

The California State University - Office of the Chancellor  
Campus as a Living Lab Grant Program

**FINAL PROGRAM NARRATIVE**

**Integrating Students into CSULB's Sustainability Mission (New Course Development)**

**Dean S. Toji, Ph.D.**

CSU Long Beach

The proposal for this project listed three anticipated outcomes:

- \* Development of a new course that combines course materials on concepts of sustainability with student projects which contribute to staff and faculty implementation of CSULB sustainability activities.
- \* Development of guidelines for crafting student projects.
- \* Identification of specific student projects by the staff and course instructors.

**DEVELOPMENT OF A NEW COURSE**

(Please see attachments: "Standard Course Outline" and "Sample Syllabus.")

The new course developed with this grant is titled "Climate Action and Sustainability at CSULB, a Service Learning Capstone, General Education course in the Environmental Science & Policy program (ESP 392). The course is now in the curriculum approval process.

I consulted with Prof. Paul Laris, the chair of the Geography Department and the ES&P program, we decided that it should be developed as a Service Learning Capstone course, which would provide an option that fulfills the ES&P program requirement for a "field" course, and provides a service learning capstone available to both ES&P majors and non-majors. (I am a member of the ES&P faculty.) The ES&P curriculum committee approved the course for submission to the College of Liberal Arts & University General Education Curriculum Committee approval process, where it is now under consideration.

My intention was to carry out the grant work in the Fall 2013 semester. However, the notification of award came after the start of the semester, and so course release time was taken in Spring 2014. Given the lead time for new course and General Education course status approval, I now plan to offer the class in Fall 2015.

## **DEVELOPMENT OF GUIDELINES FOR CRAFTING STUDENT PROJECTS\**

(Please see attachment: “Guidelines for Supervisors: Designing Student Service Learning Assignments.”)

The course is built around service learning projects in which students participate in sustainability activities. Most of these activities are conducted by CSULB staff. Staff members will define and supervise the students’ work. I prepared “Guidelines for Supervisors: Designing Student Service Learning Assignments” so that the assignments would be beneficial to the staff member and their work unit as well as to the students. A great deal of information and guidance for developing the Guidelines (as well as identifying the Student Project topics, see below) was provided by Paul Wingco, Energy & Sustainability Manager, Physical Planning and Facilities Management (PPFM). Other PPFM staff members who provided invaluable advice were:

Brian McKinnon, Manager, Grounds & Landscaping Services

Michelle Hermance, Coordinator, Field Operations

Holli Fajack, Sustainability Coordinator

## **IDENTIFICATION OF STUDENT PROJECTS**

(Please see attachment: “Service Learning Assignment / Student Projects: Topics List.”)

In consultation of Facilities (PPFM) staff, I prepared a list of possible service learning student project topics. The list is intended to represent the Facilities staff’s priorities for student assistance. This list gives an overview of current possible assignments. The assignments that are offered in any semester will be at the discretion of the project supervisors

## **PLAN FOR FIRST SEMESTERS**

A basic need of the CSULB sustainability work became apparent in the course of this project. The campus community is still in the process of discovering what our existing sustainability activities actually are. For example, on the academic side, we are conducting surveys and contacting faculty who are teaching sustainability-related courses or conducting sustainability research. The sustainability work carried out by PPFM is little known in the campus community, and the information is not easily accessible to those who want to know about it. Although PPFM addresses many sustainability issues, it is not set up to publicize its work. My impression is that there is work ethic among Facilities professionals of taking care of problems and keeping things running without drawing attention to themselves. However, the issues they have been addressing behind-the-scenes are among the critical sustainability issues for society: energy, greenhouse gas emissions other types of air pollution, water, waste management, landscaping, etc., and now need to be

noticed and understood. I decided that producing materials to help communicate about these issues and activities to the campus community and general public would be a priority among the service learning assignments for this course, especially in the initial semesters. The materials would be used for a variety of public communications, including the campus sustainability website that is now in preparation, a self-guided sustainability tour, as components available to be added to the existing campus tour, and other public education projects now being considered by the Sustainability Task Force.

My assessment is that this focus is necessary to launch the class. The information from these projects would establish an inventory of sustainability activities that will be used for class planning. It would identify what is being done, with what objectives, and by whom. For some staff members, it would probably be a smoother introduction to working with students, this course, and the instructors, than immediately beginning with supervising student projects. But most of all, there is a need for sustainability work that communicates what is being done, as well as projects that contribute materially to protecting the environment. There will be an ongoing need for the communications-type projects, but the emphasis will be greater in the first offerings than later.

*Planning for each semester.* This course's focus on service learning assignments that will constantly change raises a particular issue of class planning. Every semester will require the preparation of a significant amount of new material, because most of the assignments and probably several supervisors would change as the work progresses. Thus each class offering will require planning during the preceding semester or summer break. If the course is scheduled for every semester, then instructors can plan for the following semester while teaching the current one, especially since classroom time is reduced during the weeks focused on the service learning assignments. Thus an important practical issue to be resolved is how to assure that the class is offered every semester.

## **BUILDING INFORMATION “DASHBOARDS”**

The Campus as a Living Lab grant also enabled us to purchase software that gives anyone on campus internet access to real-time information about the energy and water usage of individual buildings. (The hardware and content will be provided separately from this grant's funds.) We refer to the whole system as building information “dashboards.” The dashboards will be accessed on the web, including via smart phones, and allow CSULB students, faculty, staff, and visitors to peek into building energy and utility information that has never been available to the public before.

Buildings are major sources of greenhouse gas emissions from the energy and natural resources they consume. To reduce the carbon footprint of our buildings, we must not only implement

changes in the way we build and operate our facilities but also change the way building occupants interact and connect to the physical environment of the campus. The dashboards will show people the amounts of energy and water used to make their buildings habitable and comfortable, and make these issues more tangible. Students will now be able to visualize real time building energy and water consumption data that will not only educate but hopefully initiate thoughts and actions to help reduce the campus' and their own carbon footprint.

CSULB purchased the dashboards with Campus as A Living Lab Grant proceeds, more precisely, the Lucid Building Operating System, a software platform that enables real time building energy and utility consumption information available to the public. The Building OS system will be enabled for three campus buildings: the Pyramid, Vivian Engineering Center, and the Central Plant. Once the software is configured, students will have web access to real time energy and water usage information for each of the three buildings. This information can be used as for instruction and class research project and for general campus sustainability education. The building dashboards will be available to the campus community by the end of Fall 2014 semester.

Supplementary documents:

1. ESP392 Standard Course Outline (“Climate Action and Sustainability at CSULB”)
2. ESP392 Sample Syllabus
3. ESP392 Guidelines for Supervisors: Designing Student Service Learning Assignments
4. ESP392 Service Learning Assignment / Student Projects – Topics List (ver 14Sep11)

**California State University Long Beach**  
**College of Liberal Arts**  
**Department of Asian & Asian American Studies**  
**Environmental Science & Policy Program**

STANDARD COURSE OUTLINE

**I. General Information**

- A. Course number: ESP 392  
 B. Title: Climate Action and Sustainability at CSULB  
 C. Units: 3  
 D. Prerequisites: Completion of the entire Foundation curriculum along with one or more Explorations courses and upper-division standing  
 E. Responsible faculty: Dr. Dean S. Toji  
 F. SCO Prepared by: Dr. Dean S. Toji  
 G. Date prepared/revised: April 26, 2014

**II. Catalog Description**

Students join CSULB's efforts to achieve climate neutrality (zero net greenhouse gas emissions) and sustainability through service learning assignments working with staff, faculty and community partners. Opportunities for all majors to apply and develop skills through hands-on experience.

Prerequisites: Completion of Foundation curriculum and one Explorations course, and upper-division standing.

**III. Curriculum Justifications**

This course should be designated as a Service Learning Capstone because it includes substantial service assignments in climate change mitigation and other environmental sustainability activities conducted by CSULB staff and faculty and with community partners (GE Policy 12-00, section 7.10.6.2), and because it is designed to develop advanced college skills and to heighten students' sense of civic identity by applying the knowledge and skills from their academic studies to work that promotes the well-being of the community (GE Policy 12-00, section 7.10.1). This course provides an option that fulfills the Environmental Science and Policy program requirement for a "field" course, and provides a service learning capstone available to both ES&P majors and non-majors.

CSULB is a signatory to the American College and University Presidents Climate Commitment (ACUPCC), and has pledged to achieve climate neutrality (zero net greenhouse gas emissions) as soon as possible. It has established a campus Sustainability Task Force to plan and implement the Climate Commitment and to bring together other campus sustainability efforts. The Task Force includes representatives from staff, administration, faculty, student government and the auxiliaries. However, individual student involvement with Task Force activities has been minimal. At present, there are no courses that directly connect students to the Climate Commitment or the campus' broader sustainability mission through service learning, and thus the educational potential of student engagement with this effort and the contributions that students can make are both missed. The proposed course addresses that need.

In this course, students will participate in campus sustainability activities through service learning assignments that are designed and supervised by staff and faculty, and by community partners. These assignments (“Student Projects”) will be part of actual sustainability work activities, or significantly augment those activities. The assignments will match individual students’ abilities with the requirements of the projects as defined by the supervising staff or faculty members or community partner. The expected variety of assignments will require the application of different sets of knowledge and skills, and will be appropriate for a wide range of academic majors and individual abilities. The physical campus will be the principal site of activities for the course, and many or most of activities will involve working with campus units represented on the Sustainability Task Force, especially the Facilities department. Off-campus activities will be included as community partnerships are established by CSULB.

#### **IV. Measurable Student Learning Outcomes, Evaluation Instruments, and Instructional Strategies for Skill Development**

##### **SLO #1 - Content Based Outcomes**

This course is designed to meet the GE Content-Based Outcome relevant to “Knowledge of Human Cultures and the Physical and Natural World” through the study of policies and practices addressing anthropogenic climate change and other sustainability issues.

##### **A. STUDENT PERFORMANCE BENCHMARKS.**

Upon successful completion of the course, students should be able to:

1. Describe the basic features of global climate change and of mitigation and adaptation responses to climate change.
2. Describe the basic features of the concept of sustainability.
3. Describe the basic features of CSULB’s efforts to address climate change (through implementing the ACUPCC) and other aspects of sustainability.
4. Explain the Student Project assignment in the context of the benchmark items (1-3) above.

##### **B. EVALUATION INSTRUMENTS (ASSIGNMENTS).**

Specific assignments will vary by instructor, but typical assignments include individual oral presentations, in-class and take home exams which incorporate both objective and essay questions, and writing assignments.

##### **C. INSTRUCTIONAL STRATEGIES FOR SKILL DEVELOPMENT.**

Instructional strategies vary by instructor, but typically include reading assignments, class lectures, in-class discussions, and writing assignments.

*SLOs #2 & #3, Shared GE Skills-Based Outcomes - Social Responsibility and Civic Engagement*

##### **SLO #2: Civic Identity and Commitment**

##### **A. STUDENT PERFORMANCE BENCHMARK.**

Upon successful completion of this course, students will be able to describe what she/he has learned about herself or himself as it relates to a growing sense of civic identity and commitment to public action with respect to climate change and other sustainability issues.

##### **B. EVALUATION INSTRUMENTS (ASSIGNMENTS).**

Specific assignments may vary by instructor, but the typical assignments include a reflection journal on the Service Learning assignment and a final essay based on the journal.

***C. INSTRUCTIONAL STRATEGIES FOR SKILL DEVELOPMENT.***

1. A service learning assignment (Student Project) is the required form of civic engagement for this course, and provides the experiential basis upon which considerations about civic identity and commitment are based.
2. Lectures and discussions on reflection as a learning activity.
3. Lectures on the methods of keeping a reflection journal.

**SLO #3: Analysis of Knowledge*****A. STUDENT PERFORMANCE BENCHMARK.***

Upon successful completion of this course, students should be able to connect knowledge from their own academic study/field/discipline to civic engagement and to their own participation in civic life, politics, and government.

***B. EVALUATION INSTRUMENTS (ASSIGNMENTS).***

The Student Project assignments will specify how the student will apply their knowledge and skills to the work to satisfactorily complete the assignment will be mutually agreed-upon by the supervisor, student, and instructor. Evaluation instruments will vary, but may include written components of the projects, a report by the student on how they applied their knowledge, and consultation with the project supervisor.

***C. INSTRUCTIONAL STRATEGIES FOR SKILL DEVELOPMENT.***

1. The Student Projects will widely vary, but the assignments will be made by matching the requirements of the task and the individual student's knowledge and skills, which will be expected to be applied to the task.
2. Expectations and guidance regarding the application of knowledge will be presented through lectures, discussions, and feedback to progress reports.

***SLOs #4 & #5, Shared GE Skills-Based Outcomes – Written Communication***

The expected variety of Student Projects for this course will generate a commensurate variety of writing assignments. Examples of writing assignments include: research reports to staff (e.g., green purchasing analysis), writing for a public audience (e.g., text for touch screen information kiosks), and manuals or handbooks for others who will continue work on the same or related project in the future. Projects that do not intrinsically require writing will be assigned to prepare reports to be submitted to the instructor.

**SLO #4: Context of and Purpose for Writing*****A. STUDENT PERFORMANCE BENCHMARK.***

Upon successful completion of the course, students should be able to demonstrate consideration of context, audience, and purpose.

***B. EVALUATION INSTRUMENTS (ASSIGNMENTS).*** Specific evaluation strategies will vary by instructor, but typical strategies include:

1. A concept paper for the Student Project writing assignment identifying: (a) The intended/expected audience and the criteria for communicating with it (e.g., level of knowledge or interest); (b) the purpose (intended effects/use) of the writing assignment; and (c) the requirements/criteria of the medium/format in which the written work will appear.
2. Drafts of final document
3. Final written work/document

***C. INSTRUCTIONAL STRATEGIES FOR SKILL DEVELOPMENT.***

Specific assignments will vary by instructor, but typical assignments include:

1. In-class introduction to writing assignments
2. Take-home and in-class revision in response to instructor feedback on drafts and revisions

### **SLO #5: Content Development**

#### **A. STUDENT PERFORMANCE BENCHMARKS.**

Upon successful completion of the course, students should be able to use accurate, relevant, and significant content in the finished written work.

#### **B. EVALUATION INSTRUMENTS (ASSIGNMENTS).**

The evaluation instruments will be steps in the production of the Student Project writing assignment:

1. A concept paper broadly identifying the content to be conveyed.
2. An outline specifying the content of the final work, identifying key points, subordinate points and supporting points.
3. A plan of work identifying information that must be gathered, questions to be answered, information about the intended audience that affects the writing assignment (see previous SLO).
4. Draft of final document or sample portions of final document
5. Final written work/document

#### **C. INSTRUCTIONAL STRATEGIES FOR SKILL DEVELOPMENT.**

Specific assignments will vary by instructor, but typical assignments include:

1. In-class introduction to writing assignments
2. Take-home and in-class revision in response to instructor feedback on drafts and revisions.

### **V. Outline of Subject Matter**

This is a broad outline of topics to be covered. Subject matter and sequence of topics may vary by instructor.

#### **WEEKS 1-6**

#### **Context: Climate Change and Sustainability**

Climate change mitigation and adaptation responses  
Sustainability concepts and overview

#### ***CSULB sustainability activities & contexts***

American College and University Presidents Climate Commitment  
CSULB Climate Action Plan  
CSULB Sustainability Task Force & campus activities  
California state climate change policies  
CSU System Sustainability policy  
Community partner's activities

#### **Introducing Service Learning Assignments (Student Projects)**

Service learning: purpose, expectations, procedures  
Student Projects

CSULB activities & community partners' activities  
Presentations by service learning supervisors, site visits

Student Project Want Ads (knowledge & skill requirements) - applications  
Reflection journal - Purpose, methods, requirements

WEEKS 7-15

### **Service Learning**

*Student Projects:*

Work on Student Projects with supervisors

Writing assignments for student projects (Concept paper, drafts as needed, final report or documents)

Individual & project group meetings with instructor, in-class

Progress reports - whole class meetings (weeks 8 & 12)

*Reflection:*

Reflection journals

Journal-based summation essay

## **VI. Methods of Instruction**

This is a service learning course in which a large portion of the coursework will be devoted to the Student Project service learning assignment outside the classroom. The class will not meet as a whole for many sessions. It is expected that formal lectures and other traditional in-class activities will be minimized.

A. Content-Based Outcomes – “Knowledge of Human Cultures and the Physical and Natural World” will be taught by:

1. Lectures
2. Reading assignments
3. Student presentations
4. In-class discussion
5. Writing Assignments
6. Service Learning assignment

B. Skills-Based Outcomes - Social Responsibility and Civic Engagement

In this course, students will develop Social Responsibility and Civic Engagement skills through experience with and reflection on their service learning assignments. SLO #2: Civic Identity and Commitment will be developed by keeping a reflection journal and a summation essay based on the journal. Instruction on the method of journal keeping will be provided by lectures and discussions. SLO #3: Analysis of Knowledge will be developed through Student Project assignments that require the application of individual student’s knowledge and skills, which have been matched to the assignment. The type of assignments will vary widely, but instruction regarding the application of knowledge and skills will be presented through the specifics of the assignment, lectures, discussions, and feedback to progress reports.

C. Skills-Based Outcomes – Written Communication

Writing is taught in class and through the process of concept papers, outlining, researching, writing, and then evaluating written assignments, which will vary widely according to the needs of the service learning assignments. Instruction on both SLO #4: Context of and Purpose for Writing, and SLO #5: Content Development will be provided through lectures and by take-home

and in-class revisions in response to instructor feedback on drafts and revisions.

D. Film or other audio-visual materials may be used in the course, when in the judgment of the instructor they provide the most effective way to present certain topics (e.g., introduction to anthropogenic climate changes & its effects), and when there are useful in focusing in-class discussions. It is expected that no more than two class meeting would be devoted to such materials.

## VII. Extent and Nature of Technology Use

The use of technology will depend on individual instructors, but will include Beach Board and materials (both required and optional) accessed from internet websites and the CSULB Library website (reserves and journals). Students may be made familiar, if they are not already, with relevant search databases in the library. Film and video may be used in the classroom.

## VIII. Information about Textbooks / Readings

There is no required textbook. Most of the readings will be government policy and informational documents, scientific and social science academic journals, and publications by practitioners and policy advocates. Some newly published materials are likely to be used each semester. The following list includes particular publications as well as websites where many publications are available. Instructors may use this listing to identify reading to assign, along with other relevant texts/readings.

### Climate change, mitigation and adaptation

Intergovernmental Panel on Climate Change

(IPCC) - <http://www.ipcc.ch/>

*Climate Change 2013/2014: The Physical Science Basis*

*Climate Change 2014: Impacts, Adaptation and Vulnerability*

*Climate Change 2014: Mitigation of Climate Change;*

*Climate Change 2014: Synthesis Report*

Summary for Policymakers for preceding reports.

*RealClimate* – “Climate science from climate scientists”

### Sustainability

Rockström, *et al.* 2009. “A safe operating space for humanity,” *Nature*.

Rockstrom, *et al.*, “Planetary Boundaries: Exploring the Safe Operating Space for Humanity.”

Kates, Robert W., Thomas M. Parris, and Anthony A. Leiserowitz. 2005. “What is

Sustainable Development?”

### CSULB sustainability policies and goals

American College and University Presidents

Climate Commitment

<http://www.presidentsclimatecommitment.org/>. Text of the Climate Commitment, *The*

*ACUPCC Implementation Guide*, and many other publications giving guidance to ACUPCC signatories and regarding higher education climate action generally.

Websites of two other organizations involved with the Presidents Climate Commitment provide material relevant to this course:

Association for the Advancement of

Sustainability in Higher Education –

<http://www.aashe.org/>. AASHE maintains the ACUPCC framework for reporting and publicly disseminating progress

(Sustainability Tracking, Assessment &

Rating System – STARS). Many resources, including “Resources for Students.”

Second Nature –

<http://www.secondnature.org/>  
Supports the core program functions of the ACUPCC; publications.

policies, recommendations, research, and ongoing policy formulation process.

CSULB Sustainability Task Force website

CSU System – “Commitment to Sustainability”

<http://www.calstate.edu/cpdc/sustainability/>

CSULB Climate Action Plan

Periodicals/Journals

*California Climate Change Portal -*

*Climatic Change*

<http://www.climatechange.ca.gov/> - AB32

*Global Environmental Change*

(Global Warming Solutions Act); SB375

*Mitigation & Adaptation Strategies for*

(Sustainable Communities and Climate

*Global Change*

Protection Act); California Climate Change

Adaptation Strategy, and other state-level

## **IX. Instructional Policies Requirements**

Instructors may specify their own policies with regard to plagiarism, withdrawal, absences, etc., as long as the policies are consistent with the University policies published in the CSULB Catalog. It is expected that every course will follow University policies on Attendance (PS 01-01), Course Syllabi (PS 04-05), Final Course Grades, Grading Procedures, and Final Assessments (PS 05-07), and Withdrawals (PS 02-02 rev). All sections of the course will have a syllabus that includes the information required by the syllabus policy adopted by the Academic Senate. Instructors will include information on how students may make up work for excused absences.

Instructions may specify their own attendance policies, consistent with University policy, but it is strongly recommended that with respect to service learning assignments, attendance at appointments made with the supervisor is mandatory, as is meeting the agreed-upon deadlines for work assignments.

## **X. Distance Learning / Hybrid Courses**

This is not a Distance Learning or Hybrid Course.

## **XI. Bibliography**

This bibliography provides instructors with a set of resource materials and shows the range of materials available to our students. For brevity, important works may be omitted. This bibliography is virtually identical with the above section VIII (Information about Textbooks / Readings), and duplicated items are not listed here. The following are two additional resources of particular usefulness to instructors:

*Journal of Sustainability Education*

*International Journal of Sustainability in Higher Education*

## **XII. Student-Level Assessment**

The exact set of course assignments will vary depending on the instructor and the characteristics of the service learning assignments/student projects. University policy requires that no single evaluation of student achievement may count for more than one-third of final grade.

Appropriate assignments may include:

*Introduction to the Climate Crisis and CSULB sustainability activities*

20% Climate crisis and sustainability, CSULB sustainability activities & contexts

*Service Learning assignment (Student Projects)*

15% Fulfillment of service assignment (attendance & timely completion of agreed-upon tasks)

25% Student Project writing assignments

20% Reflection journal

15% Reflection summation essay

5% Final Report on Student Project/SL assignment

### **XIII. Course-Level Assessment Plan**

The content-based learning outcomes will be assessed by comparing the early-in-the-semester examination essays with final reports, both of which require demonstrating a grasp of climate change issues and sustainability, and CSULB's overall sustainability efforts as an ACUPCC signatory, member of the CSU system, and the context of California state policies. The skills-based outcomes of "Civic Identity and Commitment" and "Analysis of Knowledge" will be assessed by using the Association of American Colleges & Universities "Social Responsibility and Civic Engagement" rubric. The skills-based outcomes of "Context of and Purpose for Writing" and "Content Development" will be assessed by using the AACU "Written Communication" rubric.

### **XIV. Consistency of SCO Standards across Sections**

Instructors of the course are expected to follow this SCO to ensure consistency of pedagogical practices. All future syllabi will conform to the SCO. The course coordinator and/or Department Chair will review the SCO and offer advice and/or materials to each faculty member new to teaching the course, and may offer or require regular review of instructors' course materials as well as anonymous samples of student work.

## ES&P 392 – Climate Action and Sustainability at CSULB SYLLABUS

**Dean S. Toji, Ph.D.**  
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**Office Hours:** TBA & also by appointment  
**Term:** TBA  
**Class Meeting Times:** TBA  
**Class Location:** TBA

CSULB, as a signatory to the American College and University Presidents Climate Commitment, has pledged to achieve climate neutrality (zero net greenhouse gas emissions) as soon as possible, and is taking many measures to achieve that goal along with other dimensions of sustainability. In this course, students contribute to the effort through service learning assignments working with CSULB staff and faculty, and with community partners.

### **Expected Student Learning Outcomes**

Upon successful completion of the course, students should be able to do the following:

1. Describe the basic features of (a) global climate change, and mitigation and adaptation responses to climate change; (b) the concept of sustainability, (c) CSULB's efforts to address climate change and other aspects of sustainability, and (d) to explain the Student Project assignment in the context of climate change and sustainability.
2. Describe what she/he has learned about herself or himself as it relates to a sense of civic identity and commitment to public action, with respect to climate change and other sustainability issues.
3. Connect knowledge from their own academic study/field/discipline to civic engagement and to their own participation in civic life, politics, and government.
4. Produce written work that demonstrates consideration of context, audience, and purpose, and which uses accurate, relevant, and significant content.

### **Texts**

There is no required text to be purchased for this course. All of the readings will be available through BeachBoard ("Content" section), E-Reserves (the password is "\_\_\_\_\_"), online through the library or from free access websites, or as handouts.

**BeachBoard** will be used to distribute class materials and email. Please set your "preferred" email address (thru "MyCSULB") to an account

you regularly use. Changes in this syllabus, including the schedule, will be posted on and distributed through BeachBoard.

### **Types of assignments**

This course consists of a component on the context of climate change and sustainability and a service learning component.

The *climate change and sustainability* component provides the *context* for the service learning activities, including: (a) the Climate Crisis and CSULB sustainability activities, (b) introduction to the service learning assignments (Student Projects), and (c) how to learn from service learning (reflection journals). This component will take place during the beginning of the semesters and utilizes traditional classroom-based instructions. There will be three quizzes on the material in this component.

The *Service Learning* component is the focus of the course. Students will participate in service learning assignments that are part of sustainability work activities, or significantly augment those activities. These assignments ("student projects") are designed and supervised by CSULB staff and faculty, and by community partners. The assignments will match individual students' abilities with the requirements of the student projects, as defined by the supervisors. The variety of assignments will require the application of different sets of knowledge and skills, and will be appropriate for a wide range of academic majors and individual abilities. The physical campus will be the principal site of activities for the course. Off-campus activities will be included as community partnerships are established by CSULB.

The service learning assignments are designed to develop advanced college skills and to heighten students' sense of civic identity, by applying the knowledge and skills from their academic studies to work that promotes the well-being of the community.

There are two main types of *writing assignments* associated with the service learning component;

each serves a distinct purpose.

1. *Student Project writing assignments* that are part of the service activities will vary according to requirements of the project. Examples of such writing assignments include: research reports to staff (e.g., green purchasing analysis), writing for a public audience (e.g., text for touch screen information kiosks), and manuals or handbooks for others who will continue work on the same or related project in the future. Projects that do not intrinsically require writing will have as an assignment reports to be submitted to the instructor. Whatever the specifics of their overall writing assignments, all students will write a “concept paper” defining (a) the intended/expected audience and the criteria for communicating with it (e.g., level of knowledge or interest); (b) the purpose (intended effects/use) of the writing assignment; and (c) the requirements/criteria of the medium/format in which the written work will appear. Intermediate sections and drafts will be determined by the needs of the project.

One writing assignment will focus on the application of the context of climate change and CSULB sustainability activities to your student project. All students will write a Final Report on their Student Projects.

2. *Reflection Journal and Essay.* One of the main objectives of Service Learning at CSULB is to help students deepen understanding of their own individual relationship to questions of “Social Responsibility and Civic Engagement.” Using your service experience as the reference point, you will consider what you have learned about your own “sense of civic identity and continued commitment to public action.” You will also be asked to consider how you have applied the knowledge and skills from your academic study or discipline to the assignment. Your experience, in the process of fulfilling the service assignment, is the material on which your learning in this aspect of the class is based. The key ingredient for transforming service experiences into learning is *reflection*, which can be defined as the “intentional consideration of an experience in light of particular learning objectives.” The tool for focusing your reflections will be a *reflection journal*, in which you will regularly write your thoughts on the experiences as you perform your service assignment. At the end of the service, you will refer to the journal to write a *reflection essay* that sums up what you have learned through your service assignment.

## **Basis for Assigning Course Grade**

*Context: Climate Change and Sustainability*

- 20% Climate crisis and sustainability, CSULB sustainability activities & contexts
- 10% Climate Change basics
- 5% CSULB activities, mitigation
- 5% Sustainability
- 10% Paper: Application of Context to Student Projects

*Service Learning assignment (Student Projects)*

- 15% Fulfillment of service assignment (attendance & timely completion of agreed-upon tasks)
- 25% Student Project writing assignments
  - 5% Concept Paper
  - 20% Main writing assignment
- 5% Final Report on Student Project/SL assignment

*Reflection Journal & Summation Essay*

- 15% Reflection Journal
- 10% Reflection Summation essay

**Letter grades** will be awarded according to the following percentage scale: A=91-101%, B=81-90%, C=71-80%, D=61-70%. F=< 61%. These letter-grade thresholds may be lowered depending on the final distribution of numerical scores.

## **Policies**

Please also see the “General Regulations and Procedures” in the University Catalog.

*Attendance* is required to fulfill the service learning assignments. Attendance at appointments with the supervisor and meeting the agreed-upon deadlines for work assignments is mandatory, and will be considered as part of fulfillment of the service assignment. Attendance will not be taken in the classroom component for the purpose of calculating a final grade. However, it will be difficult to do your best in the class without participating in the class meetings, and most missed in-class activities (presentations, reports, quizzes) cannot easily be made-up.

*Make-up policy:* Students will not usually be able to make up missed in-class activities. I will make accommodation for missed assignments with an excused absence. If you anticipate an absence, please inform me, and we can make accommodations.

*Cheating and Plagiarism:* Please respect the principle of “giving credit where credit is due” by

acknowledging the source of information and ideas (with citations & quotations), including material from websites. See CSULB Policy at: <http://www.csulb.edu/divisions/aa/research/our/information/policies/cheating/>

*Accommodation for disabilities:* I will gladly make accommodation for disabilities that have been verified by the University. It is the responsibility of students to notify me in advance of such needs.

*Withdrawals:* Please refer to the university policy on withdrawal from classes in the *Schedule of Classes* and the *Catalog*. Students must officially withdraw from their courses even though they may not have attended. I will approve withdrawal requests within the scope of my authority, but additional signatures are required for approval of withdrawal, depending on when in the semester it is requested.

### **Schedule of Class meetings and Assignments**

*About Weeks 1-6* - During these weeks there will also be presentations on possible student projects by the supervisors for the activities. The dates for these presentations will be announced.

#### **Week 1**

Introduction to Course  
Global climate change basics - causes of CC

#### **Week 2**

Global climate change basics

#### **Week 3**

Quiz: Climate Change Basics  
Climate change mitigation and adaptation responses

#### **Week 4 - CSULB sustainability activities & contexts**

American College and University Presidents  
Climate Commitment; California state & CSU  
climate change & sustainability policies  
CSULB Climate Action Plan

#### **Week 5**

Quiz: CSULB activities  
Introducing Service Learning Assignments (Student Projects) & Reflection Journals

#### **Week 6**

Sustainability concepts and overview  
Quiz: sustainability

*About Weeks 7-15* - The primary activity during these weeks will be working on your service learning assignments. You will meet with your project supervisors at times arranged with your supervisor. There will be many days on which the class does not meet, so that you can devote time to the service learning assignment. The expected time to be spent on the assignments is at least 4.5 hours in lieu of each such class meeting.

\* Writing assignments for student projects include a Concept paper, a paper on Application of climate/sustainability context to your Student Project, and a Final Report for all projects; the due dates are listed in the schedule. Different projects may require additional intermediate drafts; these dates are not listed here.

\* You will also work on your Reflection Journals in conjunction with your service assignment.

\* Individual students and groups working on the same projects will meet with the instructor, on other class meeting periods, by appointment.

\* The occasions when the "Whole class meets" together is indicated below. In most weeks there are no class meetings, and the time made available should be spent on the service learning assignment work.

#### **Week 7**

**Week 8 - Concept paper DUE – drop off**

#### **Week 9**

**Week 10 - Whole class meets.** Progress reports

**Week 11 - Paper: Application of context to Student Project DUE**

#### **Week 12**

**Week 13 - Whole class meets.** Progress reports

#### **Week 14**

**Week 15 - Whole class meets**

Final Report presentations on Student Projects

#### **Final Exam meeting**

Written Final Report on Student Projects DUE  
Reflection journal-based summation essay DUE.

## **GUIDELINES FOR SUPERVISORS DESIGNING STUDENT SERVICE LEARNING ASSIGNMENTS**

- \* In this course, students join CSULB's efforts to achieve climate neutrality and sustainability through service learning assignments working with staff, faculty and community partners, who serve as supervisors for the assignments.
- \* Supervisors (& their departments) design service learning assignments (or, "student projects") to provide real assistance to their work. The student project should result in a net benefit to the supervisors (i.e., the work produced by the students should be greater than the effort and time required to train and supervise them).

### ***Designing assignments***

- \* Must be part of actual sustainability work activities or augment those activities.
- \* Work that you want to have done.
- \* Must not conflict with existing work rules or union contracts.
- \* AWK - Although the work may be part of an ongoing project (i.e., it continues beyond the semester), the assignment should define a particular portion to be completed during the semester.
- \* The assignments may be designed and/or carried out as group projects.
- \* Assignments may consist mainly of writing assignments, or include a significant writing component.

"**Want Ads**" are descriptions of the service learning assignments, specifying the necessary skill and knowledge requirements. Student will apply for the assignments in response to Want Ads, and will be chosen by the supervisors.

- \* Include the "Big Picture" - How the assignment contributes to CSULB sustainability.
- \* The instructor for the class will work with supervisors to design the assignments and prepare the "Want Ads". In the semester or summer break immediately before the semester in which the class is offered, you will be contacted to learn of any changes and to confirm that the assignment will be available. (Changes in a planned assignment, including cancellation, may be necessary, and an early notification will be appreciated.)

- \* Staff presentations / on-site field trips for classes would be extremely helpful to the class.

### ***Matching of students' skills to project requirements***

- \* It is expected that the students will have a wide variety of skills that can be applied to sustainability-related assignments, thus matching skills with appropriate assignments is important for success.
- \* This course is open to and welcomes all majors. It is also likely to have many Environmental Science & Policy majors.
- \* Define the necessary skill and knowledge requirements for students to successfully complete their assignment and make a real contribution to your sustainability work.
- \* Students will be advised to apply for projects within their types and levels of skills & knowledge in order to best assure that they will make a contribution to the work (applying existing skills/knowledge to new situation, rather than expending most of the time/energy in the assignment to acquiring new skills/knowledge).
- \* Students will apply for projects by responding to the Want Ads, and describe/explain how their skills and skill levels meet the requirements, what they can contribute.
- \* The criteria for satisfactory performance of the assignment should be clear and mutually understood by the supervisor and student

### ***Semester Schedule***

- \* The service learning assignment will be the main coursework for 8 weeks (weeks 7-14), and the assignment should be designed for completion within that time frame. Some assignments may have a definite deadline by which certain work must be completed, and other assignments may be designed such that whatever components can be completed is satisfactory.

#### ***Semester schedule:***

Weeks 1-6:

Introduced to possible projects  
Guest speakers &/or field trips  
Want Ads and applications/selection

Weeks 7-14

8 weeks – Student projects are main activity  
Assignment completed in this time

### ***Work schedule***

- \* What scheduling and time commitments does this Student Project assignment project require?
  - Appointments to meet with supervisor
  - Estimated hours per week (if applicable)
  - General weekly schedule
  - Deadlines
- \* Some projects may require students to work closely with the supervisor at scheduled times. The work for other projects may be performed at the students own hours without the supervisor. The supervisor will specify such scheduling requirements.
- \* Specify the times and days of the week when students meet with the supervisor and/or perform the assignment. (This may affect class scheduling. For example, the Grounds Department of PPFM works from 6am-2:30pm, Mon-Sat, and classes need to be scheduled during this time slot for service learning assignments with the grounds department.)
- \* Appointments - The supervisor provides appointment options according to their own work schedule, and the actual times to meet at determined by mutual agreement by the supervisor and the student.
- \* Students are required to keep appointments and meet deadlines, as part of the satisfactory performance of their assignment. Supervisors will evaluate.

### ***How to grade/assess students' work***

- \* Satisfactory performance of the assignment makes up a portion of the grade for the class.
- \* Supervisors will evaluate the student's performance of their assignment as either a Satisfactory or Unsatisfactory, based on:
  - Completion of agreed upon work
  - Appointments/attendance

***Service Learning Reflection Journal.*** For your information, the students will also be keeping a "reflection journal" which focuses on what they are learning through the experience of performing the service assignment. These questions include: their understanding of the relation between "big picture" concepts of sustainability and concrete hands-on implementation of sustainability work; and the developments in their personal sense of civic identity and commitment to public action with respect to climate change and other sustainability issues. They will write a concluding essay based on the journal. These writings are confidential and for the instructor only. The instructor can tell the

supervisors what students are generally learning from the service learning assignments, but without specifics about individual students. This is a graded (letter-grade) portion of the class; student are graded on how what they learn from the experience (hence, "service learning").

## Service Learning Assignment / Student Projects TOPICS LIST

Version: 14 September 11

PPFM = Physical Planning and Facilities Management

STF = CSULB Sustainability Task Force

\* \* \* \* \*

### Campus-wide data collection & analysis

- Campus greenhouse gas emissions inventory (California Climate Action Registry through CSU system-wide reporting) [PPFM]
- STARS updates & ongoing work [PPFM, STF]
- Climate Action Plan (American Colleges and University Presidents Climate Commitment) [STF, PPFM Sustainability]

### Education & Outreach:

- Public educational materials to explain the reasons, goals, and benefits of a sustainability activity.
- **“Dashboards”** – ~~Touch screen interactive displays on kiosks~~ that provide information about CSULB sustainability activities and resources, to be installed at three places on the campus (Central Plant, VEC Solar, and the Library). These dashboards will be utilized by the students and others as a resource to learn about the sustainable features of the campus infrastructure.
- **Sustainability tour** – Stand-alone and/or components that may be added to the existing campus tour with sustainability achievements, challenges and plans.
- Photography
- Communications (e.g., website, *Green Beach Journal*, signage, YouTube videos)
- Climate & environment public education events to campus community, surrounding community residents, institutions and organizations.

### Energy Efficiency & GHG Reduction

- Energy Efficiency and GHG reduction projects with UC/CSU Energy Partnership [PPFM]
- Reduction of regional power demands via the Central Plant Thermal Energy System [PPFM]
- Energy saving solid state LED lighting in all campus parking structures [PPFM]
- Wireless based smart lighting systems in 13 campus buildings
- Renovation of parking lot (Lot 18) to be fitted with LED lighting and wireless control system [PPFM]

- Campus-wide energy efficient lighting upgrade [PPFM]

### Water Conservation

- Touch free faucets and low flow 1/8 gallon per flush urinals in restrooms [PPFM]
- Centralized weather based landscape irrigation system and weather station [PPFM]
- Hydration stations installed - Water bottle refilling, filtered water) – reduction of one-use plastic bottles. [PPFM]
- Hydration station locator – [PPFM]

### Green Landscaping Practices

- Sustainable Master Landscape Plan [PPFM]
- Weather based irrigation system [PPFM]
- Water reclamation system for landscape irrigation [PPFM]
- Green Waste to Mulch program [PPFM]
- Integrated Pest Management Control strategies [PPFM]
- **Lawn conversion measurement/survey.** Many areas that are now covered with lawn will be converted to water-saving landscaping. Data needed for planning of conversion includes measurement of these areas and calculation of the surface area; will used to calculate conversion costs, budgeting, and scheduling. [PPFM]
- **Irrigation system audit** - Although there is a computerized system to monitor and optimize water flow to sections of the campus landscape irrigation system, there is a lack of basic information about oldest parts of the system; although the flow for large sections is known, the flow to certain old sub-sections within them is not known. The research needed for such areas includes: sprinkler head location and type, nozzle size (gallons per minute), and identification (or mapping) of areas supplied by specific subsections of the irrigation plumbing. This research would also identify obsolete equipment to be replaced and upgraded. [PPFM]
- Other research needed to plan effective irrigation includes: Soil moisture measurement (characteristics of plots, irrigation planning); soil pH sampling
- Carbon sequestration potential of different types of trees being considered for planting. [Requested by Miller Japanese Garden]

## **Renewable and Clean Energy**

- Solar Photovoltaic systems installed on (3) campus buildings with a total capacity of 350 KW [PPFM]

## **Recycling**

- Integrated Waste Management Program - diversion rates of 70% since 2004 surpassing AB75 mandates of 50% diversion [PPFM]
- *Associated Students, Inc. Recycling Center History* - one of the oldest continually operating recycling drop-off centers in the U.S. (est. 1970) and a hearth of the recycling movement and public policy in California.

## **Student Garden project**

**Green Buildings** - All new buildings will be constructed to at least US Green Building LEED silver standard, and existing buildings will be upgraded to LEED standards. Hall of Science building (LEED silver, New Construction), Student Wellness and Recreation Center, (first CSULB LEED Gold). Horn Center (first CSULB LEED Gold, Existing Building).

## **Custodial Services**

- Utilizes “Green Seal” environmentally friendly cleaning products and practices [PPFM]
- Non-paper-based hand drying systems [PPFM]
- Use of concentrated cleaning products to reduce the environmental impact on shipping [PPFM]

## **Transportation**

- New public access level 2 Electric Vehicle Charging Stations in Parking Structure [PPFM]
- Operates one of largest fleets of electric powered vehicles, recharged by solar power [PPFM]

## **Commuter surveys**

- Research on student & employee commuting patterns and motivations to reduce commuting-based GHG emission and co-pollutants (carpooling, public transportation use, work/class scheduling, residence location, student housing, etc.)
- More generally, research on how to encourage individual participation in various types of programs whose success depends on individual participation

## **Environmental Preferred Purchasing**

- Established EPP user group to evaluate products used in FM operations for the purpose of substituting more recycled and environmentally friendly products when economically and operationally feasible [PPFM]
- Participation in CSU Buy Recycled Campaign [EPP user group]
- Environmentally responsible purchasing research - assess environmental impact (e.g., “carbon footprint”/embodied energy), performance and cost of office products. Identify possible products to be purchased or programs and policies to institute (e.g., experiences of earlier users/implementers, especially CSU sister campuses & community colleges)

**Faculty research on sustainability** related to ACUPCC/STF activities. Database being compiled by STF subcommittee

**CSULB commitments and goals.** California Global Warming Solutions Act (AB32, 2006??), CSU System Sustainability Policy (2014 & predecessors), American Colleges and University Presidents Climate Commitment (2011)

## Plant Identification & Landscape Best Management Practices

Course: GEOG/ESP 392 - Climate Action and Sustainability at CSULB  
 Faculty Champion: Dr. Dean Toji

### Project Description:

Students photograph and catalog all landscape plant types on campus

### Project Goals:

- Photograph every variety of flower, shrub, tree, and ground cover plant on campus
- Research characteristics of each plant type
- Research best management practices for each plant type
- Create a catalog/educational guide to be used by Grounds staff

### Sustainability & Facilities Management Goals

- Promote water conservation through better understanding of irrigation requirements of different plant types.
- Support transition to drought tolerant landscaping by educating Grounds staff on best management practices.

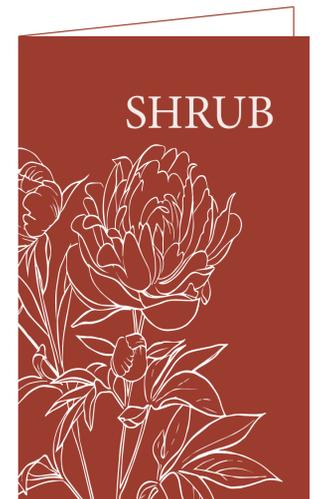
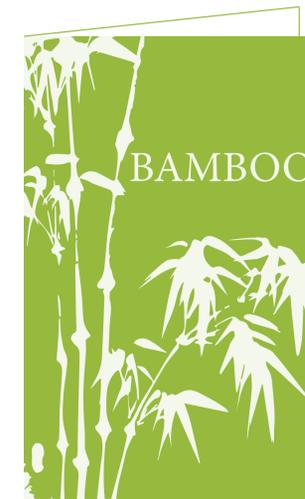
### Project Team

Staff	Students
Brian McKinnon - Mgr Grounds/Landscape Services	Leann Nguyen - Psychology BA
Joshua Cichuniec - Assist Mgr Grounds/Landscape	Brayton Wongsangan - Env Sci & Policy BA
Michelle Hermance - Coordinator Field Operations	Misty Aminloo - Industrial Design BS
Andrew Hutchcroft - Groundsworker	Sophearum Seng - Graphic Design BA
	Kaela Arias - Hospitality Mgmt BS
	Kristina Macias - Geography BA
	Nicholas Ochoa - Geography BA

### Plant Identification:



### Plant Material Types:



*Phyllostachys bambusoides*  
 Fil-OS-ta-kis bam-bu-so-l-dez  
**GIANT TIMBER BAMBOO**




**Soil** Nitrogenous organic fertilizer

**Growth** 15-35 ft., running growth habit. They help with erosion control. Stem diameter is about 6 in.

**Pruning** Regular pruning not necessary. Remove older culms to promote younger culms' growth.

**Pests** Slugs and snails, rust, pollution tolerant, salt tolerant if near coast

**Fabulous Fact** Their shoots are edible.

*Sasa japonica*  
 SA-sa ja-PON-i-ka  
**ARROW/METAKE BAMBOO**




**Soil** Soil is moist but not soggy, adding compost can help draining capacity

**Growth** 6-10 ft. if controlled, 10-18 ft. if uncontrolled. Stem: 3/4 in diameter, 1 branch per joint. Usually forms large patches

**Pests** Spider mites, root/stem rots if there is too much watering

**Fabulous Fact** In ancient Japan, this species of bamboo was used to create arrows.



## Landscape Irrigation System Water Use Assessment

Course: GEOG/ESP 392 - Climate Action and Sustainability at CSULB  
 Faculty Champion: Dr. Dean Toji

### Project Description:

Students work with Grounds staff in the field to audit and map the campus landscape irrigation system.

### Project Goals:

- Identify irrigation system breaks
- Map entire irrigation system
- Station detail reporting
- Identify opportunities to apply low-water volume technologies

### Sustainability & Facilities Management Goals

- Reduce wasteful water use
- Gather data and create maps that will help Grounds staff to:
  - Effectively isolate irrigation breaks in emergencies
  - Program irrigation systems for maximum water use efficiency

### Project Team

Staff	Students
Brian McKinnon - Mgr Grounds/Landscape Services	Natalie Clark - Env Sci & Policy BS
Joshua Cichuniec - Assist Mgr Grounds/Landscape	Gabriela Marquez - Geography BA
Michelle Hermance - Coordinator Field Operations	Sinai Curriel Arrazola - Criminal Justice BS
Alfredo Martinez - Groundswoker/Housing	Tarah Le - Geography BA
Michael Lawler - Irrigation Specialist	Brandon Lee Schlyer - Geography BA
Arnoldo Flores - Irrigation Specialist	Toria Denefrio - Geography BA
Vivek Dasari - Student assistant	
Dhwani Patel - Student assistant	

### Student Involvement in Irrigation System Analysis



### Irrigation System Maps

