10-Year
Strategic Plan
2003-2013

The School of Engineering
at the University of Kansas

KU School of Engineering
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Executive Summary

In 2002-2003, The KU School of Engineering identified, and has since refined, four specific objectives to be accomplished over a 10-year period (by 2013). The overarching goal of our continuing plan is to decisively strengthen the programs of the School of Engineering and develop nationally recognized pinnacles of excellence at KU.

Our intent is focused and aggressive, providing for additional faculty and support staff to strengthen the educational and research base across the academic levels in the school with particular impact on moving the Ph.D. programs to a level of national competitiveness, consistent with a top twenty-five university. The plan significantly enhances the undergraduate educational experiences of our students, provides research and international opportunities to undergraduate students and builds synergy with units across the KU system including the Edwards campus and the KU Medical Center. The necessary budget support associated with this plan is an investment that provides returns through partnerships with external groups including industry, national laboratories and federal support agencies such as NIH, NSF and DoD.

Our goals have been shaped during the past seven years, but largely remain as originally envisioned and serve as the focus for the school. They are:

- Provide an accessible and exceptional undergraduate educational experience to our students;
- Build nationally recognized research programs that create new frontiers through engineering and science discoveries;
- Excel with nationally competitive graduate and PhD programs that prepare the next generation of engineers and scientists; and
- Build the international reputation of faculty through increased scholarly publications.

The long-term success of becoming a top twenty-five program largely depends on the success of the faculty. This success includes the level of national prominence attained by faculty, their ability to attract quality graduate students, their ability to build research teams and their ability to establish partnerships for research with external agencies including federal laboratories and companies. Building the school faculty and support resources are foci of this strategic plan.

Core Values

The faculty and staff of the KU School of Engineering are guided in their endeavors by these core values:

- Quality
- Integrity
- Discovery
- Excellence and Achievement
- Collaboration and Communication

School Mission

The overall mission of the KU School of Engineering is to:

1. Provide high-quality undergraduate, graduate, and continuing education in engineering that will prepare our graduates for professional careers and a lifetime of learning;
2. Develop nationally competitive, high-quality research programs that support the graduate education program, advance the state of knowledge of the field of engineering, and assist in the economic development of the state and nation; and
3. Serve individual practicing engineers, industry, government, educational entities, and technical societies through active involvement with these groups and by providing professional expertise.
VISION:

Provide an academic and scholarly environment that supports and fosters excellence and faculty and students’ success on the national stage.

Waypoints

- Recruit exceptional new faculty in the School of Engineering strengthening our resources to reach school-wide goals.
- Build gender and ethnic diversity across the faculty ranks, strengthening our faculty resources and providing role models for a diverse student body.
- Recruit and retain faculty of national distinction to Distinguished Professor ranks across the school.
- Provide financial resources to support the recruitment of faculty.
- Complete Eaton Hall and occupy in fall 2003.
- Renovate classrooms and laboratories throughout the school.
- Renovate Spahr Library to better serve students.
- Initiate planning for a new building that addresses the research, teaching and service missions of the school and is funded through state, federal, KU and donor resources.
GOAL 1:

Provide an accessible and exceptional undergraduate educational experience to our students.

Increase the enrollment in our undergraduate programs with increased student diversity and improved program quality. [Very recent discussions with the State legislature and demands from our constituent companies may modify this goal to a more aggressive growth goal.]

Strategies

- Increase undergraduate student enrollments and student diversity.
  - Add a new diversity student recruiter.
  - Add a second student recruiter from the Corporate Partners Program.
  - Develop high school summer camps and workshops with emphasis on growing student numbers and diversity.
  - Develop additional academic year programs for recruiting high school students.
  - Develop the Engineering Ambassadors Program (undergraduate).
  - Leverage existing university recruiting programs with school investments.
  - Build diversity focused scholarship programs for recruiting.
  - Engage the Recent Graduate Advisory Board in recruitment activities.
  - Enlist greater corporate activities in student recruitment.

- Enhance undergraduate student quality.
  - Add a new diversity student recruiter.
  - Add a second student recruiter from the Corporate Partners Program.
  - Increase scholarship funding in KUEA for recruiting the most qualified students.
  - Develop a coordinated and targeted recruitment process within the school and with other university offices to improve attractiveness of offers.
  - Launch the Self Engineering Leadership Fellows (SELF) Program.
  - Add new leadership programs for recruitment.
  - Leverage existing leadership and high ability student programs at KU with school programs.

- Improve services to students and programs.
  - Improve IT service and resources to students.
  - Improve Career Services support to students.
  - Improve student projects support through the student course fee.
  - Expand and improve access to study-abroad opportunities for students.

- Improve undergraduate student retention.
  - Complete a study to identify retention challenges in the school.
  - Develop the Engineering Learning Communities program and encourage freshman participation.
  - Provide student success programs such as workshops, presentations and free tutoring for students.
  - Provide robust intervention programs for freshman and sophomores.
  - Work with other academic units on campus in seeking improvements in retention of students.
  - Enhance academic advising programs.

- Sustain & expand exceptional academic programs with full accreditation.
  - Coordinate preparation efforts for ABET/EAC accreditation and with the NAC. The ABET EC2000 process is based on continuous quality improvement principles.
  - Explore new bachelor degrees in Information Technology (possible Edwards Campus focus) and Applied Informatics on the KU campus.
GOAL 2:

Build nationally recognized research programs that create new frontiers through engineering and science discoveries.

Double to triple our research expenditures to a level of ~$250K per faculty member.

Strategies

- Identify new, interdisciplinary research themes around which to build major centers.
  - Environmental Engineering (Center for Environmentally Beneficial Catalysis - CEBC)
  - Climate Change (Center for Remote Sensing of Ice Sheets - CReSIS)
  - Medicine and Human Health (Bioengineering Research Center – BERC & Bioinformatics)
  - Transportation and Infrastructure (Transportation Research Institute – TRI)
  - Information Technology (Information and Telecommunications Technology Center – ITTC)
  - Energy (The Energy Research Council - ERC)
- Identify and pursue key major federal grant opportunities to support center concepts.
- Increase submission of research proposals to external agencies.
- Develop greater research partnerships with industry and foundations.
- Invest capital in new major interdisciplinary research center programs.
- Utilize strategic faculty hires.
  - Recruit exceptional faculty at all levels.
  - Align faculty hires to support research strengths.
  - Recruit senior faculty in selected areas to build strength more rapidly.
  - Consider hiring research “team builders” to champion interdisciplinary efforts.
- Build cross-campus collaborations with other schools.
- Develop legislative support for transportation research funding through the TEA reauthorization.
- Complete space renovations and facilities for research.
  - CEBC laboratories.
  - BERC laboratories.
  - Environmental laboratories.
  - Aerospace laboratories at airport.
  - Concrete and material research laboratories.
  - Computer cluster in Nichols for CReSIS.
  - Computer and modeling cluster in Learned.
- Secure additional space for research activities.
  - Eaton Hall laboratories for EECS.
  - CEBC laboratories at LSRL.
  - Added research space in Burt Hall.
  - Initiate plan for new research building.
GOAL 3:
Excel with nationally competitive graduate and PhD programs that will prepare the next generation of engineers and scientists.

Double to triple the number of PhD students with a goal of graduating ~0.4 - 0.5 PhD students per faculty per year.

Strategies

• Establish a new administrative unit overseeing research and graduate programs.
• Increase and focus recruiting resources on doctoral students.
• Secure additional State resources for GAs.
• Offer competitive recruitment packages to incoming students.
• Establish PhD recruiting days.
• Develop a Graduate Ambassadors Program to support growth.
• Develop areas of research excellence that will attract greater numbers of highly qualified doctoral students.
• Develop new degree programs for emerging areas.
  - PhD and MS degrees in bioengineering.
  - MS degree in Computer Information Systems (Edwards Campus).
  - Joint KU/KUT (Korea University of Technology) MS program in mechanical engineering.
GOAL 4:

Build international reputation of faculty through increased scholarly publications.

Double to triple the journal publication rates of faculty (~ 2-3 publications per faculty member per year).

Strategies

- Communicate importance of scholarly production throughout school.
- Reduce instructional loads on faculty to accommodate greater production of research and scholarly activity.
- Increase doctoral enrollments, increasing the participation in scholarly works by students and faculty.
- Increase travel support to conferences where scholarly work is presented.
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Discovery
Excellence and Achievement
Collaboration and Communication