

BIOLOGY 375-002: CONSERVATION BIOLOGY

INSTRUCTOR:	Dr. Maria Stanko	EMAIL:	mstanko@njit.edu
OFFICE:	340E CKB ▪ (973) 642-7246	OFFICE HOURS:	M: 2:00pm – 4:00pm
COURSE SCHEDULE:	T: 1–2:25PM, R: 2:30–3:55PM; CKB 320	COURSE WEBSITE:	http://moodle.njit.edu/

COURSE DESCRIPTION:

Conservation biology is a developing and complex field. It draws upon the biological disciplines of population biology, taxonomy, ecology, genetics, and resource management as well as the fields of economics, ethics, and politics to document, understand, and protect the world's biodiversity. This course will give students an overview of this emerging discipline including the scientific methods employed, the biological principles behind conservation techniques and strategies as well as the complexities involved in attempts to influence and implement conservation-oriented policies.



PREREQUISITES:

- Foundations in Biology: Ecology & Evolution (BIOL 205 & 206)
- Foundations in Biology: Cell & Molecular (R120:201&202)

REQUIRED TEXT:

- A Primer of Conservation Biology, Fifth Edition: Paper Text © 2012 by Richard B. Primack; ISBN: 978-0878936236.

ADDITIONAL READINGS:

Throughout the semester, I'll be providing additional readings to supplement the course text and to serve as the basis for class discussions. These readings will be posted to the course Moodle site.

LEARNING OUTCOMES:

Students are able to....

- Identify and explain important threats to biological diversity as well as the variety of approaches to protecting biodiversity.
- Read critically and be able to form and articulate opinions on complex issues in conservation biology.
- Independently research and present an oral report on a chosen topic in conservation biology.

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GRADING POLICY:

Grades will be calculated based on the proposed point distribution below. Slight changes may be made to this point distribution; you will be notified of any changes.

COMPONENT	POINTS
Participation	30 points
Quizzes	40 points
Assignments	50 points
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COMPONENT	POINTS
Midterm	100 points
Final Exam	150 points
Presentation	50 points
Total	420 points

- ⊕ Please note that participation in class discussions is part of your grade!
- ⊕ Periodically, short assignments will be given, primarily related to course readings.
- ⊕ Exams will be predominantly short-answer style. The Final Exam is cumulative, with an emphasis on the second half of the semester.
- ⊕ All students will research in detail some topic related to conservation biology and share what he/she researched in an 8 minute presentation to the class. Each student will propose his/her topic, to be approved by the instructor.

COURSE POLICIES:

Electronics/Cell Phone Policy:

No electronics (cell phones etc.) in class; laptops permitted for note-taking only.

Attendance:

I expect you to attend all the lectures; you are responsible for all material covered in the lectures.

Make-Up Exams and Quizzes:

Make up exams and quizzes will be permitted only with a doctor's or a dean's letter or with prior approval. If you have a serious reason for missing an exam, you must contact me BEFORE the scheduled exam period to notify me that you cannot take the exam.



Late Assignments: Late assignments will be accepted but penalized 10% per day late.

Academic Integrity: I have a zero tolerance policy for academic dishonesty, including plagiarism and cheating. If you have any questions about what constitutes plagiarism or cheating, please ask me or refer to the academic integrity code: <http://www.njit.edu/education/pdf/academic-integrity-code.pdf>.

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COURSE OUTLINE: *Please note that this is the proposed schedule. I reserve the right to make changes to the schedule when needed; you will be notified of any changes. Additional readings and assignments will be posted to the course website.*

DATE	LECTURE TOPIC	READINGS / ASSIGNMENTS
T – 1/20	About the Course/ Defining Conservation Biology	Chapter 1 (pp. 3-17), Sutherland et al. 2009
TH – 1/22	Biodiversity: Species Diversity & Genetic Diversity	Chapter 2 (pp. 19- 27)
T – 1/27	Ecosystem Diversity	Chapter 2 (pp. 27-35)
TH – 1/29	Patterns of biodiversity	Chapter 2 (pp. 33-45), Wilson 1987, Terborgh 1988
T – 2/3	Valuing Biodiversity: Direct & Indirect Economic Values	Chapter 3 (pp. 47-66)
TH – 2/5	<i>Discussion:</i> Ethics and Economics	Chapter 3 (pp. 66-77), Leopold 1949, Kareiva & Marvier 2007, Kaimowitz & Sheil 2007
T – 2/10	Human Population Growth, Habitat Destruction, Fragmentation	Chapter 4 (pp. 79-98)
TH – 2/12	Environmental Degradation, Pollution, Climate Change	Chapter 4 (pp. 98-110)), McCarty 2001, Pimm 2008; QUIZ 1
T – 2/17	Overexploitation, Invasive Species, Disease	Chapter 4 (pp. 110-132)
TH – 2/19	Extinction	Chapter 5 (pp. 135-150)
T – 2/24	Problems of Small Populations	Chapter 5 (pp. 150-167)
TH – 2/26	Applied Population Biology & Conservation Categories	Chapter 6 (pp. 169-191)
T – 3/3	Legal Protection & Establishing New Populations	Chapter 6 (pp. 191-199)
TH – 3/5	<i>Discussion:</i> The role of zoos, aquariums, botanic gardens; hope versus despair, and review	Chapter 6 (pp. 199-211), Donlan et al. 2005, Redford et al. 2011, Swaisgood & Sheppard 2010 & responses
TH – 3/10	MIDTERM EXAM	
T – 3/12	Movie: "Crash: A Tale of Two Species"	
▶	MARCH 16-20: SPRING BREAK – NO CLASSES	
T – 3/24	<i>Discussion:</i> Red knots and Horseshoe Crabs in the Delaware Bay	Niles et al. 2009, Niles interview 2011, FWS 2013
TH – 3/26	Protected Areas: Establishment & Design	Chapter 7 (pp. 213-239)
T – 3/31	Protected Areas: Management	Chapter 7 (pp. 239-252)
TH – 4/2	Conservation Outside of Protected Areas	Chapter 8 (pp. 255-270)
T – 4/7	Restoration Ecology	Chapter 8 (pp. 270-281)
TH – 4/9	Sustainable Development: Local & National	Chapter 9 (pp. 283-297)
T – 4/14	Sustainable Development: International & Conservation Funding	Chapter 9 (pp. 297-303)
TH – 4/16	<i>Discussion:</i> Conservation, Education, and the Media	Chapter 9 (pp. 303-309), Bride 2006, Radiolab "Galápagos," QUIZ 2
4/21-4/30	Student Presentations	
T – 5/5	NO CLASS – FRIDAY SCHEDULE	
FINALS	FINAL EXAM WEEK: MAY 8-14, 2015	