

Course number: Environment 241
Title: Sustainability in Urban Systems
Units: 4
New course
Co-requisites: Environment 240

INSTRUCTOR IN CHARGE:

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COURSE GOALS

1. Identify the connections between food, energy, water, and the environment, encompassing scientific and social factors for each site visit and each project.
2. Appreciate that the connections of food, energy, water, and environment directly relate to issues of social justice, resource access, and health equity.
3. Develop yourself as a professional and individual with self-awareness who is able to address challenges of food, energy, water, and the environment with a social conscience.

LEARNING OUTCOMES FOR SITE VISITS:

4. Describe the techniques used by each site in order to integrate their resources into the local food, energy, and water systems.
5. Explain how changes in one resource relate to changes in the other resources and to social outcomes.
6. Analyze and evaluate the available scientific data that has led to our current understanding of biodiversity loss, nutrient cycling, land conversion, climate change, sustainable energy technologies, chemical pollution, fresh water quality and quantity, equitable access to healthy food, and dietary trends, and articulate conclusions based on these data.
7. Evaluate communication strategies that each site utilizes to engage outside communities and to engage each other as a system.
8. Identify connections (or lack of connections) between the various sites – how do they integrate as a system?

LEARNING OUTCOMES FOR SUSTAINABLE LA WORKING GROUP RESEARCH PROJECTS:

9. Formulate testable hypotheses regarding specific proposed developments in order to improve biodiversity loss, nutrient cycling, land conversion, climate change, sustainable energy technologies, chemical pollution, fresh water quality and quantity, equitable access to healthy food, and dietary trends, and design approaches to test the hypotheses.
10. Explain the relationship between community involvement (UCLA community, city, harbor, country, and global) and food, energy, water, and the environment.

11. Use your knowledge of food, energy, water, and the environment and apply it to specific projects in order to make scientifically informed decisions about the future challenges (both scientific and ethical) of biodiversity, nutrient cycling, land conversion, climate change, sustainable energy technologies, chemical pollution, fresh water quality and quantity, equitable access to healthy food, and dietary trends.

SUSTAINABLE LA WORKING GROUP RESEARCH PROJECT:

Creating the groups:

Sign up for preferred projects (rank top 3 choices)

Tammy will assign groups based on preference and keeping groups diverse.

Providing feedback on group work:

One adviser assigned to a group(s), clear instructions and structure provided:

- 3 times during the quarter, each student completes the “Teamwork” rubric for each group member, submits these to the project advisers. Advisers review these, meets with the group together to discuss the project and team dynamic.
- Additionally, immediately following these meetings, advisers complete the “Teamwork” rubric for each student.
- Advisers provide feedback to each student in the group summarizing what they have observed and feedback from their peers.

Group work milestones:

Week 2: Define the problem. Construct a clear and insightful problem statement with evidence of all relevant contextual factors.

Assignment due: Each group will submit a 1-page document that outlines the problem that needs to be addressed and what kind of data needs to be gathered.

Assignment due: Each individual submits the “teamwork” rubric for each of your peers in your group to your faculty adviser.

Assignment due: Submit weekly project update form to stakeholder via Google doc.

Week 3: Meet with faculty adviser. Discuss progress on group project and discuss the teamwork feedback as a group.

Assignment due: Submit weekly project update form to stakeholder via Google doc.

Week 4: Identify strategies. Identify multiple approaches for solving the problem that apply within a specific context.

Assignment due: Each group will submit a 1-page document that outlines the strategies that they will use to solve the problem. They will also submit the data that they collected that informs their strategy.

Assignment due: Submit weekly project update form to stakeholder via Google doc.

Week 5: Propose Solutions/Hypothesis. Each group will propose one or more solutions/hypotheses that indicate a deep comprehension of the problem. Solution/hypotheses are sensitive to contextual factors as well as all of the following: ethical, logical, and cultural dimensions of the problem.

Assignment due: Each group will submit a 1-page document that outlines the proposed solutions/hypotheses. Gather and submit additional data as necessary. Send this assignment to the site stakeholder and ask them to provide feedback ***considering specifically the history of the problem, logic/reasoning, feasibility of the solution, and impacts of the solutions.***

Assignment due: Each individual submits the “teamwork” rubric for each of your peers in your group to your faculty adviser.

Assignment due: Submit weekly project update form to stakeholder via Google doc.

Week 6: Meet with faculty adviser. Discuss progress on group project and discuss the teamwork feedback as a group.

Assignment due: Submit weekly project update form to stakeholder via Google doc.

Week 7: Evaluate potential solutions. Evaluate solutions considering the history of the problem, reviewed logic/reasoning, examined feasibility of the solution, and weighed impacts of the solutions. Recommend a solution that addresses multiple contextual factors of the problem.

Assignment due: Each group will submit a 1-page document reflecting on the feedback that you received from the stakeholder. Include any modifications you will make based on this feedback, and recommend your final solution.

Assignment due: Submit weekly project update form to stakeholder via Google doc.

Week 8: No class

Week 9: Recommend a project. Identify a problem for the next class that is either related to your project or to one of the site visits.

Assignment due: Each individual creates a 1-page project that next year’s class can address. This could be connected to your project as a next step or could be an alternate problem that you identified during one of the site visits. Examples might include: engaging policy makers, next steps for implementing your solution, creating a solution to a technological problem you’ve identified through your project.

Assignment due: Each individual submits the “teamwork” rubric for each of your peers in your group to your faculty adviser.

Assignment due: In-class activity: Each group presents their research project to the class and stakeholder using PechaKucha 20x20.

Week 10: Final reflection of group project. Discuss with other groups how your work for the project evolved and what you would do different.

Assignment due: Meet with faculty adviser outside of class. Discuss teamwork feedback as a group.

Assignment due: In-class activity: complete concept map from site visits.

Assignment due: Assemble all one-page documents turned in throughout the quarter into a cohesive final report to stakeholder and to instructor.

SITE VISIT ASSIGNMENTS:

Weekly: One group (e.g. Group #1) is designated each week as the site leaders.

Group #1 Bus Info Session - each member will present information about the site on the commute. (See format below)

All students identify 2-3 questions connected to their own projects to ask on the tour if not addressed. **Group #1** will collect questions and curate (students can complete these on the bus on the way there on index cards).

All students submit responses to post-visit questions designed to achieve learning outcomes to CCLE.

Assigned Group #1 document the trip by taking photos/videos; write a blog post about the trip with photos and captions for posting on INFEWS website. (submit post and pictures to Tammy).

Wk	Date	Location
0	9/28/18	Veteran's Native Garden
1	10/5/18	Port of LA Boat Tour Program
	10/6/18	Watts Community Healing Gardens (Saturday, 9 AM-1 PM)
2	10/12/18	UCLA Tour
3	10/19/18	Meet with advisers/research
4	10/26/18	Los Angeles Cleantech Incubator
5	11/3/18	Chevron Refinery Tour (Saturday, 9 AM-1 PM)
6	11/9/18	Hyperion Plant
7	11/16/18	LADWP Aqueduct Filtration Plant
8	11/23/18	No class
9	11/30/18	In-class Presentations
10	12/7/18	In-class Wrap-up

BUS RIDE PRESENTATION INFORMATION:

Instructions: Review the website for site assigned. Prepare information to share (verbally over the bus microphone) with the group on the bus commute to the site. Use the following questions as a guide, but customize your presentation based on the information that you find on the site's website. Presentation should be 5-7 minutes per person in the group.

Big-picture overview:

- What does this site do?
- Why is it located in/near Los Angeles and why are we visiting it?
- Who are the stakeholders/customers?
- What is the scale/scope of their service?

Historical background:

- When was the facility built, and what prompted its creation? What other historical information about the site is interesting to know?

Connection to and impact on community and surrounding environment

- How is this site connected to the other sites we have visited?
- How is this site connected to the surrounding environment?
- How does its location impact the geographically closest community?

FAQs:

- How large is the facility?
- What are the main services/products?

In the news:

- Have there been any recent news stories about this facility? Is there anything controversial to know about the facility?

POST-VISIT QUESTIONS (Post answers to CCLE):

- What is the mission of the organization?
- Who are the players/stakeholders of concern?
- What kind of training/skill set do the people in the organization possess? Who validates these skills?
- How many people work on site and, if applicable, in the broader organization at other sites?
- What is the decision making process or structure (i.e., majority, consensus, executive order)?
- What is the budget? How are the bills paid? Who pays for the project(s)?
- How is the organization balancing profit/revenue versus public good?
- How is the community involved?
- How does "the system" work for or against their efforts (permits, access, regulations)?

- For non-profit organizations only: what are the challenges inherent with a non-profit organization?
- Does the organization confront any ethical issues? If so, what are they?
- Do you think this organization integrates sustainability in their planning?
- Do you think such an organization represents a solution for today's FEWS problems?
- What do you consider to be a problem or an unsolved/unaddressed issue? Construct a clear and insightful problem statement with evidence of all relevant contextual factors. Propose one or more solutions/hypotheses that indicated a deep comprehension of the problem. Solution/hypotheses are sensitive to contextual factors as well as all of the following: ethical, logical, and cultural dimensions of the problem.

GRADING:

Sustainable LA Working Group Project (75%)

- Weekly assignments posted to CCLE
- Weekly Google doc project updates to stakeholders
- (3) team feedback rubrics posted to CCLE and evaluation meetings with advisers
- Final set of deliverables posted to CCLE
- In-class concept map

Site Visit Assignments (25%)

- Bus presentations
- Weekly post-visit questions/answers posted to CCLE
- Blogpost write-up with accompanying photos/images

Bonus for Innovative/Outstanding Contribution (5%)

- Stakeholders identify their most successful/favorite/promising project

Disclaimer: This syllabus is subject to change at the discretion of the faculty. Students will be notified of such changes ahead of time via email.

Acknowledgement: This material is based upon work supported by the National Science Foundation under Grant No. DGE-1735325.