Penn State College of Engineering Strategic Plan 2026 – 2030

Learn boldly. Build together.
Engineer what's next.

PennState
College of Engineering

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Table of Contents

Message from the Dean

The Penn State College of Engineering Strategic Plan is a comprehensive roadmap articulating how we will advance our mission of engineering excellence through education, research, and service in a rapidly evolving technological, societal, and global context. The plan is intentionally holistic, recognizing that student success, faculty and staff excellence, research leadership, community engagement, and inclusive culture are deeply interconnected and mutually reinforcing.

Our goals, measures, and objectives establish a framework that:

- Guides decision-making, resource allocation, and accountability at the college and department/unit levels
- Enables implementation flexibility as conditions, opportunities, and technologies evolve
- Advances University-level priorities within the context of engineering education, research, and innovation

Through the priorities outlined in our strategic plan, the College of Engineering will serve as both a contributor to and an accelerator of institutional impact, translating University aspirations into discipline-specific strategies and outcomes.

To ensure our goals result in measurable action, we have developed an implementation plan: a living roadmap that will guide annual planning, application, and assessment. Progress will be monitored through defined metrics, periodic review, and continuous feedback. As conditions change—whether through advances in technology, shifts in workforce needs, or evolving student and societal expectations—the plan will be revisited and refined to remain relevant and impactful.

Ultimately, our strategic plan affirms a shared commitment across the college and our stakeholders: to educate and empower engineers, scholars, and leaders; to advance discovery and innovation with meaningful impact; and to serve the Commonwealth, the nation, and the world through excellence in engineering.

Tonya L. Peeples
Harold and Inge Marcus Dean of Engineering
Penn State

About the College of Engineering

The Penn State College of Engineering has grown over its 125-plus-year history into the largest college at the University—and one of the largest engineering colleges in the nation—ranking among the best for undergraduate and graduate education and research impact. With a focus on strengthening the capacity to serve Pennsylvania and the world, the college prioritizes recruiting world-class faculty, expanding access for talented students regardless of financial means, and accelerating breakthrough research from laboratory to marketplace.

Led by Tonya L. Peeples, Harold and Inge Marcus Dean of Engineering, the college network comprises more than 13,000 undergraduate and graduate students, more than 800 faculty and staff, and a global network of more than 106,000 alumni.

As the Penn State college with the most research expenditures ($238M in 2034-24), engineering is a pivotal contributor in powering the University priority of growing interdisciplinary research excellence. Over the past five years, externally funded research expenditures in the college have increased by more than 25 percent, with substantial growth from the National Science Foundation, the Department of Defense, and the Department of Energy. Engineering faculty secure grants and pursue research across a vast spectrum of topics, including artificial intelligence, power generation and storage, smart building systems, robotics, sensors, biodevices, network and systems design, new materials, and countless other areas.

Undergraduates at Penn State University Park choose from more than a dozen engineering majors, along with additional options at Penn State Commonwealth campuses. Students leverage opportunities to participate in experiential learning, engineering research, and study abroad; work in career-building engineering internships and co-ops; network and gain leadership experiences via dozens of engineering-related student organizations; and explore rich educational possibilities that lay the groundwork for a lifetime of career success.

Graduate students choose from more than 40 programs that span 20-plus engineering disciplines, with multiple program types and delivery formats. Our master of science and doctoral offerings prepare students for research-focused roles in academia, industry, government, and other sectors. Residential master of engineering (M.Eng) and online M.Eng. and doctor of engineering programs—along with graduate minor and certificate offerings—help students gain technical and professional skills to enhance marketability to employers and accelerate career growth.

The Penn State College of Engineering combines the scale and resources of a world-class research institution with the accessibility and impact focus of the land-grant mission. Through translational research, the college enables tangible benefits for Pennsylvania and beyond through strategic industry partnerships, technology commercialization, and workforce development. With the combined support of a worldwide alumni network and dedicated industry partners and friends, the college is uniquely positioned to drive cutting-edge innovation and practical economic development, as well as developing versatile leaders who can navigate complexity, drive innovation across industries, and create solutions that matter.

Penn State Strategic Plan

To elevate Penn State's standing as a world-class institution, the University's Strategic Plan will help transform the educational experience for our students, cultivate a welcoming community where everyone feels proud to be a Penn Stater, embolden world-class research, champion health care, and deliver on the promise of the land-grant mission.

The University will advance six priority areas, led by agility, purpose, and opportunity:

- **Goal 1:** Enhancing Student Success
- **Goal 2:** Growing (Inter)disciplinary Research Excellence
- **Goal 3:** Increasing Land-Grant Impact
- **Goal 4:** Fostering Diversity, Equity, Inclusion, and Belonging
- **Goal 5:** Transforming Health Care through Academic and Clinical Synergy
- **Goal 6:** Transforming Internal Operations

The University's priorities serve as a foundational and ongoing consideration in the development of the College of Engineering's strategic plan.

Process

The College of Engineering developed the 2026–2030 strategic plan to shape a vision for engineering excellence. The strategic plan reflects a deliberate, inclusive, and data-informed process that engages stakeholders across the College of Engineering and beyond. This process ensures the plan is grounded in lived experience, responsive to emerging challenges, and aligned with both institutional priorities and external realities.

Key elements of the planning process included:

- Engagement with faculty, staff, students, department heads, center directors, alumni, and external partners through meetings, forums, and targeted discussions
- Review and synthesis of existing plans, assessments, and data, including prior college initiatives, student success metrics, research performance indicators, workforce trends, and climate and engagement feedback
- Cross-cutting working groups and iterative refinement, ensuring coherence across undergraduate and graduate education, research, diversity and inclusion, and land-grant engagement
- Intentional coordination with University leadership and planning frameworks, ensuring alignment and avoiding duplication of effort

Through transparency and collective responsibility, this strategic plan establishes a unified direction for the College. Successful implementation depends on the continued collaboration among departments, units, and stakeholders.

Structure

Mission

The Penn State College of Engineering shapes the future through innovative education, breakthrough research, and transformative partnerships that create real-world impact across Pennsylvania and beyond.

Rooted in Penn State's land-grant mission and strategic vision, we translate research into societal benefit by partnering with industry, government, and non-profits to drive technology commercialization, job creation, and economic growth.

Our faculty are leaders of interdisciplinary research that addresses urgent global challenges, while our students pursue flexible, future-focused educational pathways that integrate experiential, online, and modular learning. With a strong emphasis on curiosity, community, innovation, and entrepreneurship, we prepare graduates to thrive and create value in a rapidly evolving world.

We believe the future of engineering lies in strategic differentiation: delivering an adaptable, world-class education; leading in translational research; and expanding inclusive access to opportunity. By fostering a culture of excellence, innovation, and belonging, we are developing the next generation of engineers—leaders, entrepreneurs, and change agents who will shape the technologies, industries, and societies of tomorrow.

Vision

The Penn State College of Engineering will be a global leader in engineering innovation, education, and societal impact—recognized for creating transformative solutions, pathways to opportunity, and a diverse community of learners, researchers, and change-makers.

Rooted in our land-grant mission and guided by the cornerstones of GRACE—*Growing our capacity*, *Refining our operations*, *Accelerating impact*, *Cultivating community among stakeholder groups*, and *Expanding excellence*—we envision a future where:

- Translational research drives real-world solutions to the most pressing global challenges through strategic partnerships with industry, government, and communities
- Innovation and entrepreneurship are embedded in our culture—fueling economic development, value creation, and the commercialization of breakthrough technologies
- Our graduates emerge not only as skilled engineers but as leaders, entrepreneurs, and catalysts for change—shaping the technologies, industries, and societies of tomorrow

Together, we will build a more impactful, connected, welcoming, and resilient future across Pennsylvania and around the world to engineer what's next.

Values

The Penn State Values guide our actions and decisions as members of the Penn State community:

- **Integrity:** We act with integrity and honesty in accordance with the highest academic, professional, and ethical standards.
- **Respect:** We respect and honor the dignity of each person, embrace civil discourse, and foster a diverse and inclusive community.
- **Responsibility:** We act responsibly, and we are accountable for our decisions, actions, and their consequences.
- **Discovery:** We seek and create new knowledge and understanding, and foster creativity and innovation, for the benefit of our communities, society, and the environment.
- **Excellence:** We strive for excellence in all our endeavors as individuals, an institution, and a leader in higher education.
- **Community:** We work together for the betterment of our University, the communities we serve, and the world.

College Strategic Priorities

PRIORITY 1: Enhancing Undergraduate Student Success

Penn State Engineering will advance undergraduate student success by preparing students for career and leadership readiness, expanding financial and programmatic support, ensuring an agile and future-focused curriculum, and recognizing excellence in teaching and learning. Together, these efforts will enable all undergraduate students to thrive, graduate on time, and contribute meaningfully to a rapidly evolving global and technological landscape.

- **Goal 1: Career Readiness, Leadership, and Workforce Alignment –** Prepare undergraduate students for leadership and career success in applying engineering technical skills for an era of intelligent, resilient, and rapidly evolving systems.
    - **Measures:**
        - Number of students (%) involved in co-curricular high impact practices
        - Student skills and competencies for career readiness reinforced or developed in/out of classroom
        - Number of students (%) participating in job fairs, networking events, and interview preparation
        - Number of students (%) participating in artificial intelligence (AI) skill development beyond baseline AI literacy
        - New industry partnerships and recruiters
        - Completion rate on Industrial Professional Advisory Council (IPAC), employer, and alumni feedback surveys
        - Number of opportunities for engagement with Penn State Engineering Alumni Society (PSEAS) and Industrial Professional Advisory Council (IPAC)
        - Number of opportunities for engagement with PSEAS and IPAC professional development and networking activities
    - **Objective 1: Enhance Career Readiness and Workforce Alignment through Experiential Learning –** Increase undergraduate participation in experiential learning opportunities (e.g., curricula, internships, research, industry projects, and study abroad) by 5% annually.
    - **Objective 2: Strengthen Professional and Interdisciplinary Leadership Skills –** Expand embedded professional skill-building (communication, teamwork, leadership, business acumen, AI/data literacy/ethical use of AI) across the undergraduate curriculum, through minors, and through microcredential offerings.
    - **Objective 3: Strengthen Industry/Corporate and Alumni Partnerships to Enhance Student Recruitment and Career Outcomes –** Expand partnerships with corporations and alumni to increase recruitment opportunities, mentorship, and career pipelines for undergraduate engineering students. Expand opportunities for engagement with PSEAS and IPAC through professional development and networking activities.
    - **Objective 4: Expand Feedback and Continuous Improvement Systems –** Develop robust mechanisms for gathering employer feedback and tracking post-graduation outcomes and student success perceptions.

- **Goal 2: Financial, Programmatic, and Holistic Student Support –** Advance financial and programmatic support for implementation of curricular and co-curricular high impact practices that advance student opportunity, access, and belonging, while supporting student learning outcomes and development of soft skills for career success.
    - **Measures:**
        - Overall debt and type of debt at time of graduation
        - Student debt as percentage of median salary in graduate's discipline
        - Advising experience of undergraduate students through survey results
        - Usage of student learning support services
        - "Good News" stories to share and support the capital campaign
        - Time and credit hours to degree completion
    - **Objective 1: Strengthen Systems That Support Student Well-Being, Sense of Belonging, and Equitable Access to Success Pathways** (e.g., advising, mentoring, peer networks, campus transfers, financial literacy, and education).
    - **Objective 2: Increase Student Financial Support** through scholarships, internships, co-ops, and student employment opportunities. Leveraging corporate engagement and philanthropy to increase support and sustain programs while reducing draws away from core education and general fund resources.

- **Goal 3: Agile and Future-Focused Curriculum –** Continue engineering education stature as a top producer of talent at scale by ensuring agility in curriculum for emerging needs (AI, sustainability, cutting edge research, and global contexts).
    - **Measures**:
        - New cross-disciplinary courses
        - Number of opportunities for minors, concurrent majors, integrated undergraduate/graduate (IUG) programs, certificates, and microcredentials)
        - Increase of AI modules and courses
        - New courses, certificates, microcredentials related to research priorities
        - Number of faculty and courses engaging entrepreneurial-minded learning
        - Facilities developed to support excellence in experiential learning
    - **Objective 1: Integrate AI in Curricula –** Prepare students for leadership, experimentation, and innovation that ethically builds and applies AI within the context of engineering disciplines with a mindfulness on sustainability.
    - **Objective 2: Continue Curricular Innovation –** Prepare students for evolving global challenges such as AI disruption, sustainability, supply chain complexity, and cutting-edge application of Penn State priority research, designing courses and training facilities to expand outstanding experiential learning opportunities.
    - **Objective 3: Leverage Kern Entrepreneurial Education Network (KEEN) Status –** Enhance entrepreneurial-minded learning across the college.

- **Goal 4: Excellence in Teaching, Learning, and Innovation –** Support and recognize excellence in teaching, learning, and innovation.
    - **Measures:**
        - "Good News" stories to share and promote individuals and units
        - Professional development opportunities to innovate in and out of the classroom
        - Increase in award and recognition programs

- **Objective 1: Faculty, Graduate Student, and Staff –** Expand instructor, teaching assistant, and staff recognition for work that promotes student success.
- **Objective 2: Undergraduate Student –** Expand student recognition for work done as peers and mentors to promote student success.

PRIORITY 2: Enhancing Graduate Student Success

Penn State Engineering will advance graduate student success by preparing students for leadership, career readiness, and applied research excellence; developing them as innovative teachers and mentors; expanding financial and programmatic support that fosters access and belonging; and ensuring an agile, future-focused curriculum. Together, these efforts will equip graduate students to excel in academia, industry, and society amid rapidly evolving technological and global challenges.

- **Goal 1: Career Readiness, Leadership, and Applied (Inter)disciplinary Research Preparation –** Prepare graduate students for leadership and career success in applying engineering for an era of intelligent, resilient, and rapidly evolving systems by enhancing career mentorship; advancing research skills, publications, and entrepreneurship; developing partnerships for industrial and applied interdisciplinary research; and increasing student competitiveness for external research awards.
  - **Measures:**
    - Number of graduate students (%) engaged in alumni mentoring program
    - Number of new alumni added to mentoring programs specifically for graduate-student mentoring
    - Professional skills and competencies for career readiness reinforced or developed in/out of classroom
    - Number of students (%) participating in job fairs, networking events, interview prep
    - Number of students (%) participating in AI skill development beyond baseline AI literacy
    - Dashboard development for tracking master's graduates (beyond the existing doctoral graduate portal)
  - **Objective 1: Engage Alumni to Promote Career Mentorship and Improve Student Outcomes –** Develop a structured alumni engagement program to connect graduate students with alumni mentors with graduate degrees.
  - **Objective 2: Develop Graduate Student Professional Skills –** Integrate professional development workshops into graduate curricula so students complete at least two training modules (e.g., grant writing, elevator pitch, AI literacy, ethical use of AI, or manuscript writing).
  - **Objective 3: Strengthen Industry Partnerships –** Create a sustainable pipeline that places graduate students in industry or applied research internships.
  - **Objective 4: Improve Data Tracking and Alumni Outcomes for Continuous Improvement –** Implement an alumni outcomes dashboard to improve graduate student placement tracking and feedback loops.

- **Goal 2: Teaching, Mentorship, and Pedagogical Excellence –** Develop graduate students as innovative teachers and mentors through intentional preparation, certification, and recognition programs.
    - **Measures:**
        - Number of graduate students (%) engaged in teaching mentorship programs
        - Number of college-level awards established to recognize excellence in graduate-student teaching and mentorship
        - Participation rates of graduate students in AI pedagogy workshops
    - **Objective 1: Integrate Teaching and Pedagogical Mentorship –** Establish a Graduate Teaching Mentorship and Certification Program with the ASEE student chapter and Leonhard Center and promote existing college and campus-wide opportunities (e.g. ENGR 888, CIRTL).
    - **Objective 2: Support and Recognize Graduate Student Excellence in Teaching and Mentorship –** Expand recognition for work that promotes student success.
    - **Objective 3: Develop Graduate Students to Engage AI in Pedagogy –** Include education in innovative and responsible use of AI in educational efforts.

- **Goal 3: Financial, Programmatic, and Holistic Student Support –** Advance financial and programmatic support for graduate student opportunities, access, and belonging leveraging philanthropy and corporate partnerships in addition to training grants and general fund sources.
    - **Measures:**
        - Advising experience of graduate students (through a survey)
        - Participation in graduate student community support services
        - "Good News" stories to share and support the capital campaign
        - Reduction in outliers of time to degree completion
    - **Objective 1: Strengthen Transparent Placement and Faculty Matching Information –** Provide incoming graduate students with clear data on faculty and program placement outcomes and research strengths.
    - **Objective 2: Graduate Student Well-Being –** Strengthen systems that support graduate student well-being, sense of belonging, and equitable access to success pathways (e.g., advising, mentoring, and peer networks).
    - **Objective 3: Increase Graduate Fellowship and Scholarship Support –** First year and bridging support between funded grants.
    - **Objective 4: Develop Individualized Plans –** Address unique student needs and goals.

- **Goal 4: Agile and Future-Focused Curriculum –** Support graduate programs in ensuring agility in residential and online graduate curricula for emerging needs (AI, sustainability, and global contexts).
    - **Measures:**
        - "Good News" stories to share and promote individuals and units
        - Professional development opportunities to promote innovation in and out of the classroom
    - **Objective 1: Curricula Update –** Update curricula to prepare students for evolving global challenges, including AI disruption, sustainability, and supply chain complexity.

- **Objective 2: Continuous Curricula Review –** Conduct periodic college-level review of curricula.

PRIORITY 3: Growing (Inter)disciplinary Research Excellence

Penn State Engineering will strengthen interdisciplinary research excellence by integrating research and education, building national leadership and reputation in advanced interdisciplinary domains, expanding collaborative research centers, and accelerating commercialization and innovation. Together, these efforts will position the College to translate discovery into impact while preparing the next generation of interdisciplinary engineering scholars.

- **Goal 1: Integrated Research and Education for Interdisciplinary Scholar Development –** Leverage our position as a leader in research integration with education to enhance interdisciplinary research training and experiential learning opportunities for emerging scholars.
  - **Measures:**
    - Interdisciplinary participation rates: Proportion of sponsored research projects with more than one faculty investigator
    - Number of training grants submitted annually
    - Number of trainees enrolled annually in training programs
    - Number of graduate students funded annually by sponsored research projects
  - **Objective 1: Research Excellence –** Maintain and strengthen existing disciplinary research strengths to enable interdisciplinary research excellence.
  - **Objective 2: Interdisciplinary Research –** Enhance interdisciplinary research and training programs for postdoctoral, graduate, and undergraduate students.
  - **Objective 3: Mentorship –** Enhance preparation of researchers for mentorship and training.

- **Goal 2: Interdisciplinary Research Leadership and Reputation Building –** Build on our reputation as a top College of Engineering for interdisciplinary research by supporting advanced research in intelligent, resilient, and rapidly evolving systems as evidenced by established seed grant funding programs; cost share opportunities; expanded interactions with external partners; and increased communications, honors, and rewards for research excellence.
  - **Measures:**
    - Sponsored research growth: Number of proposals submitted annually
    - Number and amount of new awards
    - Annual research expenditures
    - National and international rankings and recognitions
    - Number of young investigator awards
    - Number of public-private partnerships to diversify funding portfolios
  - **Objective 1: Seed Grants –** Leverage philanthropy and corporate engagement to establish seed grant programs that cultivate interdisciplinary research to increase sponsored research in strategic areas.

- **Objective 2: Collaboration Forums –** Establish forums for interaction with external partners and engage industry, academic partners, and others in thematic areas that demand interdisciplinarity.
- **Objective 3**: **Research Promotion –** Promote research accomplishments of engineering programs and implement high impact practices to increase the reputation of engineering programs and rankings.
- **Objective 4: Infrastructure Investment –** Leveraging corporate engagement and philanthropy, invest in physical and digital infrastructure to enable (inter)disciplinary collaboration.

- **Goal 3: Interdisciplinary Research Center Development and Expansion –** Leverage public-private partnerships, corporate engagement, philanthropy and training programs to establish and expand intra-institutional research centers in emerging areas of interdisciplinary research.
  - **Measures:**
    - Number of centers and proposals
    - Number of new centers established annually
    - Number of faculty affiliated with centers
    - Number of proposals submitted annually to external sponsors by center faculty
    - External funding secured
  - **Objective 1: Emerging Research Areas –** Develop a process to identify emerging research areas and strategic investment related to disciplinary and interdisciplinary research.
  - **Objective 2: Support the University's Goal to Transform Health Care Through Academic and Clinical Synergy –** Facilitate research across disciplines to apply engineering principles that solve complex problems and improve outcomes for the entire healthcare enterprise. The College's breadth of engineering research expertise positions faculty to lead in developing medical devices, creating innovations in regenerative medicine, streamlining hospital operations, advancing nuclear medicine, and creating health software.
  - **Objective 3: Grow current research priority areas –** Leverage engaged faculty to inspire corporate and philanthropic engagement in key priorities: advanced manufacturing, AI innovation, batteries, catalysis, microelectronics packaging, energy and the environment, nanotechnology, nuclear technology, structures, smart construction, and space technology.

- **Goal 4: Research Commercialization, Innovation, and Venture Advancement –** Advance research commercialization and innovation, through investing in technology transfer partnerships, as well as venture capital opportunities.
  - **Measures:**
    - Number of invention disclosures
    - Number of licenses executed
    - Number of new startup companies
    - Revenue from commercialization
    - Key impact stories around technology developed by college scholars

- **Objective 1: Invention Disclosures –** Maintain our position as the top Penn State producers of invention disclosures while converting ideas to practice and elevating the utilization of our best ideas from concept to fruition.
- **Objective 2: Research Commercialization –** Expand research commercialization and innovation activities through partnerships between faculty and the Office of Technology Transfer (OTT).

PRIORITY 4: Increasing Land-Grant Impact

Penn State Engineering will strengthen its land-grant mission by deepening community and industry partnerships, expanding opportunity and support for Pennsylvania (PA) students, advancing research with meaningful societal and economic impact, and integrating teaching, research, and commercialization across Commonwealth Campuses. Collectively, these efforts will extend the College's reach, relevance, and service to the Commonwealth, the nation, and the world.

- **Goal 1: Community Engagement and Industry Partnership Advancement –** Strengthen and sustain community engagement and industry partnerships; and engage alumni, and other stakeholders with enhanced communication of land grant value, while developing professionals prepared to address state and national needs.
  - **Measures:**
    - Number of active partnerships with PA industries, government agencies, and community organizations
    - Number of joint research projects with PA partners
    - Dollar value of industry or government-sponsored research
    - Number of joint publications, reports, and technical briefs with external partners
    - Number of students involved in partner-supported research
    - Number of workforce development programs
  - **Objective 1: Deepen and Expand the Number of Formal Partnerships –** Focus on applied research, STEM workforce development, and economic growth across the Commonwealth, including partnerships with PA industries, government agencies, and local communities.
  - **Objective 2: Enhance Communication of Land-Grant Value –** Clearly articulate and promote the impact of Penn State's land-grant mission—research, teaching, and extension to alumni, policymakers, and the public—reinforcing Penn State's reputation as a national leader in land-grant engagement.
  - **Objective 3: Enhance Partnerships with Engineering Alumni and Friends –** Increase participation of Penn State College of Engineering alumni and friends in teaching, research, and extension activities through structured mentorship programs, collaborative projects, and the development of shared innovation spaces.
  - **Objective 4: Prepare Career-Ready Graduates and Upskilled Professionals to Meet PA Industry Needs and Challenges –** Establish microcredentials (e.g., AI literacy, leadership, and innovation) and other continuing education opportunities co-designed with PA industry leaders, ensuring that graduates have access to specialized, adaptable skills that align with state workforce needs.

- **Goal 2: PA Student Opportunity and Access –** Expand equitable access to engineering education across PA by strengthening statewide pathways, multi-campus participation, and community-connected entry points aligned with the land-grant mission.
    - **Measures:**
        - Total annual scholarship funding and number of scholarships to PA students, including the year-over-year increase
        - Percent of PA students receiving financial aid or scholarships
        - Average scholarship amount per student
        - Number of new or expanded scholarship programs
        - Average student loan debt
        - Median debt-to-income ratio of graduates within 1 year post graduation
        - Percent of students with zero debt upon graduation
        - Change in average net cost of attendance
        - Change in total loan volume
        - Default rate within 3 years of graduation
        - Number of new microcredentials
    - **Objective 1: Expand Physical and Structural Access to Engineering Education –** Increase participation of PA students by leveraging multi-campus degree pathways, Commonwealth Campus programs, extension and outreach initiatives, and partnerships with K–12 schools, community colleges, and regional employers.
    - **Objective 2: Strengthen Entry Pathways and Early Exposure to Engineering –** Advance bridge programs, pre-college outreach, dual-enrollment opportunities, and regional engagement initiatives that reduce geographic, economic, and informational barriers to entering engineering programs.

- **Goal 3: Research with Societal and Economic Impact –** Advance research that aligns with industry goals, knowledge sharing, and influence on regional industry success.
    - **Measures:**
        - Percentage growth in interdisciplinary research funding
        - Number of active interdisciplinary research teams or centers
        - Total external funding secured
        - Number of competitive proposal submissions and success rate
        - Number of faculty participating in multi-disciplinary proposals or projects
        - Number of seed grants or internal funding awards
        - Number of interdisciplinary faculty hires or co-hires
        - Number of cross-college or multi-institution proposals
        - Number of graduate/undergraduate students engaged in interdisciplinary research
        - Number of intellectual property outputs (patents, startups, etc.)
    - **Objective 1: Increase Applied Research –** Grow interdisciplinary applied faculty research initiatives in agriculture, AI, energy, health, manufacturing, microelectronics, national security, nuclear technology, quantum, biotechnology, and transportation to drive interdisciplinary, applied research that addresses pressing state and national challenges while delivering tangible benefits to (particularly rural) communities.

- **Goal 4: Commonwealth Campus Teaching, Research, and Commercialization Integration:** Bolster teaching, research, and commercialization with Commonwealth Campuses.
    - **Measures:**
        - Number of shared courses via Digital Learning Cooperative (DLC)
        - Number of faculty collaborations
        - Number of students enrolled in DLC-shared courses
        - Percent increase in cross-campus teaching
        - Number of instructional innovations or new modules
        - Number and dollar value of joint research proposals
        - Number and dollar value of joint research projects
        - Number of seed or planning grants
    - **Objective 1: Commonwealth Campus Collaborations –** Increase teaching collaborations through the Digital Learning Cooperative, double joint research proposal submissions, and launch faculty-in-residence programs to accelerate research commercialization opportunities through Engineering Technology and Commonwealth Engineering (ETCE).

PRIORITY 5: Maintaining a Welcoming and Connected Engineering Community

Penn State Engineering will foster a welcoming and connected community by celebrating the diverse contributions of the people who comprise the engineering community, strengthening belonging, expanding equitable access to opportunity, eliminating student success outcome gaps, and advancing inclusive engineering education in which people of all backgrounds and identities are valued and have equitable opportunities for engagement and success. Through these efforts, the College will empower all students, staff, and faculty to thrive academically, professionally, and personally.

- **Goal 1: Foster Belonging and Community –** Cultivate a strong sense of belonging among students, staff, and faculty within the Penn State Engineering community.
    - **Measures:**
        - Average values of survey responses, including COACHE and ModernThink, focused on community and belonging
        - Net promoter ratings
        - Engagement numbers in community-building, professional development, and teaching and research innovation events
    - **Objective 1: Build Community –** Increase college-wide engagement in opportunities for students, staff, and faculty to build community by 10% every year over five years.
    - **Objective 2: Collective Success –** Actively promote collective success of students, staff, and faculty through engagement in inclusive action planning and college-wide programming focused on professional development, professional mentorship, leadership, teaching innovations, and/or new research directions.

- **Goal 2: Enable Equitable Opportunity and Empowerment –** Create an inclusive Penn State Engineering experience in which all individuals are equipped, supported, and empowered to achieve their academic, professional, and personal potential.
    - **Measures:**
        - Average values of survey responses, including COACHE and ModernThink, focused on work and resource availability satisfaction
        - Engagement numbers in co-curricular high-impact activities and professional development opportunities
    - **Objective 1: People Centered –** Improve the quality of work and life within the College, by implementing advances in generative AI tools, as evident by year-over-year improvements in quality of work-life survey responses.
    - **Objective 2**: **Continuous Improvement –** Enhance engagement in college-wide initiatives to expand co-curricular high-impact activities for students. Expand professional development opportunities for students, staff, and faculty. Ensure workload equity for staff and faculty. Seek enhancement of stakeholder participation and improvements in learning and self-efficacy each year.

- **Goal 3: Eliminate Outcome Gaps in Student Success –** Close outcome gaps in student success, retention, graduation, academic achievement, and career placement.
    - **Measures:**
        - Undergraduate and graduate student graduation rates, retention rates, and GPAs
        - Job placement at time of graduation (%) for undergraduate and graduate students
    - **Objective 1: Retention and Graduation –** Reduce outcome gaps in retention and graduation rates by 50% within five years.
    - **Objective 2: Academic Achievement –** Reduce outcome gaps in academic achievement by 50% within five years.
    - **Objective 3: Career Placement –** Reduce outcome gaps in job placement by 50% within five years.

- **Goal 4: Advance Inclusive and Equitable Engineering Education –** Enhance the engineering curriculum through culturally responsive teaching, inclusive teamwork, and equitable access to high-impact learning opportunities.
    - **Measures:**
        - Identification of culturally responsive and socially inclusive curricular teaching practices
        - Engagement in college-wide initiatives to support culturally responsive and socially inclusive programs
    - **Objective 1**: **Faculty and Staff Development –** Continue to provide support for development of culturally responsive and socially inclusive teaching practices in classrooms and educational facilities. Demonstrate multiple college-wide initiatives or programs every year.
    - **Objective 2**: **Student Development –** Evaluate and assess access to curricular high-impact practices and engaged learning opportunities for all students.

PRIORITY 6: Engineering Transformative Healthcare Solutions

The college will work across disciplines to apply engineering principles to solve complex problems and improve outcomes across the entire healthcare enterprise, from developing medical devices (biomedical engineering, mechanical engineering, electrical engineering, and engineering science and mechanics) and streamlining hospital operations (industrial and manufacturing engineering), to regenerative medicine (engineering science and mechanics, biomedical engineering, chemical engineering), nuclear medicine (nuclear engineering) and creating health software (computer science and engineering).

- **Goal 1: Increase Engineering in Healthcare Research Impact –** Leverage state-wide strengths in interdisciplinary research integration to enhance translational impact.
    - **Measures:**
        - Number of external healthcare/biomedical grants funded
        - Size ($) of external healthcare/biomedical grants
        - Number of clinical trials initiated in conjunction with college faculty, staff, and students
        - Number of peer-reviewed publications
        - Impact factor of publications
        - Number of invited/plenary talks and seminars
    - **Objective 1**: **Expand Research –** Increase externally funded interdisciplinary healthcare research.
    - **Objective 2**: **Increase Dissemination –** Expand dissemination of research findings and translational efforts.
    - **Objective 3**: **Grow Translation –** Increase translational collaborations in both clinical and non-clinical research and development.

- **Goal 2: Advance Engineering in Healthcare Innovation and Technology Transfer –** Coordinate efforts with Invent Penn State, OTT, and the Center for Medical Innovation to expand the healthcare innovation ecosystem.
    - **Measures:**
        - Number of technology licenses to healthcare companies
        - Number of healthcare startups from college faculty, staff, and students
        - Number of Investigational New Drugs and Investigational Device Exemptions approved
        - Promotion of faculty active in technology transfer
        - Numbers of invention disclosures, copyrights, and patent filings
    - **Objective 1**: **Expand Technology Transfer –** Increase technology transfer and startup activities.
    - **Objective 2**: **Grow Corporate Partnerships –** Reduce barriers to industry partnerships and expand corporate sponsored research.
    - **Objective 3**: **Streamline Regulatory Processes –** Build expertise and infrastructure in FDA and global regulatory processes.
    - **Objective 4: Recognize Technology Transfer Efforts –** Recognize and reward faculty technology transfer and commercialization efforts.

- **Goal 3: Develop the Next Generation Healthcare Workforce –** Leverage the breadth of expertise and educational opportunities in the college and the University to develop new workforce development opportunities and improve student success.
    - **Measures:**
        - Number of students (%) involved in healthcare co-ops and internships
        - Number of healthcare companies (%) participating in job fairs, recruitment, and networking events
        - Number of students (%) accepting placement in healthcare companies
        - Completion rate on employer and alumni feedback surveys
    - **Objective 1**: **Grow Co-ops and Internships Opportunities –** Increase co-op and internship participation in the healthcare industry.
    - **Objective 2: Improve Placement of Graduates –** Increase placement rates for engineering graduates in healthcare related industries.
    - **Objective 3**: **New Workforce Development Opportunities –** Develop innovative educational offerings and professional development opportunities to fulfill national and global workforce needs.

- **Goal 4: Improve College and Department Reputation and Rankings –** Build our reputation as an engineering leader in addressing critical healthcare needs by supporting faculty in interdisciplinary research and technology transfer through seed grants, center and institute growth, focused communication, and leveraging corporate engagement and philanthropy to reduce draws away from the core education and general fund resources.
    - **Measures:**
        - Number of faculty recruited/retained
        - Number of external awards and fellows from healthcare professional organizations or foundations (e.g. BMES, AIMBE, SFB, ACS, TERMIS)
        - Number of faculty serving on federal or foundation review panels for healthcare grants (e.g. NIH, NSF, CDMRP, Gates)
        - Number of articles/posts about faculty, staff, and students in healthcare research or student success
    - **Objective 1**: **Recruit and Retain Excellence –** Recruit and retain top tier engineering faculty in healthcare related disciplines.
    - **Objective 2**: **Elevate Visibility –** Elevate the national and international visibility of faculty through prestigious awards and fellowships.
    - **Objective 3: Increase Participation in Professional Service –** Expand participation on grant review panels, editorial boards, and service in academic and professional organization leadership roles.

Appendix

Strategic Planning Committee Members
The Strategic Planning Committee works to ensure the College's mission, vision, and goals align with university priorities and includes the aspirations of the entire engineering community. The members included:

- **Priya Baboo**, Senior Director of Corporate and Industry Engagement
- **Tasha Bourjaily**, Business Administrator
- **Bob Darrah**, Senior Director of Development
- **Eric Donnell**, Senior Associate Dean
- **Vikash Gayah**, Director, Larson Transportation Institute
- **Enrique Gomez**, Associate Dean for Equity and Inclusion
- **Dan Hayes**, Department Head, Biomedical Engineering
- **Keefe Manning**, Professor, Biomedical Engineering
- **David Mazyck**, Head, School of Engineering Design and Innovation
- **Kate Myers**, Senior Director of Communications and Marketing
- **Vijay Narayanan**, Associate Dean for Innovation
- **Lucas Passmore**, Teaching Professor
- **Tonya Peeples**, Harold and Inge Marcus Dean of Engineering
- **Robert Rabb**, Associate Dean for Education
- **Jay Regan**, Professor, Environmental Engineering
- **Michelle Schafer**, Director of Alumni Relations and Stewardship
- **Shelley Stoffels**, Associate Dean for Faculty
- **Jennifer Wu**, Chief Engineering Analytics Officer
- **Matt Zerphy**, Assistant Dean for Operations

Working Groups
Working groups were developed for each specific goal with college leads holding working sessions to gather input and discuss priorities.

- **Fostering Diversity, Equity, Inclusion, and Belonging**
  - Lead: Enrique Gomez
- **Enhancing Undergraduate Student Success**
  - Lead: Robert Rabb
- **Enhancing Graduate Student Success**
  - Lead: Jay Regan
- **Increasing Land-Grant Impact**
  - Lead: Vikash Gayah
- **Growing (Inter)disciplinary Research Excellence**
  - Lead: Eric Donnell
- **Health Care Engineering**
  - Lead: Dan Hayes