

School of Engineering Design & Innovation*

*Renaming in process; still School of Engineering Design, Technology, and Professional Programs
(SEDAPP)

2021-25 Strategic Plan

Our Mission:

Empower learners to become change-makers, providing life-changing experiences both inside and outside of the classroom.

Conduct innovative research at the intersection of disciplines, pioneering new fields in engineering while expanding our impact on society.

Promote diversity, equity and inclusion among our faculty, staff, and students, recognizing that engineering education and design innovation flourishes when all voices can be heard.

Serve as the gateway to interdisciplinary engineering education, design innovation, and lifelong learning.

Our Vision:

Be recognized locally, regionally, nationally, and internationally for our ability to revolutionize design, accelerate innovation, and transform engineering education.

Our Goals:

The objectives and actions associated with each of the following goals will enable us to achieve our Mission and Vision by 2025:

1. Create a healthy, inclusive, and productive culture and climate in the School
2. Lead high-impact scholarly research that advances interdisciplinary engineering knowledge, practices, and policies
3. Offer innovative and interdisciplinary educational programs and experiences in residence and online that enable engineers to thrive throughout their careers
4. Broadly communicate and promote our role and impact on society

Goal 1: Create a healthy, inclusive, and productive culture and climate in the School

We must remain vigilant of our mental and physical health and foster a culture and climate that promotes a fair and equitable work/life balance for all of our faculty and staff.

Our culture and climate should strive to be inclusive as it underpins our role as the gateway to interdisciplinary engineering education, design innovation, and lifelong learning.

As a School, we should also strive to be productive, operating efficiently and effectively while garnering the resources and infrastructure for everyone to thrive in their careers.

To create and sustain this culture and climate, we seek to achieve the following objectives, and the associated measures will help guide our initial actions.

Objective 1.1: Support healthy and sustainable professional development and growth for both faculty and staff

Key Performance Indicators: Faculty/staff satisfaction, salary equity adjustments, promotion/tenure success rate, participation in mentoring programs, faculty and staff retention, time to promotion

Objective 1.2: Evaluate and monitor the climate and culture within the School

Key Performance Indicators: Climate survey, faculty/staff/student satisfaction ratings, engagement in College of Engineering's Equity Action Plan, seed funding and engagement in diversity, equity, and inclusion initiatives

Objective 1.3: Streamline administrative operations and expand resources for the School

Key Performance Indicators: Administrative leadership roles, staff/faculty ratio, supervisor/employee ratio, operating guidelines, advisory board membership

Objective 1.4: Expand collaborative labs and shared workspaces to support faculty, staff, and students

Key Performance Indicators: Number of faculty, staff, and students; office space (sq. ft.), collaborative laboratory and shared workspaces (sq. ft.), office, lab, and workspace utilization rates

To achieve these objectives, several actions are needed, and the proposed timeline, metrics, and responsible parties for each action follow.

Goal 1: Create a healthy, inclusive, and productive culture and climate in the School

Objective 1.1. Support healthy and sustainable professional development and growth for both faculty and staff

Key Performance Indicators: Faculty/staff satisfaction, salary equity adjustments, promotion/tenure success rate, participation in mentoring programs, faculty and staff retention, time to promotion

Action 1.1.1. Review individual workload and compensation on annual basis to assess fairness and equity

Action 1.1.2. Develop clear expectation and assessment plans for tenure track (TT) and professional track (PT) for annual review and promotion process in line with College of Engineering and University guidelines

Action 1.1.3. Provide structured mentorship and professional development opportunities for all faculty and staff

Action 1.1.4. Develop faculty and staff workload release and buy-out policies for teaching, research, administration, and maternity/paternity leave consistent with College of Engineering and University policies

Action	Metrics	Timeline	Point Person(s)
1.1.1	Faculty/staff satisfaction, salary equity adjustments, FMLA requests	Annually	Head and Administrative Manager
1.1.2	Promotion guidelines for TT/PT faculty, tenure and promotion success for TT/PT faculty	2021/22, Bi-annually thereafter	Faculty/staff Mentoring Committee(s) (TBD)
1.1.3	# mentoring events, satisfaction survey	2021/22	Faculty/staff Mentoring Committee(s) (TBD)
1.1.4	Course release and teaching buy-out policies	2021/22	Executive Committee (TBD)

Goal 1: Create a healthy, inclusive, and productive culture and climate in the School

Objective 1.2. Evaluate and monitor the climate and culture within the School

Key Performance Indicators: Climate survey, faculty/staff satisfaction ratings, engagement in College of Engineering's Equity Action Plan, evidence of culture change, seed funding for diversity, equity, and inclusion initiatives

Action 1.2.1. Develop policies, procedures, and metrics to nurture and maintain a healthy, inclusive, and productive work environment

Action 1.2.2. Establish a Diversity, Equity, and Inclusion (DEI) Plan within the School and align with the College of Engineering's Equity Action Plan, including defining key terms and metrics

Action 1.2.3. Establish and communicate expectations for DEI for faculty, staff, and students in the School

Action	Metrics	Timeline	Point Person(s)
1.2.1	Faculty and staff satisfaction ratings	Every year	Executive Committee (TBD)
1.2.2	DEI Coordinator(s), DEI Plan, Participation in CoE EAP events and initiatives	Align with CoE EAP	Head and DEI Coordinator(s) (TBD)
1.2.3	DEI expectations, DEI initiatives supported, DEI participation	2021/22, reviewed annually	DEI Coordinator(s) (TBD)

Goal 1: Create a healthy, inclusive, and productive culture and climate in the School

Objective 1.3. Streamline administrative operations and expand resources for the School

Key Performance Indicators: Administrative leadership roles, staff/faculty ratio, supervisor/employee ratio, operating guidelines, advisory board membership

Action 1.3.1. Establish an Executive Committee to advise and support the Head

Action 1.3.2. Review and streamline administration roles and responsibilities for the School's multiple programs, TT/PT faculty, alumni and industry relations, and Commonwealth Campus engagements

Action 1.3.3. Pursue resources to support staff and administrative leadership roles

Action 1.3.4. Develop and maintain by-laws and operation guidelines for the School

Action	Metrics	Timeline	Point Person(s)
1.3.1	Committee membership	2021	Head and Program Directors
1.3.2	Org chart, # employees per supervisor/role, campus engagements	2021/22	Head, Program Directors, Admin Manager
1.3.3	Budget, staff/faculty ratio, # leadership roles	Every year	Head
1.3.4	Operating guidelines, bylaws	2021/22 and 2023/24	Head and Executive Committee (TBD)

Goal 1: Create a healthy, inclusive, and productive culture and climate in the School

Objective 1.4. Expand collaborative labs and shared workspaces to support faculty, staff, and students

Key Performance Indicators: # of faculty, staff, graduate students, and offices; office space (sq. ft.), laboratory and collaborative workspaces (sq. ft.), office, lab, and workspace utilization rates

Action 1.4.1. Review lab and workspace allocations for the School on campus

Action 1.4.2. Assess current and projected interdisciplinary and shared workspace and lab infrastructure needs based on programming, enrollments, equipment, and anticipated growth

Action 1.4.3. Develop a plan to expand collaborative labs and shared workspaces to support projected growth, programming, and interdisciplinary research

Action 1.4.4. Garner resources for infrastructure, equipment, and space to support research, educational programs and interdisciplinary collaborations

Action	Metrics	Timeline	Point Person(s)
1.4.1	# offices, lab and workspaces (sq. ft.)	2021/22	Head and Executive Committee (TBD)
1.4.2	# offices, laboratory, and collaborative workspaces (sq. ft.)	2021/22, reviewed annually	Head and Administrative Manager
1.4.3	Budgetary resources, capital investment	2022/23, reviewed annually	Program Directors and Executive Committee (TBD)
1.4.4	Funds raised, # alumni engaged, capital investment, laboratory and shared workspaces (sq. ft.)	Annually	Head

Goal 2: Lead high-impact scholarly research that advances interdisciplinary engineering knowledge, practices, and policies

Knowledge is the foundation of a university, and research drives discovery of new knowledge to help improve the world in which we live.

Our scholarly pursuits create a hub for interdisciplinary engineering research and lifelong learning that revolutionizes design, shapes policies, and spreads knowledge to help accelerate innovation.

The following objectives will foster collaborations and partnerships to transform engineering and the engineering workforce. The associated metrics will help us begin to track our progress and impact in these areas.

Objective 2.1. Improve student support and engagement to advance engineering knowledge and design innovation

Key Performance Indicators: # RA/TAs supported, # undergrad researchers, # honors students, # clubs/out-reach/engagement events, amount of alumni support

Objective 2.2. Expand mechanisms and incentives for impactful interdisciplinary research

Key Performance Indicators: # courtesy/affiliate/joint faculty, # strategic hires, D.Eng. and Ph.D. programs, enrollment in doctoral program, time-to-degree completion, seed funding raised, # seed grants awarded, faculty awards, time to promotion, collaborative laboratories and shared workspace

Objective 2.3. Diversify our research portfolio and external support to expand our impact

Key Performance Indicators: External partnership database, industry engagement and events, public interest/policymaker engagement and events, awards from federal agencies, industry sponsorship, philanthropic funding, # revenue generating offerings and programs

To achieve these objectives, several actions are needed, and the proposed timeline, metrics, and responsible parties for each action follow.

Goal 2: Lead high-impact scholarly research that advances interdisciplinary engineering knowledge, practices, and policies

Objective 2.1. Improve student support and engagement to advance engineering knowledge and design innovation

Key Performance Indicators: # RA/TAs supported, # undergrad researchers, # honors students, # clubs/ outreach/engagement events, amount of alumni support, collaborative laboratories and shared workspaces (sq. ft.)

Action 2.1.1. Participate and lead new college initiatives to grow graduate student support, interdisciplinary labs, and shared workspaces

Action 2.1.2. Create a robust undergraduate research program and pipeline for graduate student recruitment

Action 2.1.3. Foster opportunities that enhance student engagement and student impact outside of the classroom

Action 2.1.4. Engage alumni to grow philanthropic support for our students and our faculty

Action	Metrics	Timeline	Point Person(s)
2.1.1	Graduate program growth, # RA's/TA's supported, labs (sq. ft.) and shared workspaces (sq. ft.)	2021/22, Annually	Graduate Staff Graduate Chair(s)
2.1.2	# UG researchers, # Undergrad researcher converted to graduate students, # honors students	2021/22, Annually	UG Research Coordinator (TBD)
2.1.3	# clubs, # outreach events, social media #'s, # public policy comments, industry internships, federal/policy fellowships, conferences	2021/22, Annually	Program Directors
2.1.4	Total # alumni engaged, # alumni events, geographic location of alumni/events, amount of annual support and gifts, recurring gifts	2021/22 and 2023/24	Alumni and Corporate Relations Staff (TBD)

Goal 2: Lead high-impact scholarly research that advances interdisciplinary engineering knowledge, practices, and policies

Objective 2.2. Expand mechanisms and incentives for impactful interdisciplinary research

Key Performance Indicators: # courtesy/affiliate/joint faculty, # strategic hires, seed funding raised, # seed grants awarded, faculty awards, time to promotion, collaborative laboratory and shared workspaces

Action 2.2.1. Establish guidelines, criteria, and procedures for courtesy, affiliate, and joint faculty appointments with the School

Action 2.2.2. Pursue strategic interdisciplinary faculty hires within the College of Engineering and in collaboration with Institutes and other colleges

Action 2.2.3. Expand seed funding, collaborative labs, and shared workspaces to foster interdisciplinary and multi-campus research initiatives and programs

Action 2.2.4. Lead college and university-wide initiatives to support interdisciplinary research and traineeship programs

Action 2.2.5. Review incentive structures for TT/PT faculty promotion and awards, including interdisciplinary collaborations and initiatives

Action	Metrics	Timeline	Point Person(s)
2.2.1	Guidelines for courtesy, affiliate, and joint appts.	2021-2022, Reviewed annually	Head, TT/PT Faculty Review Committee (TBD)
2.2.2	# courtesy/affiliate/joint faculty	Annually	Head, Staff Assistant to the Head
2.2.3	Seed funding raised, # seed grants awarded, collaborative labs and shared workspaces (sq. ft.)	Annually	ETCE Director, CRDI director
2.2.4	# Interdisciplinary research and traineeship programs	2021/22 and 2023/24	Center for Research in Design and Innovation Director
2.2.5	Faculty awards, time to promotion, collaborative projects, # disciplines involved in projects	2021-2022	TT/PT Faculty Review Committee (TBD), Awards Committee, Head

Goal 2: Lead high-impact scholarly research that advances interdisciplinary engineering knowledge, practices, and policies

Objective 2.3. Diversify our research portfolio and external support to expand our impact

Key Performance Indicators: External partnership database, industry engagement and events, public interest/policymaker engagement and events, awards from federal agencies, industry sponsorship, philanthropic funding, amount and type of research expenditures, # industry outreach events

Action 2.3.1. Grow faculty networking opportunities, industry engagement, and public interest/policymaker engagement and events to promote collaboration and engineering innovation

Action 2.3.2. Identify and pursue new external revenue streams to support scholarly and translational research, industry engagement, and public interest/policymaker engagement and events

Action 2.3.3. Actively partner on College, Institute, and University initiatives to expand research portfolio, internal funding opportunities, and international partnerships

Action	Metrics	Timeline	Point Person(s)
2.3.1	# industry engagement and events, public interest/policymaker events, philanthropic support	2021/22, Annually	Administrative Support Person (TBD)
2.3.2	Amount and type of research expenditures, # industry outreach events, public interest events, policymaker events	2021/22, Annually	Head, Assistant to the Head (TBD)
2.1.3	# clubs, # outreach events, social media #'s, # public policy comments, industry internships, federal/policy fellowships, conferences	2021/22, Annually	Program Directors
2.3.3	Amount and type of collaborative proposals	Annually	Head, Program Directors, Faculty

Goal 3. Offer innovative and interdisciplinary educational programs and experiences in residence and online that enable engineers to thrive throughout their careers

Sharing of knowledge is central to our role as a university, and new and innovative educational experiences are imperative as technology evolves and transforms the engineering workforce.

Empowering engineers to thrive throughout their careers requires engagement within and outside of the classroom, and life-changing educational experiences occur when disciplines interact.

The following objectives will enable students to become change-makers that will impact society throughout their careers and help transform the engineering workforce; the associated measures will guide our initial progress in each area.

Objective 3.1. Evaluate synergies across programs and the viability of the School's offerings

Key Performance Indicators: # programs, #shared/unique courses per program, course delivery modes, joint faculty hires, revenue/FTE, teaching awards

Objective 3.2. Pursue interdisciplinary degrees in engineering design and innovation

Key Performance Indicators: new degree, # new courses, student enrollment, degree completion rates, # campuses involved, career paths

Objective 3.3. Provide high-quality lifelong learning opportunities for alumni and other professionals

Key Performance Indicators: # professional programs, # training programs, # non-credit courses, # certificates, enrollment/offering, revenue/offering, alumni involvement, # companies participating, geographic location of participants

To achieve these objectives, several actions are needed, and the proposed timeline, metrics, and responsible parties for each action follow.

Goal 3. Offer innovative and interdisciplinary educational programs and experiences in residence and online that enable engineers to thrive throughout their careers

Objective 3.1. Evaluate synergies across programs and the viability of the School's offerings

Key Performance Indicators: # programs, #shared/unique courses per program, course delivery modes, shared faculty hires, revenue/program, teaching awards

Action 3.1.1. Review course offerings and delivery modes for School programs relative to stakeholder needs and market assessment

Action 3.1.2. Develop synergistic offerings and enhance delivery modes to scale courses, projects, and programs across campuses and outside the classroom

Action 3.1.3. Support and reward interdisciplinary collaborations in teaching, coteaching, and innovative curricular offerings between existing programs

Action 3.1.4. Explore funding opportunities and strategic partnerships to expand educational offerings, course projects, programs, research, and global experiences

Action	Metrics	Timeline	Point Person(s)
3.1.1	# programs, #courses per program, course delivery modes, revenue/program	2021/22, Reviewed annually	Head, Program Directors
3.1.2	# shared/unique courses per program, # delivery modes, revenue/program	2021/22, Reviewed annually	Program Directors
3.1.3	Seed funding, # awards, shared faculty hires	2022/23, Updated annually	Head
3.1.4	Funding and external support, shared faculty, co-hires, # affiliate faculty	2021/22, Reviewed annually	Head, Program Directors, Global Coordinator (TBD)

Goal 3. Offer innovative and interdisciplinary educational programs and experiences in residence and online that enable engineers to thrive throughout their careers

Objective 3.2. Pursue new interdisciplinary degrees in engineering design and innovation

Key Performance Indicators: new degrees offered, # new courses, student enrollment, degree completion rates, # campuses involved, career paths

Action 3.2.1. Create an interdisciplinary and cross-campus team to develop the curriculum and benchmark competitive offerings in fields related to engineering design and innovation

Action 3.2.2. Conduct market analysis to identify gaps, needs, and focus areas for undergraduate and graduate interdisciplinary engineering degree offerings

Action 3.2.3. Engage with external partners to review and establish new degree offerings at the undergraduate and graduate levels across participating campuses

Action 3.2.4. Identify resources and infrastructure to support new degree offerings at the undergraduate and graduate levels across participating campuses

Action	Metrics	Timeline	Point Person(s)
3.2.1	Benchmark data, # competing programs, new degree offerings	2021/22	Faculty Committee (TBD)
3.2.2	Market analysis, gaps, needs per new degree	2022/23	Faculty Committee (TBD)
3.2.3	# external partners, # campuses involved	2022/24	Faculty Committee (TBD)
3.2.4	Funding levels, capital investment, equipment donations	2022/25	Head, Faculty Committee (TBD)

Goal 3. Offer innovative and interdisciplinary educational programs and experiences in residence and online that enable engineers to thrive throughout their careers

Objective 3.3. Provide high-quality lifelong learning opportunities for alumni and other professionals

Key Performance Indicators: # professional programs, # training programs, # non-credit courses, # certificates, enrollment/offering, revenue/offering, alumni involvement, # companies participating, geographic location of participants

Action 3.3.1. Establish relationships with university units and departments, industry, international organizations, educational institutions, professional societies, policymakers, and government agencies to develop impactful training opportunities and professional programs

Action 3.3.2. Develop certificates, non-credit courses, badges/micro-credentials, and lifelong learning opportunities based on our undergraduate and graduate programs for alumni and professionals across campuses

Action	Metrics	Timeline	Point Person(s)
3.3.1	# organizations, # industry partners, # professional societies, geographic footprint	2021-2025	Professional Programs & Outreach, Program Directors
3.3.2	# professional programs, # training programs, # non-credit courses, # certificate programs, revenue/offering	2022-2025	Professional Programs & Outreach, Faculty, Program Directors

Goal. 4. Broadly communicate and promote our role and impact on society

Our impact on society should be celebrated locally, regionally, nationally, and internationally.

Broad and strategic communication is essential to promote what we do and expand our impact on society; everyone should be able to amplify this messaging through their own outreach efforts.

The following objectives have been established to help communicate effectively both internally and externally as we seek to expand our impact on society; the associated measures will help us track our initial progress.

Objective 4.1. Rebrand the School to emphasize its broad impact on engineering design and innovation

Key Performance Indicators: New name, new website, frequency of website updates, promotional materials, social media presence, marketing collateral, regional reputation, national ranking, # staff, staff resources

Objective 4.2. Establish alumni network and professional engagement opportunities to expand our impact

Key Performance Indicators: alumni engagement, emerging trends identified, philanthropy and alumni support, inter-departmental collaborations, Industrial & Professional Advisory Committee (IPAC) membership

Objective 4.3. Create synergistic communications and marketing collateral to promote our impact on the University, the Commonwealth, the nation, and the world

Key Performance Indicators: Content harvested, shelf-life of content, marketing collateral, social media presence (programs and School), industry engagement, thought-leadership indicators, regional and national impact, global presence

To achieve these objectives, several actions are needed, and the proposed timeline, metrics, and responsible parties for each action follow.

Goal. 4. Broadly communicate and promote our role and impact on society

Objective 4.1. Rebrand the School to emphasize its broad impact on engineering design and innovation

Key Performance Indicators: New name, new website, frequency of website updates, promotional materials, marketing collateral, regional reputation, national ranking, # staff, staff resources

Action 4.1.1. Rename the School of Engineering Design, Technology, and Professional Programs to the School of Engineering Design & Innovation

Action 4.1.2. Redesign the School website and promotional materials to reflect our emphasis on interdisciplinary engineering innovation and learning

Action 4.1.3. Position the School locally, regionally, nationally, and globally through a comprehensive branding and communication strategy

Action 4.1.4. Identify additional staff and resources to support the rebranding and strategic communication efforts

Action	Metrics	Timeline	Point Person(s)
4.1.1	New name for School	2021/22	Head and School Renaming Committee
4.1.2	New website, frequency of website updates, promotional materials, marketing collateral	2021/22	Marketing Communications Staff, Head, Program Directors
4.1.3	Regional reputation, global awareness, website traffic	2021-2025	Marketing Communications Staff, Head, Program Directors, Faculty
4.1.4	# staff, staff resources	2022-2025	Head and Staff Administrative Manager

Goal. 4. Broadly communicate and promote our role and impact on society

Objective 4.2. Establish alumni network and professional engagement opportunities to expand our impact

Key Performance Indicators: alumni engagement, emerging trends identified, philanthropy and alumni support, inter-departmental collaborations, membership on IPAC

Action 4.2.1. Develop opportunities for alumni and other professionals to engage with faculty, staff, and students in the School

Action 4.2.2. Collaborate with alumni and other professionals to identify emerging trends of national and global importance

Action 4.2.3. Partner with other engineering departments and Development to pursue gifts and philanthropic support to strengthen our impact

Action	Metrics	Timeline	Point Person(s)
4.2.1	Alumni engagement, # events, # connections, # course engagements, # visitors	2021-2025	Head, Program Directors, Alumni & Corporate Relations Staff (TBD)
4.2.2	List of emerging trends	2022-2025	Alumni & Corporate Relations Staff(TBD)
4.2.3	# inter-departmental collaborations, # alumni, gifts, philanthropic support	2021-2025	Head, Program Directors, Alumni & Corporate Relations Staff (TBD)

Goal. 4. Broadly communicate and promote our role and impact on society

Objective 4.3. Create synergistic communications and marketing collateral to promote our impact on the University, the Commonwealth, the nation, and the world

Key Performance Indicators: Content harvested, shelf-life of content, marketing collateral, social media presence (programs and School), industry engagement, thought-leadership indicators, regional and national impact, global presence

Action 4.3.1. Collect and curate content and marketing collateral from research activities, courses, projects, and programs across campuses that demonstrate our impact on society

Action 4.3.2. Leverage social media to enhance our impact and engagement in our programs across campuses

Action 4.3.3. Promote industry engagement and lifelong learning opportunities across campuses

Action 4.3.4. Provide thought-leadership and subject matter expertise on topics that impact the state, the nation, and the world

Action	Metrics	Timeline	Point Person(s)
4.3.1	Content, shelf-life of content, marketing collateral	2021-2025	Marketing Communications Staff, Program Directors
4.3.2	Social media presence, views/post, # connections	2022-2025	Marketing Communications Staff, Program Directors, Faculty
4.3.3	# companies engaged, # industries represented, geographic footprint	2022-2025	Marketing Communications Staff, Professional Programs & Outreach, ETCE Director
4.3.4	Thought-leadership pieces, regional impact metrics, national impact metrics, international impact metrics	2021-2025	Program Directors, Faculty