**CAMPUS SUSTAINABILITY [draft]**

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[Office Hours] [Location]

**COURSE DESCRIPTION**

Sustainability has become a catchphrase for the 21st century. But what does it really mean in theory and practice? This interdisciplinary course uses Fairfield University and the expanding literature on best practices on other campuses to explore key sustainability issues facing colleges, large and small companies, communities, towns, cities, and private citizens. The class will include site visits, guest speakers, and free ranging discussions of interesting readings. Students will also conduct semester-long individual or group interdisciplinary projects that analyze specific sustainability issues on campus and develop proposals for improving them. This course fulfills the Interdisciplinary requirement of the Magis Core curriculum and counts as a general elective in the Environmental Studies (EVST) program – for both EVST majors and minors.

*No prerequisites required. Three Credits.*

**COURSE STRUCTURE**

Our semester begins with a discussion of what we mean by “sustainability” – including how the concept is addressed in different disciplines, including natural science, policy, and economics. We then examine why sustainability in university communities can make a difference environmentally, economically, human health-wise and politically and why it can also serve as a useful means to examine issues that are relevant to improving sustainability, economic bottom lines, and human health at the corporate, community, town and city level. We then examine several important, broad categories of policy and economic approaches available to Universities, corporations, and governments for inducing change, including for addressing sustainability, as well as evaluative criteria from several different disciplines for use in examining which, if any, option to use in choosing among these options. During final two-thirds of the class, we examine campus operations in several key areas, including energy, waste, recycling, transportation, purchasing, and grounds. In each area we examine Fairfield University operations as well as case studies from other schools that exhibit best practices. In each area we also examine the scientific foundations of why each issue matters for sustainability, economic analysis of different choices, and policy choices.

**COURSE GOALS – Broad General Goals**

* Explore the concept of what “sustainability” means in general.
* Explore how different disciplines examine sustainability issues, what questions they tend to ask, and on which independent and dependent variables they tend to focus.
* Examine how campus operations relate to key environmental and sustainability challenges.
* Explore how these operations relate, in different ways, to similar operations, infrastructure, practices and policies at the town, city, corporate, and national level.
* Explore how we as individuals, interface with sustainability challenges through our connection to campus, local, and regional operations, infrastructure, practices and policies.
* Explore options to reduce environmental impacts, including by learning what other campuses have done.
* Use these explorations to examine how different disciplines must be involved in order to examine the impact on sustainability, and options to reduce it, of particular operations, infrastructure, practices and policies requires multiple disciplinary and interdisciplinary.

**COURSE OBJECTIVES – Student Learning Outcomes**

Upon successful completion of this course and all course requirements, students will be able to demonstrate the learning outcomes listed below. These outcomes will be assessed via class discussion, assignments, in-class activities, the issue analyses, the project proposal, and presentation.

* Describe key scientific, policy, economic, and ethical elements of sustainability as a concept.
* Describe, in general terms, how scientists, economists, and policy decision makers employ different perspectives when examining sustainability issues.
* Describe and apply why issues related to campus sustainability “matter”, with reference to natural science, policy analysis, economics, and ethical considerations.
* Describe and apply broad categories of policy options, including those related to economics, available to actors at all levels to induce other actors to change behavior or to produce different outcomes.
* Identify, describe and apply broad categories of evaluative criteria for examining which if any sustainability option should be pursued, including criteria related to natural science, policy analysis, economics, and ethics.
* Demonstrate knowledge of how important campus operations at Fairfield relate to sustainability- including insights from natural science regarding their impact on the environment and/or human health, from economics regarding their positive and negative economic impacts on the University and broader communities; from policy studies regarding the creation of these policies; and ethical analysis regarding the impact of the operations.
* Demonstrate knowledge of leading or best practices at other institutions regarding these operations.
* Demonstrate how to apply, synthesize and communicate scientific data, policy consideration, economics, and ethical considerations when analyzing campus sustainability issues and potential responses.
* Engage in a ‘professional experience’ in which students, perhaps working in a team: organize and conduct a multi-week, interdisciplinary project (researching and drafting a proposal); utilize diverse areas of expertise and experience; be held accountable to the class and the Professor; provide concise updates; and prepare high-quality reports and presentations.
* Demonstrate understanding of the broad importance of completing assigned work as instructed and on-time.
* With specific reference to the IDEA evaluation form that students complete on-line at the end of the term, the course goals outlined above best fit into the following objectives on the IDEA form:
  + Gaining Factual Knowledge;
  + Learning fundamental principles, generalizations, or theories;
  + Learning to apply course material (to improve thinking, problem solving, and decisions).

**COURSE MATERIALS.** All readings will be available online, via BlackBoard, or distributed by the instructor. BlackBoard will also give you immediate access to all assignments and your grades.

**GRADING:** The quizzes, assignments, proposal, presentation, and participation total 100 points. Extra credit points are available. 100-93 total points for the term will earn you an A. 92-90 points will earn an A-. 89-87 points a B+. 86-83 a B. 82-80 a B-/. 79-77 points a C+. 76-73 a C. 72-70 a C-. 69-60 a D. Below 60 is an F.

**COURSE REQUIREMENTS - OUTLINE**

1. Short Assignments Related to Readings 25% of final grade. Due: 11 of 14 weeks
2. Project Outline 5% of final grade. Due: Week 5
3. Interviews with Sustainability Professionals 5% of final grade. Due: Week 7
4. Three 2-page Analyses of Project Issue 15% of final grade. Due: Week 8, 9, 11
5. Final Project 30% of final grade. Due: Exam Day
6. Project Presentation 10% of final grade. Due: End of Term
7. Participation 10% of final grade. Due: Every Week

Readings and assignments because lighter in the last month of the course to allow students to put great effort into their final projects and presentations.

**COURSE REQUIREMENTS - DETAILS**

1. **Assignments Related to Readings:** 25 total points. 25% of the final grade. During the course, students will be assigned short, specific questions to answer related to one or more readings or discussion questions. Each assignment will be worth 2.5 points. 10 will count. I will drop the lowest grades beyond 10. Late assignments will be penalized one full point for each 6 hours they are late.
2. **Outline of Major Project, including potential annexes**. 5 points. 5% of final grade. Due no later than the start of class in week 5. Think of this as a table of contents. All students are required to meet with the professor to discuss their potential topic and outline at least once before the 1-page outline is due. Late assignments will be penalized 1 full letter grade for each 6 hours they are late.
3. **Interviews with Sustainability Professionals:** 5 total points. 5% of the final grade. Due no later than the start of the 2nd day of class in week 7. Each student must interview at least two different people whose work is relevant to sustainability, in any way and draft a 2-page summary of each discussion. The individuals must be from at least two different disciplines (e.g. science, economics, business, policy-government, policy-advocacy, consulting, engineering, etc.) and only one can work at Fairfield University. Current and past members of the campus sustainability committee and faculty sustainability community are great campus resources. You can discuss whatever you want – including the topic of you project, but your summary of the interview must also include: their name; title; organization/company they work for; what they do in their job; how it relates to sustainability, broadly defined; and what methods of analysis/approaches their field uses for examining issues. 2.5 points for each interview summary. Late assignments will be penalized 1 full point for each 6 hours they are late.
4. **Three 3-page Discussions/Analyses of Different Aspects of Project Issue**. 15 total points. 5 points per analysis. 15% of the final grade. Each student or project group must present a concise 2-page analysis of the key scientific issues, existing policy and potential policy options, and economics of the issue you are focusing on for your final project. Very specific details, including a grading rubric, will be provided during the first week of class. The scientific analysis is due no later than week 8. The discussion of current policy and list of potential alternative policy options is due no later than the start of class in week 9. The discussion of economic issues is due no later than the start of class in week 11. Late assignments will be penalized 1 full point for each 6 hours they are late.
5. **Major Project - Issue Analysis and Proposal**: 30 points. 30% of final grade. Due during the scheduled exam time for this class. The final project will be a proposal drafted for submission to a Foundation, the Fairfield University Sustainability Committee competition, a government agency, a University donor, or other potential source of funding. You do not have to submit the proposal but it must be drafted in accordance with the rules for submission (with regard to length, format, etc.). Projects must be matched with funds available from the source to which you are applying (e.g. the Campus program caps grants at $1500). However, because many proposal competitions require very short documents, what you turn into me might also include appendices that provide additional information that might not fit into the proposal. This would not be extra work. It would be information you need for the proposal but could only put there in extremely summarized form due to space limitation. The exact nature of the potential appendices will be agreed to with the professor as part of the project outline process. Each proposal must address relevant scientific, policy, economic and/or ethical issues related to the problem you seek to address and your proposal for doing so. You are strongly encouraged to work in a group of 2-3 students. (Groups might be required, and groups of 4 allowed, if we have a very large class). If you work in a group, you will receive the same grade as other group members for requirements 2,4, 5, and 6. Late proposals will be penalized. More information and examples of potential topics are provided at the end of this syllabus. A detailed grading rubric and information on constructing proposals will be available via Blackboard and discussed in class.
6. **Proposal Presentation**: 10 points. 10% of final grade. During the final class session and/or the period assigned to this class for a final exam, each group/student will deliver a 10-minute presentation of their proposal. More information on this assignment, a detailed grading rubric, and tips on designing and delivering presentations will be distributed and available on Blackboard and discussed in class.
7. **Participation:** 10 total points. 10% of the final grade. Be professional. Your participation represents an important component of the course (and your grade). Bring readings to class. Electronic copies are fine.The syllabus includes discussion questions. As I preview readings for the following week, I will highlight these questions and other issues. Consider these questions and issues while doing the reading. During all meetings I will use these questions to initiate and propel group discussion. Some classes might include group exercises. So talk, ask questions, express opinions and link material in the course to specialized knowledge you have on particular subjects. Preparation, effort, professional conduct, and meaningful (but it need not be constant) participation in the discussion will yield a high participation grade. Activities that will yield a very low participation grade include being late, unexcused absences, not being prepared, never participating in discussion, checking or sending a text or email, having your phone ring, web surfing, welding, snoring, arson, or engaging in similar activities doing class. Ask questions in class about the readings, the issues, or anything you are curious about or on which you are working.

**CLASS POLICIES:**

Readings and assignments become lighter in the last month of the course to allow students to put great effort into their final projects and presentations. Attendance is mandatory unless you have an excusable absence (and notify me in advance). Late assignments will impact your grade – and not in a pleasant way. I will keep your final papers for six months after the class. You can come get them until then. As noted, be professional: no texting, phone, or non-course related computer activity during class. Just turn off your phone when you enter class – like you would at an important business meeting. It is ok to bring food, coffee, water or other drinks to class but clean up.

Opportunities do not wait. Life does not wait. One does not need to enter situations when things are due a certain way by a certain time. However, if one does, like this class, then it is critical to do the work extremely well, in accordance with instructions, and on time. Thus, all work in this course has specific deadlines that will be enforced.

Please come to office hours whenever you want or email for an appointment. Please ask questions about the syllabus, assignments, and general issues related to the projects during class time so everyone gets the same information. I am happy to hold short or in-depth discussions on all other issues during office hours. But these conversations should take place in person, or if that is not possible, over the phone rather than via email. This allows us to get to know each other better and fosters a more collegial learning atmosphere. Please email only to set up a meeting with me if the office hours conflict with your schedule – otherwise, please come to office hours. Use the subject line “Meeting request.” Your message should include at least three times when you would like to meet and a brief (one-two sentence) description of the reason for the meeting. Please note that it might take a day for me to email you back to you (and longer on the weekends or if I am out of town at a conference), so please plan ahead.

**INDEPENDENT AND DEPENDENT VARIABLES**

Independent and dependent variables are related. The Independent part are variables (e.g. changes in drinking ages, advertising, firm penalties, more checkpoints, cameras) that researcher, experimenter, analysts, policy maker, or you examine or change in order to do an experiment, conduct research, answer a particular question, etc. (e.g. what factors decrease drunk driving?). The dependent variable is the thing that changes when the independent variable changes. The dependent variable depends on the independent variable.

During the course, remember to think about how different causal factors influence sustainability. What scientific questions need to be asked to examine if a campus, company, town, city or country is acting sustainably? What economic and policy choices make sustainable actions more or less likely. What factors impact actual outcomes? That is, think about causal factors as analogous to independent variables and then think about the creation, content and effective implementation of sustainability policies and actions as dependent variables.

**LIBRARY RESEARCH APPOINTMENTS.** Do you want assistance thinking about how to find information or sources for a paper in this or another class? Yes, you do! Are you having trouble with citations? Maybe? You can **make a research appointment with a reference librarian** for in-depth research assistance: <https://www.fairfield.edu/library/services/scheduleresearchappointment/>

**LIBRARY RESEARCH PRIZE.** Multiple $1000 Prizes and resume-worthy awards are available. The deadline will be in April. The prizes recognize excellence in research projects that show evidence of extensive use of library services, resources and collections, and significant knowledge in the methods of research and the info-gathering process. Individual & team applicants allowed: [www.fairfield.edu/libprize](http://www.fairfield.edu/libprize).

**HOW TO EVALUATE ONLINE SOURCES AND INFORMATION.**

Fairfield University: <https://librarybestbets.fairfield.edu/criticallyevaluating>

Columbia University: <http://library.columbia.edu/locations/undergraduate/evaluating_web.html>

**WRITING CENTER.** The Writing Center is a free resource available to all Fairfield students. At the Center, trained peer tutors work with students on anything they are writing, at any point in the writing process: brainstorming, outlining, revising a draft, citing sources, etc. Peer tutors help you recognize opportunities and identify problems and how to correct them (they do not write or directly edit your work). Appointments are recommended, but not required. For more information or to make an appointment, visit the Writing Center website at [www.fairfield.edu/writingcenter](http://www.fairfield.edu/writingcenter) or stop by the Center in the Library. The best writers in the world ask people to read their work and provide comments. Shouldn’t you?

**ASSESSIBILITY.** “Fairfield University is committed to achieving equal educational opportunities, providing students with documented disabilities access to all University programs, services and activities. In order for this course to be equally accessible to all students, different accommodations or adjustments may need to be implemented. Accessibility Supports for students with disabilities are available through the Academic and Career Development Center located in the Kelley Center. Accessibility can be reached at 203-254-4081. They are your primary resource on campus to help you develop an accessibility plan to help you achieve equal access in your courses this semester. Please make an appointment with them as early as possible this semester to receive a letter to present to Downie so that we can discuss how potential accommodations can be provided and implemented for this course. If you have received an accommodation letter, please provide Downie with that information privately so that we can review your accommodations together and discuss how best to help you achieve equal access in this course this semester.”

**ACADEMIC, COUNSELING & PSYCHOLOGICAL SERVICES.** Fairfield University provides mental health services to support the academic and personal success and well-being of students. Students sometimes feel overwhelmed, lost, experience anxiety or depression, struggle with relationship difficulties or diminished self-esteem. Counseling & Psychological Services offers free, confidential psychological services to help students manage personal challenges that may interfere with your well-being. Fairfield University is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services at (203) 254-4000 ext 2146.

**PLAGIARISM AND ACADEMIC DISHONESTY**

Fairfield University expects students to be honest in their academic work. The University reserves the right to penalize any student whose academic conduct at any time is, in its judgment, detrimental to the University. In the event of academic dishonesty, professors are to award a grade of zero for the project, paper, or examination in question, and may record an F for the course itself. When appropriate, expulsion may be recommended.

**Honor Code**: ***“****Fairfield University’s primary purpose is the pursuit of academic excellence. This is possible only in an atmo­sphere where discovery and communication of knowl­edge are marked by scrupulous, unqualified honesty. Therefore, it is expected that all students taking classes at the University adhere to the following Honor Code: ‘****I understand that any violation of academic integrity wounds the entire community and undermines the trust upon which the discovery and communication of knowl­edge depends. Therefore, as a member of the Fairfield University community, I hereby pledge to uphold and maintain these standards of academic honesty and integrity.’”***

EV 2005 students will strictly adhere to the Fairfield University Honor Code Pledge. No form of academic dishonesty will be tolerated. Suspected cases of academic dishonesty (including but not limited to cheating and plagiarism) will be reported to the Dean. Academic dishonesty will result in one or more of the following: a failing grade on the assignment/exam, a failing grade for the course, and/or possible suspension or dismissal from the University (Fairfield University Student Handbook). If you have any questions or concerns regarding academic dishonesty, see below or visit office hours.

Students are sometimes unsure of what constitutes academic dishonesty. In all academic work, students are expected to submit materials that are their own and are to include attribution for any ideas or language that are not their own. Examples of dishonest conduct include, but are not limited to:

* Falsification of any part of any academic record or grades, including but not limited to any act of falsifying information on an official academic document, grade report, class registration document, or transcript.
* Cheating, such as copying exam answers from materials such as crib notes or another student’s paper.
* Collusion, such as working with another person or persons when independent work is prescribed.
* Falsification or fabrication of an assigned project, data, results, or sources.
* Giving, receiving, offering, or soliciting information in examinations.
* Using previously prepared materials in examinations, tests, or quizzes.
* Destruction or alteration of the work of another student.
* Submitting the same paper or report in two courses without prior written per­mission of each instructor.
* Appropriating information, ideas or the language of other people or writers and submitting it as one’s own to satisfy the requirements of a course – commonly known as plagiarism. Plagiarism is theft and deceit.
* Using assignments (compositions, term papers, computer programs, etc.) acquired either in part or in whole from commercial sources, publications, stu­dents, or other sources and submitted as one’s own work, another time of plagiarism.
* The unauthorized recording, sale, or use of lectures and other instructional materials.
* Falsification. It is also a violation of appropriate academic conduct, and a punishable offense, to falsify or fabricate information, data, research and citations. Careers have ended this way.

# **What Constitutes Plagiarism?**

# “Plagiarism is the presentation or submission of another's work as your own. This includes summarizing, paraphrasing, copying, or translating words, ideas, artworks, audio, video, computer programs, statistical data, or any other creative work, without proper attribution. Plagiarism can be deliberate or accidental. It can be partial or complete. No matter which, the penalties are often similar. Understanding what constitutes plagiarism is your first step to avoiding it. Some acts of plagiarism:

* Copying and pasting from the Internet without attribution [no exceptions].
* Buying, stealing, or ghostwriting a paper.
* Using ideas or quotations from a source without citation.
* Paraphrasing an author too lightly.”**[[1]](#footnote-1)**

**How to avoid plagiarism**

**Common Knowledge.** In every professional field, there are some things that are considered to be “common knowledge”. In order to decide if something is common knowledge you may want to ask yourself a few questions:

* Did I know this before I took this course or similar courses?
* Did this information/idea truly come solely from your own brain?

If you answer ‘no’ to either of these questions, then you need to cite your source(s) to indicate where this information came from originally.

**Paraphrasing.** Paraphrasing means using someone else’s ideas and putting them into your own words, and acknowledging the source. This is good. Simply changing a word or two, moving words around or changing a few words to synonyms is not paraphrasing, that’s plagiarism. This is bad. Your rewriting of someone else’s words should be significantly different, and must include a citation to where the original came from.

**Use Citations to Avoid Plagiarism - and to support your ideas.**

To avoid plagiarism you must cite your sources EVEN IF:

1. you put all direct quotes in quotation marks
2. you changed all the words used by the author into synonyms
3. you completely paraphrased the ideas to which you referred
4. your sentence is mostly made up of your own thoughts but contains a reference to the author’s ideas
5. you mention the author's name in the sentence

**Too Many Citations?** Many students worry that they have too many citations. There is no such thing. Using citations shows that you understand the issue and provides evidence of both what you know and the *authority* behind your knowledge and arguments. Thus, your argument will be strengthened by citing others.

**The Short Version: When In Doubt, Give A Citation.**

It doesn’t matter if you did not mean to make a mistake. So don’t take chances. Be professional.

**More information.** More information on plagiarism, how to avoid it, citations styles, note taking tips, the rules and consequences of plagiarism at Fairfield, and interactive lessons can be found on the Fairfield University and Library website at: <http://www.fairfield.edu/lib_plagiarismcourtdef.html>.

**Citation Style**: The Library’s online citation style guides: <http://www.fairfield.edu/library/libgd_citationguides.html>

**Ungraded Quiz.** Students in the class will take a short, ungraded online plagiarism quiz during the first class session.

**COURSE TOPICS AND READING ASSIGNMENTS**

Readings and assignments are listed underneath the class date for which they are due. Syllabi are working documents and I might make changes to the readings, topics, schedules, and exam dates. Weekly readings are not listed in order of importance but it can be helpful to read them in the order they appear on this syllabus. Some readings are very short. You will not understand the lecture, participate in the discussion effectively, get a good participation grade, learn as much, or have as much fun without doing the reading.

**Week 1: Course Overview. Discussion of Semester Long Project Options.**

**Brainstorm on Potential Projects:** On the first day, the instructor will outline the course and why you should look at some of the resources below. Students will the break into groups of 3 students to brainstorm on potential project ideas – with the groups changing after 7 minutes.

**Proposal Resources:** On the second day, the instructor and a guest instructor that teaches a class on proposal development will go over general information on how to research and construct proposals. Readings will be assigned for this discussion and more will be put on Blackboard for your reference. Some books will be on reserve as well.

**Resources for the Future**

* Documents on Blackboard:
  + Fairfield - Campus Sustainability Action Plan Spring 2015.
  + Fairfield - Campus Sustainability Action Plan Spring – 2020-2021 Update.
  + Information on Student Research Fellowships Available at Fairfield University.
  + David Downie and Nicole Cappiello. “Research Starting Points and Website Guide for Environmental Studies Students.” FFU Envtl Studies Working Paper No. 6, January 15, 2016.
  + David Downie, Nicole Cappiello, Klevisa Kovaci,“Preparing for Green Jobs: Internet Search

Paths for Graduate Programs.”

* + David Downie, “Developing an Outline and Work-Plan.” PowerPoint Slides.
  + Writing and Email tips
* Some websites that might be relevant for your papers (please note that URLs may have changed):
  + ASSHE (Association for the Advancement of Sustainability in Higher Education): [www.aashe.org](http://www.aashe.org)
  + International Sustainable Campus Network: <https://international-sustainable-campus-network.org/>
  + Sustainability Improves Student Learning network: <https://serc.carleton.edu/sisl/index.html>
  + Sustainability Education and Economic Development Center: <https://theseedcenter.org/>
  + U.S. Partnership for Education for Sustainable Development: <https://uspartnership.org/>
  + FFU Sustainability: <https://www.fairfield.edu/green/index.html>
  + Fairfield University Campus Sustainability Committee – Minutes for past meetings and Schedule for this Semester: [To be Provided]
  + Fairfield University – Research Guides by Subject – including Environmental Studies: <https://librarybestbets.fairfield.edu/researchguides>
  + Environment and Energy Study Institute (EESI): <http://www.eesi.org/>
  + GEP Research and Teaching and News Links: <http://gep-guide.net/gepedu/gep-research-teaching.html>
  + Developing a Sustainability Plan in a Project Proposal: <https://proposalsforngos.com/sustainability-plan-project-proposal/>
  + How to Write an Effective Grant Proposal Cover Letter: <https://www.thebalancesmb.com/how-to-write-a-cover-letter-for-your-grant-proposal-2501949>
  + Grant Writing for Dummies, 6th Edition, Beverly A. Browning, Wiley, 2016.
  + Winning Grants, Step by Step, 5th Edition, Mim Carlson & Tori O'Neal-McElrath, Jossey-Bass, 2019.

**Week 2: What is Sustainability: Approaches in Different Fields and Disciplines.**

**Guest Experts:**

Some of the following will join the class during our consideration of the group of discussion questions: a natural scientist, economists, philosopher, engineer, anthropologist, campus leader, town official.

**Reading:**

* “What is Sustainability?” Edited selections from different fields – in the “What is Sustainability?” folder on Blackboard.
* Steven Cohen, *Understanding Environmental Policy*, Columbia University Press, 2008, Chapter 1, “Understanding Environmental Policy” (pp, 3-9) and Chapter 2, “A Framework for Understanding the Environmental Issue,” (pp, 10-53).
* NAICU, “Categorized Table of Campus Sustainability Initiatives."
* “Going Green at School”: <https://www.accreditedschoolsonline.org/resources/going-green-at-school/>
* Dave Newport, “Campus Sustainability: It’s All About the People.” Chronical of Higher Education. 1 April 2012: <https://www.chronicle.com/article/Campus-Sustainability-Its/131370>
* Pp. 12-19 on the “Contexts” of problems and policy response and the charts on the policy making process, in Michael Kraft and Scott Furlong, *Public Policy*, 7th Edition (Sage/CQ Press, 2019).

**Assignment: Due by 10 pm the night before the first class this week:**

* Answer the questions posted on Blackboard.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* How do you describe the concept of “sustainability”?
* What was common and what was different regarding how to define, consider, or measure sustainability in the readings from science, business, international policy, local policy, economics, and ethics?
* How does Cohen describe how a scientist approaches an environmental issue? An economist? A policy maker? A business person?
* What paradigms, research methods, tools, etc. does Cohen say that each of these categories of individuals use in their work when examining sustainability?
* How might the old political science adage, “Where you stand depends on where you sit,” apply to different perspectives on sustainability that different categories of individuals might possess?
* How might a natural scientist view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might am economist view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might a policy analyst view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might an ethicist view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might an anthologist view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* List the “contexts of public policy,” as discussed by Kraft and Furlong in Ch. 1 of *Public Policy*.
* How can different contexts affect if, when and how a University might consider sustainability issues? Provide potential examples.

**Week 3: Why Care about Campus Sustainability?**

**Guest Experts:** of the following will join the class during our consideration of relevant discussion questions: a natural scientist, economists, philosopher, engineer, anthropologist, campus leader, town official.

**Field Trip to the Jesuit Residence.** (On the second day of class this week,)

**Reading:**

* “Top 55 Sustainable Ideas for Schools &d Universities 2020”: <https://gosunbolt.com/green-campus-sustainability-ideas/>
* “Is Your Campus Focused on Sustainability?” <https://www.dumpsters.com/blog/campus-sustainability-month>
* “Elizabeth Davey, “Recapturing the learning opportunities of university sustainability indicators.” Journal of Environmental Studies and Sciences 7(2017):50-549.

**Assignment: Due by 10 pm the night before the first class this week:**

* Based on random assignments made during the previous class, small groups of students will be created to find up data on some of the following issues and be prepared to tell the class about the data, where they found it, and how reliable they believe it to be. Each small group will be required to meet with a reference librarian to discuss (a) how to find their information; and (b) how to find background information on the potential focus of their semester project. The data to find for class could include some of the following: Number of undergraduates in the USA; Number of undergraduates at Fairfield. Number of undergraduates in USA living on college campuses; Number of undergraduates living on campus at Fairfield; Number of people studying and working on University campuses in USA; ; Number of people studying and working at Fairfield University; Number of people living in the town of Fairfield; Per capita energy use, water use, production of trash, and greenhouse gase emissions in USA; Percentage of potentially recycled materials that are actually recycled in the USA; Difference in energy and water used to produce aluminum, paper, and glass with recycled versus new material; Per capita meat consumption in use in the USA; the number of single use plastic water bottles sold in USA; amount of resources needed to produce a pound of different types of meet; percentage energy production in different states from different sources (e.g. coal, gas, solar, wind); scholarly articles that examine campus sustainability; and classes in the Fairfield University catalog that relate to sustainability;

**Assignment 2 - During the first and second class of the week:**

* Students will provide a 1minute description on the general topic they will likely choose to work on for their major project.Prepare your statement. Do not read it. Do not going over 1 minute.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* Be able to discuss your meeting with a research librarian, the data you found, where you found, why you think its reliable information.
* How might a natural scientist view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might am economist view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might a policy analyst view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might an ethicist view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might an anthologist view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?
* How might an engineer view sustainability in general and examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions?

**Week 4: Sustainability Problem Analysis & Categories of Response Options from Different Fields**

**Reading:**

* Ch. 4 (pp. TBA) in Michael Kraft and Scott Furlong, *Public Policy*, 7th Edition (Sage/CQ Press, 2019) on problem definition, steps in the problem and policy analysis process, and different types of analysis.
* Ch. 5 (pp. TBA) in Michael Kraft and Scott Furlong, *Public Policy*, 7th Edition (Sage/CQ Press, 2019). Focus on the categories of policy options available to governments and other policy actors.
* Read Ch. 6, especially pp. 170-195, of Michael Kraft and Scott Furlong, *Public Policy*, 7th Edition

**Assignment - Due by 10 pm the night before the first class this week:**

* Answer the written questions posted on Blackboard.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* List the “contexts of public policy,” as discussed by Kraft and Furlong in Ch. 1 of *Public Policy*.
* How can different contexts affect if, when and how governments (local, state, federal), companies and especially Universities address an environmental issue? Provide potential examples.
* Think of your potential issue-area, what contexts might impact the creation of, policy options to address, and potential successful resolution of the issue/problem – or particular aspects of it?
* Explain why how a problem is defined is so important. Can you think of some examples of how a particular issue related to sustainability, and one not necessarily related, that could be defined in different ways and how this might affect how it is analyzed or what options might be considered to address it?
* What are the general categories and sub-categories of policy options that governments (and by extension Universities and companies) possess as set out by Kraft and Furlong in Chapter 5 of *Public Policy*? What are some environmental examples of each?
* Think of your issue. List a series of general policy options at any actor (e.g. international, national, state, local, corporate, and/or NGO) but especially a University actor (e.g. student group, different administration positions, alumni, outside donor, town surrounding the University) could propose to address a key ‘problem’ or issue related to your project’s issue-area.
* What are evaluative criteria? What are the seven broad categories of evaluative criteria delineated by Kraft and Furlong in Chapter 4 and discussed in detail in Chapter 6 of *Public Policy*?
* Think of your issue, and perhaps an international, national, state, local, University or corporate policy that exists relevant to your issue area. Write it down. Apply the evaluative criteria to this policy. What evaluative criteria might be most important to examining policy options related to your issue? What types of questions might you ask to examine these evaluative criteria in relation to this issue and policy?
* How might am economist examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions and evaluative criteria to examine options?
* How might a policy analyst examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions and evaluative criteria to examine options?
* How might an ethicist examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions and evaluative criteria to examine options?
* How might an anthologist examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions and evaluative criteria to examine options?
* How might an engineer examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions and evaluative criteria to examine options?
* How would a campus or town official examine if/explain why campus sustainability matters? What questions would she ask? What methods would she use to answer the questions and evaluative criteria to examine options??

**Week 5: Energy Production - Environmental Impacts & Fairfield Operations**

**Field Trip:** During the second class of the week we will tour the University Co-Gen Plant.

**Readings** (all are very, very short, nearly all are one page):

* Svante Arrhenius: Read the first paragraph in the Greenhouse Effect section: <https://en.wikipedia.org/wiki/Svante_Arrhenius#Greenhouse_effect>
* NYT, October 28, 1956, “Warmer Climate on the earth May be Due to More Carbon Dioxide in Air.”
* Philip Shabecoff, “Global Warming Has Begun, Expert Tells Senate.” New York Times. June 24, 1988. <http://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html>
* “Carbon Dioxide Emissions Hit a Record in 2019,” *New York Times*, 3 December 2019. <https://www.nytimes.com/2019/12/03/climate/carbon-dioxide-emissions.html?utm_content=107539412&utm_medium=social&utm_source=facebook&hss_channel=fbp-178299885562976&fbclid=IwAR3CuC0sZKaQcNbsEuCsI45QdyEIBet83iC7t6AfWgraC9WIx4LR2qYHplQ>
* Climate Central, “CO2 Concentrations Rising Past 400 Parts Per Million.” <https://www.climatecentral.org/gallery/graphics/co2-concentrations-rising-past-400-parts-per-million>
* “It's official: 2019 was the second-hottest year on record.”

<https://www.cnn.com/2020/01/08/world/2019-temperatures-second-hottest-year-on-record-climate-change/index.html>

* Video: IPCC, “Climate Change: Impacts, Adaptation and Vulnerability”: <http://vimeo.com/89725715>
* Climate Change: Lines of Evidence. Video by the US National Academies of Sciences, Engineering and Medicine: <https://www.youtube.com/watch?v=gIUN5ziSfNc>.
* Surging Seas: Climate Central Sea Level Rise Analysis Tool. Look at the interactive tool for Fairfield and a coast that your live near or have visited: <http://ss2.climatecentral.org/#12/40.7298/-74.0070?show=satellite&level=5&pois=hide>
* Interactive Climate Map – US cities in the near future. Look at the interactive [climate](https://phys.org/tags/climate/) map for CT and your home at <http://www.umces.edu/futureurbanclimates>
* Jim Yadley and Laurie Goodstein, “Pope Francis, in Sweeping Encyclical, Calls for Swift Action on Climate Change, *NYT* 18 June 2015: <http://www.nytimes.com/2015/06/19/world/europe/pope-francis-in-sweeping-encyclical-calls-for-swift-action-on-climate-change.html?_r=0>
* UNEP, Emissions Gap Report 2019, video: <https://www.unenvironment.org/resources/emissions-gap-report-2019> (1 minute video – scroll down to middle of page).

# “10 things to know about the Emissions Gap 2019.” <https://www.unenvironment.org/news-and-stories/story/10-things-know-about-emissions-gap-2019>

* + Eric Jaffe, “The Enormous Social Cost of Cheap Coal.” City Lab/The Atlantic, 9/17/15

(about extenalities): <http://www.citylab.com/weather/2015/09/the-enormous-social-cost-of-cheap-coal/405730/>

* Slides on Fairfield Co-Gen Plant.
* Chris Matt, “Combined Heat and Power: Cogeneration Saves University Money” (be sure to click through all 5 short pages): [www.facilitiesnet.com/powercommunication/article/Combined-Heat-and-Power-Cogeneration-Saves-University-Money-Facility-Management-Power-Communication-Feature--12107](https://www.facilitiesnet.com/powercommunication/article/Combined-Heat-and-Power-Cogeneration-Saves-University-Money-Facility-Management-Power-Communication-Feature--12107)
* National Wilde Federation, Campus Ecology: Fairfield University, Energy.” 2011 [**www.nwf.org/~/media/Campus-Ecology/Files/Case-Studies/2011-Case-Studies/A-M/Fairfield%20University%202011%20Case%20Study%20FINAL.ashx**](https://www.nwf.org/~/media/Campus-Ecology/Files/Case-Studies/2011-Case-Studies/A-M/Fairfield%20University%202011%20Case%20Study%20FINAL.ashx)
* Fairfield Mirror story on Co-Gen Plan: [www.fairfieldmirror.com/news/offthegridturbineslaunchfairfieldintoenergyindependence/](http://fairfieldmirror.com/news/offthegridturbineslaunchfairfieldintoenergyindependence/)
* “EPA honors universities for CHP systems”: [www.biomassmagazine.com/articles/3990/epa-honors-universities-for-chp-systems](http://biomassmagazine.com/articles/3990/epa-honors-universities-for-chp-systems)
* Readings on the UI power-plant in Bridgeport (the source of a relatively small amount of power used on campus and all of the power used by students living at the beach).
* Downie slides – “Climate Change 101” Lecture.
* Readings on Other Energy Sources Fairfield Uses, TBA.
* Relevant sections of the *Fairfield - Campus Sustainability Action Plan - Spring 2015*; and *the Fairfield - Campus Sustainability Action Plan – 2020-2021 Update*.

**Assignment: Due by 10 pm the night before the first class this week:**

* Answer the questions posted on Blackboard.

**Assignment – Proposal Outline: Due prior to the start of the second class:**

* Draft Outline of your proposal – which is essentially annotated table of contents. This is worth 5 points of your final grade. Details, expectations and a grading rubric will be distributed well before this is due.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* In what year was the first science article published that proved how an increase in GHG would increase global temperatures?
* Define: Greenhouse Gases (GHGs), global warming potential (GWP), Greenhouse Effect, Global Warming, Climate Change, Emissions Gap.
* What is the comparative GWP of different GHGs?
* How do we know the world is warming? What evidence exists?
* What does the evidence say about temperature trends?
* How do scientists know human activity is causing the warming?
* About how much has the world warmed since 1850?
* Are the oceans warming? How do scientists know?
* How do scientists know global warming will cause climate change and negative impacts?
* What are the main categories of impacts from global warming and climate change? Within some of these categories, what are some of the more specific expected impacts?
* Have some impacts already started to occur?
* Can we reduce the impacts of climate change? How?
* What are the main sources of the electric power used on Fairfield’s campus?
* What are the fuels used in each source?
* From natural science, economics, public policy, and ethical perspective, what are the advantages and disadvantages of each power source?
* Why does Fairfield’s Cogen plant mean fewer net GHG emissions than if Fairfield drew all of its power from the UI plant?
* Possibly other questions about Fairfield operations to be distributed.

**Week 6: Energy Production – Fairfield Operations and Best Practices at Other Colleges.**

**Assignment:**

* Answer the written questions on Blackboard. Student groups will be created randomly and assigned specific schools noted for innovative power production and required to find information and answer specific questions. The groups must find the information required to answer the questions.

**Reading:**

* AASHE documents and reports regarding power production at other Universities (TBA).
* Relevant energy-production sections of third party evaluations/score cards of University sustainability (TBA).
* Information on power production at other Universities from their websites and other sources – found by students - as part of the Assignment. We will randomly create student groups and assign specific schools noted for innovative power production. Student will then find information and answer specific questions.
* Information on “no-money-down solar projects” installed at Fairfield town schools and parking lots. TBA.
* Fairfield High School Solar Carport Proposals (Project now Complete).
* Adam Satariano, “The Business of Burps.” NYT, 3 May 2020: <https://www.nytimes.com/2020/05/01/business/cow-methane-climate-change.html>
* Relevant sections of: Dumsters.com: “Is Your Campus Focused on Sustainability?”; “Going Green at School,” “Top 55 Sustainable Ideas for Schools and Universities – 2020,” and related documents.

**Review the following:**

* Readings and Slides on Fairfield Co-Gen Plant.
* Readings on the UI power-plant in Bridgeport (the source of a relatively small amount of power used on campus and all of the power used by students living at the beach).
* Downie slides – “Climate Change 101” Lecture.
* Readings on Other Energy Sources Fairfield Uses.
* Relevant sections of the *Fairfield - Campus Sustainability Action Plan - Spring 2015*; and *the Fairfield - Campus Sustainability Action Plan – 2020-2021 Update*.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* What are the main sources of the electric power used on Fairfield’s campus? What are the fuel sources? From natural science, economics, public policy, and ethical perspective, what are the advantages and disadvantages of each power source
* Why does Fairfield’s Cogen plant mean fewer net GHG emissions than if Fairfield drew all of its power from the UI plant?
* Other questions about Fairfield operations to be distributed.
* Questions assigned for written answers about best practices at other Universities regarding power production, including natural science, economic, and policy issues related to solar, wind, cow-power, small-damn, fuel cell, co-gen and other installations.
* What options exist for Fairfield to reduce its GHG footprint from energy production?
* What options exist for Fairfield to reduce its economic costs from energy production?
* What are no-money-down solar projects? How do they work? How might they work at Fairfield?
* Who (organizations, companies, individuals, govt agencies, foundations) might express support, provide support, provide information, etc., that might inform or assist Fairfield efforts to produce or procure “green” energy?

**Week 7: Energy Conservation – Fairfield Operations and Best Practices at Other Colleges.**

**Assignment 1:**

* Due Day 1 by the start of class: Answer the written questions on Blackboard. Student groups will be created randomly and assigned specific schools that have achieved significant energy conservation or implemented innovative programs and required to find information and answer specific questions. The groups must find the information required to answer the questions.

**Assignment 2:**

* Due Day 2 by the start of class: Summary of Interviews with Environmental Professionals.

**Reading:**

* Very brief readings and lecture slides on GHG emissions related to energy use and potential GHG emissions reductions in USA and globally from increased energy efficiency.
* Short readings on, and examples of, how investments in energy efficiency are profitable in long-term and present win-win-win scenarios for actors using the energy, lenders that provide the funds, and firms that do the work.
* Relevant sections of the *Fairfield - Campus Sustainability Action Plan - Spring 2015*; and *the Fairfield - Campus Sustainability Action Plan – 2020-2021 Update*.
* Relevant sections of Fairfield’s GHG and action plan (dated document; for historical reference).
* Michael Tucker, “**Investing in Environmental Technology: An On-Campus GeoThermal Building at Fairfeild University.” Journal of Business Cases and Applications. Winter 2009: 17-22.**
* **Fairfield University Energy Dashboard(s):** http://dashboards.fairfield.edu/Energy/#
* AASHE documents and reports regarding power production at other Universities (TBA).
* Relevant energy-conservation or efficiency sections of third party evaluations/score cards of Univ. sustainability (TBA).
* Information on power production at other Universities from their websites and other sources – found by students. As part of Assignment 1, we will randomly create student groups and assign specific schools that have made significant or innovative steps in reducing energy consumption/increasing efficiency. Student will then find information and answer specific questions.
* Relevant sections of: Dumsters.com: “Is Your Campus Focused on Sustainability?”; “Going Green at School,” “Top 55 Sustainable Ideas for Schools and Universities – 2020,” and related documents.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* What measures, steps, policies, equipment, etc., has Fairfield taken to reduce energy use or use energy more efficiently?
* Does evidence exists regarding the environmental, economic or any other impact of these changes?
* How would you seek to get more information regarding the environmental, economic or other impact? What questions would you ask? What data would you want?
* What are Fairfield’s future plans or goals regarding energy use?
* Questions assigned for written answers about best practices at other Universities regarding power production, including natural science, economic, and policy issues related to solar, wind, cow-power, small-damn, fuel cell, co-gen and other installations.
* What options exist for Fairfield to reduce its GHG footprint from energy production?
* What options exist for Fairfield to reduce its economic costs from energy production?
* What are no-money-down solar projects? How do they work? How might they work at Fairfield?
* Who (organizations, companies, individuals, govt agencies, foundations) might express support, provide support, provide information, etc., that might inform or assist Fairfield efforts to conserve energy or use energy more efficiently?

**Week 8: Water Conservation – Fairfield Operations and Best Practices at Other Colleges.**

**Assignment 1:**

* Due Day 1 by the start of class: Answer the written questions on Blackboard. Student groups will be created randomly and assigned specific schools with significant or innovative water conservation or treatment practices and required to find information and answer specific questions. The groups must find the information required to answer the questions.

**Assignment 2:**

* Due Friday by 5 pm: Scientific analysis of the problem your proposal addresses. Very specific details, including a grading rubric, will be provided during the first week of class.

**Reading:**

* Very brief readings and lecture slides on fresh water resources in the USA and globally.
* Relevant sections of the *Fairfield - Campus Sustainability Action Plan - Spring 2015*; and *the Fairfield - Campus Sustainability Action Plan – 2020-2021 Update*.
* Readings or guest speaker on efforts at Fairfield to reduce water consumption.
* Readings or guest speaker on water use at Fairfield – various uses and their estimated amounts and our water bill.
* Readings or guest speaker on what happens to water that goes down the drain at Fairfield or down outside drains during rainstorm and the University water bill.
* Brief readings on, and aerial pictures of, the town of Fairfield sewage treatment plant and where that water goes.
* Brief readings on water quality in Long-Island sound.
* AASHE documents and reports regarding water conservation efforts at other Universities (TBA).
* Relevant water related sections of third party evaluations/score cards of University sustainability (TBA).
* Information on water related issues at other Universities from their websites and other sources – found by students. As part of Assignment 1, we will randomly create student groups and assign specific schools that have made significant or innovative steps in this area. Student will then find information and answer specific questions.
* Relevant sections of: Dumsters.com: “Is Your Campus Focused on Sustainability?”; “Going Green at School,” “Top 55 Sustainable Ideas for Schools and Universities – 2020”, and related documents.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* What measures, steps, policies, equipment, etc., has Fairfield taken to reduce water use? Or use water more efficiently?
* What are Fairfield’s future plans or goals in this area, if any?
* Does evidence exists regarding the environmental, economic or any other impact of these changes?
* How would you seek to get more information regarding the environmental, economic or other impact? What questions would you ask? What data would you want?
* Other questions about Fairfield operations to be distributed.
* Questions assigned for written answers about best practices at other Universities regarding water use, consumption, conservation, treatment, etc.
* What options exist for Fairfield to reduce its water use or costs?
* What options exist for Fairfield to reduce any negative impact storm run-off from its property?
* Who (organizations, companies, individuals, govt agencies, foundations) might express support, provide support, provide information, etc., that might inform or assist Fairfield efforts to reduce water use, water costs, and/or negative run-off impacts?
* How does this week’s topic impact your life, including if you live at the beach?

**Week 9: Solid Waste and Recycling – Fairfield Operations and Best Practices at Other Colleges.**

**Field Trip: BCC Dining Hall Operations and other Solid Waste Operations**

**Guest speaker – Expert in Campus Waste Issues**

**Assignment 1:**

* Due Day 1: Answer the written questions on Blackboard. Student groups will be created randomly and assigned specific schools noted for innovative solid waste or recycling efforts and required to find information and answer specific questions. The groups must find the information required to answer the questions.

**Assignment 2:**

* + - * Due Friday by 5 pm: Policy Option analysis of the problem your proposal addresses. Very specific details, including a grading rubric, will be provided during the first week of class.

**Reading:**

* Brief readings on food waste production, solid waste production, and recycling in the USA.
* Very short readings on GHG emissions and water use associated with waste production or using raw rather than recycled materials
* Relevant sections of the *Fairfield - Campus Sustainability Action Plan - Spring 2015*; and *the Fairfield - Campus Sustainability Action Plan – 2020-2021 Update*.
* Information on Fairfield’s system of sending food waste off campus to a composting
* Other readings and presentation slides on waste production (types and amounts throughout the year) and recycling efforts at Fairfield, the costs Fairfield pays for trash collection and removal, and related issues.
* AASHE documents and reports regarding waste reduction, recycling and related issues at other Universities (TBA).
* Relevant sections of third party evaluations/score cards of University sustainability (TBA).
* Information on waste reduction and recycling at other Universities from their websites and other sources – found by students. As part of Assignment 1, we will create student groups and assign specific schools that have made significant or innovative steps in this area. Student will then find information and answer questions.
* Relevant sections of: Dumsters.com: “Is Your Campus Focused on Sustainability?”; “Going Green at School,” “Top 55 Sustainable Ideas for Schools and Universities – 2020,” and related documents.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* What are the main sustainability issues related to solid waste and recycling?
* What types of waste is produced on campus? What are the patterns? What is recycled? How much?
* What does Fairfield pay to have trash removed? Does this vary throughout the year?
* What measures has Fairfield taken to reduce waste production or increase recycling?
* Does evidence exists regarding the environmental, economic or any other impact of these changes?
* How would you seek to get more information regarding the environmental, economic or other impact? What questions would you ask? What data would you want?
* Students living at the Beach: What are the key solid waste and recycling issues?
* What options exist for Fairfield to reduce the amount of trash it creates?
* What options exist for Fairfield to increase the amount of trash that gets recycled?
* What would be the positive and or negative environmental, economic or other impacts of these options?
* What evaluative criteria would you use in evaluating these options?
* Who (organizations, companies, individuals, govt agencies, foundations) might express support, provide support, provide information, etc., that might inform or assist Fairfield efforts to reduce water use, water costs, and/or negative run-off impacts?

**Week 10: Transportation – Fairfield Operations and Best Practices at Other Colleges.**

**Assignment:**

* Due Day 1: Answer the written questions on Blackboard. Student groups will be created randomly and assigned specific schools that claim or have achieved reductions to the environmental footprint of their transportation systems, broadly defined and information and answer specific questions. The groups must find the information required to answer the questions.

**Reading:**

* Brief readings and lecture slides on GHG emissions and other environmental and human health impacts related to transportation globally, in USA, in CT, and in Fairfield county.
* Relevant sections of the *Fairfield - Campus Sustainability Action Plan - Spring 2015*; and *the Fairfield - Campus Sustainability Action Plan – 2020-2021 Update*.
* Relevant sections of Fairfield’s GHG inventory and action plan (dated document; for historical reference).
* Other readings and presentation slides on efforts at Fairfield to reduce the environmental footprint and or economic costs associated with transportation of and by students, faculty and staff in all its forms.
* AASHE documents and reports regarding transportation at other Universities (TBA).
* Relevant transportation sections of third party evaluations/score cards of University sustainability.
* Information on sustainable transportation issues at other Universities from their websites and other sources – found by students. As part of Assignment 1, we will randomly create student groups and assign specific schools that have made significant or innovative steps in improving the sustainability of transportation related issues. Student will then find information and answer specific questions.
* Relevant sections of: Dumsters.com: “Is Your Campus Focused on Sustainability?”; “Going Green at School,” “Top 55 Sustainable Ideas for Schools and Universities – 2020”, and related documents.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* List all the different types of transportation activities related to Fairfield University students, faculty and staff, (e.g. shuttles, commuting, athletics and clubs, conferences, research, vacations, family visits, etc.).
* List all the means of transportation used in these activities (e.g.: University vehicles, private cars, etc.).
* What are the environmental impacts of this transportation? How might some of these be estimated? What are the potential economic costs to the University of this transportation? How might some of these be estimated? What other impacts might Fairfield transportation policy and infrastructure have (e.g. on University operations, image, etc.)?
* How would you seek to get more information regarding the environmental, economic or other impacts? What questions would you ask? What data would you want?
* What measures, steps, policies, equipment, etc., has Fairfield taken to reduce the environmental impacts of transportation, if any? What measures, steps, policies, equipment, etc., has Fairfield taken to reduce the economic costs of transportation, if any? Does evidence exists regarding the environmental, economic or any other impact of these changes? What if any efforts, have produced both environmental and economic improvements? What if any have produced improvements in one area but negative impacts in the other?
* What options exist for Fairfield to reduce the environmental impacts associated with transportation?
* What are the potential positive and negative impacts of these options?
* What evaluative criteria would you use in evaluating these options?

**Week 11: Purchasing – Fairfield Operations and Best Practices at Other Colleges.**

**Assignment 1:**

* Due Day 1: Questions Assigned on Blackboard

**Assignment 2:**

* Due Friday by 5 pm: Economic analysis of the problem your proposal addresses. Very specific details, including a grading rubric, will be provided during the first week of class.

**Reading:**

* Brief reading on environmental importance of including purchasing – including what and how, in sustainability evaluations.
* Information on purchasing policies and operations at Fairfield.
* Relevant sections of the *Fairfield - Campus Sustainability Action Plan - Spring 2015*; and *the Fairfield - Campus Sustainability Action Plan – 2020-2021 Update*.
* AASHE documents and reports regarding purchasing policies at other Universities.
* Relevant purchasing related sections of third party evaluations/score cards of University sustainability.
* Information on purchasing policies at other Universities from their websites and other sources – found by students as part of Assignment 1.
* Relevant sections of: Dumsters.com: “Is Your Campus Focused on Sustainability?”; “Going Green at School,” “Top 55 Sustainable Ideas for Schools and Universities – 2020,” and related documents.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* List the ways that how a University makes purchasing decision can have an impact environmentally, economically, ethically, politically and on human health.
* What measures, steps, policies, etc., has Fairfield taken to reduce any negative impacts from what it purchases or how it does so?
* Does evidence exists regarding the environmental, economic or any other impact of these changes?
* How would you seek to get more information regarding the environmental, economic or other impact?
* What questions would you ask?
* What data would you want?
* Other questions about Fairfield to be distributed.

**Week 12: Grounds and Campus Operations – Fairfield Operations and Best Practices at Other Colleges.**

**Assignment:**

* Due Day 1: Questions Assigned on Blackboard

**Reading:**

* Short readings outlining scientific concern regarding the negative environmental impact of overuse of pesticides and fertilizers and GHG emissions from two stroke engines used in blowers and mowers.
* Short readings outlining scientific concern regarding the negative environmental impact of certain chemicals commonly found in cleaning products.
* Information on the maintenance of Fairfield’s lawns, fields, and grounds, cleaning, and related campus operations.
* Relevant sections of the *Fairfield - Campus Sustainability Action Plan - Spring 2015*; and *the Fairfield - Campus Sustainability Action Plan – 2020-2021 Update*.
* AASHE documents and reports regarding relevant policies, actions, improvements at other Universities.
* Relevant sections of third party evaluations/score cards of University sustainability.
* Information on purchasing policies at other Universities from their websites and other sources – found by students as part of Assignment 1
* Relevant sections of: Dumsters.com: “Is Your Campus Focused on Sustainability?”; “Going Green at School,” “Top 55 Sustainable Ideas for Schools and Universities – 2020,” and related documents.

**Discussion questions for Class.**

* All the questions asked in the written assignment.
* List the ways that how a University takes care of its grounds and buildings, the way it cleans its buildings and transportation vehicles, and related issues can have environmental, economic, ethical, town-gown and other impacts.
* What are current Fairfield practices in these areas?
* What measures, steps, policies, equipment, etc., has Fairfield taken in the past to reduce negative impacts in these areas?
* Does evidence exists regarding the environmental, economic or any other impact of these changes?
* How would you seek to get more information regarding the environmental, economic or other impact? What questions would you ask? What data would you want?
* Questions assigned for written answers about best practices at other Universities.
* What options exist for Fairfield to improved its sustainability in these areas? What would be the impacts?
* What options exist for Fairfield to reduce its economic costs in these areas?

**Week 13: Issue chosen by Students.**

[Any days lost during the term during a particular week, e.g. during Thanksgiving week or a snow day, would come out of this week. Thus, this week, or one day of this week, might not occur depending on the structure of the calendar during a particular semester.]

**Week 14: Conclusion and First Set of Project Presentations**

**Exam Week: Remaining Project Presentations**

**EVST 2005 - FINAL PROJECT**

The final project is a proposal drafted for submission to a Foundation, the Fairfield University Sustainability Committee competition, a government agency, a University donor, or other potential source of funding. Please note, you are not doing the project (most would be impossible to do in a semester or without outside money). Rather, you are researching the background issue, researching the aspect related to Fairfield University, and preparing a proposal to address it. You do not have to submit the proposal but it must be drafted in accordance with the rules for submission (with regard to length, format, etc.). Projects must be matched with funds available from the source to which you are applying (e.g. the Campus program caps grants at $1500). If your preferred topic does not fit any particular funding organization or program, or costs more money, then we can invent one (e.g. a potential University donor or a Foundation).

Each proposal must address relevant scientific, policy, economic and ethical issues related to the problem you seek to address and your proposal for doing so. Because many proposal competitions require very short documents, what you turn in might also include appendices that provide additional information that might not fit into the proposal. This would not be extra work. It would be information you need for the proposal but could only put there in extremely summarized form due to space limitation. The exact nature of the potential appendices, if any, would be agreed to with the professor as part of the project outline. You are encouraged to work in groups of 2-3 students.

The titles, order, length, and details of different sections of each proposal will vary depending on the organization to which you are `submitting’ and the proposal structure they require. The instructor will discuss what types of information and details you need in the overall proposal and each section. However, in general every final project will include:

1. An overview of the background environmental problem and the specific campus operation and/or policy that relates to/involves/contributes to this problem. This will involve a ‘natural science’ overview of the background problem and why/how a particular campus operation and/or policy is relevant.
2. An analysis/discussion of why the University does what you seek to change and its ecological, economic, ethical, policy, and/or other positive and negatives / costs and benefits. This will involve several different disciplines and likely include quantitative and qualitative analyses/descriptions.
3. A detailed description of the alternative or improvement you propose. Depending on the focus of your proposal, this will include a detailed discussion based in the natural sciences, engineering, policy, and/or economics. This will likely include quantitative and qualitative analyses/descriptions.
4. A detailed description of the reasons why what your proposal will improve campus sustainability. This will include detailed discussion based in the natural sciences, economics, ethics, and/or policy and include quantitative and qualitative analyses/descriptions.
5. How the impact and hopefully success of your project will be evaluated, including what evaluative criteria should be used and why.
6. A budget for implementing your proposal.

During the semester you will do four assignments, and receiving feedback (from the professor and your peers), on: (1) a proposal outline; (2) topic (a); (3) topic (b); and (4) aspects of topic (c) and (d).

All projects/proposals require focused, in-depth work – the equivalent of producing an *excellent, concise, fully referenced* 20 to 25-page research paper. **HOWEVER** - Your project will not result in a traditional 20 to 25-page research paper but a shorter, very concise, very well referenced proposal. Regardless of the type and length of the final proposal, you must put in the equivalent amount of work necessary to produce an *excellent, concise, fully referenced* 20 to 25-page research paper – which is a large amount of work. That is why we will do interim assignments related to finishing the proposal – to make sure you get off to a good start and stay on track. The standards for the proposal required in this course are very high. Start working on your project today. No kidding. Start today. ☺

A detailed grading rubric will be distributed after you submit the outline – and will reflect what your “patenting funding source” requires. Essentially (and, again, reflecting the approved outline). separate sets of points will be assigned to, inter alia: the quality of topics (a)-(f) above; your writing; the quality of your sources; the accuracy of your references; the fit between your proposal and the instructions provided by the ‘funding organization’; the overall quality of the proposal; and the appendices (if any). Do not worry, I will take into account differences in proposals that reflect differences in the instructions provided by the ‘funding organization.’ You are not being graded against each other. You are being graded with respect to what we agree (via your outline) that the ‘funding organization’ wants, how well you deliver it, and any ancillary annexes you and I agree you should do (which will only be necessary if the proposal has a strict, small page limit).

The final project is due no later than the scheduled exam period for this class. Turn in one copy on paper and one copy directly via email by noon, as an attachment in MS Word. No PDFs, Google docs, etc. No extensions. Late submissions will be penalized one full letter grade if late; a 2nd full letter grade if more than 6 hours late; and a 3rd full letter grade if late more than 24 hours. I don’t do this to be mean but to reinforce the importance of doing things on-time. Early submissions allowed.

**Extra Document.**

The project is designed for students to enhance their research and analytical skills related to examining sustainability issues. This includes enhancing your ability to ask the right sets of questions and understanding what disciplines and methods you would seek out to help you answer the questions. Understanding sustainability and how to address it includes examining our role, and the role of institutions we engage with, play in exacerbating or reducing sustainability problems. This process can be enhanced by honest and active reflection on what we know, how we know it, what we are learning, and how we are learning it.

In keeping with the goals and process of such reflections, each final project must include a separate 2-page document that details how researching the issue and developing and writing the proposal demonstrates 3 or more of the Environmental Studies program goals for student learning outcome (SLOs; two of more of the Interdisciplinary (ID) SLOs listed below; and 2 or more of the IDEA form SLOs listed below (the IDEA form is the online course evaluation form students complete at the end of the term). The document should list the goal and the discuss how this course and/or preparing the project did this and how. Not all students or projects will relate to all these goals, but each will easily meet several.

Environmental Studies program goals for SLOs:

* Understand fundamental physical, chemical and biological processes impacting environmental issues.
* Understand fundamental concepts from the social sciences and humanities impacting environmental policy and perspectives/thoughts on environmental issues.
* Analyze environmental issues using appropriate tools drawn from the natural sciences, social sciences, and/or humanities.
* Communicate effectively about complex environmental issues for expert and general audiences.
* Critically evaluate the ramifications of human interaction with the environment from a scientific, social, and economic perspective.
* Bring awareness of social and environmental justice as important components of sustainable solutions.

Magis Core ID SLOs:

# Synthesize or draw conclusions by connecting examples, data, facts, or theories from more than one perspective or field of study.

# Meaningfully synthesize connections among experiences outside of the formal classroom (e.g., life experiences, service learning, study abroad, internship) to deepen understanding of fields of study and to critically examine their own points of view.

# Adapt and apply skills, theories, or methodologies across disciplines to explore complex questions and address problems.”

Selected IDEA SLOs:

* Gain essential factual knowledge (e.g. terminology, classifications, methods, and trends) for understanding environmental and sustainability issues (IDEA Objective 21).
* Learn fundamental principles, generalizations, and theories for understanding environmental and sustainability issues (IDEA Objective 22).
* Apply theories, methods & epistemologies to course materials and lived experience (IDEA Objective 23).
* Understand and develop some of the specific skills, competencies, and points of view needed by professionals in relevant fields (IDEA Objective 24).
* Learning how to find and use resources for answering questions or solving problems related to environmental and sustainability issues (IDEA Objective 29).
* Analyze and critically evaluate ideas, arguments and points of view directly relevant to understanding important environmental and sustainability issues (IDEA Objective 31).
* Acquire an interest in learning more about environmental and sustainability issues by asking questions and seeking answers (IDEA Objective 32).

**Topics - Potential Topics/Examples of Topics**

Downie must approve all project/proposal topics. You can choose to adapt one of the topics below or develop your own. In creating the list of potential topics, Downie focused on: creating a very diverse list that might help students generate other ideas; including topics that would allow students to network with individuals or organizations outside the University; and including topics that might appear to students with different majors, double-majors, and minors, including, as indicative examples: biology, business, chemistry, economics, education, finance, engineering, environmental studies, health studies, history, management, marketing, and politics.

Pursue a topic that: interests you; helps you prepare for future work; might get funded if you submit it; allows you to network with individuals or organizations within or outside the University; intersects with an internship or potential job; produces a draft that could be revised to form part of a senior thesis or other grant proposal; and/or involves working closely with the instructor or another professor to get one of the on-campus grants to support student-professor research and publications. It is ok to think instrumentally. When thinking of a topic, think broadly and then narrow it down. Eventually you will want a very narrow focus within a larger issue. Serious depth and learning are the goals of this project, not a broad overview. Those you can get by reading the work of others or in another class.

**Examples of Potential Topics (listed in random order)**

* Reviving, funding, staffing, and/or endowing the campus garden.
* Annual Campus and Beach Clean-ups during Earth Week.
* Sustainability tour signage on campus.
* Map and of all recycling bins on campus, including what they accept, how much material they collect, what happens to material, and/or proposals for improvement.
* New and improved recycling bins or systems on campus, in the dorms, in classrooms.
* Proposal to improve the recycling infrastructure and to reduce the little and production of solid waste near the beach residences.
* A rainwater harvesting system for a particular building.
* Installing one or more additional electric vehicle charging stations with preferred parking.
* Detailed inventory of all campus vehicles, the fuels they use, their fuel-economy, and estimated emissions of GHG and air pollutants – both for campus information and to establish a baseline to encourage and measure future improvements.
* Detailed inventory of all cleaning products used on campus, their uses, their toxic ingredients, what happens to the containers when done, and potential alternatives – both for campus information and to establish a baseline to encourage and measure future improvements.
* Detailed inventory of plant and/or animal species on campus, noting native and invasive species and their locations – both for campus information and to establish a baseline to encourage and measure future improvements.
* Detailed inventory of fertilizers and pesticides used on campus, the fuels they use, their fuel-economy, and estimated emissions of GHG and air pollutants – both for campus information and to establish a baseline to encourage and measure future improvements.
* Funds to compensate a group of students to do summer research on enhancing the sustainability of University endowment investing.
* Detailed inventory of campus purchasing policies and of items purchased made out of recycled materials and those that are not but for which recycled-sourced alternatives exist.
* Detailed inventory of all past sustainability related research and publications by Fairfield faculty – for use in potential future grant proposals, for campus information, and to establish a baseline to encourage and measure future improvements.
* Proposal to bring a bike-sharing service to campus and beach residences.
* Proposal to put more bike racks or lockers on campus, in dorms, and near beach residences
* Purchasing one or more electric cars for campus, staff, student use.
* Purchasing one or more electric vans for student/faculty use for field trips, for athletics and for shuttling students from the far north of campus to classes in the winter.
* Engineering students buying an old van or school bus and reconfiguring it as an electric vehicle that can be used for student/faculty for field trips, for athletics and for shuttling students from the far north of campus to classes and around town.
* Engineering students buying an old school bus and reconfiguring it to run on waste food oil from the dining hall for use for shuttling students from the far north of campus and around town.
* Solar canopy panels on the parking garage – a proposal to a company that installs no cost solar and/or the University administration
* Solar panels on student town houses – proposal to company that installs no cost solar and University administration
* Solar panels on dorms and classroom buildings – proposal to company that installs no cost solar and University administration
* Sustainability plan/check list for campus events – including athletics.
* Conducting a complete analysis of college sustainability scorecards (e.g. Princeton Review, Sierra Club), and how Fairfield can improve its rankings.
* Conducting a management and best practice analysis of how Fairfield gathers, compiles, and submits information to the college sustainability scorecard organizations (e.g. Princeton Review, Sierra Club), and how to improve this process.
* Weekly or monthly monitoring of ponds and streams on campus (and perhaps elsewhere in the town of Fairfield) and compare data to state and Federal standards/requirements – as part of a class when appropriate or stand-a lone data gathering in the summer or semesters when no relevant class is offered,
* Student participation in local, ongoing sustainability related research efforts – e.g. at Lake Lillononah.
* Annual trips to key off-campus sustainability related facilities/examples in near-by towns.
* A detailed list and chronology of all sustainability related actions taken at Fairfield University and their potential impact (e.g. reduction in GHG emissions, reduction in waste, etc.).
* Doing a complete update of the sustainability information on the campus website, taking down out of date links and gathering and putting up much more information.
* Proposal to FUSA and Faculty governance process to require one sustainability related course as part of the Magis Core Curriculum.
* Proposal to endow a faculty position in Religious Studies department focused on sustainability or environment.
* Proposal to create an endowment for an annual paid internship for Fairfield student to work to implement sustainability projects on campus as part of the campus sustainability committee – with the title of “Student Sustainability Coordinator.”
* Proposal to create an endowment for an annual paid internship for Fairfield student to work with the Town of Fairfield Sustainability Committee on Town-Gown related projects.
* Developing new education modules related to sustainability and environmental science for use in classes at Fairfield for use in on-line learning environments.

1. http://www.fairfield.edu/lib\_plagiarismcourtdef.html [↑](#footnote-ref-1)