



MSWI-270C, Ecology, Environment, & the Anthropocene

Spring 2019

Department of Mathematics and Science, School of Liberal Arts and Sciences, Pratt Institute

Course Description:

Like any other organism, humans rely on their environment — most prominently the living part of that environment — in order to survive. But unlike any other species, humans have the ability to re-shape the diverse environments they inhabit in profound, fundamental, and potentially destructive ways. This course explores how living ecosystems function and how that functioning provides the resources required by both individual humans and the societies we form. It also considers how we have transformed our environment in ways that can threaten both our own health and the health of the ecosystems upon which human civilization depends. Many scientists suggest that we have entered a new geologic epoch, the Anthropocene; this course explores ways in which the “age of humanity” can become a sustainable — rather than apocalyptic — episode in evolutionary history.

Upon completion, this course is worth three (3) credits. This course counts as both a *Math & Science Core Course* and a *General Education Writing-Intensive Course*.

Meeting Time: Section 01: Wednesdays 9:00 am to 11:50 am, Engineering, Room 113
Section 03: Thursdays 9:00 am to 11:50 am, Engineering, Room 113

Instructor: Dr. Christopher Jensen
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Office Hours: Tuesdays & Wednesdays from 2:30 - 4:00 pm, or *by appointment*

Course Goals:

- To understand how ecological systems function and how those functions provides services to humans.
- To explore how a variety of ecological interactions create ecological communities and allow nutrients, water, and energy to flow through ecosystems.
- To identify and understand the major ecological and environmental problems created by human activities.
- To frame the major human activities that threaten the sustainability of human civilization by creating excessive ecological and/or environmental impacts.
- To assess which technologies and policies have the most promising potential to reduce human impacts to sustainable levels.
- To refine students' ability to write about scientific ideas and scientific research through a process of drafting, feedback, and revision.

Learning Outcomes: Students who successfully complete *Ecology* will be able to...

- depict how different interactions in ecological communities produce the variety of ecosystems and emergent ecological flows observed on Earth.
- explain how ecologists and evolutionary biologists conduct studies to improve our understanding of how the natural world functions.
- connect the functioning of ecological systems with resources and services that human civilizations depend upon.
- catalog and assess the relative severity of different ecological and environmental problems.
- use critical, logical, and creative thinking to devise and assess solutions to major problems of human sustainability.
- perform research into the scientific literature that informs the written proposal and summary that accompany a creative Term Project.
- incorporate relevant scientific research into a creative Term Project.

Assessment Criteria:

Below is a summary of how you will be graded in this course. All grades will be posted on the *LMS*, so please take advantage of the fact that you can always know how you are doing in the course.

Contribution to Grade	Category	Description
40%	Coursework	<p>There are four (4) main categories of coursework for which you will receive grades:</p> <ol style="list-style-type: none"> 1. Each week there are one or more short-essay-based Reading Questions due two (2) hours before class starts. Based on the assigned readings for each day, these questions will provide you with the opportunity to demonstrate that you understood the material and to informally practice your writing about science. Reading Questions are worth ~7.6 of the 40 <i>Coursework</i> points. 2. In class, we'll be discussing ideas covered by course readings. I'll have questions for you; I will expect you to have questions for me. Come to class having read and thought about assigned readings, ready to actively engage in dialogue. To receive Participation credit you need to be present in class; to receive full participation credit you need to be actively engaged in class discussions and work. Based on your participation during each regular class session, I will assign you a specific grade and occasionally make comments on the strengths and weaknesses of your contribution. Participation is worth ~7.6 of the 40 <i>Coursework</i> points. 3. You will also complete Activities in class. Some of these assignments will be done individually, others will require group cooperation. I will be grading your work on each assignment based on its clarity of thought, level of insight, and contribution to class dialogue. Activities are worth ~19.5 of the 40 <i>Coursework</i> points. 4. During Week 08 each student will bring a Draft Proposal to Term Project Proposal Workshop, and provide feedback to other students on their <i>Draft Proposals</i>. These two assignments are worth ~3.2 of the 40 <i>Coursework</i> points. <p>The remainder of your <i>Coursework</i> grade (~2.2 of 40 points) will be based on miscellaneous assignments, all of which are listed on the <i>Learning Management System</i>. You are free to use any resource <u>other than another person</u> to complete all coursework: your notes, books/articles, the internet, and other media are all allowed (see Open Information Policy and Honor Code below).</p>
40%	Term Project	<p>The major independent assignment of this course is the production of a creative work that is informed by research into a topic or topics that are directly related to course content. This <i>Term Project</i> will be developed throughout the semester via an incremental process of planning, drafting, and refinement. This process emphasizes thoughtful conceptualization as a means of preparing to write and make. See the <i>Term Project Guidelines</i> for details.</p>
20%	Final Exam	<p>This course ends with a cumulative Final Exam that will be taken in class on the <i>LMS</i>. Please make sure to bring your Pratt I.D. to class on the day of your Final Exam, as we will be taking this exam in a Pratt computer lab. The final will focus on broad concepts learned in the course rather than the regurgitation of scientific facts. As per the <i>Open Information Policy</i>, you may use anything but another person to complete the Final Exam.</p>

★ **Under no circumstances will personalized extra-credit work be offered to any student** ★

Course workload:

As a 3-credit lecture/seminar course in Liberal Arts and Sciences, the expectation is that you will devote at least 6 hours per week to the course in addition to the 3 hours per week spent in class. This out-of-class time will be dedicated to: course reading assignments (approximately 2 hours for careful reading — the reading material in this course will introduce many new concepts and much new terminology); homework (approximately 0.5 hours); post-class review of lecture slides and feedback on classwork and homework (0.5 hours per week recommended); and work on the components of the “scaffolded” *Term Project* assignment (3 hours per week recommended). By following this “recommended” schedule of 6 hours per week outside of class, it will be entirely possible to avoid a pile-up of work around major deadlines.

Lateness and Absence:

Of Students: I expect you to arrive to class on time. Lateness and absence adversely affect your classwork grade because work missed due to unexcused absence is counted as a zero. There is not a certain number of absences that lowers your grade or causes you fail, but the more classes you miss unexcused, the more points you lose.

Of Assignments: Late **Reading Questions** will not be accepted. Other late assignments will be penalized by 10% per day.

Allowance days:

Each student in this course will be afforded ten (10) total “allowance days” that can be used to avoid the usual 10% per day lateness penalty for assignments. These allowance days should be used for missed deadlines that would not otherwise be excused (see below for which causes of lateness are excusable). Please email your instructor to indicate that you wish to use some of these allowance days for a particular assignment. You are free to wait until the end of the semester to indicate where you wish to use these days, but make sure not to allow the semester to come to an end before emailing your instructor. Remember that using allowance days on one component of the *Term Project* does not push back any of the subsequent deadlines for later components.

How to submit documentation for an excusable absence and/or missed deadlines:

There are very few legitimate reasons to miss all or part of a class session or for submitting assignments after the stated deadlines. Valid excuses include family emergencies and personal health issues. The following reasons do not excuse lateness or absence: oversleeping, excessive work load in other classes, inability to use the *Learning Management System*, or “forgetting”. If you believe that you missed a class for a legitimate reason, please submit documentation that:

1. establishes a clear reason why you could not complete work and/or attend class; and
2. clearly delineates the period of time during which you were incapacitated.

Documentation should come from an appropriate source (*for example*: health care provider, employer, clergy) and include contact information that will allow your instructor to validate your excuse. Your instructor makes the final determination on what is and what is not a legitimate reason for missing class and/or submitting assignments after stated deadlines.

Absence from this class to complete other responsibilities on campus:

The time allotted for each your courses is sacred: no instructor or administrator should ever require you to miss any of your regularly-scheduled class meetings. For this reason, you will not be excused for absences that result from being “pulled out” by another professor or by your major program. If you are asked to miss this class for any reason please contact your instructor immediately so that the matter can be quickly resolved.

This course concludes with a final exam, which takes place during the final week of classes at the regular class meeting time. It is possible that your major program may require you to attend a final critique/review that conflicts with the final exam for this course; any such conflicts must be identified well in advance of this final week. True finals-week conflicts will be resolved by scheduling your final exam in this course on the *Exam Conflict Day*, which takes place on the day before the beginning of finals week. Please let your instructor know as soon as you learn of an actual or potential conflict with the scheduled final exam in this course.

General Pratt Attendance Policy:

Pratt Institute understands that students’ engagement in their program of study is central to their success. While no attendance policy can assure that, regular class attendance is key to this engagement and signals the commitment Pratt students make to participate fully in their education.

Faculty are responsible for including a reasonable attendance policy on the syllabus for each course they teach, consistent with department-specific guidelines, if applicable, and with Institute policy regarding reasonable accommodation of students with documented disabilities. Students are responsible for knowing the attendance policy in each of their classes; for understanding whether a class absence has been excused or not; for obtaining material covered during an absence (note: instructors may request that a student obtain the material from peers); and for determining, in consultation with the instructor and ahead of time if possible, whether make-up work will be permitted.

Consistent attendance is essential for the completion of any course or program. Attending class does not earn students any specific portion of their grade, but is the pre-condition for passing the course, while missing class may seriously harm a student's grade. Grades may be lowered a letter grade for each unexcused absence, at the discretion of the instructor. Even as few as three unexcused absences in some courses (especially those that meet only once per week) may result in an automatic "F" for the course. (Note: Students shall not be penalized for class absences prior to adding a course at the beginning of a semester, though faculty may expect students to make up any missed assignments.)

Pratt Institute respects students' requirements to observe days of cultural significance, including religious holy days, and recognizes that some students might need to miss class to do so. In this, or other similar, circumstance, students are responsible for consulting with faculty ahead of time about how and when they can make up work they will miss.

Faculty are encouraged to give consideration to students who have documentation from the Office of Health and Counseling. Reasonable accommodations for students with disabilities will continue to be provided, as appropriate.

Refer to the Pratt website for information on [Attendance](#).

Policy on Incompletes:

Incompletes (INCs) can be given at the discretion of the instructor following the written request of the student. The student must furnish satisfactory proof that the work in question was not completed because of illness or other circumstances beyond the student's control. The student must understand the terms necessary to fulfill the requirements for the course and the date by which work must be submitted. If the work is not submitted by the understood date of submission – not exceeding the end of the following term – the incomplete will be converted to a failure. The agreement between the instructor and student must be documented and submitted to the department chair along with documentation proving that the student deserves the opportunity to make up missed work.

Extra-Credit Assignments that can improve your Coursework grade:

After each class you can answer a series of **Follow-Up Questions** on the LMS. If you emerge from class with a good understanding of the major ideas discussed, you should be able to complete these questions in very little time. The **Follow-Up Questions** are extra credit and represent a way to offset low in-class grades (or zeros caused by absence).

All students have the opportunity to complete an extra-credit assignment based on a trip to the *American Museum of Natural History* in Manhattan. The trip is self-guided, and you can complete this assignment any time before the due date listed on the LMS. To receive credit for this assignment, you must also submit your original museum ticket to your instructor. Please see the LMS for the *Guidelines* to this assignment and a place where you can upload your assignment.

In total, Extra-Credit assignments can be used to supplement up to 14 of the 40 points awarded for *Coursework* in the calculation of your final grade. Extra-Credit cannot be used to improve credit earned for the *Term Project* or the *Final Exam*, and the maximum credit that can be earned for *Coursework* is 40 points.

Readings:

You will be assigned a series of reading materials from popular science periodicals, books, and the scientific literature (see **Weekly Units** below). All required readings will be posted on the LMS. You are encouraged to save paper by viewing these readings electronically (as opposed to printing them out).

If you feel the need for a comprehensive *Ecology* textbook, these two will be on reserve in the library:

Smith, Thomas M. and Robert Leo Smith, 2006. *Elements of Ecology, 6th Edition*. Pearson/Benjamin Cummings. (ISBN #9780805348309)

Levin, Simon A. (editor), 2009. *The Princeton Guide to Ecology*. Princeton University Press. (ISBN #9780691156040)

There will be no required reading from these books; consulting them is purely at your discretion.

Open Information Policy and Honor Code:

You will never be required to memorize anything in this class: we maintain an "open information environment", so you may use your notes, books/articles, the internet, and other media to complete homework, in-class assignments, and quizzes.

HOWEVER: Unless specifically stated otherwise, all work in this class is to be completed on your own. You may not and should not obtain help from any other person to complete any of your work: this includes all homework, all quizzes, and individual assignments. You should also not share any of your individual work with other students. “Studying together”, discussing material outside of class, and any other processing of the course materials prior to completing coursework is allowed and encouraged, but you need to do your own work. Students are asked to sign an oath to uphold and honor this code at the beginning of the semester, and are expected to take this commitment seriously even when violating the code would likely escape detection. Any violations of this policy will be considered cheating and reported as appropriate (see ***Classroom Civility and Academic Honesty*** below).

Learning Management System (LMS):

During the course of the semester, we will make extensive use of Pratt’s *Learning Management System (LMS)*. I recommend that you use the *Firefox* browser to access the *LMS* via this page: <https://lms.pratt.edu/> (I discourage you from using the *my.pratt.edu* entrance point, as it is not always working). Use your ONEKEY username and password to log in. I expect you to check the *LMS* several times a week for announcements, reading assignments, and updates to your class grade (note that you can also set the *LMS* to send you email messages every time our class page is updated). I will be using the *LMS* to send email announcements throughout the semester, so please make sure that you check the email address listed under your *LMS* profile regularly. “I forgot to check my Pratt email” is an invalid excuse.

I try to make the assignments, announcements, and other documents I post on the *LMS* as universally-readable as possible. The only proprietary program you will need to have loaded onto your computer is *Acrobat Reader*, which can be downloaded here: <http://www.adobe.com/products/acrobat/readstep2.html>. I strongly recommend that you use *Acrobat Reader*, rather than another program, to read all of the PDF’s provided in this class.

***Important*:** If you experience any problems with the *LMS*, you should:

1. Report the problem to the **Service Desk** and receive a “ticket number” by one of four means:
 - a. visiting their office in the basement of the ARC Building; or
 - b. calling (718) 636-3765; or
 - c. emailing services@pratt.edu; or
 - d. using the “Computers & Technology Services” section of the “Get Help With” tab of my.pratt.edu.
2. Receive an email from the **Service Desk** assigning your problem a “ticket number”.
3. Forward this email from the **Service Desk** to me.

In order for me to verify claims of *LMS* outages, you must contact the **Service Desk** when the *LMS* problem occurs, not hours or days later.

Reduced-Paper-Use Classroom:

Whenever possible, we will reduce the amount of paper that this course consumes. All of your out-of-class assignments will be submitted electronically via the *LMS*. Your work will be graded and returned electronically. Please do your best to reduce the amount of printing that you do for the course.

Academic Integrity Code:

When students submit any work for academic credit, they make an implicit claim that the work is wholly their own, completed without the assistance of any unauthorized person. These works include, but are not limited to exams, quizzes, presentations, papers, projects, studio work, and other assignments and assessments. In addition, no student shall prevent another student from making their work. Students may study, collaborate and work together on assignments at the discretion of the instructor.

Examples of infractions include but are not limited to:

1. Plagiarism, defined as using the exact language or a close paraphrase of someone else’s ideas without citation.
2. Violations of fair use, including the unauthorized and uncited use of another’s artworks, images, designs, etc.
3. The supplying or receiving of completed work including papers, projects, outlines, artworks, designs, prototypes, models, or research for submission by any person other than the author.
4. The unauthorized submission of the same or essentially the same piece of work for credit in two different classes.
5. The unauthorized supplying or receiving of information about the form or content of an examination.
6. The supplying or receiving of partial or complete answers, or suggestions for answers; or the supplying or receiving of assistance in interpretation of questions on any examination from any source not explicitly authorized.

(This includes copying or reading of another student's work or consultation of notes or other sources during an examination.)

For academic support, students are encouraged to seek assistance from the Writing and Tutorial Center, Pratt Libraries, or consult with an academic advisor about other support resources. Refer to the Pratt website for information on [Academic Integrity Code Adjudication Procedures](#).

For more information on avoiding plagiarism, please see: <http://www.christopherxjensen.com/teaching/for-students/#no-plagiarism>.

Help with Writing:

The *Term Project* in this class will require you to produce written work. All students can benefit from receiving feedback on their writing from both the Pratt's *Writing and Tutorial Center (WTC)* and your instructor. It is expected that you respond to feedback that you receive by revising and thereby improving your written work. Writing is a practice and a process!

The *WTC* will help you produce the best project possible. The center is located on the 1st Floor of North Hall (it has all the great fish tanks... you can't miss it!). Call them at 718-636-3459 or send an email to wtc@pratt.edu to make an appointment.

Your instructor will provide you with feedback on draft versions of both your *Project Table* and *Project Summary*. This feedback will be posted to the *LMS* so that you will have time to revise your work before submitting final versions.

Rights of Students with Disabilities:

Pratt Institute is committed to the full inclusion of all students. If you are a student with a disability and require accommodations, please contact the Learning/Access Center (L/AC) at LAC@pratt.edu to schedule an appointment to discuss these accommodations. Students with disabilities who have already registered with the L/AC are encouraged to speak to the professor about accommodations they may need to produce an accessible learning environment.

Accessibility:

The Pratt campus and many of its buildings are historic in nature and thus not all spaces on campus are readily accessible and the accessibility of certain buildings and spaces on campus may not be immediately apparent to campus visitors. However all programs, services and activities will be accessible and Pratt will accommodate any individuals with a disability who wish to avail themselves of any of its programs or activities.

To facilitate ease of access to all programs and activities, you have the option to indicate if you require an accessible space, have any mobility restrictions (e.g. inability/difficulty navigating stairs), or have any similar considerations or concerns, when registering in advance or scheduling an appointment for any program or activity on campus. Appropriate measures will then be taken to ensure that the relevant programs or activities are readily accessible with the least amount of delay or inconvenience to you.

Students should contact the Director of the [Learning/Access Center](#), Elisabeth Sullivan esulliv5@pratt.edu (718.636.3711) in advance, according to the procedures for requesting accommodations established by the [Learning/Access Center](#). Requests for accommodation should be made as far in advance as reasonably possible to allow sufficient time to make any necessary modifications to ensure the relevant classes, programs, or activities are readily accessible. The Learning/Access Center is available to Pratt students, confidentially, with additional resources and information to facilitate full access to all campus programs and activities and provide support related to any other disability-related matters, and is located in the ISC Building, Room 104.

Security personnel, located at a booth inside the main gate at 200 Willoughby Avenue, are also available to assist visitors with directions, locating accessible routes, or providing any other assistance in navigating the campus grounds.

[SEE COURSE CALENDAR ON SUBSEQUENT PAGES]

Weekly Units:

Week	Wed. (S01)	Thu. (S03)	Major Topic(s)	Key Questions	Readings	Events & Assignments
01	Jan. 23rd	Jan. 24th	Introduction to Ecology & Ecosystem Services	<ol style="list-style-type: none"> 1. What is ecology? 2. How is the field of ecology organized? 3. How does ecology relate to other biological sciences? 4. How are ecology and environmental science related? 5. What benefits and services do we derive from healthy, functioning ecosystems? 	<ul style="list-style-type: none"> ▶ <i>Millennium Ecosystem Assessment</i> "Living Beyond Our Means: Natural Assets and Human Well-Being" ▶ <i>Scientific American</i> "The economist has no clothes" 	<ul style="list-style-type: none"> ▶ Reading Questions due 2 hours before your class section meets (extra credit this week only) ▶ <i>Syllabus</i> distributed ▶ <i>LMS Warm-up Assignments</i> discussed ▶ There are extra-credit Follow-Up Questions for this week
02	Jan. 30th	Jan. 31st	Change in Nature	<ol style="list-style-type: none"> 1. What is ecological succession? 2. How are ecological and evolutionary change different? 3. How are ecological and evolutionary change intertwined? 4. How have ecosystems of the past changed in response to large-scale change? 5. How do scientists know determine whether species will be able to adapt to anthropogenic change? 	<ul style="list-style-type: none"> ▶ <i>Kimball's Online Biology Text</i> "Forest Succession" ▶ <i>Scientific American</i> "Tiny Plants that Once Ruled the Seas" ▶ <i>Scientific American</i> "The Last Great Global Warming" ▶ <i>Science</i> "Entering the Sixth Mass Extinction" 	<ul style="list-style-type: none"> ▶ Reading Questions due 2 hours before your class section meets ▶ Class visits a computer lab: remember to bring your Pratt ID!! ▶ <i>Term Project Guidelines</i> distributed & discussed ▶ There are extra-credit Follow-Up Questions for this week ▶ Change your LMS profile image due, February 1st, 2019 @ 23:55 EST
03	Feb. 6th	Feb. 7th	Interaction in Ecological Communities	<ol style="list-style-type: none"> 1. What forms can population growth take? 2. What factors regulate population growth? 3. What are the different ways in which organisms can interact? 4. What comprises an ecological community? 5. How does ecological efficiency limit the size of food webs? 6. What makes an ecological community stable? 	<ul style="list-style-type: none"> ▶ <i>Jensen</i> "Eco 101: Exponential Growth and Decay" ▶ <i>Jensen</i> "Eco 101: Carrying Capacity" ▶ <i>Science</i> "Lessons from the Wild Lab" ▶ <i>Nature</i> "Legend of the Wolf" ▶ <i>Scientific American</i> "Ecosystems on the Brink" 	<ul style="list-style-type: none"> ▶ Reading Questions due 2 hours before your class section meets ▶ There are extra-credit Follow-Up Questions for this week

Week	Wed. (S01)	Thu. (S03)	Major Topic(s)	Key Questions	Readings	Events & Assignments
04	Feb. 13th	Feb. 14th	Ecological Cycling	<ol style="list-style-type: none"> 1. How does energy move through an ecosystem? 2. How does matter move through an ecosystem? 3. How does water move through an ecosystem? 4. What roles do organisms play in the cycling of water, energy, and matter? 	<ul style="list-style-type: none"> › <i>Scientific American</i> "Global Population and the Nitrogen Cycle" › <i>Nature</i> "The Power of Plankton" › <i>Nature</i> "A Long Dry Summer" › <i>Scientific American</i> "The Hidden Life of Truffles" 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ Class visits a computer lab: remember to bring your Pratt ID!! ➔ There are extra-credit Follow-Up Questions for this week
05	Feb. 20th	Feb. 21st	Biomes & Ecological Resilience	<ol style="list-style-type: none"> 1. What are the major characteristics of different earth biomes? 2. How does ecological succession produce biomes? 3. What factors determine the form and function of different biomes? 4. What are the major threats to these biomes? 5. What determines whether species are resilient to human impacts on biomes? 	<ul style="list-style-type: none"> › <i>Kimball's Online Biology Text</i> "Biomes" › <i>NASA Earth Observatory</i> "Biomes" › <i>National Geographic</i> "Our Good Earth" › <i>National Geographic</i> "Ghost Cats" › <i>NPR Weekend Edition Saturday</i> "On The Trail Of A Mountain Lion..." 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ There are extra-credit Follow-Up Questions for this week
06	Feb. 27th	Feb. 28th	Biodiversity Conservation	<ol style="list-style-type: none"> 1. Why is biodiversity important? 2. How is the growth of human populations impacting the earth's biodiversity? 3. How do we conserve biodiversity? 4. What are invasive species and how do they threaten biodiversity? 	<ul style="list-style-type: none"> › <i>Scientific American</i> "Which Species Will Live?" › <i>Scientific American</i> "Conservation for the People" › <i>Encyclopedia of Life</i> "What is an Invasive Species?" › <i>Scientific American</i> "A Friend to Aliens" 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ Class visits a computer lab: remember to bring your Pratt ID!! ➔ There are extra-credit Follow-Up Questions for this week ➔ Term Project Initial Source List due, February 27th, 2019 @ 11:55 pm

Week	Wed. (S01)	Thu. (S03)	Major Topic(s)	Key Questions	Readings	Events & Assignments	
07	Mar. 6th	Mar. 7th	Climate Change	<ol style="list-style-type: none"> 1. What evidence suggests that climate change is affecting ecosystems? 2. How might climate change affect the earth's ecosystems in the future? 3. What are the major anthropogenic causes of climate change? 	<ul style="list-style-type: none"> › <i>National Climate Assessment</i> "Ecosystems, Biodiversity, and Ecosystem Services" › <i>Scientific American</i> "Arctic Plants Feel the Heat" › <i>Scientific American</i> "Can We Save the Corals?" 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ There are extra-credit Follow-Up Questions for this week 	
	Mar. 13th	Mar. 14th	No Class (Spring Break)				
08	Mar. 20th	Mar. 21st	Term Project Proposal Workshop				<ul style="list-style-type: none"> ➔ Draft Term Project Proposal due in printed form when you arrive in class ➔ Scan of your "workshopped" Draft Term Project Proposal due two days after the in-class workshop
09	Mar. 27th	Mar. 28th	Pollution: Nutrients & Toxics	<ol style="list-style-type: none"> 1. What is the impact of human activity on the nutrient levels experienced by ecosystems? 2. How have human activities altered the flow of materials within and between ecosystems? 3. How does pollution alter the functioning of ecosystems? 4. What risks does pollution pose to human health? 	<ul style="list-style-type: none"> › <i>Scientific American</i> "Fixing the Global Nitrogen Problem" › <i>National Geographic</i> "The Pollution Within" › <i>NPR Morning Edition</i> "We're Drowning In Plastic Trash. Jenna Jambeck Wants To Save Us." › <i>Trends in Ecology & Evolution</i> "Microplastics: No Small Problem for Filter-Feeding Megafauna" 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ Class visits a computer lab: remember to bring your Pratt ID!! ➔ There are extra-credit Follow-Up Questions for this week 	

Week	Wed. (S01)	Thu. (S03)	Major Topic(s)	Key Questions	Readings	Events & Assignments
10	Apr. 3rd	Apr. 4th	Urban Ecology	<ol style="list-style-type: none"> 1. In what ways do cities function like ecosystems? How well do urban systems mimic ecosystems? 2. How does the way a city is designed affect the way that city impacts ecosystems? 3. What kinds of ecological communities are excluded by urban development? 4. What kinds of ecological communities can be fostered by urban development? 	<ul style="list-style-type: none"> ▶ <i>The New Yorker</i> "Green Manhattan" ▶ <i>Scientific American</i> "Bigger Cities Aren't Always Greener, Data Show" ▶ <i>Motherboard</i> "The World's Most Wasteful Megacity" ▶ <i>NYC Mayor's Office</i> "One City: Built to Last" (Executive Summary only) ▶ <i>Scientific American</i> "Wading in Waste" 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ Class conducted remotely: please see the <i>LMS</i> for details on how to join the class online. ➔ There are extra-credit Follow-Up Questions for this week ➔ Term Project Proposal due, April 4th, 2019 @ 11:55 pm ➔ Ecological Footprint Report due, April 7th, 2019 @ 11:55 pm
11	Apr. 10th	Apr. 11th	Sustainability 1: Boundaries for Maintaining Civilization	<ol style="list-style-type: none"> 1. What is sustainability? 2. How can ecological footprints be used to understand the sustainability of human practices? 3. How do we conceptualize sustainability from an ecological perspective? 4. What are some ways that human civilization can avoid destroying the ecological systems on which we depend? 	<ul style="list-style-type: none"> ▶ <i>Global Urbanization</i> "Human Population Grows Up" ▶ <i>National Geographic</i> "Age of Man: Enter the Anthropocene" ▶ <i>Scientific American</i> "Living on a New Earth" ▶ <i>Science</i> "Planetary boundaries: Guiding human development on a changing planet" (Summary) 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ Class visits a computer lab: remember to bring your Pratt ID!! ➔ There are extra-credit Follow-Up Questions for this week ➔ Term Project Sketch due, April 11th, 2019 @ 11:55 pm ➔ Choice Readings for Week 12 should be registered on the <i>LMS</i> by April 16th, 2019 @ 11:55 pm
12	Apr. 17th	Apr. 18th	Sustainability 2: Design, Technology, & Culture	<ol style="list-style-type: none"> 1. How is sustainability infused into the designs and practices of modern society? 2. What technologies are needed to create a more sustainable global human society? 3. How can we design in a more sustainable manner? 	<ul style="list-style-type: none"> ▶ <i>Scientific American</i> "The Efficient City" ▶ <i>Scientific American</i> "The Carbon Capture Fallacy" ▶ CHOICE readings from one of these categories: A. Biofuels; B. Food; C. Ecotourism; D. Energy efficiency; E. Geoengineering; F. Green roofs; or G. Solar power (see the <i>LMS</i> to sign up for one of these categories). 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ There are extra-credit Follow-Up Questions for this week ➔ Draft Project Summary due, April 18th, 2019 @ 11:55 pm

Week	Wed. (S01)	Thu. (S03)	Major Topic(s)	Key Questions	Readings	Events & Assignments
13	Apr. 24th	Apr. 25th	Sustainability 3: Quantifying the Impact of Design	<ol style="list-style-type: none"> 1. Why does sustainability have to be quantitative rather than qualitative? 2. How do we quantify the potential and actual impacts of designed products? 	<ul style="list-style-type: none"> ▸ <i>Jensen</i> "There's no such thing as qualitative sustainability" ▸ <i>Autodesk</i> "Lifecycle Assessment: An introduction for students" ▸ <i>Environment Magazine</i> "The Short List" 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ Class visits a computer lab: remember to bring your Pratt ID! ➔ There are extra-credit Follow-Up Questions for this week ➔ Choice Readings for Week 14 should be registered on the <i>LMS</i> by April 28th, 2019 @ 11:55 pm
14	May 1st	May 2nd	Sustainability 4: Science & Policy	<ol style="list-style-type: none"> 1. How can science be used to make informed policy decisions? 2. What is the boundary between science and politics? 	<ul style="list-style-type: none"> ▸ CHOICE readings from one of these categories: A. Individual; B. Institutional; C. Local; D. National; or E. International (see the <i>LMS</i> to sign up for one of these categories). 	<ul style="list-style-type: none"> ➔ Reading Questions due 2 hours before your class section meets ➔ Course Evaluations ➔ Bring any questions you have in preparation for the Final Exam ➔ There are extra-credit Follow-Up Questions for this week ➔ Term Project & Term Project Summary due, April 30th, 2019 @ 11:55 pm
15	May 8th	May 9th	Final Exam taken <u>in class</u> on the <i>LMS</i>.			<ul style="list-style-type: none"> ➔ Class visits a computer lab: remember to bring your Pratt ID!! ➔ <i>Extra credit AMNH Assignment</i> due on the day of the Final Exam @ 9 am