College of Engineering 
Strategic Plan Summary 

2008/09 - 2012/13 

Educating Students Who Will Become World-Class Engineers 

Pursuing Research to Address the Needs of the Nation and Beyond 

Serving Society Through Outreach 

PENNSTATE
The College of Engineering 2008/2009 – 2012/2013 Strategic Plan was developed in the belief that future advances in economic development, health care, energy and the environment, and cyber and physical infrastructures will require significant engineering contributions. We must also ensure a sufficient number of engineering graduates to meet the nation’s needs and prepare future graduates to contribute to a global society. Our outstanding faculty and highly ranked programs provide a strong foundation, in these national and global contexts, to advance our strategic goals.

The first strategic goal is to attract and develop an outstanding and diverse faculty, student body, and staff. We plan to increase our number of faculty to reduce the student/faculty ratio and to improve active learning experiences. Increasing our faculty will also support important research to address the challenges facing the nation and the world. For the past three years, the College’s undergraduate enrollment has increased and is expected to continue to grow. The College will strive for an undergraduate population of 5,700 and an increase in graduate students to 1,500 with a proposed increase in faculty to 300. Important actions are identified to attract an outstanding and diverse faculty, student body, and staff.

The goal of implementing the World-Class Engineer vision in the undergraduate curriculum emphasizes experiences in globalization, innovation, and leadership to assist our students in becoming significant contributors to addressing societal problems. While we will continue expanding our travel-based global experiences for students, a considerable effort will focus on introducing innovative, non-travel-based opportunities for students to become aware of the world, so every student in the College will have some exposure to global societal issues.

The College endeavors to strengthen its graduate programs with the introduction of new post-baccalaureate credit certificate programs and additional integrated undergraduate/graduate degree programs. In addition, the College will seek, jointly with the College of Medicine and other academic colleges, to establish a joint M.D./Ph.D. program to accelerate activities related to the medical sciences.

In the effort to establish research in areas of societal need, the College will advance its activities in energy and the environment, health care, new materials applications, cyber infrastructure, and civil infrastructure. To further research, new centers will be formed and current centers, including the Center for Networking and Security Research, will be expanded to include the participation of additional colleges. A central tenet supporting research will be efforts to considerably strengthen industry and government partnerships. Additionally, special effort will be devoted to improving the development and preparation of large research proposals.

The strategic goal to enhance outreach to the Commonwealth and beyond will engage the K-12 community so students are encouraged to take the appropriate courses that will allow them to consider degree programs in science and engineering. Our continuing and distance education programs will explore developing both professional education courses to assist professionally licensed engineers, as well as expanding our degree course offerings to provide seamless continuity with our campuses.

In the goal focused on organization and administration, we will undertake a concerted effort to improve the security and performance of College computer networks and wireless communications. Additionally, a systematic review of all of our organizational structures will be conducted to achieve cost efficiencies.

Our seventh strategic goal is to advance philanthropy and external relations. The College has benefited from the support of alumni and friends and has been able to enhance our educational and research missions significantly with philanthropic support. A key element of the strategic plan is to continue expanding philanthropy and to build even stronger relations with our alumni and friends.

The strategic plan includes five-year budget scenarios which identify the actions the College will take to provide for 1 percent recycling in each of the five years, and to provide for 0.5 percent, 1 percent, and 2 percent annual increases in the College permanent budget. The highest priority for future investment is to increase our number of faculty so we can provide better academic experiences for our students and can address the significant research and outreach opportunities to serve our nation and beyond.

A critical priority for the College is the construction of a new building for the Department of Chemical Engineering to replace the Fenske Building and the Engineering Signature Building on the West Campus.

Advancing the strategic plan goals will allow us to move toward our goal of being recognized as one of the ten best colleges of engineering in the nation.
World-Class Engineers Are ...

**Aware of the World:** World-Class Engineers are aware of the global nature of their profession and the challenges and opportunities that it brings; they are sensitive to cultural differences and the diversity that exists within individual cultures.

**Solidly Grounded:** World-Class Engineers are solidly grounded in the fundamentals of their discipline. This solid grounding allows them to tackle complex, real-world problems and serves as the foundation on which they build their knowledge and expertise through life-long learning.

**Technically Broad:** World-Class Engineers are conversant with other engineering and scientific disciplines related to their field, allowing them to work on problems that are cross-disciplinary.

**Innovative:** World-Class Engineers create innovative solutions to meet societal needs. They pursue opportunities to apply their skills in both traditional and non-traditional fields such as financial services, health care, and education.

**Effective in Teams:** World-Class Engineers are highly productive members of teams, co-located or geographically dispersed; they communicate effectively within the team and outside of it.

**Successful as Leaders:** World-Class Engineers are effective, ethical leaders at all levels from technical team leader to CEO.