



ARIZONA STATE UNIVERSITY

Arizona State University Polytechnic Campus STRATEGIC ALLIANCE INITIATIVE

May 7, 2009

The purpose of this Strategic Alliance Initiative is to help establish the Department of Engineering at the Arizona State University Polytechnic Campus (ASU Poly) as a recognized world class provider of professional practice experiences for its engineering and computer science students while enhancing the recruitment and retention of highest potential students.

The new Strategic Alliance Initiative is being developed through the summer of 2009. Outcomes will include a sponsored Professional Practices Program, a sponsored Corporate Scholars Program and at least six founding Strategic Corporate Partners committed to the programs. The first scholars will be enrolled and pilot senior design (capstone) projects will start at the beginning of the 2009-2010 academic year.

Professional Practice Initiative - Initial focus is on corporate sponsored Department of Engineering Senior Design projects while continuing the development of interdisciplinary team based learning throughout the Department of Engineering. Projects will involve teams of four or five engineering/computer science students working on a real customer problem for a full academic year (1200 hour minimum). Founding sponsors will pay a fee of \$20,000, provide a stakeholder liaison that would have weekly contacts with the team and receive full rights to the results. At least six sponsored senior design projects (design, build and test are preferred) will be conducted in 2009-2010.

The Professional Practice Program will engage students in interdisciplinary team-based project learning beginning their freshman year. This description focuses on key elements for exemplar senior design (capstone) projects. Several elements make these projects more like an actual work experience. First, the open ended problem comes from an industrial partner. It is a real problem that needs to be solved. 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 responsibility and the responsibility to make sure the team functions well. This simulates many work situations. 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 must present their plan and results in meetings with the liaison. They must negotiate solution timing and features. They must react to changing information as the year progresses. These skills, negotiating project plans, making presentations, adjusting to changing conditions,

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and writing a final report 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. Students have practice at being a professional engineer.

The goal is to immediately develop a self-sustaining exemplar Professional Practice Program that is corporate sponsored. The ASU Poly Department of Engineering will 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.

Corporate Scholars Initiative – The objective of the Corporate Scholars Initiative is to establish the Arizona State University Polytechnic Campus (ASU Poly) Department of Engineering as an exemplar for recruiting, retaining and graduating highest potential industry ready engineering and computer science students. In addition to a focus on women and underrepresented minority students, a distinguishing feature will be the extensive involvement of corporations and student organizations in developing a world class experiential program that compliments the Professional Practice Program described earlier.

The Program - All current engineering and computer science students in the College of Technology and Innovation (CTI) at ASU Poly that have attained the academic levels students with scholarships are expected maintain to keep their scholarships (3.0 G.P.A. and above), have been invited to be members of the CTI Scholars student organization. Student members will manage personal and professional development activities and events in collaboration with their corporate sponsor members. In addition to traditional officers such a president, secretary and treasurer, students will participate in action committees such as internship/employment, speaker/workshop, sponsor site visits and mentoring. A student ambassador, along with an assistant, will be designated as the point of contact for each corporate sponsor. In addition to various activities conducted throughout the academic year, there will be at least three major on-campus events featuring recruiting and other activities developed by student members and their corporate sponsors 1) Opportunity Day in the fall, 2) Corporate Scholars Day in the spring and 3) Corporate Partner Day on Campus for each corporate partner.

Full tuition scholarships will be awarded to highest potential transfer students and current students with the highest academic and leadership achievements. At least 50% of the transfer students will be underrepresented minorities and women.

Founding Sponsor Investment and Benefits - Corporate sponsors of the Corporate Scholars Initiative will contribute a minimum of \$6000 to a scholarship

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pool, \$1000 to the CTI Scholars student organization and representatives to participate in the action committees in collaboration with the student members. It is recommended that corporate sponsors designate technical lead representative and staffing lead representatives to coordinate activities with their respective student ambassadors.

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

Strategic Corporate Partners Initiative – The goal is to leverage the Professional Practice and Corporate Scholars Initiatives to strengthen existing ASU Poly corporate partnerships and develop new ones by encouraging systemic collaborations. A broad range of sponsored programs will include senior design projects, research, diversity, internships, student organizations and other areas of mutual benefit to each corporate partner, ASU Poly and its faculty and students. Developing specifics of this initiative are being defined during the course of the Initiative in collaboration with Strategic Corporate Partners. ASU Poly strives to be recognized as one to the leading universities for providing corporate partner/investors with their highest return on investment for sponsored research, sponsored projects, student programs and recruiting.

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