

Applied Ecology: Interactions, Relationships, and Conservation

ENV 205 Syllabus Fall 2021

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Class meets twice a week:

Monday and Wednesday → 9:25 - 10:40 AM

Course description

Ecology and the environment are hot topics in today's world. All across the world top brands market themselves as "fair trade", governments develop new "sustainability policies", and people go "organic" in an effort to reduce their carbon footprint. But what does all this have to do with our *actual* environment? This course will provide you with a foundational understanding of ecology: the interactions that govern our environment. We'll learn about living and nonliving aspects of the environment, discover the relationships between organisms, explore local environments around Bishkek, investigate conservation methods and techniques available for ecological research, and uncover practical ways we can have a positive impact on our environment. Are you ready to get your feet wet, your hands dirty, and your interest in nature peaked?

Student responsibilities

You are responsible for reading all necessary materials prior to class, completing independent work, attending every class, being involved in class discussions, and conducting a final project. Grades will be determined based on each of these elements as described below. You will not be *graded* on your attendance, but if you miss more than 3 classes, you will automatically be given a failing grade.

Learning Objectives

By the end of this course students will be able to:

- Understand what constitutes an ecosystem; both physical and biological parts
- Be able to use the Lapis Guides smartphone application for biological data collection
- Suggest reasons why some organisms are better suited to some ecosystems than others
- Set, monitor, and retrieve camera traps in order to do a biodiversity study
- Understand and use GIS software for basic data analysis
- Study population dynamics based on simple statistics

- Capture, identify, and analyse macroinvertebrates in a field setting
- Create a community conservation action plan based on a real life study of snow leopard habitat protection in the Kyrgyz Ala Too mountains

Pre-Requisites

None

Teaching Philosophy

Learning is not just a set of memorised facts. I intentionally integrate higher learning pathways in my courses to ensure that knowledge is gained as understanding of course material rather than just memorisation. This will allow you to be a life-long learner rather than just another short-term student.

Although I will talk a lot during the course times, at any moment you are free to stop me and ask questions. Do not sit quietly without asking me for clarification when you *need* help on a certain topic. It is **your** obligation to make sure you understand. I will do everything I can to help, but I can't help you if I don't know you need help. However, don't expect me to spoon feed you all the course material. Self directed learning is, in my opinion, one of the most important aspects to true life-long learning. Try to find the answer to your question before asking me. We live in an age of amazing technology that makes it possible for you to learn nearly anything you could think of!

Speaking of technology, it features very heavily in my classroom. Assignments, course material, and other important things are all shared through a course website. Communication is done online through email. Internet access is essential for doing well in this class.

Obviously, given that this semester is going to be entirely online, the above paragraph is even more relevant. All (not just some) of our interaction with each other will be done digitally, making digital literacy all the more important for you.

Course Materials

References – Books, Websites, and Articles

- ❑ Course Materials will all be made available online on a Google Classroom. This includes all articles, videos, presentations, books, etc.

Policies

- Ample time will be given to complete each assignment. There is no reason for an explanation that the computer is down or the software is not working a day before the assignment is due. This will NOT be taken as an excuse for a late assignment!
- If sickness is used as an excuse for turning in an assignment late or missing the examination, a written report from a medical doctor stating your inability to attend class and/or to complete an assignment is required. (Scan and send to me please)
- Assignment Extensions: You will be given one "Assignment Extension Pass" during this semester. You are free to use this on any one assignment, for any reason (or no reason at all), and it will give you an extra **3 DAYS** with no late penalty (see section on late penalties below). It will only apply to you personally, so make sure you use it wisely.
- Discussions about the lectures etc. with your classmates is highly encouraged. **HOWEVER**, copying other people's assignments, including computer files such as databases or map images, analysis results, and answers to the exercise questions, is considered a violation of AUCA Regulations. Such actions will be dealt with accordingly.
- Students who require special accommodations should discuss their need with the instructor no later than the second week of the term so that appropriate arrangements can be made. All the discussions will remain confidential, although the Student Disabilities Coordinator may be consulted to discuss specific accommodations.
- Attendance is mandatory. Don't waste my time by not being in class or coming late to class. I don't give points for being in class as that shouldn't be necessary for you to fulfill your responsibility as a student. However, if you are absent from class more than 3 times, I will happily provide you with a failing grade. Being late to class will also be counted: if you are more than 10 minutes late to class it will count as a tardy, and 3 tardies will equal one missed class. I do my best to be there for you in a timely manner, please reciprocate this back to me.

Assignment Points

Mid-term test and final examination	20 and 30 points	15% and 20% of your grade
5-11 projects (includes projects, outdoor labs, lab reports, and research papers)	10 points each	50% of your grade
Article quizzes	5 points each	15% of your grade

Grading

Final grades will be based on the following scale:

A 95-100	B- 80-82	D+ 67-69
A- 90-94	C+ 77-79	D 63-66
B+ 87-89	C 73-76	D- 60-62
B 83-86	C- 70-72	F < 59

If you are near the borderline between two letter grades (generally within 1 percentage points), your attendance and level of participation in the class will be used to determine if you receive the higher or lower grade.

****I don't believe in extra credit, so do the best you can on the assignments provided.****

Due Dates

Each assignment has a due date specified on the webpage. The due time is typically 11:59pm on the due date unless otherwise mentioned. Any assignment that is turned in after the due date is considered late, and yes, I'll know since your assignments are turned in electronically...

The penalty for a late assignment is 5% per day late. A day is a 24 hour period. If an assignment is late less than 24 hours, it is considered 1 day late. If an assignment is late less than 48 hours but more than 24 hours, it is considered 2 days late, and so on, until the assignment cannot possibly earn any points.

Course Schedule

The course schedule is subject to change. All materials are available through the course webpage. Not all assignments are included in the below table

Schedule: Date	Topic	To Do
Week 1	Introduction to Ecology	Butterflies as Ecosystem Indicators Lab (Part 1)(Ongoing)
Week 2	The Physical Environment	Public Lands Paper
Week 3	The Biosphere	Macroinvertebrate Sampling Part 1
Week 4	Coping with Environmental Stresses	Macroinvertebrate Sampling Part 2
Week 5	Populations	Botanic Garden Tree Survey Lab
Week 6	Interactions pt. 1	
Week 7	Interactions pt. 2	Interactions Paper
Week 8	Midterm Exam	Good Luck!
Week 9	Communities pt. 1	Biodiversity Statistics Project
Week 10	Communities pt. 2	Butterflies as Ecosystem Indicators Lab (Part 2)
Week 11	Energy Flow in Ecosystems pt. 1	
Week 12	Energy Flow in Ecosystems pt. 2	
Week 13	Application/ Conservation pt. 1	
Week 14	Application/ Conservation pt. 2	Community Conservation Action Plan
Week 15	Final Exam	Good Luck!