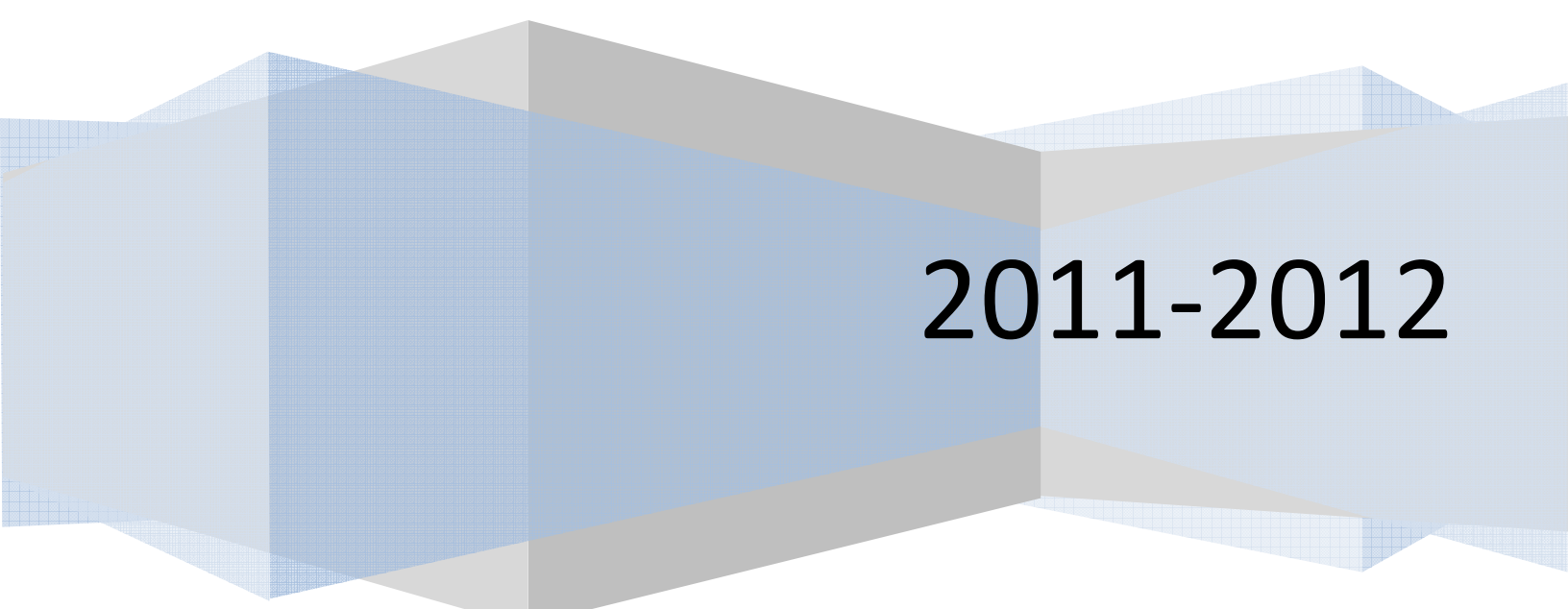


# Senior Design Handbook



2011-2012

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# Introduction

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The purpose of the Senior Design Program is to provide students with a capstone experience, in which students apply their theoretical knowledge to real applications. The current structure of the program exposes students to an industry setting, where students work with a real client (the company or industry partner) to develop a client-defined product. This product may be a physical prototype, software package, or operational algorithm. Regardless of project type, student teams are expected to meet the needs of their client, and deliver a product at the end of the academic year. This means that work schedules and personal calendars must be managed in order to successfully complete all projects according to agreed-upon standards, putting the primary management responsibilities on the shoulders of student teams. All other faculty and staff exist to support team efforts, but these members of the senior design team will not be leading the project direction. In the end, the projects must be student driven.

This handbook provides an overview of the Senior Design program. This includes a description of all members of the Senior Design program, and of the resources available to students. In addition, this handbook describes the policies and procedures regarding lab safety, room access, equipment and supply purchases, and travel. The expectation is that all students adhere to the guidelines presented in this handbook in addition to the requirements of their instructors and departments. This includes attendance of events outlined towards the end of this handbook, which are events hosted by the College of Engineering, Computer Science, and Technology and therefore require full student attendance.

## Senior Design Roles and Responsibilities

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### ***Student Teams***

Students are responsible for managing their tasks in order to satisfactorily complete their projects. This includes proper project planning, maintaining a project budget, leaving sufficient time for Senior Design faculty and staff to respond to requests, and taking responsibility for the quality of projects. Students are expected to meet the requirements outlined by their liaisons, advisors, and instructors. As in a real job setting, students will be expected to answer to a number of supervisors and clients, and must therefore be able to adapt to a variety of circumstances and demands.

### ***Industry Liaisons***

The Industry Liaison is the client. This means that all teams, faculty, and staff must ultimately respond to the needs of the Liaison, while still ensuring that students are receiving the appropriate educational experience. The Liaison meets regularly with student teams, either in person or via video conference or teleconference, and guides students with respect to the desires of the company he or she represents. The Liaison is also present for main events, including design reviews, where the Liaison will provide

feedback on work student teams have completed to ensure progress is in the most appropriate direction.

### ***Project Advisors***

The Advisor for each project works closely with their student teams, providing technical and logistical guidance throughout the year with the aim of completing each project according to the requirements provided by the industry liaison. Therefore, students should treat their Advisors as their supervisors, whose main interest is to meet the client's needs while protecting each student's learning experience. Each Project Advisor is guiding between one and two projects simultaneously.

***Senior Design Director:*** Dr. Trinh Pham ([Tpham4@calstatela.edu](mailto:Tpham4@calstatela.edu))

The Program Director coordinates projects in all departments, and facilitates communication among students, faculty advisors, company liaisons, and department chairs. The Director also tracks the progress of all projects, assisting in the resolution of any issues that may arise throughout the year. The Director is the main point of contact for all company liaisons regarding technical issues that cannot be resolved by the project advisors. Additionally, the Director will serve as the advisor for one student project.

***Senior Design Associate Director:*** Dr. Hagop Injeyan

The Associate Director facilitates communication among the students, faculty advisors, company liaisons, and department chairs in his or her respective department, provides technical guidance in the areas of his or her expertise to the various projects, and serves as the advisor for one project.

***Course Instructors:*** Dr. Russ Abbott (CS), Dr. Hagop Injeyan (EE), Dr. Trinh Pham (ME)

The Senior Design Course Instructors present materials in their lectures relevant to the design process, and at times present information relevant to specific projects. In conjunction with project advisors, the Instructors determine the grades students receive each quarter.

***Senior Design Coordinator:*** Lily Nguyen ([Lnguyen2@cslanet.calstatela.edu](mailto:Lnguyen2@cslanet.calstatela.edu))

The Senior Design Coordinator is the main point of contact for company liaisons and representatives regarding administrative issues, and initiates first contact with potential sponsors. The Senior Design Coordinator is also responsible for event planning and other general coordination among teams and industry representatives. College-level documents such as senior design posters must be sent to the Senior Design Coordinator and to the Senior Design Director, as well as to course instructors as requested.

***Purchasing and Travel Agents:*** Aimee Lim ([ALim@cslanet.calstatela.edu](mailto:ALim@cslanet.calstatela.edu), A241A) for industry projects and Department Coordinators for competition projects.

The Purchasing and Finance Agents are responsible for all purchases for senior design teams, which includes processing purchase orders and maintaining project budgets at the College level. Students are still responsible for maintaining a copy of their own budgets.

**Senior Design Technician:** Victor Martinez (vmartin@exchange.calstatela.edu)

The Senior Design Technician is the point of contact for all equipment and manufacturing needs. Services offered by the Technician include lab safety training for equipment use, training for proper equipment and tool use, providing available tools and equipment to student teams, and providing input into design concepts generated by teams.

**Senior Design ITCs:** Yin Tam and Fernando Loza

The Senior Design ITCs manage all computer-related activities in Senior Design facilities. This includes installation and maintenance of software.

**College Coordinators:** Rosa Jimenez and Cheryl Carrillo

The College Coordinators accept requests for reservation of the conference room and conference phone for team teleconferences and formal meetings. This is their only senior design-related responsibility.

**Department Coordinators:** Lily Hwang-Alonzo (ME), Donna Melendez (CE), Arlette Leiva (EE), Tricia Trejo (CS), Jo Ann Hundley-Mitchell (TECH)

Department Coordinators are responsible for assisting students with processing purchase orders and travel forms for competition projects only, for processing room access requests, for directing students to the appropriate resources, and for collecting documentation or information from students should this be requested by a faculty member in their respective departments. They are NOT responsible, however, for providing information to students that is available in this Handbook or in course syllabi, or for completing tasks assigned to other members of the Senior Design administrative team should an administrative team member be absent. Department Coordinators will also provide assistance during events should their work schedules permit this.

## Available Facilities and Facility Access

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Students are permitted access to the following facilities:

- Senior Design project rooms, as identified by the instructors in each department.
- Conference room – make an appointment through Rosa Jimenez or Cheryl Carrillo. A conference phone is available for usage, and can be requested at the time of a room reservation request.
  - ET A223 – Dean’s office
- Laboratories – as permitted by faculty and staff, and with appropriate lab safety training.
- Machine shop – after lab safety training and after completing a machine shop course.

To gain access to these facilities, students need to:

1. Activate a PIN on the student's One Card by requesting a PIN at the Golden Eagle Service Center located above the food court in the Golden Eagle Building.
2. Once a PIN number becomes active, fill out a One Card Access form, obtain the appropriate faculty signature, and submit to appropriate staff.
3. The student will be notified when access has been confirmed.

## Lab Safety and Lab Usage

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Please refer to your respective department websites for safety guidelines.

The procedure to request help in using equipment and facilities is as follows:

1. Email Victor Martinez. State your name, your team name, provide a detailed description of the work you need done, and attach appropriate drawings. Request an estimate for the amount of time required to complete the requested work.
2. Victor will review your request and will ask for clarification where needed, and will assign an appropriate technician to work on your task. Be prepared to meet with Victor in person in ET B16.

## Purchasing Procedures

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Each team is allotted a budget for the year to purchase equipment and supplies. Teams are responsible for discussing this with their faculty advisors, and then transmitting the approved information to the purchasing agent.

Please note: All purchases must be made using the two approved methods listed below. Do not purchase any items for senior design with personal money. NO reimbursements are possible.

Prior to making purchases, please provide a preliminary budget, including vendor & material information with faculty approval by December 2, 2011. All approved budgets must be sent to the Purchasing and Finance Agent.

Additionally, please be aware that special procedures and restrictions exist for ordering chemicals, which include glues, epoxies, and paint. Contact the Purchasing and Finance Agent prior to creating an order for further details.

### ***Purchase Order Procedures***

All purchase requisitions require a total of three weeks for processing - one week within The College of Engineering, Computer Science and Technology and two weeks within University Auxiliary Services.

Within one week, University Auxiliary Services will place the order with the vendor. Vendor processing and delivery times vary. Please take all of the above processing timelines into consideration when making a purchase.

1. Follow the link provided on the Senior Design Website and fill out all vendor and material information, using the form appropriate to your project type:  
[http://www.calstatela.edu/academic/ecst/senior\\_design/forms.php](http://www.calstatela.edu/academic/ecst/senior_design/forms.php)
2. Attach quotes along with the order form (e.g. print from website) for each item.
3. Deliver the completed paperwork to the Purchasing and Finance Agent for processing, and include team contact information.
4. Follow up within 1 - 2 weeks.
5. Pick up a processed order at ET A241.

### ***Credit Card Purchase Procedures***

All credit card purchases will take at least 24 hours to process. The vendor must be willing to accept Visa payments and all orders must be \$1000.00 or less.

1. Determine whether the vendor accepts Visa payments.
2. Fill out a purchase order form.
3. Write CREDIT CARD REQUEST on top of the purchase order.
4. Attach quotes along with the order form (e.g. print from website) for each item.
5. Deliver the completed paperwork to the Purchasing and Finance Agent for processing, and include team contact information.
6. Follow up with the vendor within 48 hours to determine the vendor's processing time.
7. Pick up the processed order at ET A241.

## **Travel Procedure**

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Student teams are responsible for filling out a travel form for any travel that requires senior design funds. Please make plans early and provide the Purchasing and Finance Agent with team travel plans at least 3 weeks before departure for long-distance travel (requiring flight) and 1 week before departure for local travel (driving only) to ensure that travel arrangements are made on time.

The travel procedure is as follows:

1. Follow the provided link and fill out the travel form for EACH PERSON on the project team who is making the trip, using the appropriate form depending on type of project, and providing quotes and vendor information for airfare, lodging, rental vehicle and other travel expenses. Include team contact information.  
[http://www.calstatela.edu/academic/ecst/senior\\_design/forms.php](http://www.calstatela.edu/academic/ecst/senior_design/forms.php)
2. Submit forms for everyone as a package to the project's faculty advisor for approval.

3. Deliver the approved package to the Purchasing and Finance Agent at least 3 weeks prior to departure for long distance travel and at least 1 week prior to local travel.
4. The Purchasing and Finance Agent will make travel arrangements and provide the team in question with a travel confirmation.
5. Follow up one week after submission of forms.

## **Important Dates (Subject to Change)**

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<b>Event/Deadline Description</b>	<b>Date</b>
Senior Design Launch Day	October 7, 2011
Submit Preliminary Project Budget to Purchase Agent	December 2, 2011
Submit Final Posters, Presentations, and Reports	May 25, 2012
Senior Design Expo	June 1, 2012
Ensure Liaisons Have Received Final Project Deliverables	June 8, 2012