad coverage of conservation biology and an in-depth understanding of the issues.

General information

Course number Biology 462

Class time Foster Hall 146 at 8:30–9:20 on Monday, Wednesday, and Friday.

Instructor Dr. Brook Milligan, 302 Foster Hall, 646-7980, brook@nmsu.edu. Office hours: Monday, Wednesday, Friday, 9:30–10:00 or by appointment.

Text The required text for this course is the following:

Primack, R. B. 2006. *Essentials of Conservation Biology*. Sinauer, Sunderland, Massachusetts, fourth edition

Readings Additional readings selected from the primary literature will be used regularly to augment the textbook. These will be identified in class. In order to develop your research skills, it is your responsibility to look these up and download them. I suggest using the ISI Web of Science literature search engine, which is available from the NMSU library web page under “Articles, Books, Journals, etc.” link.

Computer resources I will make available to you on the World Wide Web (<http://web.nmsu.edu/~brook/courses/conservation-biology/>) versions of various documents associated with the course. Wherever possible I will make available not only web-browsable versions, but also PostScript (*.ps) and Acrobat (*.pdf) versions. The latter may be more convenient for you to download and print, rather than view it online. These documents will include such things as the most recent version of the complete syllabus, the schedule, and other supplemental material.

Attendance Because of the importance of active class participation to the learning process, students are expected to attend regularly. Furthermore, students are expected to have prepared the material being covered for each class.

If you are absent from the class, first ask a classmate for a copy of his/her notes and avail yourselves of the readings, review material, and other resources. If you still have questions after studying this material, please make an appointment or come see the instructor and/or T.A.(s) during office hours.

If you believe that an absence should be excused, please notify the instructor in writing as soon as possible prior to the absence so appropriate arrangements may be made. Your notification should include an explanation concerning why the absence is necessary, be accompanied by additional documents as appropriate (e.g., from your parent(s), doctor, advisor, sponsor . . .), and be signed by you. Only those absences deemed appropriate by the instructor will be excused. Any absences for which prior arrangements have not been made will be regarded as unexcused, except under very exceptional circumstances that the instructor deems as appropriate.

Finally, in connection with absentees, I will make no assumptions about your enrollment status in the course. If you wish to drop the course, you must do so yourself or risk receiving a failing grade.

Grading errors or disputes If you detect a miscalculation in the number of points you receive for an exam, homework, or other assignment, please report this matter to the instructor immediately so that a grade adjustment may be considered. If you disagree with your score on any assignment prior to the final exam, you must present your reasons for disagreement in writing within *one week* of the assignment being passed back. Your opportunity to appeal the disputed grade expires after that week has passed.

Evaluation

The grade you receive in this course will result from your overall contribution to the class. This includes

- quality participation in class discussions,
- timely completion and quality of assignments, and
- performance on the final project.

Discussions Much of this course will involve active discussion of the reading material assigned in the course schedule. In general, you are expected to have read the material in advance of each class period, to have prepared at least a brief outline of the material, to have thought about the meaning and significance of the material, and be ready to engage in a discussion. As necessary, I will provide background information; however, I feel that you will learn more by becoming actively involved with the material we cover. Ongoing discussions should foster that involvement.

A number of class periods are devoted to specific discussions. These will involve group interaction and preparation of brief presentations followed by active discussion by the entire class.

Assignments During the semester, you will be asked to do a variety of assignments. Most of these will involve developing spreadsheet models so that you have a better understanding of the mathematical calculations involved in the analysis of data such as a practicing conservation biologist might face. Although, specific instructions will be given, if you are unfamiliar with using a spreadsheet you are advised to immediately make arrangements to use one and familiarize yourself with the basics of manipulating one.

Group projects Together with a few of your peers, you will engage in a group project that should be undertaken throughout the semester. You have a great deal of freedom to organize this as you see fit, however, I expect you to coordinate your choices with me to ensure that you are on the right track. In the end you will have approximately one-half a class period to present your project to everyone. You will also be requested to evaluate the contributions to the project of yourself and each of your peers.

Grade calculation In calculating your grade, each major element outlined above will be weighted as follows: participation (30%), assignments (40%), and the final project (30%).

The final course grade will be determined based on the following absolute scale: A: 90–100%, B: 80–89%, C: 70–79%, D: 60–69%, F: 0–59%. In the case of S/U grading, the following scale will be used: S: 75–100%, U: 0–74%. Note that this means that you are not competing against anyone else in the course; you must only demonstrate that you know the material.

Grading policy

My grading policy is based on the opinion that a sound college education must be earned and active involvement in your education is the best means of succeeding. As a result, I will be grading you on your performance and ability to communicate clearly the concepts associated with this course. Your grades will represent your performance relative to what I consider to be a reasonable absolute standard; you will not be evaluated relative to your peers in the class. Thus, I regard the grades you receive as directly reflecting your personal effort and performance in this course. Remember, for each credit received for this course, I expect a minimum of three hours of effective involvement with the class each week. Beware of overloading your schedule.

Most importantly, I consider grades to be something you earn by your activities. During the upcoming semester you will be called upon to make many choices about how you spend your time and energy. Some of those choices may influence (either positively or negatively) your grade in this class. This is fine as long as you are aware at the outset that your choices may have direct consequences. In this regard, I share a philosophy espoused by Wiesenfeld (1996).

I am willing to provide you with learning opportunities and will gladly assist you to identify effective ways of improving your study habits or to understand the material. However, you must provide the initiative and keep me apprised of your status in the course. I cannot help you unless I am aware of problems you may be facing. Please let me know in advance if possible and do not let things slide too far.

Computer resources

I will make available to you on the World Wide Web versions of various documents associated with the course. These documents will include such things as the most recent version of this syllabus (e.g., in case I find errors after printing this copy), review sheets, and/or other supplemental material. In fact, I will not be distributing any of this to you during class time. As a result you will have to print copies on your own. You may access these documents via the following URL:

<http://web.nmsu.edu/~brook/courses/conservation-biology/>

Wherever possible I will make available not only web-browsable versions, but also Postscript (*.ps) and Acrobat (*.pdf) versions. The latter may be more convenient if you wish to download a copy and print it, rather than view it online.

During the course of this semester you may find the need to reference a Web page in your writing. See <http://www.lib.rochester.edu/index.cfm?PAGE=439> for general guidelines and acceptable means of doing so.

Scholastic integrity

The progress of science, indeed of all human knowledge, depends entirely on our ability to trust the workings of others in order to extend their scholarship and creativity into new areas. In the absence of that trust, it is impossible to proceed. Consequently, scholastic integrity is one of the highest values upheld by the academic

community. All of us must strive to maintain the highest standards in this area for all work associated with our academic activities, in the classroom, in the laboratory, and at home or with our peers.

You should do all of your own work on all assignments, whether in or out of class. This does not preclude discussion of concepts and ideas with other students; indeed, such interaction is encouraged. However, it does mean that when the time comes to work on an assignment, you must present your own work. Please see the “Student Code of Conduct” in the current *Student Handbook* and pay particular attention to the sections that define Academic Misconduct and Plagiarism.

In the case of evidence of academic misconduct of any type, the instructor of this course will take appropriate action. At minimum all involved will receive no credit for the assignment in question. However, consequences may include immediate and outright failure of the entire course.

Disabilities

Students with Disabilities. If you have or believe you have a disability and would benefit from any accommodations, you may wish to self-identify by contacting the Services for Students with Disabilities (SSD) Office located in Room 244 of Corbett Center (phone: 646-6840). If you have already registered, please make sure that your instructor receives a copy of the accommodation memorandum from SSD within the first two weeks of classes. It is your responsibility to inform either your instructor or SSD representative in a timely manner if services/accommodations provided are not meeting your needs.

If you have a condition which may affect your ability to exit safely from the premises in an emergency or which may cause an emergency during class, you are encouraged to discuss any concerns with the instructor and/or the SSD Coordinator . Feel free to call the EEO/ADA and Employee Relations Director) with any questions about the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act of 1973. All medical information will be treated confidentially.

Instructors will receive specific written guidelines for appropriate accommodations for individual students from the SSD office. No student shall be given accommodations for disabilities unless SSD has requested these specific accommodations for her/him.

Student participation

I strongly encourage active student participation in class, and prefer to answer questions concerning the subject matter in class as they arise. There is no such thing as a “dumb question.” If something is not clear to you, others are certainly confused as well, so feel free to ask. I cannot always know what your background is, and may inadvertently use unfamiliar terminology. One of your biggest challenges in this course will be giving concrete meaning to the specialized and precise terminology encountered. In many ways you should treat this as a foreign language course, become actively involved, and participate.

If you feel uncomfortable asking questions in class, jot them in the margins of your notes and ask me immediately following class while your ideas are still fresh.

Courtesy

Please be courteous towards your fellow classmates. If you come to class, stay for the duration; if you must leave early, sit near an exit so that minimal disturbance results when you leave.

Disclaimer

The instructor reserves the right to modify this syllabus during the semester as considered necessary to achieve course objectives, enhance the quality of instruction, or to correct omissions or mistakes. Notification of changes will be made in class; however, the most up-to-date version will always be the one available on the world wide web. You are responsible for being aware of the contents of this syllabus.

References

- Primack, R. B. 2006. *Essentials of Conservation Biology*. Sinauer, Sunderland, Massachusetts, fourth edition.
- Wiesenfeld, K. 17 June 1996. Making the grade. *Newsweek*, page 16.