



CALIFORNIA STATE UNIVERSITY, LOS ANGELES
COLLEGE OF ENGINEERING COMPUTER SCIENCE AND TECHNOLOGY
Office of the Dean

STRATEGIC ALLIANCE INITIATIVE
2010

The purpose of the Strategic Alliance Initiative is to further establish the College of Engineering, Computer Science and Technology (ECST) at California State University, Los Angeles (CSULA) as a recognized world class provider of professional practice experiences for its engineering and computer science students while enhancing the recruitment and retention of the highest potential students.

CSULA is beginning its third year of the Strategic Alliance Initiative. Outcomes achieved over the past two years include a sponsored Professional Practices Program, a sponsored Corporate Scholars Program and nine founding Strategic Corporate Partners committed to the program: The Aerospace Corporation, The Boeing Company, DirecTV, Heateflex, Los Alamos National Laboratory, Northrop Grumman Electronic Systems, Northrop Grumman Integrated Systems, Pratt & Whitney Rocketdyne, and Southern California Edison. In its second year, the college retained all nine founding partners and welcomed six new partners including: EmCycle, Medtronic MiniMed, Naval Surface Warfare Center Corona, Space Systems Loral, and Southern California Gas Company.

CSULA strives to be recognized as one of the leading universities for providing corporate partners/investors with their highest return on investment for sponsored projects, student programs and recruiting. You are invited to become a corporate sponsor of the Strategic Alliance Initiative at a minimum of \$5,000 and participate in the one or more of the programs offered below at an additional cost:

1. Academic Year Professional Practice Program (\$25,000)
2. Summer Quarter Professional Practice Program (\$25,000)
3. Corporate Scholars Program (\$10,000)
4. Graduate Mentoring/Advising Program (Free)

Academic Year Professional Practice Program- The purpose of the Academic Year Professional Practice 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 solve an open ended, client defined problem. 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. Projects involve teams of four or five engineering/computer science/technology students, and a faculty advisor working on a real customer problem for a full academic year (1200 hour minimum). 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 are student driven.

Several elements make these projects more like an actual work experience. First, the open ended problem comes from an industrial partner. Second, the team is self managed by the students. Although there is a faculty advisor and a recognized student team leader, every student has leadership roles and the responsibility to make sure the team functions well. Finally, the industrial liaison is the customer for the team. The team must interact with the customer weekly as they plan the project to be sure that the goals they set are relevant to the industrial problem. They will present their plan and results in meetings with the liaison. They will negotiate solutions, timing and features. They will react to changing information as the year progresses. These skills, i.e. negotiating project planning, presenting progress, adjusting to changing conditions, and writing reports are all needed in the workplace, but often not sufficiently taught to undergraduate engineers. The senior design project is much more like an industrial experience than any other course situation in that students are able to practice skills required to becoming a professional engineer.

A self-sustaining exemplar Professional Practice Program will allow the College of Engineering, Computer Science, and Technology at CSULA to join a small but elite group of colleges and universities such as Harvey Mudd and Olin that are recognized leaders in professional practice preparation for graduating engineers. Sponsors are asked to provide funding in the amount of \$25,000 per project and provide a stakeholder technical liaison to have weekly contact with the team.

Summer Quarter Professional Practice Program- The objective of the summer professional practice program is to give students practical training before they participate in their capstone projects. Sponsoring companies are asked to support four student interns by contributing a minimum of \$25,000, to the College of ECST to support student tuition, student stipends, and overall programming. Students are expected to work 40 hours a week for 10 weeks. Sponsors have the flexibility to assign tasks and projects depending on the needs of company. The following are scenarios that corporate partners can choose from:

- a. Student work on a sponsored team project at Cal State L.A.
- b. Student work on assignments separately or in teams at the company

The University can incorporate limited student training in preparation for their internship positions. Companies are encouraged to contact Lily Nguyen at lnguyen2@cslanet.calstatela.edu to discuss further details.

Corporate Scholars Program- The objective of the Corporate Scholars Program is to establish CSULA ECST as the go-to University for recruiting, retaining and graduating the highest potential industry-ready engineering and computer science students. In addition to a focus on women and underrepresented minority students, a distinguishing feature is the extensive involvement of corporations and student organizations in developing a world class experiential program that compliments the Professional Practice Program described above.

Corporate sponsors of the program are asked to contribute a minimum of \$10,000 to a scholarship pool plus a minimum of \$1,000 to support student organizations, and designate a technical lead and a staffing lead to coordinate activities with respective student groups.

The ECST student council along with its 23 student organizations is in the process of forming action councils that will focus on the development of various activities and events in collaboration with their corporate partners. They will host each sponsoring company for a Day on Campus during the school year and at the Corporate Scholars Day in April each year. A key element of the Corporate Scholars Day/ Strategic Alliance Meeting will be the student and company opportunity session, where students will begin defining and developing these activities and events in collaboration with their corporate partners/sponsors.

Exceptional benefits begin accruing to corporate sponsors immediately. They have the opportunity to establish relationships with a very bright contingent of current engineering, computer science and technology students. Active participation in the ongoing development of this exemplar program will increasingly assure that CSULA will be an important cost effective solution for each corporate partner/sponsor to achieve its recruiting goals.

Graduate Advising Program

The purpose of the graduate advising program is to partner with industry to provide students with thesis topics and with resources required to complete an industry-relevant research project. Sponsoring companies are asked to provide one advisor and a thesis topic for graduate students. The company advisor will sit on the thesis review committee,, host the graduate student at the company site to conduct research required to complete the student's thesis, and provide the necessary technical support to ensure student success. The student will also be supported by a CSULA faculty advisor, who will serve as a secondary advisor for the student. At the end of the period of performance, the graduate student will require the approval of the industry advisor, faculty advisor, and third faculty committee member in order to graduate with a Master of Science degree in the student's respective department.