Strategic Plan: **Impact-Centered Education**

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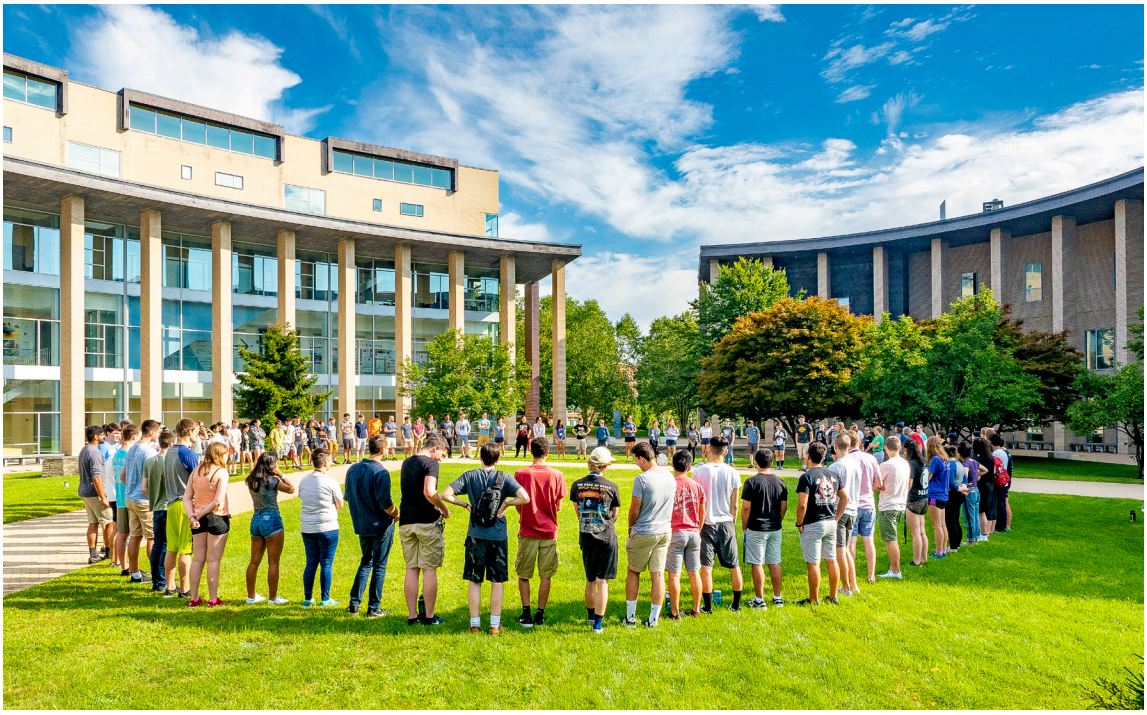


Looking Back, Looking Forward

As we look forward to the next decade for Olin College, we remind ourselves of our origins. The F.W. Olin Foundation's visionary gift was accompanied by the extraordinary vision outlined in the College's founding precepts:

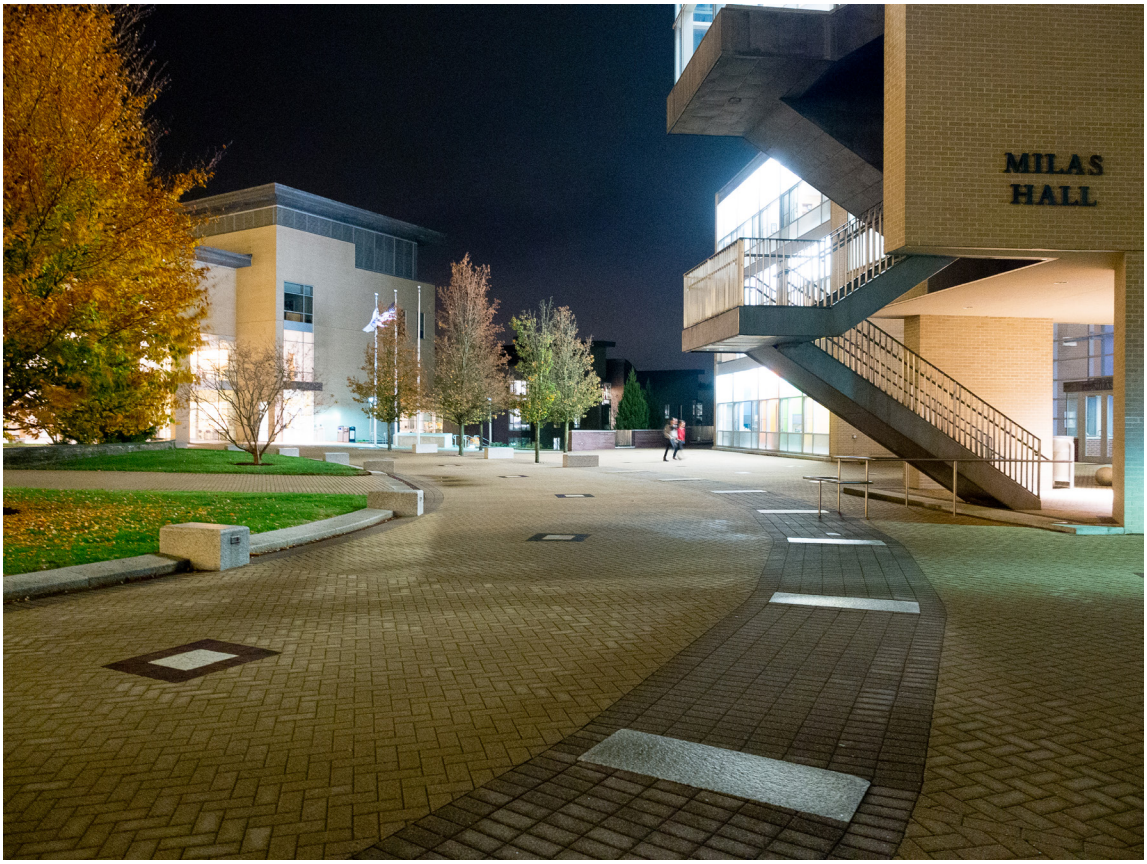
> *"With respect to the Foundation's reasons for establishing the College, let it be said that the Foundation does not seek to establish a generic undergraduate engineering college—one that will simply offer programs similar to many others around the country. Olin College is intended to be different—not for the mere sake of being different—but to be an important and constant contributor to the advancement of engineering education in America and throughout the world and, through its graduates, to do good for humankind."*

These words serve as our North Star and articulate the unique reason for our existence: to contribute to the advancement of engineering education. They also highlight characteristics that we hold foundational: being different in service of the simultaneous imperatives to innovate, to make important and constant contributions, and to do good for humankind through our graduates.

Olin's first decades responded to the pressing challenges at the time of our founding. The National Science Foundation (NSF) and others argued that engineering education needed to incorporate more design, address teamwork and communication skills, shift from a "sit-and-listen" to an engaged and hands-on experience, and address the profession's gender gap. Over the last two decades Olin has not only addressed these precipitating challenges but contributed to a broader change throughout engineering education at large. Engineering education changes that were thought impossible in 1995 are now underway within institutions across the country, and Olin's innovations and contributions are recognized globally.

The problems of today differ from those that prompted Olin's founding three decades ago. A new set of issues press upon the NSF and other thought leaders focused on engineering education: we must broaden participation in engineering, and we must address the societal challenges that transcend disciplinary boundaries. Simultaneously, those in higher education broadly, as well as here at Olin, are contending with the real challenges related to the high cost of education.

Olin was founded to contribute into the future in an ongoing, relevant, and significant way. As we prepare for "important and constant" contributions ahead within the context of engineering education, we are driven to respond to these pressing challenges.



OUR VISION

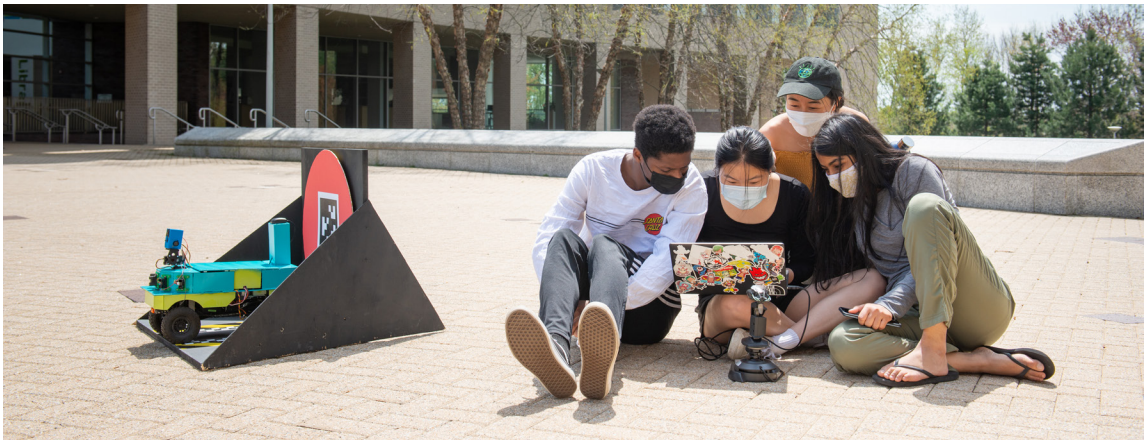
Engineering for Everyone

This strategic plan is grounded in a vision for the future of engineering that is captured in three words: Engineering for Everyone.

Engineering for Everyone has two embedded meanings. First, it means engineering education needs to be for everyone. Today the NSF calls for broadening participation because engineering education systematically excludes large groups of people, to the detriment of individuals, societies, and economies. To address this challenge, engineering education needs to be welcoming to, and enable the success of, people from all backgrounds.

Engineering for Everyone also means that engineering as a profession must serve everyone. We need to go beyond a disciplinary perspective of engineering, and beyond the definition of engineering as "using science to solve technical problems." Engineers need to work across disciplinary boundaries to ask not only "How might we build it?," but also "Who is it for?," "Why are building it?," "Who else is impacted?" and "Should we build it at all?"—and to develop the disciplinary humility necessary to recognize the limits of engineering and to collaborate with experts in other fields. Engineering education must not only focus on producing good workers, but also on developing good people and good citizens.

The founding precepts articulate a compelling and exciting argument for why Olin exists. Our vision of Engineering for Everyone takes that argument forward, responding to today's grand challenges in engineering education and in the world.



OUR STRATEGY

Advancing Engineering for Everyone through Impact-centered Education

The vision of Engineering for Everyone demands a new kind of engineer. One who embodies the following:

→ **PERSONAL IDENTITY & INCLINATION TO SERVE**
society and the planet, not just themselves and their employer.

→ **PROFESSIONAL & TECHNICAL SKILLS & ATTITUDES**
to solve problems by understanding people's needs, generating creative solutions, and thinking and acting entrepreneurially.

→ **SYSTEMS THINKERS**
who appreciate and understand perspectives other than their own, approach situations with humility, and are willing to question whether engineering is the right approach to a given situation.

→ **REPRESENT THE DIVERSITY OF TALENT**
in society, including the talent that has been historically excluded from engineering.

Engineering education today is largely failing to achieve these outcomes.

Our strategic plan focuses on advancing the vision of Engineering for Everyone by developing new educational approaches, and by working with others to create transformation outside of Olin. This strategy builds on our learnings and approach over the College's first twenty years but shifts the focus of our efforts to address current challenges. Our numbers are small, so this work is premised on the idea that our strength is in the work that we do with people outside Olin, the educational changes we help to create, and the change agents and leaders who graduate from Olin.

There is enormous work to be done in defining, developing, and refining the kind of education that develops this new kind of engineer. But, based on our experience over the last two decades, we have a strong sense of what it might look like. We propose that engineering education needs to shift in the direction of Impact-centered Education: education that is focused on not only preparing students to have impact but also on engaging students in creating authentic impact and in making the world a better place. Core to this idea is the proposition that the best way to learn is to do, and the best way to develop an identity as someone who is committed to making the world a better place is to purposefully engage with making the world a better place.

Impact-centered Education decenters both the faculty member and the student, instead aligning both around purpose, meaning, and community through making impact—together.

The idea of Impact-centered Education is deeply connected to Olin's learnings over the past two decades. Key ideas include:

- **REAL-WORLD IMPACT:** A central curricular concept in Impact-centered Education is that every graduate should have multiple experiences that focus on doing something that matters to someone outside of Olin and doing so in a way that is focused on making an impact. Such an approach decenters the individual and develops a student's capacity for execution and completion – while building the student's identity as someone who can create value in the world and who has the responsibility to do so.

- **TECHNICALLY RIGOROUS:** Engineering graduates must ultimately be able to do the technical work of engineering, as well as be able to collaborate and communicate effectively. While the approach to developing these skills might change in an Impact-centered Education, they nonetheless must be addressed rigorously.

- **BEYOND ENGINEERING, BEYOND DISCIPLINES:** The complex challenges of today's world require an ability to integrate perspectives from the technical to the humanistic. Preparing graduates who can confront these challenges requires a transdisciplinary approach that rigorously aligns all aspects of the curriculum—not just the technical.

- **A DIVERSE COMMUNITY:** Impact-centered education has benefits for, and benefits from a diverse community. Research shows that diverse teams are more effective than non-diverse teams in making a positive impact in the world. A diverse community is critical for developing students' understanding and appreciation of perspectives other than their own. At the same time, there is evidence that educational experiences that are more directly connected to making the world a better place are more attractive, welcoming, and inclusive for students from diverse backgrounds.

- **AN EVERYONE CULTURE:** We know that a holistic education that develops students' identities, as well as their knowledge, requires not just a curriculum but also a community that is dedicated to learning and growth and that values and respects the perspectives of all community members—a culture in which everyone is a learner, and everyone is an educator.

- **DOING MORE BY DOING LESS:** A key part of Impact-centered Education is the extent to which it enables—both at an individual level and at an institutional level—increased focus, efficiency, and impact. This applies at the level of an individual faculty member who might align external impact work with work developing students, using a single set of activities to accomplish both goals. By the same token, at the institutional level, Impact-centered Education enables a more robust business model and suggests ways to align our mission of external educational directly with students' educational experiences at Olin.

This is a plan that builds on Olin's history and strengths: our emphasis on a human-centered approach to engineering; our early commitment to gender equity; our willingness to try something new, make mistakes, and learn from them; our position as a leading innovator in engineering education. It also is a plan that will require Olin to grow and learn. Making progress will require balancing hubris and humility, partnering with and learning from those who know more and have done more. And it will require activating and engaging all parts of the Olin community—from students to staff to faculty to friends to alumni.

Let's begin the work!

Our Vision

Engineering for Everyone.

Our Mission

Transforming engineering education toward a world in which engineering serves everyone.

Our Values

Engineering for impact: thriving for all.

At Olin, we are engineering for impact: we strive to create a community and contribute to a world in which all can thrive.

As we pursue our vision of Engineering for Everyone, we work intentionally to reinforce the values to which we aspire. We reflect on who we are now and who we want to be and strive to embody the ideals we embrace.

We commit to serving the Olin community and society at large by enacting our values of equity and justice, trust, learning and growth, sustainability, and collaboration for the benefit of others, especially those who are most in need.

As a community, we:

- → **Fight for equity and justice.**
- → **Offer our trust and earn the trust of others through our words and actions.**
- → **Continually strive to learn, to grow, and to share what we have learned.**
- → **Protect and sustain our natural, built, and financial resources so that they might equitably benefit future generations.**
- → **Collaborate; find meaning and joy in connection with others.**

The Plan

Executive Summary

The plan is organized into four overarching goals, supported by objectives and actions. These were all developed via community engagement and discussions with individual departments. Some actions have begun; some build on and continue work that has been happening for years; some are only in the earliest planning stages, and some will be identified as we move forward. A strategic implementation group who reports to the president will monitor progress on these goals and objectives as we move forward.

Baked into this plan are underlying assumptions about what Olin aspires to be and do. The plan is built around Olin's commitment to ongoing innovation, to being an important and constant contributor – that we will strive to do innovative and important work that justifies and strengthens our reputation as a global leader in engineering education. The plan also assumes that we will continue to recruit fabulous students to be part of this endeavor, and that the education those students get during their time at Olin will prepare them – both technically and personally - to be exceptional engineering innovators and leaders. The idea of Engineering for Everyone, the concept of an Impact-centered Education, and the goals and objectives that constitute the plan will enable us to remain true to these assumptions.

GOAL 1:

A Sustainable Model

Business and operating models align with our values and both enable and leverage Impact-centered Education.

A sustainable model for Olin's operation is foundational to our plan. This will not happen overnight; rather it will require investment at the outset, and careful monitoring and course correction as we move forward. To begin, we must invest to develop new and expanded approaches to revenue generation—both philanthropic and earned—that integrate with and leverage Impact-centered Education. We will reconsider our approaches to financial aid, both to increase access and equity and to align with a shift from student-as-consumer to student-as-participant. We will invest in infrastructure and processes that enable us to operate efficiently and effectively. Finally, to make true and transformative long-term impact, we must consider long-term financial sustainability alongside other forms of sustainability (as defined by the UN's 2030 Agenda for Sustainable Development, summarized in the terms people, planet, prosperity, peace, partnership).

GOAL 2:

An Impact-Centered Curriculum

An impact-centered curriculum that prepares and inclines graduates to serve people, society, and the planet.

We envision an "impact-centered curriculum" that builds on Olin's strengths of innovation, entrepreneurship, interdisciplinarity, and project-based learning, extending these ideas with a greater focus on preparing graduates who have the necessary creativity, humility, perspective, skills, and personal identity to realize the founding precepts' call to "do good in the world." Our vision of an impact-centered curriculum includes a deepened focus on real-world experiences that are aimed at creating impact—educational experiences that produce outcomes that matter to people outside of Olin and that embody the vision of "engineering serving everyone." This kind of real-world engagement is coupled with a transdisciplinary approach that goes beyond interdisciplinarity to intentionally develop skills and mindsets needed to bridge and transcend disciplines, such as systems thinking, an appreciation of different perspectives, and the humility to recognize that engineering is not always the right solution. Such a curriculum will require external partnerships as well as shifts in how faculty approach their own impact.

GOAL 3:

An Aligned Community

Community and culture align with the pursuit of Impact-centered Education.

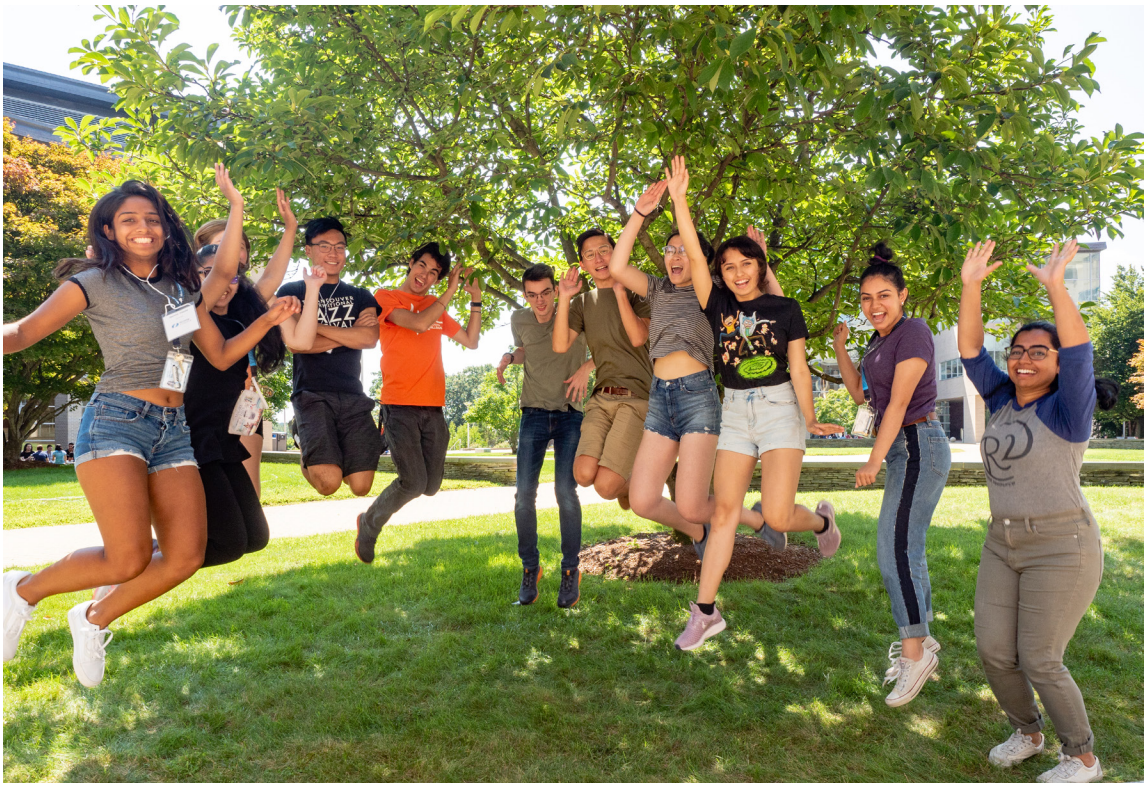
Recognizing an impact-centered education requires far more than just an impact-centered curriculum, we also must attend to the whole of student experience, as well as to what kind of place Olin is and how Olin functions. We will work toward becoming a diverse community—students and employees. We will more deeply integrate our approach to the student experience from the dorm to the classroom to the world. We will work intentionally to create structures and policies that align with our values and that build a shared sense of purpose and belonging. As a community, we will develop the necessary knowledge, skills, and organizational structures to pursue the vision of Impact-centered Education.

GOAL 4:

An Engine for Change

Policies, procedures, and structures enable ongoing learning, improvement, and transformation both internally and externally.

Creating an Impact-centered Education and advancing our mission of broader educational transformation both require that we create curricular and operational structures that enable ongoing experimentation and learning and that facilitate our connection to and collaboration with others who aspire to transform engineering education. We must be able to conduct educational experiments intentionally, and to capture and synthesize learnings, both so that we can feed Olin's experimentation and so that we can effectively translate our insights and share with others. Driving change will also require building relationships, and an approach to experimentation and learning that will be transparent, collaborative, and humble.



Goal 1

A Sustainable Model

Business and operating models align with our values and both enable and leverage Impact-centered Education.

OBJECTIVE 1.1

Increased revenue in support of our cause and our vision of Impact-centered Education.

We will build a new fundraising approach designed around Olin's cause of Engineering for Everyone and our impact-centered educational approach. We will develop a culture of shared responsibility and philanthropy throughout the organization. We will develop approaches to earned revenue that align with the idea of Impact-centered Education and that enable meaningful relational partnerships with external organizations.

OBJECTIVE 1.2

An approach to financial aid that enables a shift in the student relationship while maintaining financial sustainability.

Impact-centered Education implies a move away from the student-as-consumer model of higher education toward a student-as-participant model. We will explore different approaches to financial aid that align with this model and emphasize increased access and equity.

OBJECTIVE 1.3

Infrastructure, policies, and practices that enable efficient and effective work

If Olin is to take on new challenges, we must address the need to do the "basics" better. We must recognize and support the vital operational roles that enable us to pursue impact. This requires that we invest in infrastructure, professional development of managers, and development of streamlined and effective approaches to our work.

OBJECTIVE 1.4

An organization structured for sustainability

We will center sustainability (as defined by the UN's 2030 Agenda for Sustainable Development) in the structure and operations of the college, in order to enact the changes we wish to see in the world, align with our educational goals, and support our ability to make long-term impact.

Goal 2

An Impact-Centered Curriculum

An impact-centered curriculum that prepares and inclines graduates to serve people, society, and the planet.

OBJECTIVE 2.1

Alignment on prioritized impact areas for Olin.

We will identify and pursue a small number of impact areas to enable greater collaboration and greater impact. Impact areas will be chosen to build on Olin's strengths, will align with our vision of Engineering for Everyone and our mission, and will be feasible areas for engagement and impact. We will create policies and structures that enable and support faculty and staff impact within these areas.

OBJECTIVE 2.2

Transdisciplinary educational experiences that prepare students to approach impact thoughtfully.

We will re-think the question of what is fundamental to an engineering undergraduate education, shifting our curricular approach toward an explicitly transdisciplinary frame. We will create new learning experiences that introduce students to different disciplinary lenses and help them bridge and transcend those disciplines, that prepare students for systems thinking, that help students appreciate that engineering is not always the solution, and that develop the capacity to collaborate across differences.

OBJECTIVE 2.3

Expanded opportunities for impact-oriented, real-world experiences in the curriculum.

We will create experiences for students to learn by doing real work that matters to real people, in alignment with the concept of "engineering serving everyone." Faculty, staff, and external collaborators will act not only as guides, but also as mentors and senior coworkers as we work together to create impact. These real-world experiences will focus on creating meaningful impact and will occupy a substantially larger curricular footprint than they do today.

OBJECTIVE 2.4

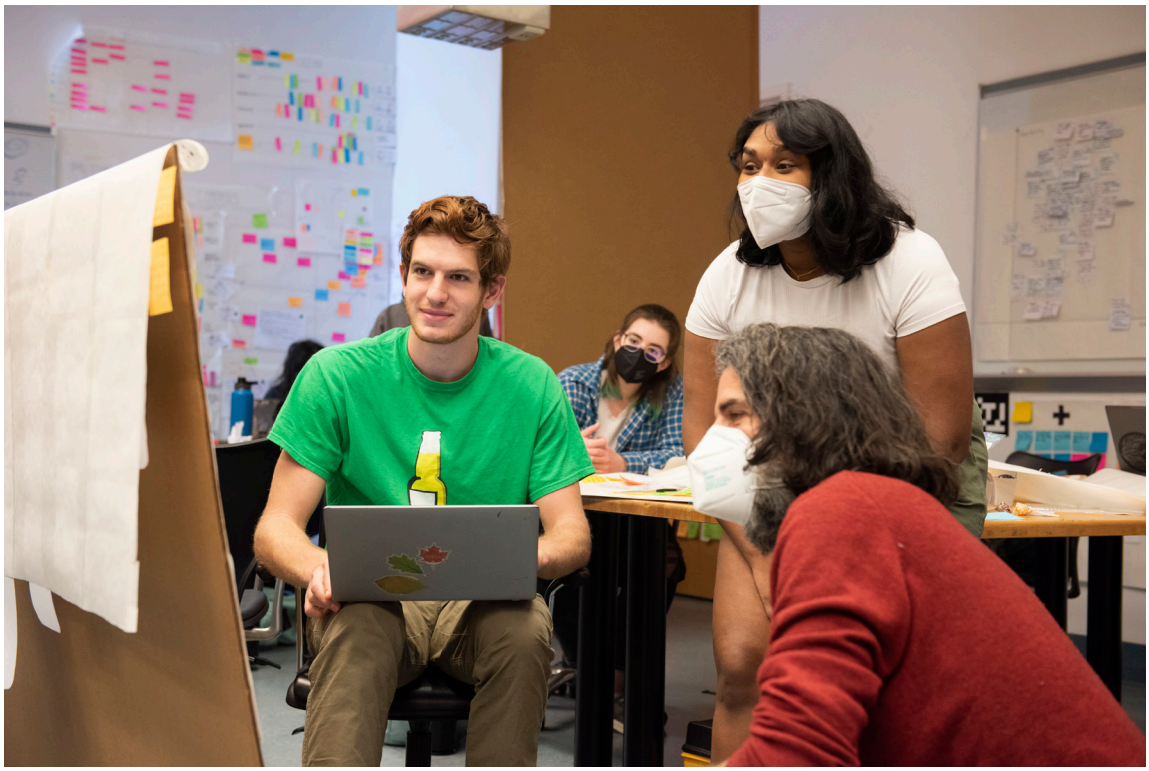
An understanding of key curricular changes to realize Impact-centered Education.

We will analyze our existing curriculum and accreditation choices through the lens of Impact-centered Education and determine what changes to the curriculum, offered degree programs, and/or accreditation approaches are strategically necessary to implement our vision.

OBJECTIVE 2.5

Impact-aligned partnerships and collaborations.

We will develop the necessary infrastructure and policies to enable and support a greater fraction of real-world experiences in the curriculum and different kinds of student, faculty, and staff engagement with that work. We will identify, build relationships with, learn from, and collaborate with external organizations and communities that are engaging in real-world impact, and that are aligned with our identified impact areas.



Goal 3

An Aligned Community

Community and culture align with the pursuit of Impact-centered Education.

OBJECTIVE 3.1

A more diverse and inclusive Olin community.

Recognizing that engineering has historically excluded underrepresented minorities, that appreciation of diverse perspectives is critical for the kind of education we envision, and that diversity is a key component of effective and creative teams, we will work to further diversify both the Olin student population and the Olin employee population—not only bringing in people from diverse backgrounds but also enabling and supporting their success. We will intentionally create a sense of belonging for everyone at the college and create structures and processes that emphasize equity and inclusion in our operations.

OBJECTIVE 3.2

A system to support for students' holistic development.

Recognizing that this kind of student development we value relies on far more than the curriculum, we will continue to develop an educational context, programs, and structures that support students' personal development, social and emotional learning, resilience, and mental and physical well-being. We will take steps to more deeply integrate the entirety of the student experience to realize our vision of impact-centered education.

OBJECTIVE 3.3

A more purposeful and supportive workplace.

We will intentionally create a sense of belonging for everyone at the college. We will create structures and processes that emphasize equity and inclusion in our operations. We will foster a culture of shared responsibility, accountability and stewardship, courageous and effective discourse, and mutual understanding and respect. We will support the continued learning and growth of all employees as we build the capacities and mindsets necessary to create a truly inclusive and supportive Olin.

OBJECTIVE 3.4

An employee community with a growing sense of connection to and capacity for supporting Impact-centered Education.

We will develop current employees, strategically hire new employees, and build partnerships with other institutions to develop communal knowledge and skills around transdisciplinary education; strategies for effective impact; diversity, equity, and inclusion; environmental citizenship; ethical frameworks and civic engagement; and the organizational needs of an Impact-centered Education and institution. We will create policies and programs that support employee professional development and that enable greater engagement with and connection to the educational experience for all members of the Olin community.

OBJECTIVE 3.5

Messaging that attracts new community members and partners to our mission, values, and work.

We will develop compelling and concise ways to communicate our vision of Engineering for Everyone, our mission of transformation, and our work toward embodying the ideas of Engineering for Everyone in our organization and our Impact-centered Education. We will strive to reflect our values and our work in our messaging and recruiting so that we continue to build a community working together in support of Engineering for Everyone.

Goal 4

An Engine for Change

Policies, procedures, and structures enable ongoing learning, improvement, and transformation both internally and externally.

OBJECTIVE 4.1

A curricular infrastructure and change strategy that enable curricular experiments and transitions.

We will undertake an intentional, staged, multi-year, process to allow us to create significant curricular change while still meeting our commitments to students. This is likely to include changes to the curricular framework as well as changes to the curriculum.

OBJECTIVE 4.2

Students who engage as collaborative partners in educational experimentation and educational change.

We will collaborate with students as we undertake educational experiments by clearly communicating our intentions and transparently sharing and developing insights. Similarly, we will intentionally provide students with opportunities to collaborate on educational change outside of Olin.

OBJECTIVE 4.3

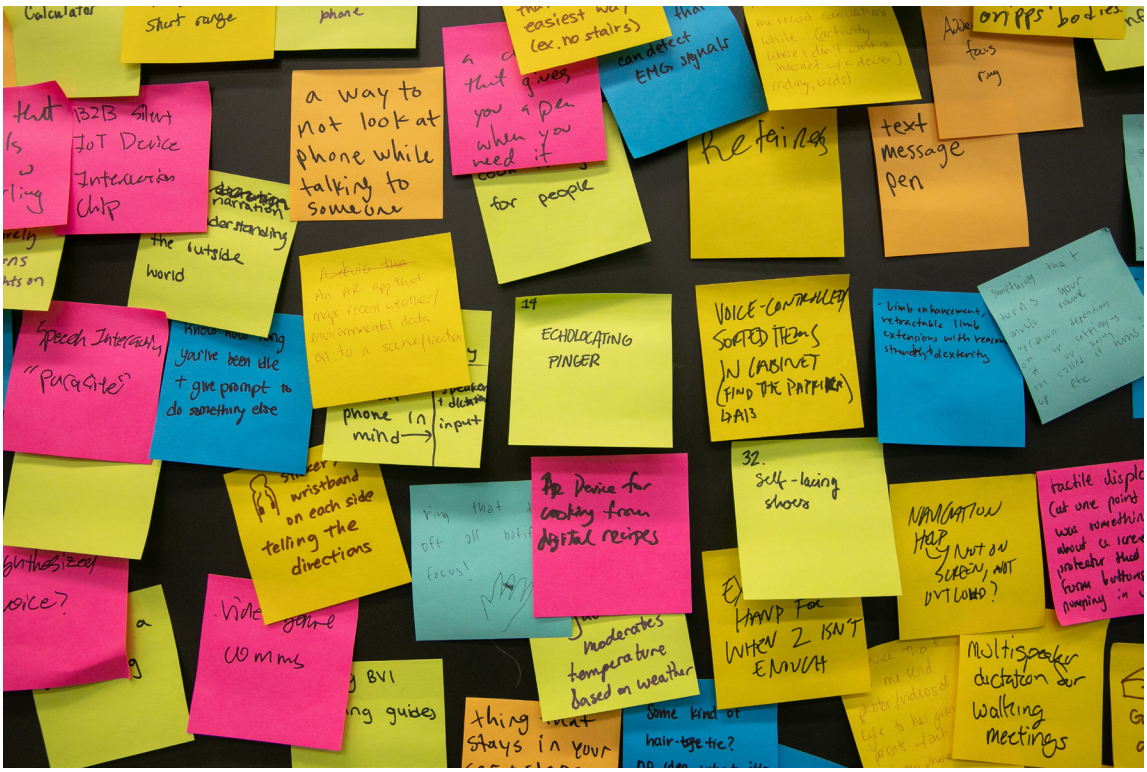
Structures and resources that support experimentation, synthesis, translation, and sharing of educational learnings.

We will intentionally devote resources and time, not just to doing experiments, but also to ensuring that educational experiments are appropriately observed, to doing the necessary synthesis work and translation work that allows people other than the experimenter(s) to benefit, and to sharing these translated insights both within Olin and outside of Olin—thus enabling change both inside and outside the institution.

OBJECTIVE 4.4

Networks to advance Engineering for Everyone.

We will identify, connect, and collaborate with like-minded educators and organizations so that we can learn from each other. We will work as a convener and a connector to build a network of individuals and institutions who share our commitment to Engineering for Everyone.



Process and Timeline

Approach

Olin College's 2022-2027 Strategic Plan reflects a highly iterative planning process that engaged extensive input from Olin community members, including faculty, staff, students, the Board of Trustees, the Academic Life Leadership Team, and the College Council. The process was facilitated by a Strategic Advisory Team of faculty and staff who worked in close collaboration with those ultimately responsible for producing the final plan: Olin College's President, Provost, and leadership team.

Timeline

2018

May 2018 ..... Academic Life retreat exploring Olin's Possible Futures

2019

May 2019 ..... Community Retreat on Presidential Search, creation of Presidential Prospectus

2020

July 2020 ..... Dr. Gilda Barabino joins Olin College as its Second President

September 2020 ..... President Barabino shares Framework for Strategic Visioning and Doing

2021

January 2021 ..... President Barabino shares A Vision for Olin with the Olin Community

August 2021 ..... Olin Board of Trustees receive prototype Strategic Plan

December 2021 ..... President's Strategic Advisory Team announced

2022

January 2022 ..... Strategy Team synthesizes relevant historical work from Olin community

February 2022 ..... Board of Trustees, Faculty, and Staff receive draft Strategic Plan

March 2022 ..... Faculty and Staff feedback on Vision, Mission, and Strategic Initiatives
President Barabino approves draft Values statement

April 2022 ..... College Council feedback on Strategic Goals and Objectives
Student feedback on Mission and Vision at Stay Late and Create event
Faculty and Staff feedback on updated draft Strategic Plan
Board of Trustees feedback on penultimate draft Strategic Plan
Board of Trustees receive final draft of Strategic Plan

May ..... Board of Trustees votes on Strategic Plan at quarterly meeting

People

Strategic Advisory Team

Gilda A. Barabino
President and Professor of Biomedical and Chemical Engineering

Mark Somerville
Provost and Professor of Electrical Engineering and Physics

Lawrence Neeley
Strategic Advisory Team Lead and Associate Professor of Design and Entrepreneurship

Kristin Casasanto
Director of Post-Graduate Planning

Sam Michalka
Assistant Professor of Computational Neuroscience & Engineering

Susan Mihailidis
Associate Dean for Academic Affairs

Claire Rodgers
Associate Energy Engineer

Tim Ferguson Sauder
Professor of the Practice in Design

Alison Wood
Assistant Professor of Environmental Engineering