This syllabus is a general representation of the course as previously offered and is subject to change.

BIOL 416 – Principles of Conservation Biology

General Course Syllabus (as of November 2019)

About the Course:

Course Description: This course addresses the ecological basis of conserving biological diversity and ecosystem services and applies ecological theory to global and local conservation problems in the context of economic, legal, political, and social perspectives. This course provides undergraduate students with a strong foundation for understanding the current biodiversity crisis. Please consult the Faculty of Science Credit Exclusion List: www.students.ubc.ca/calendar/index.cfm?tree=12,215,410,414.

Course Format: Lecture and Tutorial
(two 50 minute lectures and one 3-hour tutorial per week)
Credits: 3
Prerequisites: One of BIOL 230, FRST 201.

Course Learning Outcomes:

By the end of this course, students should be able to:

- Describe the causes and consequences of recent global environmental changes.
- Describe current conservation responses to counter-act the loss of biodiversity.
- Explain the origin and distribution of biodiversity, how biodiversity is defined and measured, and how it varies in space and time.
- Evaluate and justify the need for biodiversity, and how its loss impacts human societies.

Textbooks and Additional Resources:

There is no course textbook, but there are many great conservation biology books and the following are recommended:

- Conservation Science: Balancing the Needs of People and Nature – 2017
  Michelle Marvier and Peter Kareiva
- Conservation Biology: Foundations, Concepts, Applications 2nd ed. – Springer
  Fred Van Dyke

Supplemental readings from the recent literature are provided on the course website on Canvas (canvas.ubc.ca).

Students will be asked to install R (https://www.r-project.org/) and R studio (https://www.rstudio.com/products/rstudio/download/) on their laptops.

Grading Scheme:

Assessment	Weight
Tutorials (Presentations, Debates, Data analyses)	40%
Written Report	30%
Final exam (comprehensive)	30%

In the tutorial sessions, students will be expected to participate in student-led debates, prepare in-class presentations to support their perspectives, and submit two problem sets with data to be analysed using R. Students will also conduct a one-month project on species responses to climate change, and submit a written report for grading.

Schedule of Topics:

A sample schedule is given below. The order of topics may change to accommodate guest lecture availability.

Week	Lecture Topic/Activity	Tutorial Topic/Activity
1	Introduction. Course overview	Install R
2	How many species are there? Dimensions of Biodiversity	New Species
3	The Great Acceleration Proximate Extinction drivers	Intro to R I
4	Ultimate Extinction drivers: The Big 5 Guest Lecture: Fragmentation	Intro to R II
5	Guest Lecture: Climate Change Climate Change – biotic responses	Debate: Species X should be protected
6	Invasive species Pollution	Project – climate change (**written report**)
7	Guest Lecture: Conservation Genetics Nature's Contributions to People	Project – climate change (**written report**)
8	Biodiversity and Ecosystem Function Conservation Economics	Debate: Hunting is good for conservation
9	Mass Extinctions I Mass Extinctions II	BEF I (**data analysis**)
10	Co-extinctions Guest Lecture: Species at Risk Act	BEF II (Phylogenetic Diversity) (**short report**)
11	IUCN Red List Predicting Extinctions	Extinction: IUCN Red List (**data analysis & short report)**
12	Conservation Triage Global Priority settings	Mock Exam
13	Future perspectives Review	Exam Review

University Policies:

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence.

UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom.

UBC provides appropriate accommodation for students with disabilities and for religious, spiritual and cultural observances.

UBC values academic honesty and students ae expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on the UBC Senate website.