

# Conservation Biology (BSCI 363)

## Spring 2014

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**Course Hours:** TBA, BPS 1243

**Course Overview:** Conservation biology applies the principles of ecology, biogeography, population, genetics, economics, sociology, anthropology, and philosophy to maintaining global biological diversity. Intact and functioning ecosystems are critical as a life-support system for the planet, the world's flora and fauna, and our own survival and well-being.

**Course Objectives:** By the end of the course each student should:

- Understand patterns of global biodiversity and threats to that biodiversity.
- Understand how principles from numerous biological disciplines are involved in conserving and managing diversity.
- Understand how climate change will affect conservation approaches.
- Be aware of social, economic, and political factors involved in conservation and management of biodiversity.

**Sustainability:** Meeting the needs of humans and the environment today without compromising our ability to do so in the future is a critical component of conservation biology. Learning how and why to live sustainably is important not just for biodiversity, but in all walks of life for the future of our planet and our society. Therefore, I will integrate principles of sustainability throughout the course, and particularly during our treatment of climate change.

**Required Text:** Primack, R. B. Essentials of Conservation Biology (5th edition). 2010. Sinauer Publishers, MA.

**Attendance:** Mandatory. Lectures will reinforce the textbook material, but information will also come from other sources, including class discussion. If you miss class, it is your responsibility to get the information from your classmates or from postings on Blackboard.

**Clickers:** Clickers are required for the course. Clicker questions will be posed in class to assess the class' background knowledge, evaluate comprehension, and promote discussion. Clicker questions will be graded for participation but not for accuracy. Five days of clicker non-participation will be waived and no other excuses will be accepted without a doctor's note. Clicker questions or similar will appear on exams, so these will be a useful study tool. Register your clicker device at [www.clickers.umd.edu](http://www.clickers.umd.edu).

**Course Philosophy:** This is a "capstone" course taken towards the end of your undergraduate career that ties together the various courses and diverse experiences you have had as a Biology major. It is expected that students have background in Ecology and

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Evolution. My goal in lecture is to indicate what topics and ideas I think are most important and provide opportunities for you to put those principles into practice. As a student it is your responsibility to come to class having done the assigned reading, to complete assignments on time, and to participate in class.

**Grading:** There will be three exams that will test your comprehension of course materials. There will be two projects that will test your ability to gather and synthesize information, to write scientifically, and to present information. Exams will include multiple choice and short essays. Unless you contact me ahead of time or provide a doctor's note explaining your medical emergency, I do not offer make-up exams. I do not curve grades. Final letter grades are based on a percent of points obtained out of 500 total possible:

	<u>Points (%)</u>
Assignments	20 (4%)
Participation	25 (5%)
Project I	75 (15%)
Project II	75 (15%)
Midterm I	90 (18%)
Midterm II	90 (18%)
Final exam	125 (25%)
	<b>500 (TOTAL)</b>

*Extra credit:* You will have two opportunities to earn extra credit points by participating in activities outside of class. You can earn 5 points (1%) for each. Extra credit will not be given outside of these two occasions.

1. An assignment at The Bay Game event, Maryland Day, April 27<sup>th</sup>.
2. Restoration field trip write-up, date TBD.

### University Grading System

A+: 97.0-100.0, A: 94.0-96.9, A-: 90-93.9 denotes excellent mastery of the subject and outstanding scholarship.

B+: 87.0-89.9, B: 84.0-86.9, B-: 80-83.9 denotes good mastery of the subject and good scholarship.

C+: 77.0-79.9, C: 74.0-76.9, C-: 70.0-73.9: C- denotes acceptable mastery of the subject and the usual achievement expected. These grades are assigned 2 quality points per credit hour.

D+: 67.0-69.9, D: 64.0-66.9, D-: 60.0-63.9 denotes borderline understanding of the subject. These grades denote marginal performance, and they do not represent satisfactory progress toward a degree.

F denotes failure to understand the subject and unsatisfactory performance.

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### Schedule - \*Subject to change

Day	Date	Spring 2014	Reading
M	January 27	Introduction	-
W	January 29	What is Conservation Biology?	Ch 1
F	January 31	Origins of Conservation Biology	Ch 1
M	February 03	What is biodiversity?	Ch 2
W	February 05	Measuring Biodiversity	Ch 2
F	February 07	Distribution of biodiversity	Ch 3
M	February 10	Ecological economics & direct use values	Ch 4
W	February 12	Indirect economic values & ethics	Ch 5 & 6
F	February 14	Extinction	Ch 7
M	February 17	Vulnerability to extinction	Ch 8
W	February 19	Vulnerability to extinction	Ch 8
F	February 21	Local and nat'l legal protection of biodiversity	Ch 20
M	February 24	International legal protection of biodiversity	Ch 21
W	February 26	MIDTERM I	-
F	February 28	International II - War & Peace	Ch 21
M	March 03	Habitat loss and degradation	Ch 9
W	March 05	Pollution, eutrophication	Ch 9
F	March 07	climate change - scientific basis	Ch 9
M	March 10	climate change - biological implications	Ch 9
W	March 12	climate change - sea level rise	TBA
F	March 14	invasive species	Ch 10
M	March 17	SPRING BREAK - NO CLASS	-
W	March 19	SPRING BREAK - NO CLASS	-
F	March 21	SPRING BREAK - NO CLASS	-
M	March 24	overexploitation	Ch 10
W	March 26	Discussion of Spp Assessments	-
F	March 28	Biodiversity informatics	TBA
M	March 31	Small pop I	Ch 11
W	April 02	Small pop II	Ch 11
F	April 04	Applied population biology	Ch 12
M	April 07	Re-introductions	Ch 13
W	April 09	MIDTERM II	-
F	April 11	Captive populations	Ch 14
M	April 14	Establishing protected areas	Ch 15
W	April 16	Reserve networks I	Ch 16
F	April 18	Reserve networks II	-
M	April 21	Practitioner's perspective	
W	April 23	Managing reserves	Ch 17

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F	April 25	Outside of reserves	Ch 18
M	April 28	Restoration ecology	Ch 19
W	April 30	Restoration ecology	Ch 19
F	May 02	Citizen science / education / env literacy	TBA
M	May 05	Traditional ecological knowledge and conservation	TBA
W	May 07	Discussion of Reserve Network Assessments	Ch 20
F	May 09	An agenda for the future, Conclusions and recap	Ch 22
M	May 12	Review	
W	May 14	READING DAY	
<b>TBA</b>	<b>TBA</b>	<b>COMPREHENSIVE FINAL EXAM</b>	

*The University of Maryland requires that the following statements be included in all course syllabi:*

**Academic Accommodations:** *If you have a documented disability, you should contact Disability Support Services 0126 Shoemaker Hall. Each semester students with documented disabilities should apply to DSS for accommodation request forms which you can provide to your professors as proof of your eligibility for accommodations. The rules for eligibility and the types of accommodations a student may request can be reviewed on the DSS web site at [http://www.counseling.umd.edu/DSS/receiving\\_serv.html](http://www.counseling.umd.edu/DSS/receiving_serv.html).*

**Religious Observances:** *The University System of Maryland policy provides that students should not be penalized because of observances of their religious beliefs, students shall be given an opportunity, whenever feasible, to make up within a reasonable time any academic assignment that is missed due to individual participation in religious observances. It is the responsibility of the student to inform the instructor of any intended absences for religious observances in advance. Notice should be provided as soon as possible but no later than the end of the schedule adjustment period. Prior notification is especially important in connection with final exams, since failure to reschedule a final exam before the conclusion of the final examination period may result in loss of credits during the semester.*

**Academic integrity:** *The University of Maryland has a nationally recognized Code of Academic Integrity administered by the Student Honor Council. This Code sets standards for academic integrity at Maryland for all undergraduate and graduate students. As a student you are responsible for upholding these standards for this course. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit <http://www.studenthonorcouncil.umd.edu/whatis.html>. The University of Maryland is one of a small number of universities with a student-administered Honors Code and an Honors Pledge, available on the web at <http://www.jpo.umd.edu/aca/honorpledge.html>. The code prohibits students from cheating on exams, plagiarizing papers, submitting the same paper for credit in two courses without authorization, buying papers, submitting fraudulent documents, and forging signatures.*

**CourseEvalUM:** *Your participation in the evaluation of courses through CourseEvalUM is a responsibility you hold as a student member of our academic community. Your feedback is confidential and important to the improvement of teaching and learning at the University as well as to the tenure and promotion process. CourseEvalUM will be open for you to complete your evaluations for fall semester courses between Tuesday, December 1 and Sunday, December 13. Please go directly to the website ([www.courseevalum.umd.edu](http://www.courseevalum.umd.edu)) to complete your evaluations starting December 1. By completing all of your evaluations each semester, you will have the privilege of accessing online, at*

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*Testudo, the evaluation reports for the thousands of courses for which 70% or more students submitted their evaluations.*