Strategic Plan Implementation Report Summary

June 30, 2012

The College of Engineering strategic plan was completed in the fall of 2011. To move toward implementation of the agreed upon goals and programs, four implementation committees were created to focus on the four primary areas of the strategic plan. Below is a summary of the implementation committee recommendations from these four areas:

Focus 1. Transformation of Undergraduate Engineering Education

Create an "Institute of Engineering Education and Innovation", which will:

Lead innovation in engineering curriculum
  • Create a “thick spine” of experimental learning throughout four years of the undergraduate engineering program
  • Incentivize use of dilemma-based problem solving in the classroom
  • Expand the undergraduate research program through tracts
  • Prepare a formal proposal for “re-engineering” the freshman or lower-level academic program.

Engage faculty and staff in development of unique engineering education programs
  • Recruit core faculty dedicated to the institute’s mission of enhancing engineering education
  • Incentivize faculty throughout the university to pursue cross-disciplinary teaching opportunities in engineering and technology

Support and partner with K-14 programs to develop age appropriate engineering curriculum and outreach programs
  • Develop engineering focused materials and methods to augment curriculum requirements in K-14
  • Identify partners across campus to leverage efforts in K-14 outreach
  • Seek external funding to support initiatives in K-14 engineering education
  • Develop a recruiting plan to identify potential students early in their education
Focus 2. Graduate Program Excellence with World-Class Research

*Develop aggressive recruitment strategy for domestic graduate students*
- Expand Graduate Invitational Day
- Expand undergraduate research program
- Attract students from peer institutions.

*Increase participation of undergraduates in National Fellowship competitions*
- Integrate NSF fellowship application into the Engineering Scholars Program
- Create a support program for fellowship proposal development

*Establish career development programs at the PhD level*
- Strengthen formal College program for academic career
- Partner with College of Business to create programs focusing on a unified business or entrepreneur track

Focus 3. Develop a World-Class Research Portfolio

*Encourage faculty interaction on large-scale multidisciplinary research in strategic areas*
- Form virtual organizations
- Establish discussion groups and seminar series
- Compile databases of research specializations
- Provide seed funding for targeted areas of research
- Assist with management and sustenance of developed centers

*Encourage faculty to identify center funding targets and research themes*
- Provide alerts for funding opportunities
- Facilitate faculty meetings to identify center themes
- Provide financial support for faculty involvement in agencies
- Establish program to develop center building skills
- Identify national leaders in focus areas and recruit them to TAMU

*Support faculty efforts to develop center teams and proposals*
- Provide support for preparation of center proposals
- Develop external advisory boards of industry partners
- Incentivize funding by cost-sharing and providing equipment and staff support
- Connect with National Laboratories and global partners
Focus 4. Faculty Development

*Improve professional environment and institutional culture*
- Support respectful and collegial discourse, and establish a mechanism for reporting concerns
- Streamline and integrate reporting and training processes and programs
- Reward collaborative and multidisciplinary activities and joint appointments
- Develop initiatives to recruit and retain a diverse faculty
- Promote transparent merit-based processes for resource allocation

*Strengthen faculty mentoring*
- Communicate best practices
- Actively mentor both junior (assistant professors) and senior (associate and full professors)
- Feedback from 3 year review be clearly communicated

*Support faculty professional development*
- Encourage faculty to participate in developmental leave (sabbatical)
- Develop active award committees in each department
- Assist faculty with preparation of competitive grant applications