

SYLLABUS - ENVS 570 Campus Sustainability - Updated Jan 29

Instructor:

Carlos Davidson. Office: 332 HSS.

Office Hours: Monday 2:00-3:00, Tuesday 1:30-2:30, Wednesday 10-12, 2:30-3:30

Phone 405-2127

Email carlosd@sfsu.edu (put "ENVS570" at start of subject line)

Web page: <http://bss.sfsu.edu/cdavidson>

Classroom and Time: Tuesday 3:35-6:20 pm, Gym 116

Final Exam: none

Course Description: The catalog description is: Students will learn about current sustainability issues and efforts at universities across the country and at San Francisco State. A major component of course will be completion of a hands-on sustainability project on campus. The big project for this section of the course will be on developing recommendations for a climate action plan for campus.

Course objectives:

Give students hands on opportunity to develop skills involved in sustainability work - both technical skills such as those involved in conducting a greenhouse gas accounting as well as organizational, political, and social skills involved in carrying out a sustainability project.

Instructional methods.

A major component of student learning in this course will be student sustainability projects - individual or group - to be carried out by students during the semester. Classroom time will include standard lecture format, in addition, small group discussion, and full class discussions.

Important dates:

February 5 - Last day to drop; Last day to add w/permit number; February 19 & 22 - Campus-wide Furlough Days (campus closed); February 23 Last day to file graduation petition for May or August graduation; March 4th - Statewide day of action for Education; March 29-April 2 - Spring Break (campus closed); April 23 - Last day to withdraw

Course Materials

Main texts:

Creighton, Sara H. 1998. Greening the ivory tower: improving the environmental track record of universities, colleges and the other institutions. MIT press, Cambridge. (Hence SHC)

Additional readings will be available at
http://bss.sfsu.edu/cdavidson/envs570/envs570_readings.htm

Attendance Policy: Attendance in class is required. Participation is part of the course grade and you can't participate if you don't attend. Furthermore substantial class time will be devoted to activities that cannot be "made up" if they are missed.

Homework assignments. All homework assignments are due at the start of class on the due date. Email submission of assignments will not be accepted. All written assignments must be typed. Late assignments are down graded half a grade for each class period (or fraction thereof) late.

Grading: Grades are based on the following points:

Homework #1 AASHE bulletin actions	50
Homework #2 data journal	50
Homework #2 data + updated journal	50
Homework #2 written report	100
Homework #3 STARS written report	100
Homework #3 STARS presentation	50
Homework #4 project proposal	50
Homework #4 report draft	100
Homework #4 your review	50
Homework #4 final project report	200
Homework #4 final project presentation	100
Participation	100
Total Points	1000

Final course grades are based on total points, with 100-90% A, 89-80% B, and 79-70% C. The percentage cutoffs may be adjusted or "curved" downward based on the difficulty of assignments, but they will not be moved upwards.

Plagiarism: Plagiarism is using someone else's work and not giving credit. Plagiarism can consist of either borrowing ideas or borrowing wording or both. If you take a sentence from a source and use it in a paper without quotation marks that is plagiarism. Depending on the seriousness of the case, plagiarism will result in failing an assignment and or being reported to Student Affairs. Please don't plagiarize.

ENVS 570 Campus Sustainability Schedule
 Topics and dates are subject to change

Date	Week	who	Class Topic	2nd half	Due
26-Jan	1	Carlos Davidson	Course overview, what is sustainability? Sustainability and Social Justice	lecture	
2-Feb	2	Lanier and Steele	Sustainability at SFSU	lecture	
9-Feb	3	Davidson	Assessments and class projects	lecture	HW#1
16-Feb	4	Charles Meyer	Energy	energy tour/lecture	HW2 data journal
23-Feb	5	Davidson	Responding to climate change	lecture	HW4 Project proposal
2-Mar	6	Charlotte Ely	Students Organizing		
9-Mar	7	Davidson	Greenhouse gas accounting I	work on GHG calcs	
16-Mar	8	Davidson	Sustainability Finances	work on GHG calcs	HW 5 greenhouse calcs
23-Mar	9	Caitlin Steele	recycling and waste	campus waster tour	HW2 data
30-Mar			SPRING BREAK		
6-Apr	10	Jeff Tumlin	transportation I	lecture	
13-Apr	11	Jason Porth	bicycles	tba	HW2 Final inventory
20-Apr			furlough no class		
27-Apr	12	Evans?	Grounds	grounds tour	HW 4 drafts
4-May	13	Kathy Odonell	social marketing	tba	HW 4 reviews
11-May	14	Kristin Sullivan?	Green building field trip to De Anza College		
18-May	15	Julio	Cool Cities campaign	STARS discuss 1	HW3 STARS
25-May	16		TBA	STARS discuss 1I	
1-Jun	17		Final presentations		HW4 report and presentations

ENVS 570 Campus Sustainability – Topics and Readings

Course overview, what is sustainability? Individual Behavior and Institutional Change

Readings:

SHC Chapter 1, Ch 2 p 10-29.

Carlson, Scot. 2006. In search of the sustainable campus. The Chronicle of Higher Education, October 20, p A10-A14.

Lipka, Sara. 2006. Students call for action on campuses. The Chronicle of Higher Education, October 20, p A18-A19.

Sustainability at SFSU

Guest lecturers: Marilyn Lanier, Senior Associate Vice President Physical Planning and Development. Caitlin Steele, Sustainability Coordinator, Facilities Department.

Readings:

Sustainable SF State webpage <http://www.sfsu.edu/~sustain/index.html> read full text of page for each of the major headings – University Initiatives, Academics and Research, etc.

SfSU master plan, executive summary. 11 pp.

CSU systemwide sustainability plans and goals. 7 pp.

Pinderhughes, Raquel and Erin E. Patch. 1999. Towards a Sustainable Campus: San Francisco State University Preliminary Environmental Audit. Urban Studies Program. San Francisco State University, San Francisco, CA. 77pp. [pages 1-6, 36-49 and 66-70]

SFSU organization chart

CSU organization chart

Energy

Guest lecturer: Charles Meyer, Associate Director Utilities & Facilities

Readings:

SHC, chapter 3 pages p Intro pages 51-53, and 63-80 sections on energy management and lighting.

Assessments and class projects

Readings:

SHC Ch 2 p 30-49

AASHE Sustainability Tracking, Assessment & Rating System (STARS) for Colleges and Universities Early Release version 1.0 Technical Manual. 2010. Association for the Advancement of Sustainability in Higher Education. 267 pp. [read 4, 8-11, 17-20, plus skim details for at least one credit from each of the three main categories to see how it works]

Clean air, cool cities campus toolkit – conducting a greenhouse gas emissions inventory. Pp 1.

Responding to climate change – I Commitments and Inventories

Readings:

American College and University President's Climate Commitment – the commitment.
<http://www.presidentsclimatecommitment.org/html/commitment.pdf>

Fager, C. and C. Davidson. 2008 Greenhouse Gas Emissions Inventory 1990-2006 for San Francisco State University. Report prepared for the SF State Facilities Department for submission to the American University and College Presidents Climate Commitment. Pp 22.

Clean Air-Cool Planet Carbon Calculator, version 6 Users Guide. 2008. Clean Air Cool Planet Inc. [1-4 (skip changes previous versions), p 8-13]

Responding to climate change II – Action Plans

Readings:

American College and University President's Climate Commitment. – Solutions Overview and Examples of Climate Action Plans.
<http://www.presidentsclimatecommitment.org/html/overview.php>

American College and University President's Climate Commitment. – A call for climate leadership.
http://www.presidentsclimatecommitment.org/pdf/climate_leadership.pdf [p8-10]

Clean Air-Cool Planet Carbon Calculator, version 6 Users Guide. 2008. Clean Air Cool Planet Inc. [p 27-30]

Optional readings:

Examples of climate action plans:

University of Florida, Office of Sustainability. 2004. Carbon Neutral Assessment Project.
http://www.icbe.com/about/uf/documents/UF_Carbon_Neutral_Assessment_Project.pdf

Oberlin College. Climate Neutral by 2020 (Executive Summary)
www.naels.org/Assets/naels_documents/CCN/Oberlin2020ExecSumJan02.doc

Yale University. Yale's Greenhouse Gas Reduction Strategy 2005-2020.
http://www.yale.edu/sustainability/greenhouse_fin1.pdf

Recycling, Waste diversion and Composting

Guest lecturer: Cailin Steele, SFSU Sustainability Coordinator (and formerly campus recycling coordinator).

Required reading: SHC, chapter 3 pages 57-62 on waste and recycling

Optional reading: Greenhouse Gas Emissions from Management of Selected Materials in Municipal Solid Waste. Executive summary. U.S. Environmental Protection Agency. Washington D.C.
<http://epa.gov/climatechange/wycd/waste/downloads/execsum.pdf> pp20 [read 1-16]

Transportation

Guest lecturer: Jeff Tumlin, transportation engineer, Nelson and Nygaard (a transportation and planning consulting firm)

Required Readings:

SFSU master plan, Chapter 9, Campus Circulation. 16pp

Bay Area Transportation and Land Use Coalition (TALC's), Platform. 4pp.

Optional readings:

Citizens for a Better Environment. 2006. MTC - Where are our Buses?: Challenging the Bay Area's separate and unequal transit system. San Francisco, California.

Campus grounds

Guest lecturers: Phil Evans, Director, Campus Grounds, Fleet Services, and Integrated Waste Management

Readings:

SHC, chapter 3 pages 103-114 on grounds

SFSU water resource plan http://plopws.sfsu.edu/water_resource_plan/

Bicycles

Guest lecturer: Jason Porth, Associate Director, Community Relations, SFSU Office of Government Relations. Reading: TBA.

Sustainability Finances

Readings:

Clean Air-Cool Planet Carbon Calculator, version 6 Users Guide. 2008. Clean Air Cool Planet Inc. [p 22-28]

Diebolt, A. and Herder-Thomas, T.D. 2007. Creating a Campus Sustainability Revolving Loan Fund: A Guide for Students. Association for the Advancement of Sustainability in Higher Education. Lexington KY. [p 1-12]

Student fees for sustainability. AASHE web page. http://www.aashe.org/resources/student_fees.php

[read main page, and then click on renewable energy link and read that page (but not associated links)]

Green buildings

Guest lecturer: Kristin Jensen Sullivan, Environmental Studies Department, DeAnza College, Cupertino, CA

Readings:

Aitken, Donald W. and Philips, Julie. 2006. The Kirsch center for environmental studies—a 17-year odyssey from campus vision to architectural fulfillment. Environmental Studies Program, De Anza College. Cupertino, California. pp4.

Kirsch Center submission for CBE Livable buildings Award.

http://www.deanza.edu/kirschcenter/pdf/kces_cbe_2007.pdf [read p 1-5, rest optional]

Student Organizing

Required readings:

California Student Sustainability Charter, [read p1-3, rest optional]

UC Policy on Sustainable Practices

UC Office of the President Sustainability Best Practices Case Study: UC Davis Sustainable Food Systems

UC Office of the President Sustainability Best Practices Case Study: UC Santa Cruz Sustainable Food Systems

Optional readings:

U.C. Berkeley sustainability achievements: application for AASHE award

Education for Sustainable Living Program (ESLP) example Course Syllabus

Santa Barbara City College pamphlet on ESLP

Homework Assignments

Assignment #1 AASHE Bulletin and Possible SFSU Sustainability Projects

Due Feb 9th.

Go to the Association for the Advancement of Sustainability in Higher Education (AASHE) website (www.aashe.org) and to the resource center. Look through past issues of the AASHE bulletin or digest and search for two different sustainability action that have been carried out at other schools that you think would be good to have happen at San Francisco State. For each of the actions write up the following:

- a. A short paragraph describing the action and where it occurred.
- b. A paragraph explaining why you think this particular action would be good to do at San Francisco State - imagine that you are trying to convince a sustainability committee here at SFSU that this particular activity should be a high priority.
- c. A paragraph describing the strategy or political plan that you think would be necessary to make this action happen at San Francisco State. You should try to answer the following questions: Who would take the lead? What would they have to do as their first step? Who ultimately would make the decision? How would they be convinced to support this action? Who ultimately would have to carry it out? What do you think would be the biggest obstacles to implementing this action at SFSU?

Remember to write on two separate actions. Combined your paper should be at least two pages double spaced (12 pt type, 1" margins all around).

Assignment #2 greenhouse gas emissions inventory for SFSU.

February 16th , Initial data journal due (paper).

March 23rd collected data spreadsheet, data documentation, and updated data search journal due. The spreadsheet and data documentation word file can be emailed in. Hand in a paper version of the data journal.

April 13th Final GHG inventory due.

By signing the University President's climate commitment, and by joining the California Climate Registry, SFSU is now committed to reporting greenhouse gas emissions resulting from the operation of the campus.

Working in assigned teams of three students, each team will use the Clean Air – Cool Planet calculator to estimate greenhouse gas emissions for the campus for 2009 as well as some earlier comparison years.

Each team will be assigned to research and request part of the data needed in these areas. Teams will keep a detailed journal of their data collection efforts (see page 10 of the CACP users manual for a description of how to keep a journal of your data search). The data request should be for academic years 2008 and 2009

When data is found write a short documentation for the data including these three elements:

- Data label – short sentence description of data. E.g., number of full time students
- Full data description – e.g. average number of enrolled full time students fall and spring semesters, not including summer sessions. Full time is defined as 12 units or more. Be sure to include any assumptions or caveats about the data.
- Data source contact: name, department, phone number, e-mail, web url as applicable

Put your documentation in a word file. Enter the data in an excel spreadsheet – use the CACP format – put years down column A, and the data down column B. Put the data label in the first row in column B.

By March 26th all teams will be provided with data collected by the class, and any assumptions necessary to deal with missing data. Each team will use the available data and the CACP calculator to estimate a complete Greenhouse gas inventory for the campus for 2009. Each team will submit its final greenhouse gas inventory in two forms: a digital copy of your final version of the CACP calculator with all your data, and a paper printout of summary from the CACP calculator. Teams will hand in answers to a short set of questions about the inventory (questions still in development).

Assignment #3 Using AASHE STARS rating system to evaluate SFSU

Written evaluations and oral presentations due May 18.

AASHE is in the process of developing a **Sustainability Tracking, Assessment & Rating System (STARS)** for Colleges and Universities. Currently they have an early release version 1.0 out and in use. We will divide the credits (survey questions) up among all the students in the class. Each student will be assigned to try to evaluate whether SFSU qualifies for four credits. Students will also write evaluations of the four credits. For each credit students should answer all the following questions:

- a. Do you think SFSU qualifies to receive the credit. Explain the basis of your judgment. It is okay if you do not know the answer - especially if the answer would require analyzing data - make your best guess after conducting a very low key search for the answer: Ask your fellow students if they know, and spend 30 minutes max (per credit) on the web trying to find an answer.
- b. How well do you think this credit reflects campus sustainability in general and at SFSU?
- c. What suggestions do you have to improve the credit? Include recommended criteria and background, and identify any areas with potential for misinterpretation. If this is a strategy credit, do you think a performance measurement in this area would be more appropriate or should supplement the strategy credit? If this is a performance credit, do you think a strategy credit would be more appropriate or should supplement the performance credit?
- d. Do you think it should be a high priority for SF State to take action in this area to obtain the credit – why or why not?

Write up your answers for each credit. And prepare a very brief (three minutes max) oral presentation to the class.

Assignment #4 Student Recommendations for a Climate Action Plan for SF State

This is an initial assignment description which will be updated. This project is intended to be the major part of your outside of class work for the course. It is a group project with anywhere from two students to four (maximum) students of your own choosing.

SF State is currently working on developing a Climate Action Plan – a plan for how the campus will reduce greenhouse gas emissions over the next 10-20 years. The goal of the class is to produce a document: Student Recommendations for the SF State Climate Action – which will be presented to the SFSU Campus Sustainability Committee.

Students teams choose an area to work on. Possible areas are Renewable energy, energy efficiency, Student commuting to campus, purchasing, waste, behavior changes, and institutional process.

Final reports will be in three parts: Part I – review of other climate action plans. Part II project evaluation for at least one project. Part III recommendations for SFSU

Part one of your report is a review of actions planned by other campuses in your chosen area. To do this each team must read and write up a review of ten climate action plans from other campuses (available on the AASHE web page). The ten plans should include at least two plans from the following campuses: U.C. Berkeley, UC Merced, Cal Poly Pomona, Cornell, CSU Monterey Bay, CSU Chico or Yale. Review means write a summary of all the different actions planned by campuses in your area of work, and briefly state whether they may be suitable for SFSU, whether you think they are relative easy or difficulty to implement at SF State, whether they are relatively expensive or inexpensive, and whether they would result in large or small reductions in greenhouse gasses if implemented here at SF State.

Part two is an in-depth evaluation of a single high priority project for SFSU. The project has to be one that is suitable for analysis: there must be some way to estimate costs and some way to estimate the reduction in greenhouse gas emissions from SFSU from implementing the project. The project evaluation should describe the project, and include an estimation of the cost of the project (with all your assumptions clearly presented) and an evaluation of the greenhouse gas reductions expected from the project. Evaluation should include use of measures such as cost per ton of GHG reduced, and payback period if the project involves energy savings.

Part Three is a set of recommendation for SF State. What are the top five projects in your chosen area that you think SF State should implement over the next ten years. Describe each of the five projects, and explain why they should be priority projects for our campus.

Draft and final reports should be about 12 pages in length (12 point type, double spaced, 1 inch margins all around (not including title page, figures and tables and literature cited).

February 23rd – Due at the start of class. One page project proposal that includes answers to the following:

1. Full names of your team members
2. What area you are going to work on
3. what campus climate actions plans do you plan to review – do the initial work to look at ones that contain projects in your area of work

April 27th – Draft report due – this should be a complete report ready for review by other students. Each team should bring n double sided copies of their draft report to class, where n is the number of people in their group. No late draft reports will be accepted.

May 4th - Reviews due – reviews are done individually, not as a group, so everyone in class will write their own review of a report from a group other than their own.

June 1st – Final written project report due, Present your study to the class.