

LOOK
NORTH
UNT 2030

DEVELOP | DISCOVER | DRIVE



UNT[®]

**COLLEGE OF
ENGINEERING**

WHO WE ARE

Located at Denton's Discovery Park, the UNT College of Engineering features a high-density ecosystem designed for rapid cross-disciplinary breakthroughs. This collaborative environment prepares career-ready students to meet critical industry needs while advancing strategic research in applied artificial intelligence, advanced manufacturing and materials, healthcare innovations, and autonomous systems.

Serving over 6,500 students, the college offers a comprehensive selection of five doctoral, 11 master's, and 12 bachelor's programs. Spanning a diverse spectrum of technology and innovation — from computer science to biomedical, computer, construction, electrical, materials, and mechanical engineering — these fields are laser-focused on preparing graduates to compete effectively in today's global market.



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Executive Summary

Strategic Direction Through 2030

Moving forward to 2030, the College of Engineering will cultivate a community where every person is empowered to rise through expanded experiential learning, flexible and future-ready academic pathways, and strengthened mentoring and support systems. We will inspire innovation by growing interdisciplinary research, investing in faculty excellence, and deepening partnerships with industry and national laboratories to accelerate discovery and commercialization. United in purpose, we will broaden our visibility and impact through meaningful community and alumni engagement while reinforcing a supportive, connected environment for all students, faculty, and staff. Together, these efforts position us to engineer a better world through excellence in education, research, and community partnership.

Unique Role, Contribution, and Strengths

The College of Engineering plays a pivotal role in advancing UNT's mission by developing students' potential through comprehensive engineering programs enriched with practical, career-shaping experiences that reflect the university's commitment to high expectations, high support, and future-ready talent. Our strategic research thrusts in applied AI, healthcare innovations, advanced manufacturing and materials, and autonomous systems directly reinforce UNT's priority to tackle Texas' major challenges and expand advances in fields critical to the state's future. These strengths are amplified by world-class core research facilities and a collaborative environment that accelerates innovation, aligns with UNT's drive for creativity and entrepreneurship, and translates ideas into real-world impact. With all departments collocated in a single building, the college fosters interdisciplinary problem-solving and a cohesive, caring community that supports students and faculty alike. Together, these attributes position the College of Engineering as a unique engine of discovery, talent development, and industry partnership — advancing UNT's mission to build lives of purpose and possibility while powering progress for our region, Texas, and beyond.

Navigating External Forces, Trends, and Contexts

The College of Engineering faces a rapidly evolving landscape through 2030, shaped by intensifying competition from peer institutions across the Dallas–Fort Worth region and accelerating technological shifts in automation, AI, and advanced manufacturing that are redefining workforce expectations. Stabilizing master's enrollment and navigating uncertainties in federal research funding will require strategic adaptation. Moreover, continued growth has created pressing needs for additional research and instructional space, competitive compensation, and expanded staffing.

These challenges also create powerful opportunities. UNT's location in one of the nation's fastest-growing innovation corridors positions the college to deepen industry engagement, expand commercialization pathways, and become a preferred partner for regional employers seeking engineering talent and applied research. Growing demand for interdisciplinary skills and experiential learning aligns directly with the college's strengths, enabling expansion of academic offerings that prepare students for

emerging careers. With stronger marketing, outreach, and external partnerships, the college can elevate its visibility, attract learners, and strengthen its role as a driver of economic and technological advancement for North Texas and beyond.

Strategic Goals (2026-2030)

- 1. The Engineer in Action Initiative:** 80% of graduating undergraduate and graduate engineering students will have completed at least one high-impact experiential learning activity (e.g., internship, co-op, faculty-mentored research, service learning, study abroad, or industry-based/interdisciplinary micro-research course project). The duration of the activity is a minimum of 10 weeks (length of the summer term). For undergraduate students, the high-impact experiential learning activity is in addition to the required undergraduate capstone.
- 2. The Agile Engineer Curricular Framework:** Modernize degree pathways to provide 20% interdisciplinary elective flexibility, strengthen cross-disciplinary and career readiness, improve time to degree, and expand online options for all learners, including working professionals.
- 3. Strengthening research productivity:** Enhance faculty research productivity through expanded research support and growth in both interdisciplinary collaborative activities and strategic research areas to achieve research expenditures of \$50 million.
- 4. Expanding innovation:** Strengthen and expand research and development relationships with national labs and industry in Dallas-Fort Worth and beyond, doubling our funding from industry support, including Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants, and increasing support from national lab partnerships through congressional plus-up funding and other opportunities.
- 5. Enhancing college visibility and community engagement:** Increase the college's visibility as a hub of innovation and excellence to strengthen engagement by expanding community partnerships and engagement activities by 50%, developing targeted marketing of our academic programs, and establishing a college alumni board to support deeper engagement with our alumni.
- 6. Reinforcing student retention and development:** Support retention and development of all students through early intervention, engaging learning environments, and expanded mentoring activities including: (a) doubling both peer mentors and STEM Smart mentors, (b) adding at least 60 new scholarships, and (c) supporting staff and faculty development in best practices for instruction and student mentoring.

Key Outcomes & Metrics

- Percentage of graduating undergraduate and graduate engineering students who have completed at least one high-impact experiential learning activity
- Percentage of curricular flexibility in college programs, measured in terms of program electives for interdisciplinary opportunities
- Number of collaborative research projects
- Total external research expenditures
- Total external research expenditures per tenured or tenure-track faculty member
- Funding from industry support (including SBIR and STTR grants) and support from national lab partnerships
- Number of community partnerships and engagement activities
- Expenditures on marketing of academic programs and number of programs marketed
- Number of STEM Smart mentors and number of students mentored
- Number of peer mentors and number of students mentored
- Number of student scholarships
- Faculty and staff development opportunities supporting student instruction and mentoring

Core Metrics: Established Benchmarks that Define University Performance

Metric	UNT Baseline (2024/25)	UNT Target (2030)	CENG Baseline (2024/2025)	CENG Target (2030)
1st to 2nd year retention	77%	90%	76.4%	90%
4-year graduation rate	42%	65%	25.4%	65%
6-year graduation rate	61%	80%	51.8%	80%
Annual R&D expenditures	\$124M	\$250M	\$40.8M	\$80M HERD expenditures
Doctoral degrees awarded	286	300	40	50
Time to value	6 years	Decrease time for programs over median	3 years (median)	3 years (median)

Emergent Metrics: Important Dimensions of Our Success that Require New Approaches

Post-graduation placement: Percentage of graduates placed in high-demand occupations or graduate and professional programs

The only data currently available to the CENG is that provided by Career Services. This data is based on exit surveys and is sparse. We are working to collect information on alumni from available online sources, but it is not clear if this will provide details in close proximity to graduation.

Career-aligned learning: Percentage of academic programs that integrate internships, industry-sponsored projects, or other work-integrated learning experiences

CENG does not currently have comprehensive data on these activities across the college. As part of Goal 1, we will be tracking industry sponsored projects and other experiential learning activities as part of our efforts to achieve this goal.

Awards and recognitions: Prestigious awards, exhibitions, and performances achieved by our students, faculty, staff, and alumni

The CENG tracks and announces faculty, current students, and alumni awards/successes we are made aware of.

Innovation and entrepreneurship: New ventures, startups, and public impact projects launched by students, faculty, and alumni

The CENG announces faculty, current student, and alumni ventures and startups we are made aware of.

Student and alumni engagement: Perceptions of how well UNT prepares graduates to pursue lives of meaning and purpose

This is not tracked beyond information received in exit interviews from Career Services or anecdotal input received from alumni.

College-Level Metrics: Other Important Priority Metrics Tracked at the College Level

- **Support for student success:** We support student success in several specific ways that track support of students: number of STEM Smart mentors and number of students mentored, number of peer mentors and number of students mentored, and number of student scholarships. Because teaching and mentoring require specific skills, we also track faculty and staff development opportunities supporting student instruction and mentoring.
- **Student career preparation and experience:** Engineering is both practical and inherently interdisciplinary. To ensure student preparation for their future careers, we measure interdisciplinary outcomes and practical experiences. We track the percentage of curricular flexibility in college programs, measured in terms of program electives for interdisciplinary opportunities. We also track the number of experiential learning activities in which our students participate.
- **Research and technology innovation:** Research is critical for the educational development of our students and for generating the technology of the future. In support of these efforts, we track both

total expenditures and expenditures per tenured or tenure-track faculty member. We also track funding from industry support (including SBIR and STTR grants) and support from national lab partnerships, which help to transition research from the laboratory into the marketplace.

- **Community engagement:** The applied nature of engineering, the important role it plays in our economy, and student interest in engineering careers leads us to track the number of community partnerships and engagement activities.

Goals in Action

Develop the potential of UNT students, faculty, staff, and community members

- **The Engineer in Action Initiative:** 80% of graduating undergraduate and graduate engineering students will have completed at least one high-impact experiential learning activity (e.g., internship, co-op, faculty-mentored research, service learning, study abroad, or industry-based/interdisciplinary micro-research course project).
- **The Agile Engineer Curricular Framework:** Modernize degree pathways to provide 20% interdisciplinary elective flexibility, strengthen cross-disciplinary and career readiness, improve time to degree, and expand online options for all learners, including working professionals.
- **Strengthening research productivity:** Enhance faculty research productivity through expanded research support and growth in both interdisciplinary collaborative activities and strategic research areas to achieve research expenditures of \$50 million.
- **Reinforcing student retention and development:** Support retention and development of all students through early intervention, engaging learning environments, and expanded mentoring activities including: (a) doubling both peer mentors and STEM Smart mentors, (b) adding at least 60 new scholarships, and (c) supporting staff and faculty development in best practices for instruction and student mentoring.

Discover new knowledge and insights that bridge traditional academic disciplines

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- **Strengthening research productivity:** Enhance faculty research productivity through expanded research support and growth in both interdisciplinary collaborative activities and strategic research areas to achieve research expenditures of \$50 million.
- **Expanding innovation:** Strengthen and expand research and development relationships with national labs and industry in Dallas-Fort Worth and beyond, doubling our funding from industry support (including SBIR and STTR grants), and increasing support from national lab partnerships through congressional plus-up funding and other opportunities.

Drive creative advances, partnerships, and new models of higher education

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