

# Biol 315/Envr 315: Sustainability

## Spring 2021

(Tuesdays)/Thursdays 10:00-11:15

### Thursday (and selected Tuesdays\*) meetings on ZOOM ONLINE

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**Office Hours:** Mondays, 9:30-10:30, Tuesdays 10-11am (for THIS CLASS ONLY); Tuesdays 4-5pm, or by appointment. ALL Office Hours this semester are via Zoom (find link on Canvas)

**Required Readings:** Ellis, E.C. 2018. Anthropocene a very short introduction. Oxford University Press. Additional daily readings will be posted to Canvas.

### Course Description:

Sustainability is a problem-driven field that focuses on both the protection of the environment and the maintenance and enhancement of life for current and future human generations. This sustainability course will explore some of the major scientific issues behind our understanding of sustainability focusing on major themes of the Anthropocene, biodiversity, water, global change, energy and resources, food and agriculture, waste and human health. An examination of potential solutions will require an understanding of how the dynamic relationship between societal changes and environmental changes influence human-environment systems. Particular attention will be given to current local issues in New York, and in the United States through lectures, case studies and projects.

### Learning Outcomes:

By the end of the course, students will:

1. Be able to define the concepts of the Anthropocene, sustainability, and understand that sustainability problems and solutions are parts of complex systems made up of multiple interacting and inextricably linked elements
2. Understand the scientific principles of selected environmental problems and solutions and be able to critically evaluate sustainability related data and arguments
3. Work successfully with groups or a partner on case studies, scientific communication projects and a major final project.

### Pandemic Learning Objectives

I hope you will join me in adopting these additional learning objectives. This semester will be a big opportunity for learning for all of us, and to be as successful as we can be, let's commit to each other:

1. To be patient and kind with ourselves and each other as we navigate these new ways of learning.
2. To embrace the opportunity to learn in new ways and grow as life-long learners.
3. To do our best, knowing that our best may look different than it has in other semesters.
4. To communicate openly and clearly about our expectations, concerns, and goals.
5. To be flexible. We are in unfamiliar and uncertain times. We're all a bit anxious. Circumstances will likely change over the course of the semester. Let's work together to make this the best class possible, knowing that this may be a moving target.

-credit to @MikkiBrock for sharing a draft of these objectives

## About online learning

This may be the first fully online course that you have taken, and there are significant differences between this and the usual face-to-face courses you are used to. Keep in mind that whether a course is online or face-to-face, you should expect to be doing approximately 3 hours of work a week for every credit hour. For this course, that means 9 hours of work per week. In a face-to-face course 3 of the 9 hours per week would be spent in the classroom listening to lecture, in discussion and small group work. The other 6 hours would be spent doing homework and out-of-class project work, reading the assigned readings and studying. That same 9 hours in this online course will be spent on similar sorts of work, but in somewhat different proportions, and almost all scheduled by you.

Being in an online course gives you more control about the timing of your focus on course material, but the workload should be very similar to a face-to-face course. Online learning in many ways more closely mimics the kind of self-motivated learning that you will do when you leave college, so think of this as training for the the rest of your life. While you have more flexibility about when your focus on course material, you should strongly consider creating a weekly schedule for your work (pace yourself!), and I strong recommend logging into the course Canvas page daily to see updates and comments from your instructor and classmates.

Since we'll all be working online and not face-to-face, it is very important that we all use our most respectful "netiquette". Keep this in mind especially when commenting or responding to each other's posts and questions.

To successfully access and use the resources needed for this course, and to submit the required assignments, you will need the following technology:

Hardware: a laptop computer (one that fulfills the Geneseo Laptop requirement) and a high-speed internet connection, sound card, speakers or headphones, and a microphone (if there is one built into your laptop, that should be fine)

Software: An internet browser compatible with Canvas, Adobe Reader, and Google Docs and Google Slides (you may also find Microsoft Word useful).

**Course Design:** This course is divided into 3 modules, and you will find the course modules labeled on Canvas. Each module focuses on a set of topics, and for each topic there will be readings, online lectures, activities and assignments. The class will meet online via Zoom once per week on Thursdays.

## Grading:

Final grades will be assigned according to the following point distribution: 93+%, A; 90-92%, A-; 87-89%, B+; 83-86%, B; 80-82%, B-; 77-79%, C+; 73-77%, C; 70-72%,C-; 60-69%, D; <60%, E. Under most circumstances, there will be no adjustment to your grades after the calculation.

**\*\*IMPORTANT\*\*** Grades for most assignments and Exams will be posted in our Canvas site, however, the gradebook in Canvas is NOT set up to calculate your final grade. I will export all your Canvas grades and compute your final grade offline.

Final Grades will be based on the following breakdown of points for assignments, classwork and exams:

15%	Homeworks, Quizzes & Case Studies
45%	Exams
30%	Student Group Projects/Presentations (Sustainability Solutions + GVC Project)
10%	Sustainability Journal + Reflections
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100%	TOTAL

### **HOMEWORK, QUIZZES AND CASE STUDIES (15% OF YOUR GRADE):**

For most class periods there will be assigned readings that may consist of journal articles, book chapters, websites or other source material. That means for our Tuesday classes when we don't have a Zoom meeting scheduled, you are expected to watch the assigned videos, read the readings or complete the assignments associated with that class date. Our Thursday class Zoom meetings will be used to answer questions, engage in small group discussion, or complete case studies and problem sets related to the work you did on your own on Tuesday. You are expected to read the assigned readings, or complete pre-meeting assignments BEFORE coming to Thursday class meetings, and be prepared to engage in a small group or class discussion. A short 1-2 page position paper, may be assigned for some readings/discussions. Case Studies done in class as a whole class or in small groups will typically have a short writing/data analysis component, concept map, or online quiz that will be completed individually and turned in as homework. Those homeworks/quizzes will typically be due by Monday of the following week.

### **TAKE HOME ORAL EXAMS (45% OF YOUR GRADE):**

There will be three oral exams over the course of the semester. Exams will cover material from the readings, the online lectures, case studies/problem sets or videos/guest speakers from class. For each oral exam, students will be provided with a pool of 10 or more exam questions 5 days before the exam is due. **Twelve hours before the exam is due**, each individual will receive an email with 2 randomly chosen questions from the pool. Students will answer the 2 questions in an audio or video recording saved to YouTube lasting no more than 12 minutes. Recordings must contain the student's voice answering the questions, and should contain any visual aids that the student deems necessary to answer the question (some questions will require a visual aid such as a graph). Each recording must also include an audio statement from the student, affirming that all of the work on the submission is their own (a statement for the student to read will be provided with the exam questions). YouTube links to Student Oral Exam recordings will be uploaded to the Canvas site before the exam deadline. The rubric for grading exam questions will be available on the course Canvas site.

### **STUDENT GROUP PROJECTS AND PRESENTATIONS (30% OF YOUR GRADE):**

Students will be assigned to permanent groups at the beginning of the semester. In these groups, students will complete two major projects over the course of the semester. The first project will involve designing a class activity and leading a class period focused on a sustainability solution guided by the information from Project Drawdown. More details about this assignment will be provided in the first two weeks of class. A second student group project will be a service learning project with the local land trust, the Genesee Valley Conservancy. The final product of this project will be presented to

the GVC and Geneseo Village community members. More details about both of these projects will be given in class and on Canvas.

## **SUSTAINABILITY JOURNAL AND REFLECTIONS (10% OF YOUR GRADE):**

Over the course of the semester, you will be completing weekly observation sessions in at least two locations: a (relatively) natural area, and a location that is in the human built environment. Each observation session will last approximately 25minutes. At three dates during the semester you will submit images of your observation journals along with written reflections that respond to assigned prompts and utilize your observations. Additional details of this assignment, and the rubrics used to grade it can be found on Canvas.

## **LATE WORK AND MAKE-UP WORK**

In the Canvas Dropboxes for most assignments you will find that the due date/time may be different than the closing date/time. That means it is possible to submit late work (after the due date/time) up until the closing date/time. Late work is typically penalized -10% for each day (24hours) late, and the penalty may be assessed proportionally by time.

If you believe you have a valid excuse (illness or other extenuating circumstance) for late work, or need make-up work, you must contact Dr. Hannam as soon as possible, and before the end date of the module in which the work is due. Dr. Hannam will work with each student individually to determine the best solution to the missed deadline.

## **Academic Dishonesty**

SUNY-Geneseo's policies on academic dishonesty are summarized in the Code of Student Conduct found in the Geneseo Undergraduate Bulletin pg. 402. Plagiarism and other forms of academic cheating are prohibited and may result in a zero on an assignment or exam. Any incidents will be reported to the departmental office, and may be referred to the campus Judicial Council. Repeated incidents will result in failure of the course. If you have any questions about what constitutes academic dishonesty please contact the instructor.

## **Communication with the Instructor**

The best way to communicate with Dr. Hannam is via Canvas course contact (Canvas inbox or Canvas class discussion question board). The second best way is via Geneseo email ([hannam@geneseo.edu](mailto:hannam@geneseo.edu)). Dr. Hannam will make every effort to respond to messages sent to her during the workday by 6pm the same day. However, be aware that Dr. Hannam checks messages in batches 2-3 times/day, so may not respond immediately even during the workday. Emails sent after 5pm may not be answered until the following workday depending on Dr. Hannam's schedule outside of work. And Dr. Hannam typically takes one day/week off from work (usually Saturdays), and checks email on weekends only sporadically.

Dr. Hannam will communicate with the class primarily via "Announcements" on the course Canvas page. Please make sure you check the "Announcements" page regularly and/or sign up for notifications to your phone or email for when additions have been made to the "Announcements" page.

## **Taking Care of Your Mental Health**

The Biology major is demanding, and as your instructor I try to keep in mind that mine is not the only course you are taking, and that most of you also have other demands on your time and attention in addition to your coursework. Juggling your many responsibilities can have an impact on your mental health. With this in mind, I realize that diminished mental health, including significant stress, mood changes, excessive worry, or problems with eating and/or sleeping can interfere with optimal academic performance. The source of symptoms might be strictly related to your course work; if so, please make an appointment to speak with me one-on-one. I realize problems with relationships, family worries, loss, or a personal struggle or crisis can also contribute to decreased academic performance.

SUNY Geneseo provides mental health services to support the academic success of students. Counseling Services, a part of the Lauderdale Center for Student Health & Counseling, offers free, confidential psychological services to help you manage personal challenges that may threaten your well-being and success here in college.

In the event I suspect you need additional support, I will express my concerns and the reasons for them, and remind you of resources (e.g., Counseling Services, Career Services, Dean of Students, etc.) that might be helpful to you. It is not my intention to know the details of what might be bothering you, but simply to let you know I am concerned and that help, if needed, is available.

Getting help is a smart and courageous thing to do -- for yourself and for those who care about you.

## **Copyright Notice**

All materials used in this course, including lectures, slides, videos, and handouts, have specific licensing and copyright restrictions that identify how they can be used, distributed, and adapted. The original work created by me, your instructor, is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Materials created by other authors have their own licensing and copyright restrictions. Please do not violate the restrictions we have put on our intellectual property. This includes, but is not limited to, transferring files to websites such as StudyBlue and Course Hero, storing old tests in sorority/fraternity test banks, and passing on assignments to friends who may take the course in the future. Be aware that UUP (Union of University Professionals, the union representing faculty on this campus) is seeking to take legal action against groups who violate copyright, and that posting or selling copies of materials to such groups may put a student in legal jeopardy.

## **ELECTRONIC DEVICES IN CLASS**

Please make sure all cellphones, laptops and other electronic devices are on "silent" during class.

While laptops and other electronic devices can be useful learning tools in class, there is strong evidence that they can also be serious distractions from learning for the user, and for other people seated around the user. I will request you bring laptops to class on some days to access online material and data, however, please be mindful of how you use electronic devices in class, and their impact on the other learners around you. Also keep in mind that it is pretty clear to the instructor at the front of the classroom when electronic devices are being used for learning, and when they are being used for other (usually entertainment and communication) purposes. Not only is it apparent to the instructor, research (Ravizza et al. 2016) measuring the duration of student Internet use in class found that students who used laptops in class for nonacademic reasons had poorer class performance, as indicated by their final grade.

## ACCOMMODATIONS

SUNY Geneseo will make reasonable accommodations for persons with documented physical, emotional, or cognitive disabilities. Accommodations will also be made for medical conditions related to pregnancy or parenting. Students should contact the Dean in the Office of Disability Services ([585-245-5112](tel:585-245-5112)) and their faculty to discuss needed accommodations as early as possible in the semester.

## ACADEMIC DISHONESTY

SUNY-Geneseo's policies on academic dishonesty are summarized in the Code of Student Conduct found in the Geneseo Undergraduate Bulletin online. Plagiarism and other forms of academic cheating are prohibited and may result in a zero on an assignment or exam. Plagiarism and cheating will be reported first to the departmental office, and may be referred to the Campus Judicial Council. Repeated incidents will result in failure of the course. Exams and assignments will be checked for plagiarism. If you have any questions about what constitutes academic dishonesty please contact the instructor.

## PLAGIARISM

Plagiarism is very serious. If you plagiarize, you will be prosecuted. No excuses. No second chances -- even if you had planned to graduate. Plagiarism doesn't just happen accidentally. You are responsible for determining how to properly cite the work and ideas of other people. If you are unsure or have questions, refer to Milne library's links for citations (under "Research Help"). If you still need assistance, ask your instructor or a librarian.

Students sometimes think that citations are necessary only when using material that is a direct quote. This is not true. A citation is necessary any time you include any information or idea that is not yours (i.e., directly or indirectly derived from someone else's thinking or writing). Any non-original idea that you fail to cite is plagiarized. Plagiarism is intellectual stealing and the consequences of plagiarism are substantial. In order not to be accused of plagiarism, all a student needs to do is properly cite sources.

For the purpose of this policy, plagiarism shall be considered to be deliberate representation of someone else's words or ideas as one's own or the deliberate arrangement of someone else's material(s) as one's own. This means that even on oral exam submissions, you must properly cite any sources you use to answer questions.

The following schedule is not set in stone, and the order of topics, or amount of time spent on a topic may expand or contract depending on a number of factors this semester. Please note, that class generally meets on Zoom on Thursdays, and class meetings on Zoom are also planned for the Tuesdays (and other days) indicated with an asterisk \*. You can confidently put the exam dates in your personal calendar, as those dates will not change.

## SCHEDULE:

DATE	TOPIC
Feb 2*	Introduction to the Course
Feb 4	Introduction to the Anthropocene
Feb 9	The Anthropocene
Feb 11	The Anthropocene
Feb 16	The Anthropocene and the Problem of Sustainability
Feb 18	The Anthropocene and the Problem of Sustainability

This syllabus & schedule are accurate as of the first week of classes (Feb 1-5, 2021), any changes to the syllabus & schedule will be posted on Canvas.

<b>DATE</b>	<b>TOPIC</b>
<b>Feb 23*</b>	Guest Speaker
<b>Feb 25</b>	Wrap-up Module 1
<b>Mar 2</b>	Rejuvenation Day – No Class
<b>Mar 4</b>	Exam 1 DUE
<b>Mar 9</b>	Global Change Biology
<b>Mar 11</b>	Global Change Biology
<b>Mar 16</b>	Biodiversity and Sustainability
<b>Mar 18</b>	Biodiversity and Sustainability
<b>Mar 23</b>	Food, Agriculture & Sustainability
<b>Mar 25</b>	Food, Agriculture & Sustainability
<b>Mar 30</b>	Energy and Sustainability – Fossil Fuels & Renewable Energy
<b>Apr 1</b>	Energy and Sustainability
<b>Apr 6</b>	Water and Sustainability
<b>Apr 8</b>	Water and Sustainability
<b>Apr 13</b>	EXAM 2 DUE
<b>Apr 15</b>	Project Work – Group Progress Meetings w/Dr. Hannam
<b>Apr 20*</b>	Project Work – Group Progress Meetings with Dr. Hannam
<b>Apr 22</b>	Rejuvenation Day – No Class
<b>Apr 27*</b>	GREAT Day Keynote on Wednesday, April 28 @2:30
<b>Apr 29</b>	Sustainability Solutions
<b>May 4*</b>	Project Work
<b>May 6</b>	Sustainability Solutions
<b>May 10 (MONDAY)*</b>	Sustainability Solutions – CLASS meets on Zoom
<b>May 12*</b>	Final Group Project Meetings w/Dr. Hannam
<b>May 14</b>	FINAL EXAM PERIOD – 12-2:30 Final GVC/Community Presentations