

Cornell University College of Engineering

Undergraduate Programs
And Student Services

Strategic Plan

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Teresa Jordan, Associate Dean, Undergraduate Programs

Betsy East, Assistant Dean, Student Services

David Gries, Incoming Associate Dean, Undergraduate Programs (editorial comments)

Mission

To provide services and programming that contribute to the Engineering College's delivery of a high quality educational experience to a diverse group of students.

Specific mission objectives are:

1. To enroll a highly qualified and diverse undergraduate student body and enable their success.
2. To enhance the quality of the undergraduate education by ongoing evaluation of the common curriculum and assessment of the needs of the future workforce, communication of the results of those evaluations and assessments to the faculty who make curricular decisions, and implementation of improvements to the program based on those results.
3. To encourage facilitation of curricular communications across program boundaries.
4. To oversee the educational progress of all students.
5. To provide comprehensive programs and services that promote long term personal, academic, and professional development for students.
6. To provide high quality information and advice to prospective and current undergraduate students about the college, about curricula, and about future employment possibilities.
7. To improve the quality of the undergraduate educational experience by supporting innovative and inclusive approaches to teaching and research designed to diversify, integrate, and enhance the educational climate of the College.
8. To ensure optimum effectiveness and efficiency of information management, policies, processes, and programs.
9. To represent the Engineering College in collaborations concerning undergraduate education with the faculty and administration of other Cornell colleges and organizations external to Cornell.

Vision

Cornell Engineering will utilize the world-class intellectual resources and interdisciplinary opportunities of the college and university to prepare our undergraduate students for lifelong creation of knowledge and solutions to complex real-world problems, within a framework of ethical, social, and environmental responsibility.

Priority Goals

1. Increase the diversity of the student body and enhance the degree to which all of the students, majority and minority, male and female, resident and international, value and learn from that diversity.
 - Compared to the top 20-ranked engineering colleges nationally, become a leader in representation on the faculty by underrepresented minorities.
 - Increase the representation of women on the faculty to at least 20% by 2010.
 - Increase the gender and racial diversity of our undergraduate student populations – women to at least 35% and under-represented minority students to at least 10%.
 - Actively promote a welcoming climate, so as to become a national leader among top 20 ranked engineering colleges in the student-body percentages and graduation rates of underrepresented groups.
 - In five years, have our college-wide diversity initiatives recognized nationally (NSF Presidential Awards for Excellence in Science and Engineering Mentoring) for the College's success in recruiting and mentoring women and underrepresented minorities.
 - Develop methods to take greater advantage of the peer-enlightenment possibilities of international students who are members of the College community. Advertise the outcomes of and facilitate student participation in the activities of College international projects (e.g., Engineers without Frontiers; international coops/internships, other college research or service groups).

2. Improve the educational environment.
 - Decrease class sizes and student-to-faculty ratio
 - Integrate cooperative learning into the standard curriculum through student and teaching assistant training in teamwork and group facilitation as well as through faculty development opportunities to promote group learning and non-competitive assessment strategies.
 - Endow the regular upgrading of teaching laboratories and classroom facilities.
 - Institute programs that improve the quality of teaching and encourage the use of innovative teaching strategies.

3. Provide opportunities for all engineering students to improve their ability to work on teams and to collaborate in creative application of their new theoretical knowledge, through faculty-sponsored out-of-the-classroom learning.
 - Recognize faculty leadership of student teams through work assignments, promotions, and compensation.
 - Endow a program that provides technical staff dedicated to facilitating and administering inquiry-based learning activities in the college, such as design teams, undergraduate research, and field-based courses.
 - Provide a facility, with space, equipment, and technical assistance, for use by project design teams.
 - Provide expert assistance to students and faculty in effective team management.
 - Provide expert assistance to student project teams and student researchers in technical and professional communications.
 - Provide support for at least 100 undergraduate research projects per year.
4. Enhance the focus of the curriculum on societal, ethical, and environmental impacts of engineering and science.
 - Fully implement the program in Engineering History and Ethics enabled by the Bovay endowments, such that consideration of engineering ethics and social responsibility are distributed across the curriculum.
 - Integrate biological and earth sciences into the engineering curriculum.
 - Increase the number of service-oriented design team opportunities available to undergraduate and Master of Engineering students.
 - Provide summer faculty salary and/or semester-long reduced teaching loads for engineering college faculty to develop service-oriented programs and design modules for courses in engineering majors.
 - Increase to 10% (from approximately 2%) the number of Engineering College undergraduates who participate in an international experience as part of their Cornell education
5. Better position the College of Engineering within the university and within the State by becoming a more integral part of Cornell's undergraduate education. Demonstrate through actions and communications that our engineering education is of value to the other colleges through its contributions to social and business enhancement at the local, state, and global scales. Contribute to the preparation of students from the other colleges to be responsible stewards of a world of rapid technological change.
 - Develop and offer annually one “introduction to engineering for the non-engineer” course, designed for large enrollment.
 - Develop two or more topical courses aimed at small enrollments strictly from other colleges. Treat these courses as respected parts of a standard teaching load and promotion package for participating faculty.

6. Manage the overall workload of the faculty to provide ample time for them to be in the classrooms, laboratories, and project rooms with our students and to conduct research, while maintaining a reasonable work schedule.
 - Increase the ratio of faculty to students to at least 1:12.
 - Increase student access to faculty mentors, advisors, and teachers.
 - Employ more Information Technology experts to assist faculty and staff.
 - Substantially increase the total number of technical staff employed in the college who assist faculty to deliver laboratory and out-of-classroom education.

7. Provide a work environment that allows professional staff to focus on supporting students.
 - Set realistic expectations for the services the college provides.
 - Locate College Administrative staff and central college educational units in a single building, so that staff-directed program activities can be smoothly coordinated and students can easily access central services.
 - Work with administrative units across the College and University to standardize administrative functions and forms, such that increased staff time may be devoted to programmatic support of students and faculty and less time devoted to transformations of functions across systems.
 - Provide staff with meaningful professional development opportunities on an annual basis.

Note: Although accomplishing some of these goals is not fully within the control of Undergraduate Programs and Student Services, they are included because they are necessary to meet the overall goal of improving the educational experience of undergraduate students in the College of Engineering.