

## The SIUC College of Engineering at 2019

This position paper was developed by the Dean of Engineering to address Interim Provost Kyle Perkins' request to mesh each college's vision and mission with the *Southern at 150* planning process final report.

**Vision Statement:** The College Faculty adopted a Vision Statement in the Spring of 2002 which will be valid in 2019. It is

*The College of Engineering at Southern Illinois University Carbondale will excel in engineering and technology education and research through the quality of its faculty, graduates, students, staff, facilities, and programs.*

The College of Engineering at Southern Illinois University Carbondale will be the engineering and technology programs of choice where parents want to send their children, where students want to learn, where employers seek engineers and technologists, where industry and government find technological innovations, and where underrepresented and underserved populations are encouraged and supported to obtain a quality education. The College will continue to emphasize its strong minority engineering and outreach programs.

The College will respond to the needs of its constituencies. Our constituencies include: students, parents, employers, alumni, faculty, public communities, and the sponsors of our funded research. We will listen to all of our constituencies and will be responsive to their needs consistent with the University mission. The College administration will regularly and constantly seek the input of the faculty to determine the direction of the College.

**Mission Statement:** A new Mission Statement was adopted in Spring 2002 also. It is shown below:

*To provide world-class programs in engineering and technology education, research, and service so as to enhance the economic and social well being of the citizens of Illinois, the nation, and the world.*

In order to accomplish our mission we will accomplish the following strategic objectives::

- Provide a world-class education for our students by continually assessing and improving our educational programs
- Strengthen the diversity of our student population especially in our unique minority engineering program
- Support and expand the undergraduate Outreach Program to military bases in the nation and industrial sites in Illinois

- Perform state-of-the art research that will improve the nation's strategic engineering and environmental technologies
- Build productive and mutually beneficial partnerships with our external constituencies.
- Continuously improve the critical student and faculty support processes that are key to the College's mission.
- Develop partnerships with industries to improve the economy of Southern Illinois

**Context:** By the year 2019, the engineering workforce in the USA will, by necessity, be more diverse than in 2002. Minorities and females will be brought into the engineering and technology workforce in greater numbers. In addition, US engineers will be collaborating with engineers from other countries and cultures more than ever as design, research, and manufacturing become more distributed globally depending on the relative cost of engineering talent and as the exchange of information speeds up due to Internet improvements. State resources as a percentage of total budget will continue to shrink.

**Challenges:** In achieving our Vision for the College 2019, we see the following challenges:

- Updating our educational delivery systems to allow students to access learning material from anywhere and at anytime.
- Diversifying the faculty and student populations to match the State and national demographics.
- Winning the State-wide competition for undergraduate student interest in Engineering's programs.
- Raising external friends and funds to make up for shrinking State dollars.
- Adding new degree programs in areas of particular interest to minority and female students, i.e. chemical engineering and industrial engineering.
- Partnering with industries to develop the industrial and research base of Southern Illinois.
- Increasing and diversifying our areas of research to be current with national and international topics/trends.
- Helping industries and utilities utilize Southern Illinois coal reserves.

**Priorities:** In accomplishing our Vision for 2019, we must set the following priorities:

- Recruit and fund scholarships for more high-quality undergraduate and graduate students.

- Recruit the best possible faculty with diverse backgrounds.
- Recruit more industrial partners to help with relevant research projects.
- Develop learning materials/classes that can be delivered via distance learning techniques.
- Improve our facilities and equipment holdings to accommodate newly-evolving and undiscovered research areas.
- Continually assess our facilities, equipment, programs, and processes for continuous improvement.

**Summary:** In the next 17 years, all colleges of engineering will be forced to deal with a diverse student body that will demand more ready access to the learning material required to be mastered to obtain degrees. In addition, engineering teaching and research will become more international in content and presentation just as the practice of engineering has become.

**George M. Swisher**  
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