OGDEN COLLEGE OF SCIENCE AND ENGINEERING
STRATEGIC PLAN for 2011-2016

A. VISION
Ogden College of Science and Engineering is recognized by the high quality and success of its students and graduates that result from personal attention to student professional development through engagement with faculty in projects that expand on classroom instruction.

B. MISSION
It is the purpose of Ogden College of Science and Engineering to create an academic environment of rigor and achievement, to cultivate a community of scholars, and to enhance interconnections among the disciplines.

Ogden College of Science and Engineering faculty provide a student-centered learning environment that:

• attracts students who aspire to excel
• nurtures students to persist and to achieve
• prepares nationally and globally competitive graduates actively sought by graduate programs, professional schools and employers
• provides a foundation and opportunities for life-long learning and adaptation to a changing world
• cultivates a scientific literacy in the general population
• instills a problem solving capability in our college graduates

Ogden College of Science and Engineering faculty conduct basic and applied research and other forms of scholarship in support of:

• student-centered experiential learning
• development of new knowledge in the disciplines represented in the college
• application of existing knowledge to contemporary problems found regionally, nationally and globally
• development of innovative and efficient use of modern instructional technology and pedagogical improvement
• regional economic development and quality of life

Ogden College of Science and Engineering faculty, staff, and students professionally serve:

• the University, through participation on committees, task forces and study groups
• P-16, through teacher preparation, collaboration, and outreach initiatives
• the worldwide community, through service on boards, task forces, focus groups and individual consulting
• industry and governmental agencies, through collaboration and consulting
• the professions representative of disciplines within the college
C. STRATEGIC PLAN

The Strategic Plan for Ogden College of Science and Engineering (OCSE) is consistent with the University Strategic Guide and specifically addresses components from the focus area of Academic Quality. The OCSE plan also addresses the five questions posed by the Council on Postsecondary Education (CPE).

Goal 1. Enrollment management with a focus on quality

Addresses these CPE key indicators of progress:

- “College Readiness: More high school graduates and working age adults entering college will be prepared for credit bearing work.”
- “Student Success: More Kentuckians will complete college prepared for graduate study or a career with the skills to be productive, engaged citizens.”

Challenges:

- Provide adequate space and facilities to recruit, retain, and educate students
- Enhance instructional budgets
- Provide scholarships that help recruit talented students

Trends:

- House Bill 160, an act relating to the establishment of common undergraduate college course credits for transfer and awarding of degrees, will enact changes starting with the 2012-2013 academic year impacting total student credit hours allowed within degree programs and alignment and transfer of course credits among Kentucky public postsecondary institutions.
- Senate Bill 1, an act relating to student assessment, will enact changes starting with the 2011-2012 academic year impacting multiple levels of student assessment, academic content standards, and accountability reporting for primary and secondary education and student preparation for entering post-secondary institutions.
- State budget for post-secondary institutions continues to be insufficient to support the level of growth requested by the Kentucky Council on Postsecondary Education.
- Discipline-related job opportunities are presently limited in Kentucky for students in science, technology, engineering, and mathematics (STEM) programs.
- High quality students desiring to enter the P-12 teaching profession must be recruited for STEM disciplines.
- Fewer students are entering STEM programs.
- Women and minority students continue to be underrepresented in STEM disciplines.

Objective A: Aggressively market OCSE baccalaureate programs to increase the number of talented students who apply and enroll as first-time, full-time freshmen and graduate within 6 years.

Performance Indicator 1A: Develop cutting-edge marketing materials online (Facebook, YouTube, e.g.) to extol the excitement of our programs

Measurement: List and descriptions of online marketing materials. Links provided, where applicable. Include any appropriate data on recruitment/retention/graduation rates of students introduced to OCSE through these sites.
**Performance Indicator 2A:** Place articles and press releases in trade journals to increase awareness of our programs

*Measurement:* List and descriptions of articles and press releases. Copies/links provided, where applicable.

**Performance Indicator 3A:** Initiate Ambassador’s Clubs of undergraduate students to lead campus tours and participate in on- and off-campus recruitment events

*Measurement:* Outline of program plan, including information on start date, numbers of students, and events. Include any appropriate data on recruitment/retention/graduation rates of students associated with the program.

Objective B: Offer a contemporary, relevant, and challenging curriculum that attracts new majors into the College.

**Performance Indicator 1B:** Include a marketing and recruitment component in introductory courses designed to attract new majors through their general education experiences

*Measurement:* Outline of general plan for introductory courses. Descriptions of how the plan is implemented in classrooms. Include any appropriate data on recruitment.

**Performance Indicator 2B:** Direct exploratory science students into majors appropriate for each student through advisement

*Measurement:* Description of proper channels through which undeclared students pass in order to facilitate appropriate advising. Include data on undeclared student numbers.

**Performance Indicator 3B:** Monitor enrollment/retention/graduation rates for new programs created in OCSE

*Measurement:* List and descriptions of programs created in the past 5 years. Include student enrollment numbers, trends, and retention/graduation data, as relevant.

Objective C: Use SKyTeach to market programs and increase majors.

**Performance Indicator 1C:** Enlist SKyTeach students to participate in major recruitment events

*Measurement:* Data on numbers of SKyTeach students involved in recruitment events. Include lists of events and any appropriate data on recruitment.

**Performance Indicator 2C:** Enlist SKyTeach students to assist in outreach events (Science Olympiad, Girls in Science Day, Super Saturdays, e.g.)

*Measurement:* Data on numbers of SKyTeach students involved in recruitment events. Include lists of events and any appropriate data on impact/recruitment.

Objective D: Enhance Retention and Graduation Rates

**Performance Indicator 1D:** Analyze curricula for bottleneck courses and explore and determine how to increase student success without sacrificing high academic expectations

*Measurement:* Determine the reduction in the number of bottleneck courses and its impact on retention and graduation rates.

**Performance Indicator 2D:** Hire staff specifically for advising during ATP’s and for perfunctory changes to student schedules.

*Measurement:* Determine if the yield during ATP sessions is greater than a baseline number.
**Goal 2. Strengthen the graduate program**

Addresses these CPE key indicators of progress:

- “Research and Economic Competitiveness: Kentucky will attract new research investments, produce degrees that grow the economy, and improve the educational attainment of its workforce.”
- “Efficiency and Innovation: Kentucky’s colleges and universities will serve more students at high quality to meet the needs of the Commonwealth in an environment of constrained resources.”

Challenges:

- Increase graduate funding for stipends
- Institute graduate tuition waivers

Trends:

- STEM content area degree programs are necessary in P-12 education at the graduate level.

**Objective A: Provide a living wage for graduate students**

**Performance Indicator 1A:** Offer competitive stipends tied to academic quality  
*Measurement:* List of benchmark institutions and their stipends. Data on current stipends at WKU and projected needs to meet benchmark levels.  
*Measurement:* Data on graduate student productivity (lists of theses, academic presentations, etc.), for those receiving stipends.

**Performance Indicator 2A:** Provide full tuition waivers for all graduate students  
*Measurement:* Data on current waivers for graduate students. Projected needs to meet full tuition waivers.

**Performance Indicator 3A:** Seek external funding in support of graduate students.  
*Measurement:* Data on current external support for graduate students compared with what is generated in the future.

**Objective B:** Offer graduate programs to meet the needs of mathematics and science teachers in the Commonwealth and promote increased preparation of these teachers in their content areas.

**Performance Indicator 1B:** Establish a graduate version of SKyTeach  
*Measurement:* Description of graduate SKyTeach program. Include indicators of enrollment and impact.

**Goal 3: Increased focus on funding and endowments**

Addresses these CPE key indicators of progress:

- “Efficiency and Innovation: Kentucky’s colleges and universities will serve more students at high quality to meet the needs of the Commonwealth in an environment of constrained resources.”

Challenges:
• Improve communication and cooperation between individual programs and the Office of Development and Alumni Relations

Trends:
• Total funding from the state has been dropping; funding is now down to 18.6% (fiscal year 2010-2011) of the University’s total budget.
• Due to the current state of the economy, the trend in giving is toward planned gifts, which are more beneficial to future, rather than present, needs of the College.

Objective A: Establish endowments (departmental and college level), in addition to fully-endowed professorships/chairs, that provide funds for faculty development, supplement operating budgets, support student academic activities, support facilities improvements and the purchase of instructional equipment.

Performance Indicator 1A: Increase endowment support of SKyTeach
Measurement: Current funding levels and projected needs for future funding.

Performance Indicator 2A: Encourage business and industry to establish professorships and scholarships through corporate affiliate partnerships
Measurement: List and descriptions of partnerships. Include information and data on direct/indirect positive impacts from each partnership.

Performance Indicator 3A: Put together an inventory of laboratories and rooms for naming rights
Measurement: List, from each department, of potential named laboratories and rooms.

Objective B: Involve more external constituents, alumni, and future alumni in the activities of the College and create follow-through with the Office of Development and Alumni Relations to encourage giving.

Performance Indicator 1B: Secure scholarship funding from alumni
Measurement: Current funding levels and projected future needs matched with expectations.

Performance Indicator 2B: Increase President’s Circle membership
Measurement: Current membership level and data on annual increases.

Performance Indicator 3B: Help Alumni Relations track alumni of our majors’ programs.
Measurement: Lists of alumni information from each program.

Objective C: Increase the number and size of grants and contracts.

Performance Indicator 1C: Seek more funding through corporations and foundations involving ARTP Centers.
Measurement: Compare baseline data with dollars that are received from corporations and foundations.

Performance Indicator 2C: Work collaboratively to submit and secure more federal agency grants.
Measurement: Comparison of future funding with baseline level.

Goal 4: Engage students beyond the classroom
Addresses these CPE key indicators of progress:

- “Student Success: More Kentuckians will complete college prepared for graduate study or a career with the skills to be productive, engaged citizens.”
- “Research and Economic Competitiveness: Kentucky will attract new research investments, produce degrees that grow the economy, and improve the educational attainment of its workforce.”

Challenges:

- Provide appropriate travel budgets for faculty to attend meetings and stay abreast of advances in their disciplines
- Seek start-up funding for both teaching and research for new faculty members
- Reduce teaching loads to broaden instructional innovation, research, and outreach efforts by faculty
- Improve library resources

Trends:

- State funding is not sufficient to cover maintenance and repair of instructional and research equipment to engage students.
- Faculty participation in professional development activities cannot occur at the level desired with prohibitive cost to individual participants.

Objective A: Strengthen the undergraduate research program.

**Performance Indicator 1A:** Establish a summer undergraduate research fund

*Measurement:* Description of fund. Include projections for student numbers and impact.

**Performance Indicator 2A:** Link student research more directly with Applied Research and Technology Program (ARTP) centers and projects in the Central Region Innovation and Commercialization Center (CRICCC)

*Measurement:* Data on numbers of students involved in centers. Include lists and descriptions of projects and any appropriate data on impact.

**Performance Indicator 3A:** Increase the already high level of student participation in undergraduate research or project-based learning and monitor outcomes in the form of presentations at meetings, reports, honors theses, publications, and placements in regional and national competitions each year

*Measurement:* Data on numbers of students involved in research and project-based learning. Include lists and descriptions of projects, presentations, papers, and publications, and data on impact.

Objective B: Provide students with expanded opportunities beyond the classroom for research, service, or service learning experiences.

**Performance Indicator 1B:** Create a budget line-item to support field studies, study abroad, study away, e.g.

*Measurement:* Show line-item in budget to fund opportunities outside the classroom.

**Performance Indicator 2B:** Facilitate student involvement in internships and cooperative education opportunities
Measurement: Data on numbers of students involved in internships and cooperative education experiences. Include lists and descriptions of projects, and student outcomes.

Performance Indicator 3B: Expand and strengthen relationships with external constituents
Measurement: Data on trends in constituent relationships (lists of partnerships, donations, student involvement numbers, ongoing and completed projects, etc.).

Objective C: Support faculty research/creative activities that seek to provide experiential learning for students and in-service teachers, modern equipment for use in instruction, or external funding through meritorious technical proposals.

Performance Indicator 1C: Expand cooperation with projects in the CRICC and ARTP
Measurement: List and descriptions of faculty/student/classroom/teacher involvement with projects in CRICC and ARTP.

Performance Indicator 2C: Invest in capital and research equipment for the college
Measurement: Data on provided funding and equipment obtained for OCSE.

Performance Indicator 3C: Target high-end computing and analytical equipment to make OCSE competitive in seeking funds
Measurement: Data on computing/equipment needs and projected use and outcomes.

Performance Indicator 4C: Develop holistic and meaningful student credit hour (SCH) budgets for faculty to account for program uniqueness
Measurement: Documents of new evaluation criteria for faculty/SCH budgets.

Performance Indicator 5C: Develop external, interdepartmental, and OCSE relationships that will make it easier to gain critical mass to find and pursue funding opportunities
Measurement: Lists and data on existing and new relationships, the funding opportunities sought, and information on successes/failures.

D. BACKGROUND INFORMATION

The Applied Research and Technology Program (ARTP) provides a forum for collaboration among faculty representing various disciplines. The ARTP provides hands-on learning for students while providing technical assistance to local industries and governmental agencies. These efforts are aimed at producing graduates ready to be practitioners in their disciplines while contributing to growth of Kentucky’s economy and improvement in the quality of life.

SKyTeach is a STEM discipline teacher preparation program. Western Kentucky University’s SKyTeach is a replication for the UTeach program from the University of Texas at Austin. The goal of the program is to increase the number of highly qualified science, technology, engineering, and mathematics (STEM) teachers nationwide.

The Central Region Innovation and Commercialization Center (CRICC) and WKU Center for Research and Development provides critical infrastructure required to create, grow, recruit, and retain scalable science and technology companies in our region. The Center provides a synergistic environment for WKU faculty, students, and the entrepreneurs focusing on research and development.