Strategic Plan

2014-2020

Strategic Planning at The Ohio State University
Supporting Faculty, Students, and the Structures that Foster their Success

Ohio State's future will be defined and driven by an unwavering commitment to our faculty, students and the structures—physical, administrative, curricular, and financial—that will foster their success. Such a commitment is founded in the overarching principles of the institution's vision, mission, values, and core goals.

VISION

The Ohio State University is the model 21st-century public, land grant, research, urban, community engaged institution.

MISSION

The University is dedicated to:
- Creating and discovering knowledge to improve the well-being of our state, regional, national and global communities;
- Educating students through a comprehensive array of distinguished academic programs;
- Preparing a diverse student body to be leaders and engaged citizens;
- Fostering a culture of engagement and service.

We understand that diversity and inclusion are essential components of our excellence.

VALUES

Shared values are the commitments made by the University community in how we conduct our work. At The Ohio State University we value:
- Excellence
- Diversity in people and of ideas
- Inclusion
- Access and affordability
- Innovation
- Collaboration and multidisciplinary endeavor
- Integrity, transparency, and trust

CORE GOALS

Four institution-wide goals are fundamental to the University's vision, mission and future success:

Teaching and Learning: to provide an unsurpassed, student-centered learning experience led by engaged world-class faculty and staff, and enhanced by a globally diverse student body.

Research and Innovation: to create distinctive and internationally recognized contributions to the advancement of fundamental knowledge and scholarship and toward solutions of the world's most pressing problems.

Outreach and Engagement: to advance a culture of engagement and collaboration involving the exchange of knowledge and resources in a context of reciprocity with the citizens and institutions of Ohio, the nation, and the world.

Resource Stewardship: to be an affordable public university, recognized for financial sustainability, unparalleled management of human and physical resources, and operational efficiency and effectiveness.

Mission

We create, transfer and preserve knowledge in the disciplines of engineering and architecture for the purpose of enhancing economic competitiveness regionally, nationally and globally.

Vision

We aspire to be the leader in engineering and architecture education among public universities by creating fundamental and practical knowledge and by preparing professionals ready to sustain and advance our society.

Foundations

This strategy document draws upon several reports that were prepared or reviewed by the College's Executive committee over the past 3 years:

- The College of Engineering Strategic Plan 2011 - 2016

- Enrollment Management in the College of Engineering, Report of the Enrollment Management Planning Group, October 14, 2012

- College of Engineering Ranking Task Force Report, September 12, 2012

- Rankings Task Force Report - Priority Recommendations from the Rankings Task Force Review, February 14, 2013

- E-learning Task Force within the College of Engineering, February 23, 2013.

This strategy document, which is intended to be a working document for audiences in and close to the college, serves as a foundation for an outward facing document intended for a broad range of external constituents known as the *College of Engineering Decadal Strategy 2010 – 2020.*

Strategic Objectives

- Restore upward movement of the College in the graduate rankings and maintain upward movement in the undergraduate rankings

Education and Career Development

- Build on our strength in experiential learning to establish national leadership in this area for Ohio State

- Extend the scope and enhance the impact of our educational programs through use of technology and distance learning and be recognized as a leader in this area

- Transform the Engineering Education Innovation Center to a formal administrative unit within the college

- Partner across the university to bring forward new academic programs, such as those in data analytics and integrated business and engineering that prepare graduates for modern professional practice.

Research

- Adapt to fundamental changes in the federal funding landscape to ensure stability of the College's long-term research expenditure growth—and the relevance and impact of its research programs.

- Develop and stabilize emerging interdisciplinary research institutes and centers aligned with university and college strategic research growth areas, including discovery themes, aerospace, engineering for medicine, manufacturing, materials characterization, simulation, transportation and water.

- Establish and grow a proposal center to enhance success in winning large scale funding.

Faculty and Facilities

- Capitalize fully on the University's Discovery Themes initiatives to grow the College faculty and develop formal linkages across the university through joint appointments and joint initiatives

- Modernize facilities to support the College's research and education missions

Diversity

- Change the culture and climate within the college by recruiting and retention strategies that grow robust, diverse and integrated communities of faculty, staff, and students

Advancement

- Exceed the College's But for Ohio State Campaign fundraising goal of $350 million

Background and Current Conditions

Increased demands for engineers nationally and internationally.

Our nation and our world are more dependent on technology than ever. The current needs for food, water, energy and information could not be satisfied without the technological advances made possible by the engineering disciplines. Sustainable growth of our global society is dependent on the quality and quantity of engineering talent produced by national and international university systems.

Increased undergraduate enrollments.

Enrollments in engineering across the U.S. have increased significantly since 2008. Enrollment growth has been driven by concerns of shortage in engineering talent, decreased desirability of other competing professional degrees, and in the case of universities like Ohio State, favorable return on educational investment. At Ohio State, these factors combined with internal admissions policy decisions have led to first year engineering enrollments increases of 65% over the period of 2008 to 2013.

Globalization of engineering.

Science and engineering are international endeavors. Our students must be prepared for the international dimension of the profession they are training for.

Diversity.

Diversity in culture, ethnicity and background are essential for the health of the engineering disciplines. The demand for engineering talent is so strong that it cannot be satisfied without the fullest participation. Diversity in the environments where teaching and research occurs is essential to ensure that the knowledge created and the students produced are relevant and connected to our society.

Changing resource streams.

Corporate research and private philanthropy among other sources have become increasingly important revenue streams as traditional funding sources have declined. At OSU, state support has dropped to 15% of annual expenditures. Federal funding of research and educational programs has been flat or declining for more than a decade. Revenues from tuition and fees are also flat and budgetary growth is severely constrained at a time where

both enrollments and the needs for enabling research and development are surging. Today, debt financing, asset monetization, private sector funding and philanthropy stand alongside state and federal subsidy, grant writing and contract research as primary modes for sustaining the academic and research programs. This change requires a broad range of adaptations in thinking, deployment and action in order to create revenue streams to support ambitious research and education missions.

Oversight and accountability.

As a public institution and as the State's flagship institution of higher learning, Ohio State is subject to a high level of public scrutiny and accountability. We must be transparent stewards of the financial resources allocated to us. We must safeguard sensitive information entrusted to us. We must be fair to our faculty and staff in all matters of their employment. We should reward and recognize excellence in all the ways that we can. We must protect the interests of our students at a sensitive time in their professional and personal development and keep foremost in our thinking that we are training our future colleagues.

Distinguishing areas of strength.

Engineering at Ohio State has distinguishing strengths that are connected to the regional economy, our historical legacy and reputation, our size and our position within a massive comprehensive research university. In determining directions for strategic investment, we must build from these strengths. Our best recruitments, whether they be faculty and staff recruitments, resource recruitments or gift recruitments will be made by building from our

strengths. At the present time, we claim as strengths: transportation, materials, sensing systems, aerospace, and engineering for health.

New modes of teaching and learning.

The centuries-old model for creating learning communities by aggregating teachers and learners in the same place at the same time is now being extended in our massively connected electronic world. High-bandwidth communications, data storage and rendering that span the globe allow us to port the traditional classroom experience across distance and time. This enables us to reach new kinds of students and develop educational programs that go far beyond traditional degree programs. Individually tailored education, asynchronous education, professional education, outreach and engagement are just a few of the areas that could benefit.

Education for Career Development

Goal:

Provide a world-class undergraduate engineering and architecture education maintaining our stature as a top-ten producer of BS engineering degrees.

STRATEGY	METRIC
Deploy world-leading first-year engineering programs and continuously innovate major curricula.	Maintain leading presence at First-Year Engineering Conference, ASEE and other appropriate conferences. Curricula continuously accredited.
Enable experiential learning across the 4-year curriculum.	All undergraduates in COE and KSA will participate in one or more of the following: study abroad, research, student organizations, competitive project teams, outreach.
Recruit a high quality diverse student body.	Maintain quality measures of new engineering students (Middle 50% ACT Composite 28-32). Improve diversity measures to be at or above median of peer group.
Build new external partnerships to enable rapid integration of students into engineering careers.	More than 1800 companies recruiting students. (Current = 1500)
Hire and develop the best teachers in the country.	5 Major teaching awards or recognitions per year.

Goal:

Produce graduates with advanced degrees who become national and international leaders in their field.

STRATEGY	METRIC
Achieve a Grad/Undergrad student ratio (or a grad student population) that matches our peer group.	Ratio of Graduate/Undergraduate engineering enrollment is at or above median of peer group.
Provide information and experiences that prepare students for the job search process and the transition to the workplace.	65% of graduate students registered with ECS (Current = 50%)
Increase support and professional development for graduate students.	80% of graduate students participate in professional development activities.
Collaborate with advancement on fundraising campaigns aimed at graduate student support; increase the number and competitiveness of OSU students applying for externally-funded fellowships.	Increase the number of graduate students supported by fellowships from 120 to 150.

Goal:

For professional education, develop a portfolio of professional education programs that create a positive revenue stream for the college.

STRATEGY	METRIC
Manage a strategic marketing plan for the MGEL degree that builds awareness of the program and attracts students, in order to reach enrollment goals.	MGEL and Professional Programs are generating revenue for college. Enrollment in MGEL reaches steady state of 45-50 new students per year.
Manage the MGEL so it's delivered with the highest quality, students are very satisfied and refer others to the degree program, utilizing the services of ODEE.	MGEL exit surveys show promotions and salaries of graduates ranking is in the top 25 of US News & World Report online engineering degree programs.
Develop non-credit and certificate programs with revenue sharing agreements for participating college units. Work with the ILO for potential development of customized programs with companies. Engage External Advisory Council for program ideas and curriculum information.	Add five open enrollment or certificate programs.
Work with leaders in the college to develop a new professional master's degree.	Add one new professional master's degree.

Research for Impact

Goal:

Grow signature multidisciplinary research programs through targeted hiring.

STRATEGY	METRIC
Hire and retain research-track faculty aligned with strategic research growth areas.	Number of research faculty hires (Goal =25).
Grow major interdisciplinary research centers with national recognition to be among the best nationally	Number of major research centers (Major defined as 10+ faculty, >$5M research funding, and >50 funded graduate students. (goal=5)

Goal:

Grow the scholarly impact and reputation of the College's research program.

STRATEGY	METRIC
Develop a Proposal Office that improves effectiveness in securing large, center-level research awards.	Number of major research awards ($5M per year).
Increase research expenditures per TT faculty member.	Research expenditures per TT faculty member per year (Goal=$530K)
Increase external and internal financial support for PhD students.	PhD graduates per TT faculty member per year (current=0.5; goal=0.65).
Increase the quality and quantity of scholarly output.	One-time 10% increase in peer reviewed journal publications. OSU research publication rates in the most prestigious venues equal to our aspirational peers.

Goal:

Be a national leader in research for industrial impact.

STRATEGY	METRIC
Develop a program of strategic alliances with strategic industrial partners.	Number of strategic industrial alliances (measured by $1M/year research investment in OSU).
Structure IP-related processes and procedures, and IP terms in industrial research projects, to foster IP creation and commercialization successes from research.	Industrial research expenditures (now=$34.3M; goal = $60M).

Faculty and Facilities that Enable

Goal:

Develop the next generation of great engineering faculty by hiring at the intersection of the College's strategic thrusts, the university's Discovery Themes, and the Global Grand Challenges.

STRATEGY	METRIC
Fully engage the Discovery Themes process to leverage resources for faculty hiring.	Increases the faculty head count 10% by FY19.
Hire and retain research-track faculty aligned with strategic research growth areas.	Faculty investments produce 5 new paired or clustered cross-disciplinary research initiatives.
Hire to faculty targets, emphasizing discovery themes.	25% or more of hiring directly related to the Discovery Themes.
Develop recruiting best practices to attract rising stars and NAE caliber faculty emphasizing recruitment of women and under represented groups.	One successful high-impact senior faculty recruitment per year.
Focus faculty recruitment, development and retention processes on performance that elevates the impact of college's research and education programs.	Strong and sustained increases in research expenditure, graduate program enrollment, PhD graduation rate and research scholarship on a per-FTE basis.

Goal:

Pursue a set of comprehensive facilities and administration plans for the College that can accelerate advancement efforts and enable the mission and vision of its strategic plan.

STRATEGY	METRIC
Organize, align and modernize Aviation Studies, airport operations, aerospace and flight education to create a stable ongoing educational and research programs, support industry engagement and workforce development.	Center for Aviation Studies develops a stable, identifiable faculty core and sustains strong enrollments, and the Airport becomes financially self-sustaining and becomes a recognized pipeline of talent for the aviation industry.
Create a distributed set of industry-grade user facilities to house the Center for Design and Manufacturing Excellence and the Center for Automotive Research (CDME/CAR).	By FY 17 complete renovation and occupation of Area 2000 and industry-quality research spaces in ISE, MAE and MSE. Develop funding commitments for CDME/CAR west campus facility by FY19.
Advance the Materials Corridor facilities plan, consistent with the College's facilities master plan and University Discovery Themes.	Completion of the first phase of construction by FY21.
Create a central campus home for Biomedical Engineering academic and research programs.	Biomedical Engineering Department core located on central campus by FY 21.
Create Office of the CIO in Engineering and realign College IT staff and IT resource delivery.	Create the CIO office by FY15, staff realignment by FY16 and new IT resource management and delivery model by FY17.
Align department and center budgeting processes.	Implement new Research Center budgeting process for FY16 budgets.
Complete renovations and expansion to support the emergence of data analytics education and research programs.	Complete renovations by FY18. Align with Pomerene/Oxley renovation via Discovery Themes.

Diversity and Inclusion for Excellence

Goal:

Increase the number and diversity of students in the pool of college and career-ready K-12 STEM talent in Ohio.

STRATEGY	METRIC
Establish strategic government, private sector, and post-secondary institution partners to engage with selected Ohio school districts.	Establish 5 strong working relationships with partners.
Expand multi-faceted support (financial, experiential learning, advisory) of industry partners in College outreach programs (K-12, WiE, MEP).	Develop a sustained revenue stream that supports all outreach programming.
Proactively engage with K-12 partners to meet their needs in generating engineering career awareness and assisting with pre-engineering academic preparation.	Establish 5 strong working relationships with partners.
Recognize and/or reward exemplary outreach achievements of faculty, staff, and students.	Oversee a competitive annual COE Faculty Outreach award.
Become the recognized effective resource for training and best practices for College of Engineering faculty, staff, and students who engage in outreach.	Supporting monthly requests for assistance; 10% of faculty and staff participating in training programs led by D&O.
Create K-12 programs that inspire, excite, and educate diversity students about careers in engineering.	10% of enrolled students who have participated in OSU K-12 programs.

Goal:

For undergraduate and graduate student populations, create a diverse body of students who are prepared for careers in the global workforce.

STRATEGY	METRIC
Create multiple pipelines by creating strategic partnerships with community colleges, minority serving institutions, and URM feeder institutions.	Establish five working partnerships who measurably increase the percentages of enrolled female and underrepresented minority students in engineering at OSU.
Develop retention programs designed to empower women students.	Measurable increase in first year retention of women students.
Develop retention programs designed to help underrepresented students (including transfer students) succeed.	Measurable increase in first year retention of URM students.
Develop programs to increase the number of graduate applications, particularly from domestic, female, and underrepresented minorities.	Measureable increase in number of applications and admits by diversity students.

Goal:

Provide a comprehensive repertoire of programs to improve recruitment and retention of faculty, especially women and minority faculty.

STRATEGY	METRIC
Recruit a CDIOO and build a strong Diversity, Inclusion and Outreach office.	Representation on local, regional and national committees related to diversity. Recognition by other for on-campus initiatives.
Develop and deploy approaches for generating diverse pools of faculty candidates.	Recurring recognition of accomplishment in recruitment of diverse incoming faculty cohorts.
Create a College-based mentoring system for faculty to aid their successful transition and integration into College academia.	Greater than 95% success in promotion and tenure decisions.

Goal:

Make diversity and inclusion implicit in the OSU engineering faculty, staff, and student experience.

STRATEGY	METRIC
Create affinity groups for faculty and staff	65% or greater high satisfaction rate on work environment on climate surveys
Establish working committees to review and outline strategies based on climate survey results	Develop and implement working plans for undergraduate students, graduate students, and faculty & staff
Provide inclusive classroom training for faculty	65% high student satisfaction oate in student evaluations
Provide diversity training in new faculty orientation.	65% high satisfaction rate on environment collegiality environment in climate survey.

Advancement for Sustained Growth

Goal:

Build the most effective, efficient and engaged advancement team on campus.

STRATEGY	METRIC
Hire only top talent. Clearly define goals and objectives for effective performance management. Reinforce desired behavior through recognition and raises. Survey employee satisfaction.	At least two training opportunities per employee each year. 95% engagement of team (via anonymous survey).
Focus DO efforts on activities with highest ROI. Target mega-gifts. Build pipeline for next campaign. Develop and improve corporate strategy. Raise expectations and awareness for Foundation fundraising.	Sustain $70M annual fundraising activity.

Goal:

Be the best in the country at engaging donors and letting them know of our ambitions, gratitude and commitment to gift stewardship.

STRATEGY	METRIC
Host events with specific goals defined. Segment alumni base for targeted communications and solicitations. Build and maintain participation by volunteers such as advisory board and campaign committee members. Develop speaking opportunities and mentoring programs to increase meaningful engagement with students.	Increase % of alumni giving to CoE by 2% annually (6% now). Other metrics wrapped into communications metrics above (will see how difficult it is to break out alumni vs. non-alumni).
Thank people promptly, provide a Walt Disney experience during any interaction, provide fund reports that are informative and easy to read.	Thank you letters are sent within two days of receipt of gifts. Personalized impact reports sent on or before Oct.1 every year to appropriate level of donors. 99% satisfaction rating on customer surveys.
Broadcast messages in innovative ways. Ensure that stories lead to deeper engagement and giving. Tailor messages and mediums to fit a wide variety of constituents.	550,000 web visits 14,000 opens for Buckeye Engineering emails 6,000 Twitter followers 2,800 Facebook members 8,000 LinkedIn members.

Goal:

Build and sustain public and private partnerships to support the College's research and education ambitions.

STRATEGY	METRIC
Work with Randy Moses and the Department Chairs and Center Directors to identify relevant research or other projects.	Active inventory of projects for which state or federal assistance or coordination would be helpful.
Take CEOs, volunteers to reinforce college message, show bridge-building with business community to get the Dean to the Statehouse and DC to support College priorities	4 visits per year.
Use personal office visits, events, dinners, golf, etc., to establish dialogue and ongoing relationships with decision makers.	A robust portfolio "go-to" contacts and relationships that can be called upon to advance the College's varied interests.

Resource Stewardship

Our goals will be supported by the strategic investment of our resources, including financial resources, human capital and infrastructure.

- The strategic plan is based on focusing our resources on a robust financial plan emphasizing multi-year investments in support of our mission

- We will develop diversified revenue streams and maximize our opportunities to leverage our resources across the College, the University and external collaborations

- We will offer robust mentoring and retention programs for our entire faculty, especially underrepresented minorities

- We will support all faculty and staff through a strong merit-based compensation program and professional development opportunities.

Scorecard

EDUCATION FOR CAREER DEVELOPMENT	2011	2013	2020
Students completing an engineering-related work experience	70%	72%	80%
Courses utilizing e-learning or web-based resources			> 99%
Online degree programs	1	1	4
International learning partnership agreements	15	22	40
Students learning abroad	196	227	200
Six-year undergraduate graduation rate	55.7%*	61.7%**	70%
Degrees Awarded			
• Bachelor's	1106	1294	1400
• Master's	435	490	550
• PhD	122	157	200

RESEARCH FOR IMPACT	2011	2013	2020
Facilities condition index	72%	72%	80%
Faculty size			
• Tenure track	280	277	300
• Research track	7	9	25
• Clinical track	10	21	35
Total research expenditures	$126.9M	$113M	$160M
Industrial research funding	$38.7M	$34.4M	$60M

OUTREACH & ENGAGEMENT	2011	2013	2020
Students completing and internship	70%	72%	80%
Engineering Endowment	$163M	$180M	$250M
Annual Giving	$19M	$23.5M	$35M
Alumni Participation	3.5%	3.5%	12%

DEMOGRAPHIC PROFILE	2011	2013
Tenure track faculty	280	277
Clinical track faculty	10	21
Research track faculty	7	9
Women faculty (all tracks)	52 (17.5%)	57 (18.6%)
Underrepresented minority faculty (all tracks)	13 (4.4%)	13 (14.2%)
Auxiliary faculty	1	26
Staff members	379	393
Undergraduate Students (Major + Pre-Major, Columbus Campus)	7228	8246
• Men	5822	6556
• Women	1406 (19.5%)	1690 (20.4%)
• Underrepresented minority***	526 (7.3%)	591 (7.2%)
Graduate Students	1973	1861
• Men	1533	1389
• Women	440 (22.3%)	472 (25.4%)
• Underrepresented minority***	64 (3.2%)	69 (3.7%)

REPUTATIONAL PROFILE	2011	2013
USNWR Graduate Ranking Among All Universities	30	31
USNWR Undergraduate Ranking Among National Public Universities	17	18
Top 10% ranked programs (Graduate)	0	1
Top 20% ranked programs (Graduate)	4	7
NAE and AAAL members	13	14

*Students who graduated within 6 years by SU11 (2005 cohort). **Students who graduated within 6 years by SU13 (2007 cohort). ***Underrepresented minority students = American Indian/Alaska Native, African American, Hispanic, Native Hawaiian/Pacific Islander.
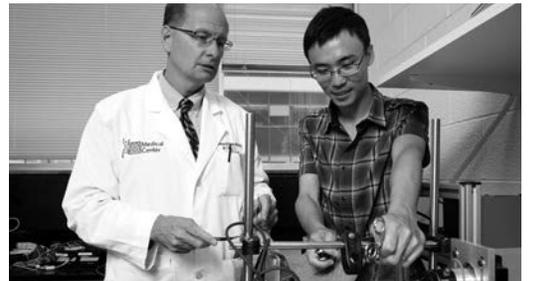
THE OHIO STATE UNIVERSITY

COLLEGE OF ENGINEERING