College of Engineering Strategic Plan
Academic Years 2005-2010

Priority actions for 2006-2007 will be highlighted (color) when determined upon adoption of the Strategic Plan.

I. MISSION

The College of Engineering serves the state, the nation, and the world by producing talented, broadly educated engineers, conducting high quality research, developing breakthrough technologies, and disseminating and preserving technical knowledge.

II. VISION

To be recognized internationally for engineering education and research, and for leadership to the profession.

The following strategic characteristics and aspirations will enable the College to realize its vision:

- **Small-college atmosphere** that facilitates personal commitment to the educational success of students in an environment that values diversity and community
- Educational and research **partnerships** with health sciences, business, and other UI colleges, and with targeted agencies, universities, and industries
- Prudent and accountable **resource management**
- Highly **successful alumni** who contribute to the profession in the global society
- **Contemporary and rigorous undergraduate curricula** that prepare graduates for successful careers
- Graduate education that prepares students for **research and advanced problem solving** needed to address complex, interdisciplinary engineering problems
- **Internationally recognized research programs** with strong support from professional constituencies
- Demonstrable **leadership and service** in advancing the engineering profession to meet society’s needs
III. GOALS AND STRATEGIES

UNDERGRADUATE EDUCATION

Goal: To create a collegiate experience that encourages intellectual rigor and productive teamwork and results in the graduation of engineers who are well equipped to succeed in the global workplace.

Strategy: Recruit and retain a motivated and successful student population.
- Improve first-year experience for at-risk students.
- Promote the value of and provide ample experiential learning opportunities.
- Promote the opportunity an engineering degree offers as a launch point for other professions.

Strategy: Maintain excellent teaching, effective learning environments, and learning opportunities as core attributes within the College.
- Recognize and reward excellence in teaching.
- Acquire and reallocate resources to support excellence in teaching.
- Continuously evaluate the effectiveness of each course (an ABET objective).
- Integrate writing throughout the curricula.

Strategy: Ensure that all students graduate with strong core engineering skills supplemented by a broad education.
- Prepare students with the ability to use the techniques, skills, and modern engineering tools necessary for modern engineering practice (ABET outcomes a-e, j, k).
- Prepare students for ethical and professional leadership (ABET outcome f).
- Prepare students to communicate effectively among global and diverse audiences (ABET outcome g, h).
- Prepare students for lifelong learning and professional improvement (ABET outcome i).
GRADUATE EDUCATION AND RESEARCH

Goal: To build and sustain internationally recognized engineering research and graduate programs of relevance to contemporary societal problems.

Strategy: Advance research and scholarly enterprise.
- Recruit and retain excellent faculty and research staff.
- Provide faculty and research staff with the support and facilities commensurate with a top-ten public engineering college.
- Identify and support programs and areas of emerging distinction that are central to the College’s mission.
- Identify opportunities for investment at the intersection of existing strengths and extramural funding opportunities.
- Reallocation financial resources within the College to support programs and areas of excellence and emerging distinction.
- Dismantle barriers to junior faculty participation in collaborative and multidisciplinary research.
- Enhance research collaborations with other units in the University.

Strategy: Become more innovative in creating additional graduate programs of national distinction.
- Identify and embrace novel multidisciplinary graduate programs.
- Continually update and strengthen existing graduate curricula.
- Aggressively recruit and retain highly qualified and diverse graduate students.
- Provide competitive financial support for graduate students.
- Establish coherent programs for postdoctoral scholars.

Strategy: Improve research synergies with industry.
- Stimulate long-term, mutually beneficial industrial collaborations.
- Expand opportunities for College involvement in economic development, and removing barriers to industry-academic cooperation.
- Educate faculty about technology transfer procedures and policies.
- Inspire appreciation of entrepreneurship among students and faculty.

Strategy: Establish a greater awareness and higher reputation of the research and graduate programs.
- Aggressively market, at the state, national, and international levels, the College’s research enterprise and graduate programs.
- Market the College’s expertise to a broad audience.
DIVERSITY

Goal: To promote excellence in education by increasing the diversity of the faculty, staff, and students.

Strategy: Promote a welcoming climate that enhances the educational and work experience for all members of the College, and prepares our graduates to live in an increasingly global environment.
- Further develop activities of the Faculty and Staff Fostering Inclusion Group.
- Improve retention and graduation rates for students of color.
- Improve interaction among domestic and international faculty, staff, and students.

Strategy: Increase the number of underrepresented faculty, staff, and students.
- Educate faculty and staff on the value of diversity and community, and develop best practices for recruiting underrepresented faculty, staff, and students.
- Develop a more effective marketing strategy and recruit more effectively from high schools, community colleges, and colleges and universities with substantial populations of underrepresented students.
- Partner with schools to understand and address the needs of at-risk students and the disparities in K-12 education.

Strategy: Hold all collegiate units accountable for improving the climate for diversity and increasing the number of underrepresented faculty, staff, and students.
- Develop diversity performance measures by which to evaluate the success of the strategy, and integrate into evaluations and reviews.
**ENGAGEMENT**

**Goal:** Broaden the College’s research and service missions to include stronger partnerships with the public.

Strategy: Achieve greater awareness and appreciation among select public groups for the College’s unique strengths, programs, and accomplishments.
- Increase involvement of students, faculty, staff, alumni, and friends as active advisers, inventors, and contributors.
- Create and expand relationship-building programs that serve key public groups.

Strategy: Increase market appeal of the College’s educational and research assets within defined public segments.
- Stimulate public involvement in conferences, lectures, and seminars.
- Strengthen the K-12 education system through outreach to students and teachers.
- Utilize emerging technologies and activities, such as the Internet, electronic mail, electronic distance learning.

Strategy: Provide value-added service to business and industry by assisting in solving technical problems and exploring mutually beneficial growth opportunities.
- Engage additional companies and expand existing companies participation in 16 key identified partnership categories.

Strategy: Expand the College’s value and role as a productive state economic development mechanism.
- Establish an environment conducive to the development and promotion of faculty, staff, and student intellectual property.
- Increase partnerships with economic development organizations that participate in business recruitment, retention, and growth activities.
- Facilitate transfer of technology and intellectual property to businesses.
VITALITY

Goal: To strengthen the College’s intellectual and community vitality.

Strategy: Strengthen and enhance intellectual vitality.
- Provide nationally competitive faculty salaries.
- Provide resources to support developmental leave.
- Increase applications for faculty scholar awards.
- Encourage and support junior faculty mentor program.
- Make effective use of post-tenure allocation process.
- Investigate establishing Research Professor track.
- Establish and maintain competitive compensation for staff.
- Increase staff participation in continuing education experiences.
- Recognize staff and faculty excellence with internal award procedures and through nomination of staff and faculty for University awards.

Strategy: Enhance the College’s community spirit and engagement.
- Highlight faculty, staff, and student achievements on the College’s website, in news releases, and through annual College award events.
- Encourage and promote education in cultural competency for faculty, staff, and students, through initial training at time of hire or admission and with continuing educational opportunities.
- Involve staff in planning and implementation of collegiate goals through the establishment of a staff council and through membership on appropriate college committees.

Strategy: Nurture creative leadership.
- Increase opportunities and support for leadership development.
- Nurture student involvement and leadership in the College by appointing students to College committees.
- Promote staff leadership and engagement through participation on University and external committees, boards, and professional organizations.
- Reward successful leadership as an integral component in advancing the College.
RESOURCES MANAGEMENT

Goal: Generate and allocate resources to enable the College of Engineering to sustain its mission and implement strategic initiatives.

Strategy: Invest in all units (academic and non-academic) that optimize productivity while minimizing costs.

- Recognizing that the majority of the College budget is utilized for salaries, encourage and reward units that develop alternative revenue streams that reduce the budgetary burden and/or substantially increase productivity and/or teaching capacity.
- Align time allocation plans for faculty to reflect actual teaching, research, service and administrative commitments.
- Have an external panel of experts review each unit to identify opportunities for cost savings while maintaining the ability to achieve the College’s mission.
- Develop and implement a formal procedure to reallocate the budget annually to support the strategic plan.

Strategy: Manage facilities to support the College’s goals and aspirations.

- Have a neutral third party conduct an audit of current space utilization to establish metrics and rubrics that aid space allocation decisions.
- Have a neutral third party assess quality and quantity of space allocations to College units and recommend, if needed, remedial action.

Strategy: Increase all revenue streams to advance College mission.

- Develop guidelines for adjusting the tuition supplement and increasing enrollments so that the revenue stream can provide more stability to the College’s budget.
- Provide incentives which encourage faculty to utilize returned facilities and administrative costs (F&A) that support College strategic initiatives.
- Maintain and strengthen ties with alumni, friends, and corporate partners that financially support the College.
- Identify and develop new revenue streams that support the College mission.

Strategy: Increase value of College to the UI community.

- Develop courses and academic programs on engineering for non-engineering majors.
- Increase intellectual property assets generated by the College.