ENGINEERING EXCELLENCE FOR THE PUBLIC GOOD
Strategic Plan Implementation 2022–2024
University of Washington College of Engineering

STRATEGIC PRIORITIES
We will realize our vision by pursuing four focused and interlocking priorities:

I.   Creating a healthier and more just world through our work

Strategy 1   Ground our curriculum in technical excellence, a commitment to the public good, and the translation of discoveries into real-world applications

Five-year Goal:
Design and construct a distinctive undergraduate engineering curriculum that adapts to changing student demographics and societal needs; promotes commitment to the public good in the classroom and experiential learning; and introduces students to:

- **Core and advanced engineering competencies and their application**
- **Interdisciplinary inquiry and problem-solving**
- **Innovation, entrepreneurship and technology translation**
- **Leadership and collaborative skills**
- **Technology's interaction with natural and social environments**
- **Engineering ethics**
- **Collaborative initiatives with nonprofit, government and community organizations to address specific local and global challenges**

First year (2022-2023):
- Curriculum assessment
  - Evaluate current classes.
  - Inventory existing College course offerings related to public good, health, data sciences, artificial intelligence (AI), machine learning (ML), innovation and entrepreneurship to identify curricular gaps.
  - Obtain feedback, engagement and buy-in from departments.
  - Develop metrics (survey first-year students, transfer students and graduating seniors).
  - Identify at least two recommendations from the strategic planning Innovative Engineering Education subcommittee report for implementation.

Second year (2023-2024):
- Apply findings from the curriculum assessment to plans for future classes and class content.
- Form Industry Curriculum Advisory Committee (ICAC) to provide feedback and provide engineering professional skill inventory for continuous improvement of engineering education and new program creation. Develop sustainable engagement model for the committee.

o   Implement the recommendations of the Innovative Engineering Education subcommittee.

Strategy 2   Distinguish the College by focusing on high-impact, large-scale, interdisciplinary research centered on the public good

Five-year Goals:
Develop the administrative infrastructure to support collaborative research efforts in the pursuit of national interdisciplinary research centers.

Deepen and expand affiliations with UW colleges, schools, institutes and centers to strengthen existing partnerships and to identify promising interdisciplinary collaborations.

Establish joint hiring processes with other UW units and national laboratories to recruit research leaders to promote inter- and intra-organizational collaborations.

First year (2022-2023):
o   Introduce best practices for center-level proposal support including pre-award center proposal and post-award center support needs in the College.
o   Form a working group focused on one interdisciplinary topic to identify major federal and local research grant opportunities and to expand interdisciplinary research across departments, colleges and with external partners. Develop a five-year vision for the interdisciplinary topic.
o   Assemble two teams of researchers to submit large center or institute grants.
o   Partner with UW Facilities and OPB's Office of Capital Planning Strategy to assess infrastructure available to support major research centers and new initiatives prior to grant submissions.
o   Establish best practices and memoranda of understanding (MOUs) for review and promotion of faculty who hold joint appointments with national labs and other UW units.

Second year (2023-2024):
o   Develop College PI Toolbox portal for center-level proposal support.
o   Partner with existing UW centers such as Molecular Analysis Facility (MAF), Washington Nanofabrication Facility (WNF), Information Technology (UWIT) and Office of Research to submit two federal infrastructure grants to maintain and grow engineering facilities.
o   Assemble four teams of researchers to submit large center or institute grants.
o   Implement best practices and MOU for review and promotion of faculty who hold joint appointments with national labs and other UW units.

Strategy 3   Augment the College's relationships across the health sciences to accelerate solutions to critical health-care issues

Five-year Goals:
Strategically expand cross-campus and community collaborations to advance and improve health care and health-care equity.

Craft curricular and experiential opportunities for engineering students to explore health care and to collaborate on the next generation of health-care solutions.

First year (2022-2023):
- o Launch the Institute for Medical Data Science (MDS).
- o Launch one grant on AI and MDS between the College of Engineering and local health care organizations.

Second year (2023-2024):
- o Build one partnership in socio-economically underdeveloped and/or remote areas to explore transformative health-care technologies.
- o Launch two grants between the College of Engineering and local health care organizations.
- o Develop and add one cross-listed engineering health course each year between 2023 and 2026.
- o Increase number of engineering students participating in health/medicine-related capstone design and research experiences by 20%.
- o Increase health-related industry capstone projects by 30%.

Strategy 4   Encourage and incentivize collaborations and partnerships that serve the public good

Five-year Goals
Build strong relationships and partnerships with state and local governments with a focus on bridging the knowledge gap between public policy and technology.

Enhance capacity for equitable collaboration between the College and local and global communities, including building meaningful partnerships with government and community organizations.

Develop a Public Good PhD Fellowship program engaged in research with local governmental or non-governmental organizations.

Develop Public Good Faculty Fellows program engaged in curricular development, research with local governmental or non-governmental organizations.

Develop Public Good faculty Sabbatical Fellowships for one-quarter leave to work with a governmental or non-governmental organization (NGO) with a strong public good mission.

First year (2022-2023):
- o Develop a model to support at least 10 student teams engaged in capstone projects focused on the public good, such as projects in partnership with governments, community organizations or tribal communities.
- o Design an Engineering Excellence for Public Good annual student event.
- o Launch College awards for faculty working in public good.
- o Develop sustainable model for Public Good Faculty Fellows program.

Second year (2023-2024):

- Organize public lecture or seminar series focused on the relationship between public policy and technology.
- Identify two research or industry partnerships to form with tribal communities, NGOs or community organizations.
- Launch at least five capstone projects with government and community organizations focused on the public good.
- Launch Public Good Faculty Fellows program with three inaugural fellows.
- Develop a sustainable model to fund the Sabbatical Faculty Fellowships.
- Launch Engineering Excellence for Public Good annual student event.

II.   Embracing the power of diversity, equity and inclusion

Strategy 1   Attract, recruit, select and retain diverse students, faculty and staff

Five-year Goals:
Establish ARSR (attract, recruit, select and retain) goals and best practices for underrepresented groups and/or specific dimensions of diversity. Review ARSR systems with diversity, equity and inclusion (DEI) and intercultural competency lenses.

Increase our transparency by establishing a diversity data collection to document, evaluate and share our recruitment and retention efforts.

First year (2022-2023):
- Review all current ARSR systems, identify and encourage current best practices being used by departments and units.
- Work with College and UW leaders to identify and establish legally permissible recruitment, admissions and hiring goals.

Second year (2023-2024):
- Require all College hiring managers to be trained on equitable hiring practices and interview processes.
- Identify and implement best practices for achieving recruitment, admissions and hiring goals.

Strategy 2   Develop structures, practices and people skills that embed and leverage the value of DEI in all College activities

Five-year Goals:
Develop and actualize an integrated DEI structure to increase communication and collaboration programs and plans for leaders and staff.

Establish a DEI leadership training and development program to enhance knowledge and skills to facilitate organizational change.

Create an intercultural development manager's training program and integrate intercultural development in our curriculum and orientation programs.

Develop and implement a College-wide DEI communications plan.

Recognize, amplify and reward DEI and social good leadership in the College.

First year (2022-2023):
- o Establish and brand the Office for Inclusive Excellence (OIE); develop a communications plan to raise awareness of the OIE role, responsibilities, accountabilities, achievements, current efforts and resources; and build collaborations with College and UW partners.
- o Initiate training and development program for leaders and change agents on DEI, intercultural competence and facilitating change.
- o Develop trainings on topics including microaggressions, anti-racism, gender, identity, conflict resolution and discourse engagement.
- o Develop a sustainable Inclusive Excellence (IE) Fellowship program for faculty and graduate students to spend one quarter with the OIE learning how to integrate DEI into curriculum.
- o Develop annual DEI or IE awards and recognition; grant or seed funding for DEI activities.

Second year (2023-2024):
- o Standardize data collection and reporting related to DEI initiatives and activities of all College units.
- o Implement an IE Fellowship program.
- o Provide trainings on topics including microaggressions,anti-racism, gender, identity, conflict resolution and discourse engagement.
- o Facilitate College town halls, discussion groups, workshops and seminar series for DEI-centered growth.

Strategy 3   Build a robust College community culture where all members thrive, are valued and feel a sense of belonging

Five-year Goals:
Increase dialogue and shared understanding around DEI through systems to increase awareness, prevention, reporting, response and resolution of bias and harassment incidents.

Identify, highlight, support and develop best practices on welcoming and supporting underserved or underrepresented faculty, staff and students.

Develop and put into action specific measures to acknowledge and support sovereignty and increase collaboration with tribal communities.

Deepen and expand practices that increase the voice and involvement of underserved or underrepresented groups in decision-making processes.

Prioritize the health and wellness of all our students, staff and faculty by listening, offering information and resources, creating flexibility when needed and ensuring no one feels they must choose between health and productivity.

First year (2022-2023):

- o   Introduce critical response incident systems.
- o   Launch compliance and conflict resolution systems.
- o   Inventory and evaluate current inclusion efforts for underrepresented groups, and identify new inclusion efforts for these groups.
- o   Encourage the incorporation of the University's recommended land acknowledgment into all proceedings as the first step in building sustainable relationships with indigenous communities.

Second year (2023-2024):
- o   Create regional American Indian and Alaska Native faculty development consortium in collaboration with the UW College of the Environment and tribal colleges.
- o   Implement new inclusion efforts aimed at underrepresented groups.
- o   Establish quarterly or biannual meetings between department chairs, the dean and tribal leaders.

III.   Translating innovation into impact

Strategy 1   Grow cross-departmental and cross-campus cooperation to significantly increase technology translation

Five-year Goals:
Build an integrated faculty mentorship and training network to guide the technology translation process, identify promising candidates, and advise them through the application process.

Broaden merit and promotion processes to recognize commercial and social entrepreneurship activities such as patents, licensing and start-ups as examples of scholarly contribution.

First year (2022-2023):
- Identify and meet five investment communities and industry partners to connect early-stage or existing research to emerging business ideas.
- o   Revise College promotion and tenure review (PTR) guidelines to include granted and licensed patents as part of the promotion criteria.
- o   Add a new Entrepreneurial Endeavors section to the annual faculty merit review and College recommended CV template for Promotion & Tenure.
- o   In partnership with UW CoMotion and other UW units, develop a plan to implement and execute an annual workshop to educate and promote technology transfer activities amongst engineering students and faculty.

Second year (2023-2024):
- o   In partnership with CoMotion and other UW units, conduct an annual workshop to educate and promote tech transfer activities amongst students and faculty.
- o   Implement revised College PTR guidelines and Entrepreneurial Endeavors section of the annual faculty merit review.
- o   Assess gaps for engineers in training, networking and mentorship opportunities to increase entrepreneurship and commercialization.

- o Partner with UW External Relations to produce an engineering focused report as part of the UW's economic impact report that showcases our value to the state of Washington.

Strategy 2 Increase student and postdoctoral scholar engagement with social and commercial entrepreneurship

Five-year Goals:
Collaborate with the UW Foster School of Business and CoMotion on entrepreneurship curriculum and to amplify entrepreneurship competitions, connecting with and drawing on entrepreneurship education across the UW.

Establish networking events and programs that bring engineering students and postdoctoral scholars together with students from across the UW to identify technology innovation and translation opportunities.

First year (2022-2023):
- o Inventory campus courses and curricula in entrepreneurship.
- o Inventory engineering student and postdoctoral scholar participation in Foster-sponsored entrepreneurship competitions to identify participation gaps.
- o Develop sustainable model for faculty entrepreneurship fellow program.
- o Inventory additional campus opportunities in innovation and translation for students and postdoctoral scholars.

Second year (2023-2024):
- o Increase engineering student and postdoctoral scholar participation in existing courses and competitions by 10% annually.
- o Partner with CoMotion and Foster School of Business to introduce 10% of incoming students and post-docs to innovation and translation opportunities through orientation and onboarding.
- o Implement faculty entrepreneurship fellow program.
- o Inventory graduating bachelor's, master's and doctoral student participation in social or commercial entrepreneurship training.
- o Develop curricular plan for undergraduate and graduate students in all engineering departments to have access to social and commercial entrepreneurship coursework with goal of ensuring that at least 50% of all engineering students graduate with either coursework or practical exposure to entrepreneurship.

Strategy 3 Broaden and extend College partnerships with industry

Five-year Goals:
Hire 5-10 joint positions with industry partners.

Develop innovative approaches to engineering education that address industry professional development needs.

Strengthen the relationship between industry and postdoctoral scholars, graduate and undergraduate students — especially those from historically underserved communities —

through mentorship, increased co-op and internship opportunities, and industry-funded grants.

Build strong relationships with venture capitalists, angel investors and investment firms in partnership with CoMotion to educate potential College faculty, staff and student entrepreneurs.

Resolve intellectual property issues that hinder commercialization efforts and explore new approaches that facilitate early industry engagement and collaboration in the technology translation process.

First year (2022-2023):
- o   Develop a strategy to review industry service contracts.
- o   Work with the UW President's Office, faculty councils and the Office of Academic Personnel (OAP) to establish or modify policies for two new joint positions with industry and for faculty leave to work in industry.
- o   Form a working group of College Visiting Committee members and others to expand industry research partnerships and advocate for the College.
- o   Work with UW Office of Sponsored Programs (OSP), CoMotion and Corporate Relations to clarify roles, responsibilities and sponsored research timelines to increase academic investors by 10% in sponsored research funds.

Second year (2023-2024):
- o   Implement the strategy to review industry service contracts.
- o   Obtain university approvals to hire joint industry-faculty positions.
- o   Increase the indirect cost of service contracts to fund external counsels for intellectual property (IP) and contract assessment, negotiation and more.
- o   Add one College Corporate & Foundations Relations staff position to grow industry partnerships at all levels.
- o   Work with OSP, CoMotion, and Corporate Relations to consolidate management of industry contracts and IP.

IV.   Investing strategically in our future

Strategy 1   Strengthen the College's financial foundation

Five-year Goals:
Develop a resource generation and financial management plan to realize the College's strategic plan.

Expand online, certificates, short courses, professional master's programs and other program offerings.

Establish incentives and reduce barriers to innovative new initiatives and revenue generation.

Increase the College's public and private revenues to provide permanent endowed funding, industry funds and support for student programming and services.

First year (2022-2023):
- o Hire a director of new programs and innovation.
- o In partnership with the UW College of Arts & Sciences, the Office of Planning & Budgeting, the Provost's Office and the Office of State Relations, develop a STEM proposal to include engineering enrollment expansion in the Legislative agenda for the '23-'25 biennium.
- o Complete program fee feasibility study.
- o Build case for industry prospects for term-use faculty support and graduate student support, in concert with partnerships involving contract and private grant funding. Build case for support and clear goals around medical innovation programming as well as prospective donor pool.

Second year (2023-2024):
- o Implement a growth model that facilitates and incentivizes the creation of new programs or evolution of existing programs to maximize College revenue and support departments and students. Develop metrics that will define success, and create a baseline so that future progress can be measured.
- o Pursue state support for enrollment and access expansion through STEM proviso request.
- o Utilize the results of the program fee feasibility study to pursue a change that will begin to address the cost of educating an engineer and improve and enhance the student experience and outcomes while ensuring that access is maintained.

Strategy 2 Create and promote a compelling brand identity for the College that captures our excellence and impact

Five-year Goals:
Develop a College brand identity and communications strategy in alignment with the University's brand that supports the objectives of the organization and advances broad-based engagement.

Leverage the brand identity internally to strengthen affinity with and pride in the College among its departments and our faculty, staff and students.

First year (2022-2023):
- o Present external research results to College leadership and utilize findings to inform next phase of work.
- o In partnership with University Marketing & Communications secure a consultant to develop brand promise, platform and key messages.
- o Develop and implement internal communication plan to ensure participation in and awareness of efforts.

Second year (2023-2024):
- o Launch targeted publicity campaign to support student recruitment efforts; identify other audiences for targeted creative campaigns.
- o Adopt brand internally, and increase internal awareness of College and its identity.

Strategy 3   Enhance the well-being and professional development of our staff

Five-year Goals:
Promote continuous learning that encourages professional and personal development and improved job satisfaction.

Create clear career pathways and advancement opportunities within the College of Engineering and the University at large.

First year (2022–2023):
- o Ensure greater than 20% staff participation in career advancement and professional development programs.
- o Create a pilot mentoring program that includes staff support in the areas of career advancement and professional development.
- o Survey staff every year for job satisfaction; create a baseline of understanding and to inform program development and resource allocation; use survey findings to plan and implement programs to address issues.

Second year (2023-2024):
- o Expand the pilot program created in year one, implement a suite of career advancement and professional development programs, with greater than 50% staff participation.
- o Provide opportunities for feedback and input, including annual surveys. Consider re-prioritizing resources for programs that do not receive positive feedback.

Strategy 4   Use transparent, understandable and data-driven analytics to assess and improve the College's performance and align incentives with our priorities

Improve, expand and integrate data to support decision-making by implementing tools that create efficiencies for faculty and staff.

Use this strategic plan to direct new initiatives, resource allocations, policy changes and activities with significant bearing on our stakeholders.

First year (2022-2023):
- o Conduct data and analytics inventory to identify and prioritize list of key metrics; identify trends and establish baselines; and understand options for managing local data, security and integration with enterprise data.
- o Continue developing forecasting models for the College and its units to enable assessment of financial consequences of decisions. Publish dashboards and/or reports to provide resource and expenditures information by unit.

Second year (2023-2024):

- o Utilize findings from first year inventory to inform the development of data collection, management, security, reports and enterprise integration.

Strategy 5   Leverage existing resources and expertise to increase operational efficiency

Five-year Goals:
Strengthen administrative structures in support of our faculty, students and staff. Develop organizational structures that promote collaboration, efficiency and excellence in service.

Enhance collaboration and sharing arrangements among our academic departments across multiple support functions, such as computing services, advising and student services, financial transformation, DEI, and marketing and communications.

Strengthen the College's physical infrastructure to support its education and research, including completion of the new Interdisciplinary Engineering Building and strategic renovation and retrofitting of current facilities and equipment.

First year (2022-2023):
- o Identify operational inefficiencies, duplicative processes and service gaps. Prioritize opportunities for improvement, including required resources and pathways for change. Identify project leaders; develop process leads to form task force.
- o Launch a pilot shared service program to meet changing departmental fiscal needs.
- o In partnership with UW Facilities and OPB's Office of Capital Planning Strategy review and update the College's Payette space study (2017) to ensure our alignment with the campus master plan and our ability to accommodate projected enrollment and research growth.
- o Develop a transparent process to support minor facility modifications and capital refreshes.
- o Develop tools and systems to enhance communication, innovation and exchange of best practices across administrative divisions and between academic and administrative units.

Second year (2023-2024):
- o Assess pilot programs and processes, including testing of systems and collection of customer satisfaction. Identify needed improvements and permanent investment requirements.
- o Implement the process to support minor facility modifications and capital refreshes.
- o Create a structure to support changes required by UW Finance Transformation.
- o Establish standards and services for processing service agreements and contracts.
- o Develop systems and determine staffing and funding model to support complex grant proposals.