



Engineering Impact

STRATEGIC PLAN 2022-2027



Western
Engineering



Land Acknowledgement

We acknowledge that the Faculty of Engineering and Western University are located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Chonnonton Nations, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum.

With this, we respect the longstanding relationships that Indigenous Nations have to this land, as they are the original caretakers. We acknowledge historical and ongoing injustices that Indigenous Peoples (First Nations, Métis and Inuit) endure in Canada, and we accept responsibility as a public institution to contribute toward revealing and correcting miseducation as well as renewing respectful relationships with Indigenous communities through our teaching, research and community service.

Shaping the Future

Engineers have created enormous knowledge throughout the centuries and contributed greatly to solving the grand challenges of the times. Engineers' fingerprints are on almost everything we see or use in society today - our homes and infrastructure, computers, food, energy, transportation, healthcare systems, and more. Undeniably, by bringing together people, technology and science, engineers have made a profound difference to humankind's survival and to our quality of life. And, because of engineering, the world is better equipped and able to deal with disasters and public health challenges, access and protect food and water, connect across geographies and

cultures, and innovate and develop solutions that transform the world.

Today, in the post-pandemic era, we live in unprecedented times of change, disruption and opportunity. Climate change poses an urgent threat that requires immediate and decisive solutions. And, evolving challenges related to disruptive technologies, geopolitics, cyber- security, healthcare equity and food sourcing, to name a few, demand new thinking and solutions. More than ever, **the world needs engineers** to bring their knowledge, creativity and courage to solve these significant issues and seize every opportunity to preserve the planet and sustain humankind.

Western Engineering is poised to answer this call.

Building on our legacy of excellence in engineering education and research, and driven by our world-class faculty and staff, we will **elevate the student learning experience** and re-imagine our curriculum to **educate and inspire** the next generation of engineers for greater impact. And we will **accelerate our research**, exploring, changing and defying the limits of science and technology to shape a better world.



Our Strategic Planning Journey

Over the last 24 months, we have gone on a voyage of reflection and discovery to rethink Western Engineering's future. During the summer of 2020, we facilitated four virtual retreats with faculty, staff and students to reflect on our current situation and imagine the future of research, and undergraduate and graduate learning. Building on this

foundation, we officially launched the formal strategic planning process in the Fall of 2021. Under the guidance of a multi-disciplinary Strategic Planning Steering Committee, we engaged hundreds of individuals, including students, staff, faculty and alumni, through two large retreats, focus groups, interviews and surveys.

In the context of Western University's new strategic plan, *Towards Western at 150*, our engagement process was designed to deliver insights, ideas and answers to five critical strategic questions.

1. What is Western Engineering's vision for our future?

2. What value must we create for the communities we serve?

How can we collectively impact Western students' learning and life experience and how can we contribute to address the challenges facing our local, national and global communities?

3. How will we deliver this value?

What programs, processes, systems or operations do we need to re-imagine, reinvent or sustain to deliver excellent value for Western students and our communities, moving forward?

4. What capacity and resources will we need to create value and sustain our Faculty?

5. Lastly, what underlying values and beliefs will guide Western Engineering's way forward and ensure we achieve our vision, contributing to Western University's larger goals?



ENGINEERING IMPACT, our new strategic plan answers these questions. It encompasses the **ideas, needs and aspirations of the people we consulted**. We hope each member of Western Engineering will see themselves in the plan – how they can contribute, how they will benefit and how they can be part of the future.

ENGINEERING IMPACT, recognizes the need for innovation and change and motivates us to think, prepare and act in ways that honour the Earth and each other. It is our promise to aim higher and build an even brighter future for our students, staff, faculty and the world.

Vision Mission Values

OUR VISION

Driving an equitable and sustainable future for all.

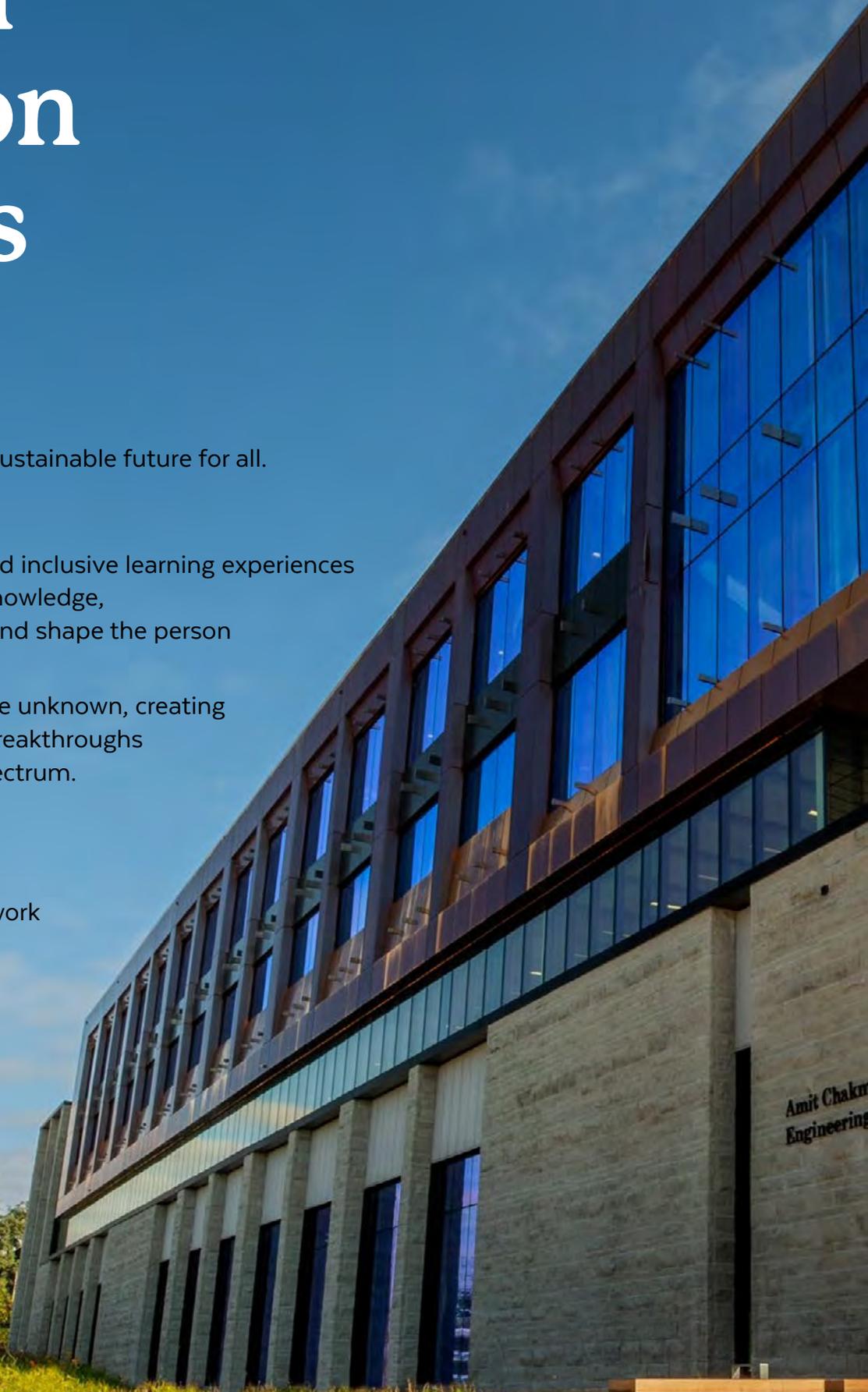
OUR MISSION

Provide transformative and inclusive learning experiences that build our students' knowledge, skills and competencies, and shape the person they will become.

Push the boundaries of the unknown, creating impactful solutions and breakthroughs across the engineering spectrum.

OUR VALUES

- Innovation and creativity
- Collaboration and teamwork
- Learning and growth
- Trust and integrity
- Excellence
- Equity and Inclusion
- Sustainability
- Well-being



VALUE PROPOSITION

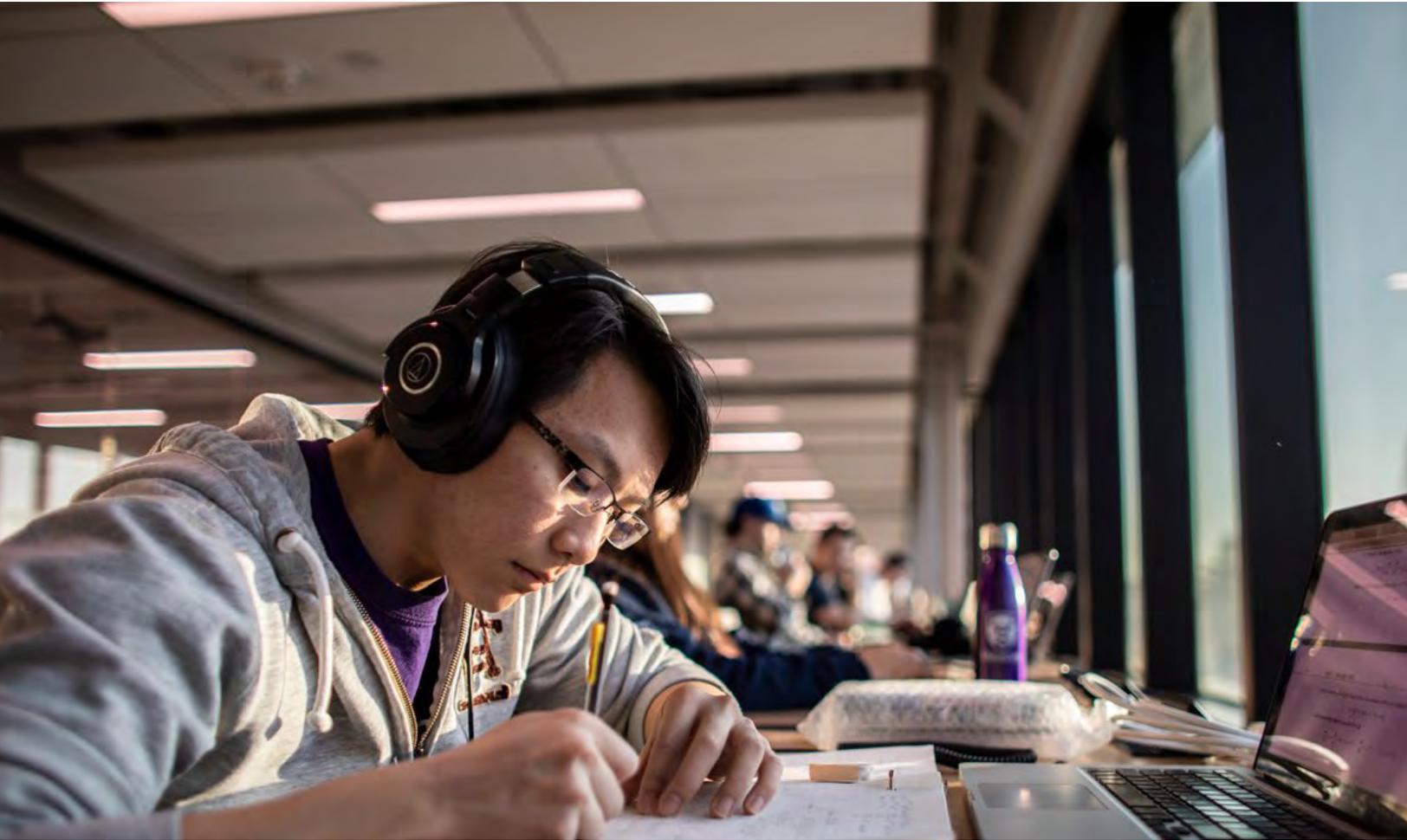
Greater Impact



At the heart of **ENGINEERING IMPACT** is the unique **Value Proposition** that Western Engineering will deliver, together with the communities we serve: our students, alumni and the world. During our strategic planning process, students told us they want experiential, hands-on and applicable learning experiences that will enable them to address complex global challenges.

Industry told us they need engineers that are integrated, critical thinkers who can work respectfully and ethically across disciplines and cultures to create solutions. Our communities need us to understand and address the world's complex problems, from both a historical and future-oriented perspective. **Greater Impact** is responding to what we learned was essential and defines what we will measure to ensure we are living up to the expectations of our students, alumni and broader communities.

Thriving Students & Alumni



- Students will thrive in a diverse and inclusive community of learning, creativity and discovery.
- Students will master the essential competencies to work in diverse teams, lead confidently, and make a difference.
- Students will experience the intersection of teaching excellence, experiential learning and transformative research across disciplines and cultural borders.
- Students will be prepared to chart an impactful career path forward in a manner that safeguards and protects future generations.

- Prospective domestic and international students will choose Western as their preferred destination to study engineering.
- Graduates will lead and create change, contributing thoughtfully, creatively, and productively for the benefit of all humanity and the environment.
- Alumni will be part of a proud, inspired, and motivated community, engaged in the ongoing life and success of Western Engineering.
- Alumni will give back to the Faculty, helping future generations of students to thrive and make a difference.

High Impact Research



- The health, safety, sustainability and well-being of people, places and the planet will improve.
- The most pressing and unforeseen needs and challenges of local, regional and global populations will be addressed by Western Engineering.

- Our research will produce sustainable solutions that are inclusive, equitable and representative of a diversity of backgrounds.
- Our research will be shared, valued and recognized on the local and world stages and translated into practice.

PILLAR ONE

Driving Our Impact

1



Operating with excellence to create value for students, alumni, and our communities.

Our students will be the engineers and leaders of tomorrow and Western Engineering must prepare them for the journey ahead in a more complex world that needs their help more than ever before to address pressing challenges. We will rethink how we design and deliver our curriculum and the student experience across the continuum, from day one through to graduation. Starting with our on-boarding processes, through to how we teach, engage students in our engineering community and conduct research, we will strive to create a community that values each student, is supportive of their needs and enables them to thrive.

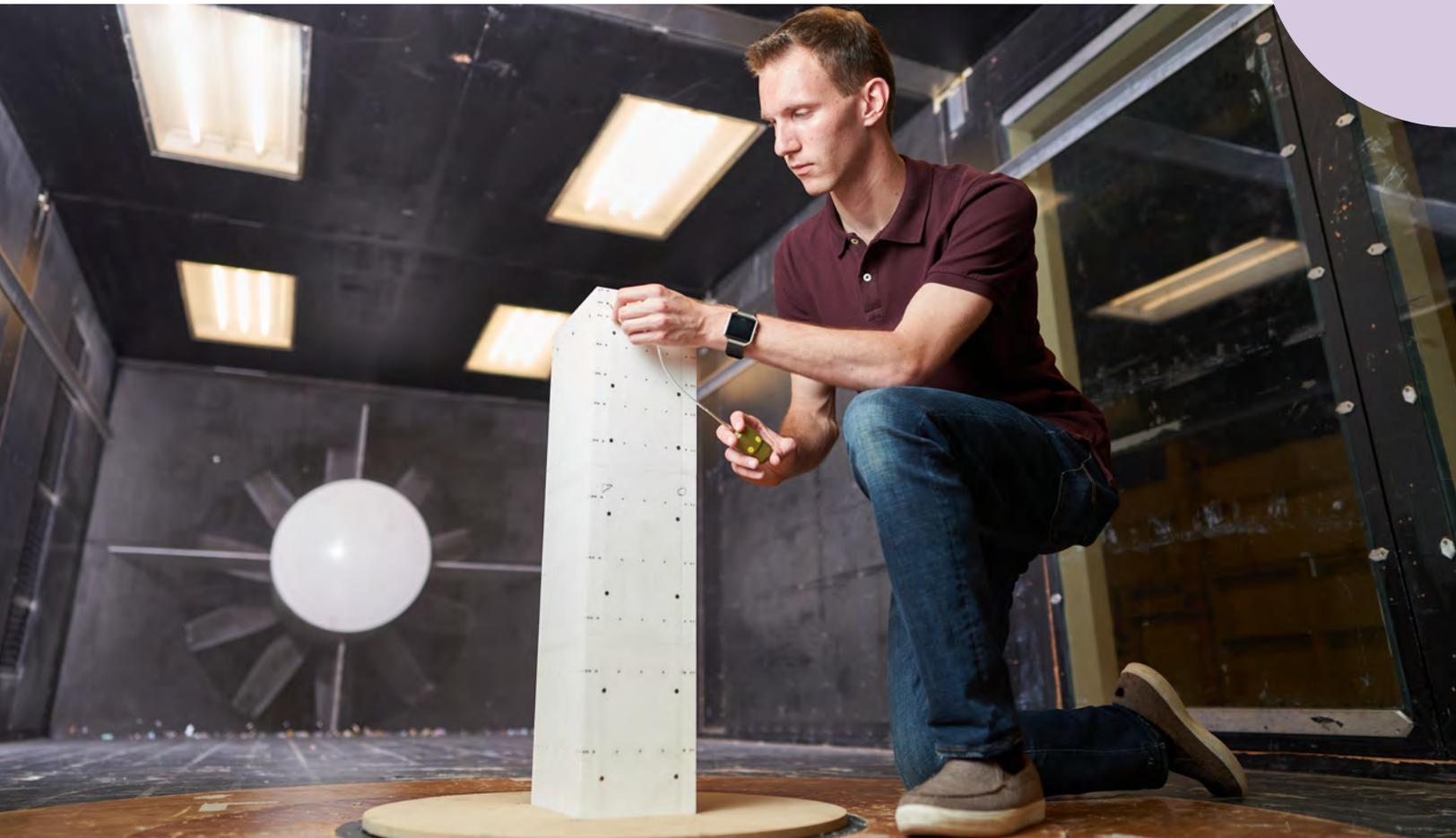
We will continue to refine and evolve our engineering programs to be more integrated and immersive, collaborating with students along their personalized journey. We will provide enhanced opportunities for students to interact with the most advanced tools, equipment and technology and to engage with professors, alumni and peers in more research and innovation projects. Experiential, real-world problem-based learning pathways and co-op placements will be expanded to help students develop the competencies and knowledge they need to be lifelong learners: to lead confidently in their careers, in evolving economies and in their lives.

“Engineers will always be faced with uncertainties. We have a responsibility to prepare our students to meet future challenges and to train them to be adaptable and imaginative so they can become the engineering leaders of tomorrow.”

Ken Coley,
Dean of Western
Engineering

Enrich the Student Learning Experience

1



Goals

- Empower students to co-create a personalized academic journey, engaging in multiple learning streams.
- Provide experiential opportunities of work-integrated learning, research with a professor and engagement in innovation and entrepreneurship activities.
- Support and promote a diverse range of student clubs and volunteer opportunities.
- Enhance on-boarding programs for incoming students.
- Expand services to support our international students.
- Expand services to support our Indigenous students.
- Foster an inclusive community of learning that celebrates diversity and interdisciplinary collaboration.
- Provide optimal access to modern shop space, tooling, machines, technology, software and training.

Re-Imagine our Education Curriculum for Maximum Impact

1



Goals

- Effectively innovate curriculum design, content and instructional strategies.
- Develop meaningful assessment methods for evaluating student progress and outcome achievement.
- Expand the pathways to collaborative and interdisciplinary problem and project-centred learning at each stage of the student's journey.
- Incorporate in-demand technical, leadership and professional competencies across the curricula.
- Increase opportunities for students to work alongside peers, faculty and industry mentors.
- Multiply the options for international, cross-cultural student learning experiences.
- Deepen the integration of research and inter / multi-disciplinary collaboration into all programs.

Ignite Student Careers

1



Goals

- Invest in strengthening our career advising program in alignment with student needs and career aspirations.
- Expand career counselling services, workshops and connections to job opportunities.
- Collaborate with students, alumni and industry to ensure course content prepares students for their chosen careers.
- Partner with employers to create high-impact co-op placements, internships and career opportunities.
- Develop personalized programming to support doctoral graduates on their pathways to diverse careers.
- Intensify student exposure to industry, alumni and entrepreneurs.

Stimulate Research, Scholarship & Creativity

1



Western Engineering brings together brilliant faculty, students and research partners across disciplinary, geographic and cultural boundaries to drive creativity, innovation and change for the better. We are leaders, actively involved in research projects at the frontier of knowledge. To sustain and increase our success at home and abroad, we will continue to cultivate our interdisciplinary strengths and expertise, invest in essential research infrastructure, tighten our research focus and work even harder to translate our research into practice.

Goals

- Pursue models of collaborative interdisciplinary research that address the pressing challenges of our time.
- Identify and support new and developing areas of research bench strength, where we can lead.
- Establish innovation hubs to connect students and faculty with essential resources to solve problems and turn ideas into products, start-ups and social enterprises.
- Intensify industry, university and cross-sector research partnerships at home and abroad.
- Strengthen faculty mentoring and align essential resources to support and spur research programs and efforts.
- Apply a systematic approach to knowledge dissemination and communication to maximize awareness and drive positive change.

Create a More Equitable, Diverse and Inclusive Western Engineering

1



Equity, diversity, inclusion, decolonization, and Indigenization (EDI-DI) are vital to Western Engineering's future. When EDI-DI is fully embedded in the culture, systems and practices, creativity soars, decision making and problem solving improve and breakthrough innovation increases. More importantly, everyone feels safe, valued, and respected, ready to thrive. Accordingly, a central goal within our strategic plan is to strengthen our work and learning environment for students, staff and faculty. We will question norms, policies, and practices, dismantle the barriers to inclusion and cultivate an equity mindset that will ground us for the future. Ultimately, we will build the conditions for meaningful and sustainable change.

Goals

- Ensure that students, staff and faculty mirror the diversity of our society.
- Accelerate opportunities for Indigenous people and for people of equity-deserving groups to achieve success in Western Engineering.
- Stimulate meaningful consultation and engagement with diverse groups across the Faculty to inform our way forward.
- Identify and repair inequitable and discriminatory practices and policies.
- Ensure our pedagogy, curriculum, and environment are inclusive and reflect the diversity of our students, society, and contributors to the field of engineering.
- Ensure a safe and inclusive environment in the Faculty.
- Provide ongoing EDI training, awareness and mentoring for students, staff and faculty.
- Provide Doctoral Fellowships for Indigenous and Black students

PILLAR TWO

Fueling Our Impact

2



Enabling our people to achieve excellence and realize Western Engineering's vision.

Western Engineering students, communities and the world expect the very best from us. Accordingly, our strategic goals are bold and ambitious. To drive these goals, we will intentionally cultivate a Western Engineering culture that is inclusive and caring. This culture will welcome and value the contributions of all, and will advance reconciliation with Indigenous communities. We will continue to build, empower and support an agile team of staff and faculty and channel their energy, expertise and passion into this important and courageous work. And we will invest in the technology and infrastructure to advance our collective impact.

Cultivate a Culture of Inclusion, Curiosity and Care

Goals

- Live our shared values every day.
- Work as 'one community,' passionate about bringing diverse faculty, students and staff together to collaborate, socialize, learn and solve problems from an engineering perspective.
- Actively and intentionally communicate and engage with one another.
- Provide opportunities to increase awareness of Indigenous issues and EDI within our community
- Cultivate an environment of curiosity, creativity and lifelong learning.
- Create conditions that foster mental, physical, emotional and spiritual well-being for all.



Prepare and Empower Our Team of Staff and Faculty

Goals

- Nurture an environment that enables staff and faculty to thrive and achieve their potential in their roles at Western.
- Cultivate personalized, authentic and motivating work experiences for individuals and teams.
- Attract and retain a diverse range of talented and passionate staff and faculty.
- Recruit best undergraduate and graduate students and post-doctoral scholars from across the globe who are committed to improving society through Engineering.
- Ignite meaningful professional development, pedagogical enrichment and mentorship for staff, teaching assistants and faculty.
- Enrich professional skills of our students for career success.
- Adopt more agile ways of team-based problem solving, decision making and planning across the Faculty.
- Empower and celebrate excellence in administration, service, teaching and research.

Mobilize Technology and Infrastructure

Goals

- Harness progressive technologies to inspire and enable the evolution of our education models and processes.
- Scale emerging and innovative research technologies to accelerate research productivity and success.
- Provide spaces where faculty, staff and students can connect, collaborate, create and socialize.
- Increase the security of our data and computing environment.
- Revitalize and expand core engineering facilities and infrastructure.

PILLAR THREE

Sustaining Our Impact and Place in the World

3



Resourcing and supporting Western Engineering for long-term growth and sustainability.

We are committed to our Vision and the way forward. To support our commitments and the work ahead, we will need to continually grow and diversify our revenue streams and use our resources equitably and sustainably. We will also need to expand our inter-disciplinary and cross-sectoral partnerships and alliances, recognizing that we cannot do this work alone.

And **shared accountability** is critical to sustaining our impact. We will establish performance indicators across each of the strategic pillars and measure progress on a regular basis, using the data to continually improve. We will also connect regularly with students, staff, and faculty to listen, learn and identify opportunities to sharpen our focus and do things better.

Grow and Diversify Goals

- Strategically grow domestic and international student enrollment in key areas.
- Expand and diversify Western Engineering revenue streams.
- Increase external research funding.
- Actively engage with alumni, friends and donors to expand their philanthropic support for engineering students, research and special projects.
- Identify opportunities to optimize process efficiency and system functionality.



Reach Out and Collaborate

Goals

- Continue to build pride, goodwill and loyalty among alumni through communication, involvement, engagement and celebration.
- Strengthen our existing outreach to Indigenous students and communities
- Champion and promote our value proposition by sharing stories of impact with the stakeholders and communities we serve.
- Foster a robust ecosystem of multi-disciplinary partnerships and alliances.
- Accelerate the Faculty's outreach to K-12 students, parents and educators to raise awareness and interest in engineering.

Measure and Improve

Goals

- Empower a cross-functional steering committee to guide and monitor the successful implementation of the five-year strategic plan.
- Track, measure and analyze performance across our strategic plan pillars and academic mandate.
- Build our data acumen and capacity to inform strategic and operational decisions and create value.
- Deliver critical strategy projects on time and within budget.
- Continuously scan our environment to identify and move ahead of emerging trends, opportunities and risks.



From Planning to Impact

Proudly, Western Engineering's new strategic plan, **ENGINEERING IMPACT**, is our pledge to one another and to the people and communities we serve. It is a testimony to what we learned throughout our strategic planning journey, while building on our Faculty's tremendous strengths and legacy of distinction.

ENGINEERING IMPACT challenges each of us to step forward, work collaboratively across disciplines and take action to bring our strategic goals to life. The way forward will require discipline, hard work and accountability, and the fortitude to stay the course and realize our vision.

This is Western Engineering's plan for delivering on our promises to students, alumni and the world. Please join us on the journey to **ENGINEERING IMPACT**.



Western
Engineering

STRATEGIC PLAN 2022-2027