

Strategic Plan

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February 15, 2006

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Preamble:

Relationship of the Russ College Strategic Plan to Vision Ohio, Ohio University's Strategic Plan

Russ College leadership and faculty are very supportive of Vision Ohio. The vision, mission, core values, and guiding principles are all appropriate and consistent with those of the college. The academic, diversity, environmental, infrastructure, and national prominence goals are consistent with those of the college. Because of the Russ College's capacity and expertise, it can contribute most toward the academic, diversity, and national prominence goals. In addition, the College is particularly supportive of the goals to implement an accountability-driven budget allocation process and to implement enrollment management in contrast to simply admissions-based enrollment planning.

The Russ College's strategic plan is very well aligned with Vision Ohio. Although the university's strategic plan is aspirational and will certainly present challenges, those challenges are appropriate and realistic, given the enrollment management and budget allocation goals of Vision Ohio.

Undergraduate Academic Goals

The Russ College is committed to improving the intellectual experience of its students, with special emphasis on the freshman and sophomore classes and the advising of these students. Indeed, many aspects of the proposed new Integrated Learning and Research Facility will engage these students intellectually in what is already, at upper levels, an inquiry-based experience with significant support and opportunities for out-of-classroom experiences. The Russ College supports more than 20 active student organizations, including leadership groups such as the Stocker Scholars (at the first-year level); the Engineering Ambassadors (at the upperclass level); professional organizations in all departments/schools; honoraries in most areas; diversity-oriented organizations such as the Society of Women Engineers, the National Society of Black Engineers, and the Society for Hispanic Professional Engineers; and service-oriented organizations such as Engineers Without Borders. The dean has recognized the importance of these organizations by establishing a major fund-raising initiative for a Russ College Student Activities Endowment. The College has also begun to reorganize its historical Tier III offerings

to develop a two- or three- course sequence of courses in public policy, the impact of technology on society, and the role of engineers and technologists in the formation of long-term national energy policy and other issues of public interest in which technological expertise must be considered.

Graduate Education and Research Academic Goals

The Russ College has a long history of graduate education in engineering and computer science. Existing programs support professional development at the master's level, and research and academic professional careers at the doctoral level. Proposed new programs in biomedical engineering (master's), civil engineering (doctoral), mechanical engineering (doctoral), computer science (doctoral) and engineering management (master's) support several of the university's proposed areas of selective investment. Biomedical engineering supports health and wellness and new technologies. Mechanical engineering and chemical engineering (with its existing Ph.D. program) support the area of energy and the environment. Civil engineering supports the area of economic development via infrastructure studies and research. The College, even with a funding level of \$188,000 per faculty member per year, still has capacity for increased sponsored research, especially in the areas of bioengineering, energy and the environment, and smart and innovative civil infrastructure. (In support of bioengineering, the Department of Chemical Engineering is changing its name to the Department of Chemical and Biomolecular Engineering, two or three faculty members in this area are to be added in the next two years, and a bioengineering endowment of the magnitude of the Stocker endowment is expected within the next few years.) The college is already collaborative in its research efforts, performing most of its activity via collaborative centers such as the Avionics Engineering Center, the Institute for Sustainable Energy and the Environment (and its constituent centers), the Institute for Corrosion and Multiphase Technology, and the Ohio Research Institute for Transportation and the Environment. In total, the college operates 10 centers or institutes and generates \$15M per year in external awards, about 95% of which is research funding. An immediate (five year) goal is to increase the total external funding to \$20M per year.

Publications and other scholarly accomplishments can be dramatically improved. Currently, a new faculty workload policy is being developed. The College expects the results to be a two or three-fold increase in quality publications, with a commensurate increase in national prominence.

Faculty, Staff, and Student Quality and Diversity

Faculty and student diversity will be a major challenge for the Russ College – but the issue must be addressed successfully. In addition to the moral obligation of a public university to represent the makeup of the general population, the student population of engineering in particular must reflect the nation's population in order to produce enough graduates for the state and nation to compete in today's global environment. The greatest area of opportunity is women faculty and students. The College's goal will be to achieve to 20% ranking in female enrollment and as much parity as possible in faculty hires, given the national production of women Ph.D. graduates in engineering. The Associate Dean for Research and Graduate studies will also

develop a program, working with the new Office of Faculty and Staff Development, to mentor faculty to national prominence, which is measured most appropriately in the Russ College by the achievement of high rank in professional organizations (fellow grade) and membership in the National Academy of Engineering. The college also intends to improve the quality of its students; however, our advisory boards have noted that the quality of our students is higher than their scores on college entrance tests would indicate. Thus, the college, in cooperation with its external constituents, will pursue other, more effective, measures of student quality. The Associate Dean for Academics will lead efforts to devise recruiting plans to ensure enrollment of highly qualified students. To these ends, and to improve retention and increase enrollment, all student services now report directly to the Associate Dean for Academics.

Environment Goals

The environment goals of Vision Ohio are perfectly aligned with the goals of the Russ College's participation in the Integrated Learning and Research Facility. The facility will encourage collaborative work and interaction among faculty, students, and staff, and will provide an important venue for collaboration with the community as well. Programming for public areas of the building will be developed to introduce students to the wider issues of technology: impact on society, ethical issues, and the profession's obligations to improve the quality of life via the solution of problems concerning underserved populations.

Infrastructure Goals

The Russ College supports the budget planning and allocation changes proposed in Vision Ohio. While it is currently unclear what the immediate financial implications will be for any college, the Russ College welcomes enhanced control over strategic decision-making and the challenge of ensuring the college is a productive part of Ohio University. The college also welcomes the institution of enrollment management and planning, as we believe the lack of response to changing demographics in geographic areas traditionally targeted by the previous management of the Admissions Office has significantly skewed the demand for engineering and technology programs overall, as well as the distribution of majors within the college.

The College has impatiently awaited information technology improvements in support of administrative and academic functions; therefore, we support greatly accelerated development of such systems. It is difficult to envision meeting the goals of Vision Ohio without significant efficiencies gained through cost-effective, efficient, and reliable software systems.

Enhancing National Prominence Goals

As previously mentioned, the Russ College will develop a program to achieve high professional ranking of its faculty and staff (when appropriate). The College will also appoint a liaison with the Office of Nationally Competitive Awards to encourage highly qualified students to apply for national awards. In addition, the College will continue to support and enhance students participation in design and other competitions. The College will also continue its already intensive efforts to publicize its accomplishments via all available media.

Russ College Strategic Plan

Definitions

Purpose – A general statement that differentiates the Russ College from other colleges and indicates our function and constituencies.

Vision – How things will look when we get where we want to be, ten or more years in the future.

Mission – A specific statement that reveals our sustainable competitive advantages and the unique characteristics of what we do best.

Objectives – Specific elements of the vision, realization of which indicates progress towards our vision.

Russ College Strategic Plan

Purpose: To educate well-rounded engineering and technology leaders, create and expand engineering and technology knowledge, support the engineering and technology professions and serve as a technical resource for public concerns.

Vision: Nationally, the Russ College will be a top choice for students, faculty, and prospective employers of graduates and recognized for its world-class research and scholarly activities in several areas.

Mission:

- **Education:** To provide a learner-centered education, producing graduates who are ready to succeed professionally and contribute to the betterment of our world.
- **Research/scholarship:** To produce focused, collaborative research and scholarship in select areas of strengths.
- **Service:** To contribute to the engineering and technology professions and to serve as a technical resource in matters of concern to the public.

Objectives:

- **Education:** The learner-centered education provided by the Russ College will employ both curricular requirements and extracurricular opportunities. Small class sizes, active learning strategies, and easy access to instructors outside the classroom will facilitate student-faculty and student-student interactions. The college will support and emphasize student participation in research experiences, engineering design projects, co-op assignments, and professional society activities. Graduates will have learned how to learn, will have strong communication and multidisciplinary collaboration skills, and will understand the need to continue their professional development. They will be prepared to contribute to the betterment of the world because they will have learned how engineering solutions fit within cultural and ethical contexts.
- **Research/scholarship:** The Russ College will maintain excellence in avionics and its other areas of strength and will build excellence in the research and scholarship areas of smart civil infrastructures, bioengineering, and energy and the environment. Program quality will be improved by adding Ph.D. degrees in civil engineering, mechanical engineering, and computer science; and by adding a M.S. degree in biomedical engineering.
- **Service:** Faculty and alumni will have an awareness of the social and political implications of engineering and technology; will serve as advisors to government officials and help shape public policy; will assist in technology assessment and management, especially within the southeastern Ohio region; and will participate in and support engineering and technology professional societies.

Goals and Action Plans:

Research

Goal 1: Increase sponsored research and other external sources of funding to a per faculty member per year level consistent with our peer institutions.

Action 1.1 Institute a finalized version of the “Draft Faculty Workload Policy” of the Chairs/Directors Working Groups

Action 1.2 Implement the actions recommended by the Graduate Enrollment Strategy Working Group

Action 1.3 Aggressively pursue approval for doctoral programs in CE, ME, and CS

Action 1.4 Educate faculty about, and encourage participation in, the government relations processes and procedures

Action 1.5 Foster a greater presence of research faculty, research engineers, and post-doctoral researchers

Action 1.6 Reward successful faculty via merit raises, bonuses, and promotion.

Goal 2: Improve national rankings of graduate programs, in particular those of USN&WR and the National Research Council

Action 2.1 Communicate our successes to the engineering community in a timely and professional fashion.

Action 2.2 Ensure completeness, accuracy, and consistency of responses to surveys used for ranking purposes.

Action 2.4 Prepare graduates for employment at high quality institutions of higher learning

Action 2.5 Support students and faculty applying for national awards, the elevation of faculty to high rank in professional societies, and the election of faculty to the National Academies

Goal 3: Increase diversity and quality of the graduate student population

Action 3.1 Develop and implement effective strategies for graduate student recruiting

Action 3.2 Develop information systems that seamlessly integrate faculty into the graduate admissions process

Goal 4: Upgrade research infrastructure and space allocation using a metric-driven allocation procedure (e.g., the report of the Space Allocation Working Group) to provide the fundamental support to selected areas of excellence.

Educational

Goal 5: Increase the deployment of active learning strategies in the Russ College

Action 5.1 Reward the development and deployment of effective and engaging educational methods via modifications of merit raise procedures and promotion and tenure requirements.

Action 5.2 Reward and facilitate the involvement of undergraduate students in research

Goal 6: Improve graduates' readiness to participate in the global economy.

Action 6.1 Support college efforts to develop or expand course offerings in the areas of Technology and Public Policy, The Cultural and Ethical Implications of Technology, and The Economy and Technology

Action 6.2 Support service learning, including Engineers without Borders and senior design projects that address service to our constituents.

Action 6.3 Develop and support appropriate orientation and development programs for students, faculty, and staff that lead to an increased understanding of the importance of diversity and justice.

Service

Goal 7: Improve participation of faculty, alumni, and students in the public discourse.

Action 7.1 Use the resources of the Stocker and Kennedy Lecture Series to recruit and nominate speakers of national prominence and impact.

Action 7.2 Pursue the establishment of a regular "public forum" during which students and faculty discuss current issues of importance to the profession and the community in order to enhance interest in the public decision making process and educate the community to intelligently participate in the political process.

Goal 8: Increase participation of faculty in professional service

Action 8.1 Encourage (via the merit raise process and the promotion and tenure process) faculty participation in professional societies, especially in leadership roles.

Action 8.2 Encourage (via the merit raise process and the promotion and tenure process) faculty participation on review panels of federal funding agencies.