



*CSUS Campus as a Living Lab*

## **Food Production and Sustainability**

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**California State University, Sacramento**

**Course Name & Description:** Food Production and Sustainability (FACS 110) is a required upper division course for Nutrition and Food Majors in the college of SSIS at CSUS. This course is designed to prepare students for working in commercial and noncommercial foodservice operations, using large scale food production. The proposed course re-design seeks to significantly increase the relevancy and value of this course to all nutrition and food and dietetics students. Understanding and implementation of food sustainability is an emerging topic and an inevitable subject in the foodservice industry and should therefore be incorporated into this course. Sacramento State's Sustainable Technology Optimization Research Center (STORC) provides the ideal resource for a living and learning lab. STORC is a highly collaborative teaching and learning model that is currently under-utilized on the CSUS campus.

**Project Abstract:** Overtime, the goal is to create a food sustainability course that will be offered to undergraduate students as a lower division general education elective. As students are educated and become involved in sustainable food practices they will naturally become ambassadors for implementing successful sustainability factors in their workplace and lives. Moving forward the living and learning lab environment at CSUS will be a useful tool for community outreach and education.

**GE Credit (if applicable): No**

**Keywords/Tags:**

**Instructional Delivery:** Currently, in-class lecture and laboratory

**Pedagogical Approaches:** Experiential Education

**Class Size: 80**

## About the Course Redesign

### Stage 1

#### Background on the Redesign

##### Why Redesign Your Course?

- **Current Course Description:** Study and laboratory experience in planning, procuring, preparing and serving nutritious and aesthetically pleasing meals for individuals, families and foodservice operations using residential and commercial equipment. Examination of the food marketing industry, labeling regulations, and factors which influence consumer decision making regarding food choices. Application of sensory evaluation, recipe modification and standardization, and food and recipe costing techniques. Lecture three hours; laboratory three hours.
- The goal is two-fold:
  - To provide students with "real world" experience using the campus as a living lab, during part of the three hour lab component.
  - To prepare meals using food grown by the students during their CALL lab time and to teach them about sustainability by taking food waste and plate scraps from production and using it for compost in the garden.

##### Course History/Background

- Currently a 4 unit upper division course for FACS majors.
- Students are required to be ServSafe certified and take a food preparation course before this class.
- This course is not part of sustainability themed curriculum, the goal is to use this course to move towards a sustainability themed GE curriculum.
- This is a required course for our major and students are typically successful in the course.
- The course title includes the word sustainability, but only includes one week of lecture on the topic.

##### High Demand / Low Success Issues

- This course is required for graduation in the FACS department. It is only offered once per semester for approximately 25 students. Using the campus as a living lab enables us to triple the number of students in the course. Faculty can work with half the students in lab while the other half are gaining field experience using the CALL. As a result students are able to graduate more quickly instead of having to wait to take this course due to high demand.

## Course Redesign Planning

### Stage 3

#### Implementing the Redesigned Course

##### Which Aspects of Your Course Have You Redesigned?

- The course used to have one week dedicated to teaching about sustainability. Now the sustainability theme is incorporated through out the class. Students learn about the cycle food takes in a foodservice operation, they then use the CALL experience to actually see the cycle from beginning to end. Not only do they work to grow the food and use it in production of a meal, but they see the full circle when food waste is returned back to the garden. Students also work in foodservice operations on campus to observe current practices and help these operations work towards the goal of becoming more sustainable for the University.
- The CALL program has greatly influenced the decisions I have made in the redesign of my course. Foodservice operations and the campus garden are programs that are already in place. Why not get the students involved in these operations so that they can learn through real world experiences rather than reading about it in a book?

##### What role did the CALL Champion/Facilities Staff Partner play in the redesign of your course?

- The CALL Champion Paul works in facilities, he has used his position to create an environment that supports using campus facilities for student learning.
- Paul's participation has laid the groundwork and provided a line of communication between me and facilities on campus.

##### Which Professional Development Activities Have You Participated in During Your Course Redesign?

- In an effort to improve the success of my course redesign, I attended a week long course redesign workshop in the Center for Teaching and Learning (CSUS).
- I have attended several sustainability conferences.
- I am currently involved in a research project related to sustainable food procurement practices.

[Revised Syllabus](#)

## Redesign Results

### Stage 4

## Student Learning Outcomes

### Stage 2

#### Impact of Student Learning Outcomes/Objectives (SLOs) on Course Redesign

- The outcomes of this project include: 1) Students will understand the complete recycling process of brown, green and food wastes including prep wastes and plate wastes which result in the production of earthworms, insects, and vermicompost; 2) Students will utilize fruits and vegetables produced by the aquaponics farm in STORC for lab activities and food production, then providing food waste back to the aquaponics farm; and 3) Students will apply this knowledge and these skills in their workplace and communities.
- Current course SLOs:

Upon completing the course, students should be able to:

- Plan, write, prepare and serve meals that are representative of various cost levels and other aspects of meal management and food production, use food and menu planning guides and standards, and analyze and interpret cost, meal acceptability, and nutrient content.
- Write and standardize recipes using various recipe/formula formats and determine recipe/formula proportions and modifications for consumer and volume food production.
- Modify recipes/formulas for individual and/or group dietary requirements.
- Apply food science knowledge to the functions of ingredients.
- Prepare foods using residential and small-scale commercial equipment and demonstrate appropriate use and care of selected equipment items.
- Use current information technologies to search, obtain, and use information. This includes utilizing computer software to analyze menus and recipes for nutrient content; prepare a nutrition label; and write menus, recipes, reports and related documents.
- Apply and demonstrate the principles of food preparation/presentation and table service.
- Apply sensory evaluation principles to evaluate food and meal attributes.
- Apply appropriate safety and sanitation techniques to the management of meals.
- Demonstrate knowledge of various aspects of the food marketing industry; selected food laws, legislation, and policies; and selected food topics, including organic foods and biotechnology.
- Demonstrate knowledge of quality improvement methods, food delivery systems, food and non-food procurement, food production systems, role of food in promoting a healthy lifestyle, and strategies for promoting pleasurable eating.
- Utilize food and meal management knowledge and skills to effectively communicate about food.
- Work effectively as a team member.
- Understand the core concepts of Sustainability as they pertain to food production and food service systems management.

#### Alignment of SLOs With Course Redesign

- The course redesign will align with the SLOs in the following ways:
  - Students will be able to meet every SLO, through the use of a group project where they plan and execute a meal, they will also observe how actual foodservice operations use these same SLO's in their operations.

#### Assessments Used to Assess Students' Achievement of SLOs

#### Course Redesign Impact on Teaching and Learning

- How has the course redesign strategies affected your instruction and your students' learning? Did your redesign strategy solve the issues that motivated you to redesign the course?
- Describe how your students mastered the student learning outcomes. Were the students more successful in the redesigned course than in previous courses? Explain.
- Did you experience unexpected results after teaching the redesigned course? If so, what were they?
- Sample of student work: ie capstone projects.

#### Assessment Findings

- Compile and upload graphs/tables/charts reflecting your findings with a short description. You might include a course comparison of pre/post student achievements before redesign.

#### Student Impact

- Students are using the Campus as a Living Lab in three ways. Working at the on-campus restaurant Epicure. Working at the on-campus garden STORC (Sustainable technology outdoor research Center), and working in the kitchen at the Dining Commons. Students have made the following comments about their experiences:
- Epicure
  - My lab experience at Epicure has been better than I expected. I have learned how important tools like time management and communication are in foodservice operations. I am seeing first hand what is needed for a large scale food production operation to run smoothly.
  - I am really enjoying working on campus and seeing first hand how an operation like this runs, no offense to Dr. Thompson, but it is much better than sitting in a classroom.
- STORC
  - My experience at STORC has taught me several things that I could not have learned in class:
  - It is refreshing to do something I would not normally do.
  - I appreciate the fact that I have the opportunity to learn many new things and to get my hands dirty.
  - Before working at STORC, I didn't really seem to care about or understand the importance and convenience of sustainability.
  - The tasks I have completed at STORC were so easy and minimal yet they made a huge difference when it comes to being sustainable, which I value much more now.
- DC
  - Working in the dining commons kitchen has given me a better appreciation for the amount of work and effort that goes into the entire food service operation.
  - Three skills I have gained are communicating often and effectively, problem solving and learning how to be a better team player.
  - As I have observed the DC operations, I now have a better understanding of the importance of sanitation, organization and the practice of having an open mind when it comes to learning new skills.

#### Lessons Learned & Redesign Tips

#### Teaching Tips

- I have developed a handout for the CALL Lab experience in my class, the handout provides guidelines related to the lab experience. The handout also helps the students to align the CAL experience with what is learned in class. Students are required to submit three reflection pieces throughout their experience to record their learning. See below.
- Students are required to write a report to reflect their experience of planning and executing a large scale food production meal.
- Students are also required to prepare a presentation to capture their CALL lab experience for the class.

[CALL Lab Guidelines and Reflection](#)

## About the Instructor

- Dr. Kelly Thompson
- I am an Assistant Professor at California State University, Sacramento. My areas of specialty include food service management, beverage management and food/sensory science. I am actively involved in creating a more sustainable future for the University and community in which CSUS is involved.

## About the Call Champion

- Paul Serafimidis
- Director, Sustainability & Plant Operations has been with California State University, Sacramento for over twenty years. He received an MBA from Sac State while working for the university managing the campus Central Plant and building HVAC systems. In his current role he has also responsibility for the campus electrical, grounds, and sustainability departments.

[Thompson Curriculum Vitae](#)

## Course Redesign Teaching and Learning Resources

### MERLOT II

MERLOT is a collection of free and open online teaching, learning and faculty development services contributed and used by an international education community. The MERLOT collection of open resources spans across a wide variety of disciplines and education levels. What sets MERLOT apart is a combination of peer reviews, member comments, learning exercises and other valuable information and metadata associated with the materials.

### MERLOT II's Pedagogy Portal

The MERLOT Pedagogy Portal is designed to help you learn about the variety of instructional strategies and issues that could help you become a better teacher. The resources you'll find in the Pedagogy Portal should apply to teaching a variety of disciplines.

### Course Redesign ePortfolio Exemplar

An example of an ePortfolio created by faculty at CSU East Bay to exhibit their course redesign project and their findings.

### CSU Course Redesign Website

Review the description of the CSU system-wide initiative supporting faculty redesigning their courses to improve student success.

- Using the Campus as a Living Lab has proven to be a profound experience. I highly recommend using this type of experience for any course with a lab component. It does take a lot of time at the beginning to set up the field experience; communicating with the multitude of contacts needed for student placements, paperwork related to liability issues, and preparing guidelines and assessment.

## Course Redesign Obstacles

- The main obstacle was finding placements for the students on campus. Once the idea was set into motion between myself and campus facilities, every person I came into contact with was extremely supportive and helpful.

## Strategies I Used to Increase Engagement

- Active Learning
- Collaborative/Cooperative Learning
- Critical Thinking
- Discussion strategies
- Experiential Learning

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