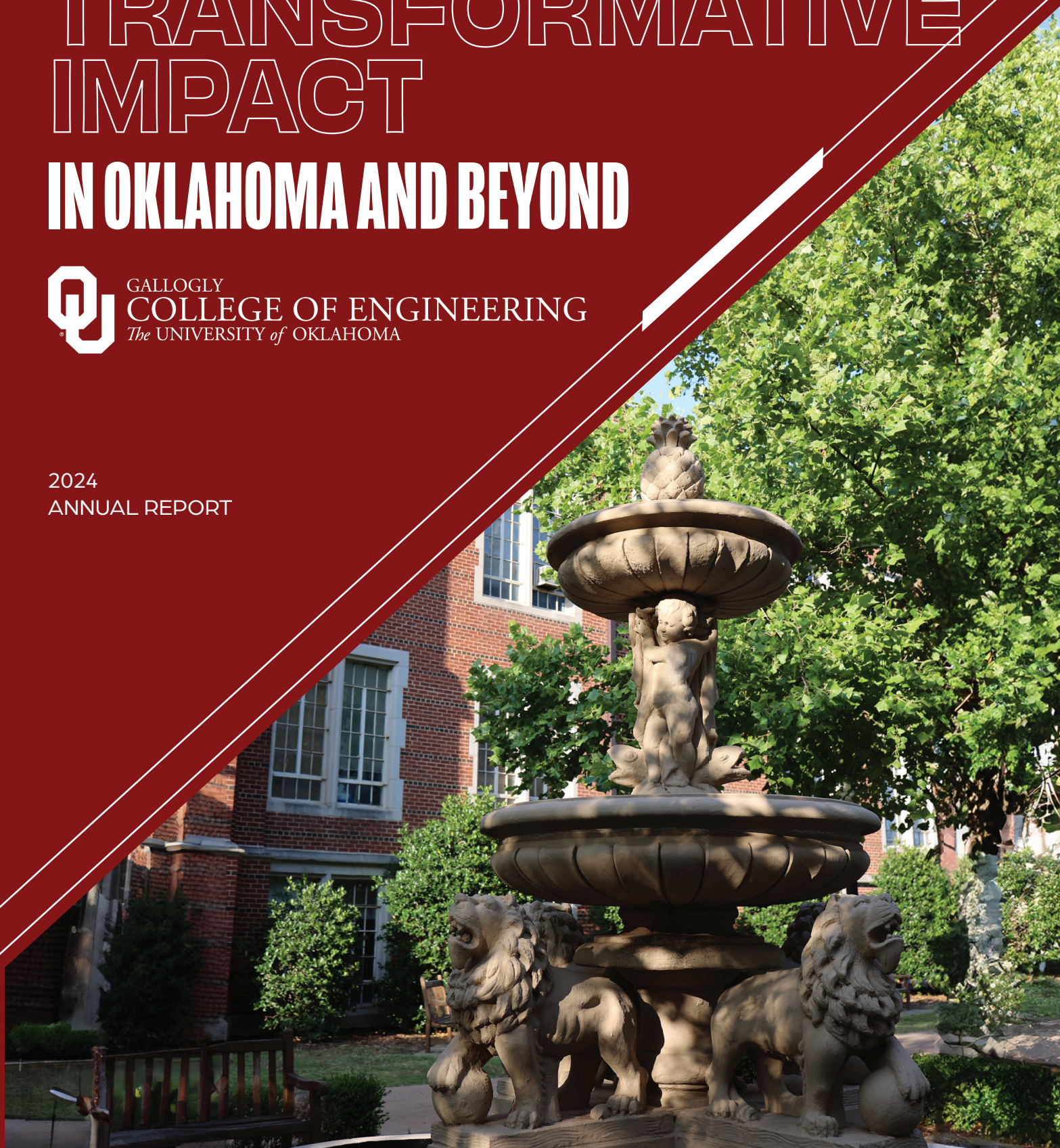
TRANSFORMATIVE IMPACT

IN OKLAHOMA AND BEYOND

GALLOGLY
COLLEGE OF ENGINEERING
The UNIVERSITY *of* OKLAHOMA

2024
ANNUAL REPORT



MESSAGE
FROM THE DEAN

Dear Colleagues,

I am delighted to share updates on the recent strides our college has made in advancing engineering education, research, and innovation at the University of Oklahoma. Our growth strategy is driven by a commitment to achieving top-level performance and strengthening the impact of engineering in Oklahoma and beyond.

Transformation

Our college has focused on expanding both faculty and research capacity to meet top tier performance benchmarks. Strategic hires have helped us build a balanced team of teaching- and research-focused faculty, along with essential support staff. This year alone, research expenditures rose by 30%, reaching *$52 million, more than doubling our total from 2020. Our efforts in fostering a robust research ecosystem have led to a record $80 million in new research awards this past year, and we're excited by the potential for continued growth.

Expanding Research Clusters and Specializations

Our college houses over 20 research clusters, addressing critical areas such as advanced manufacturing, immuno engineering, water, transportation, advanced materials, radar, medical imaging and AI/M among others. Notably, our advanced manufacturing cluster has grown to 15 faculty members, placing us among the largest programs in the country and we recently launched a state of the art additive manufacturing laboratory and a state of the art bioprocessing facility for research and education in biopharmaceutical manufacturing. We continue to build capacity in fields that meet regional and national needs.

Access to Engineering Education

Expanding access to engineering is central to our mission. We are actively recruiting students across Oklahoma and the region, with a focus on both undergraduate and graduate levels. Over the past four years, we've seen a 45% increase in incoming students, and PhD enrollment has surged by over 40% since 2020.

We support student success with initiatives such as our Engineering Summer Bridge Program, first-year courses, and specialized programs like Catalyst and Empower, which provide additional support for those who need it.

Preparing Students for Impactful Careers

We prioritize preparing our graduates for industry, government, and academia through hands-on experiences. Students engage in competition teams, capstone projects, and leadership programs. Recently launched certificates in bioprocessing, data science, and analytics are complemented by online programs in applied computing and engineering leadership. Looking ahead, we are introducing new certifications in advanced manufacturing, AI/ML, aerospace design, and more.

Infrastructure and Industry Partnerships

In support of our expansion, we have completed eight major facility projects, enhancing our instructional and research spaces. We are also breaking ground on a new Infrastructure Innovation building and have secured $80 million for an additional engineering facility. Our Office of Industry Partnerships continues to build meaningful connections with companies, offering students valuable opportunities for applied learning.

New University-Wide Initiatives

We are proud to contribute to university-wide programs in advanced materials and AI in healthcare, both of which have made significant progress and are enhancing our interdisciplinary collaborations.

I hope this update provides insight into the initiatives we are undertaking to strengthen our college's capabilities and our contributions to the broader engineering community. I look forward to connecting with each of you to exchange ideas and explore potential collaborations that will advance our shared mission.

Warm regards,

John Klier

Dean, Gallogly College of Engineering

Grant PIs are GCOE faculty

ACADEMIC LEADERSHIP 2024

2024
ANNUAL REPORT

DEAN
John Klier

SENIOR ASSOCIATE DEAN FOR ACADEMIC AFFAIRS AND FACULTY DEVELOPMENT
Randa Shehab

ASSOCIATE DEAN FOR RESEARCH AND GRADUATE STUDIES
Zahed Siddique

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School of Civil Engineering and Environmental Science

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COST DISCLOSURE STATEMENT

This publication, printed by OU Printing Services, is issued by the University of Oklahoma. 250 copies have been prepared and distributed at no cost to the taxpayers of the State of Oklahoma.

PRODUCING MORE WELL-PREPARED ENGINEERS

Top Level Engineering Program

Size
Research

Access to Engineering Education

Recruiting
Retention

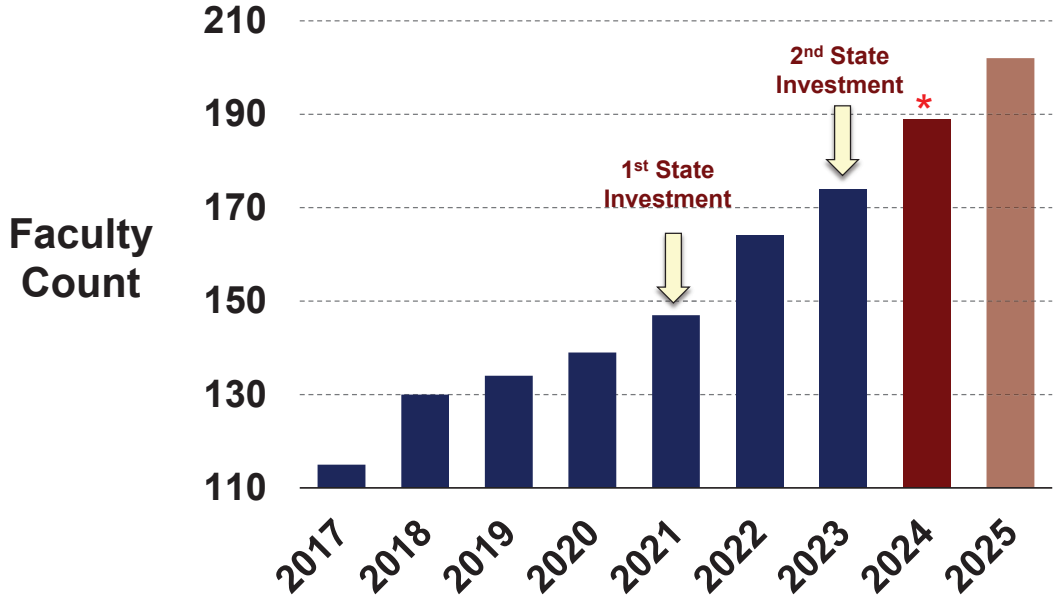
Student Preparation

Research
Advanced Skills

GROWING COLLEGE

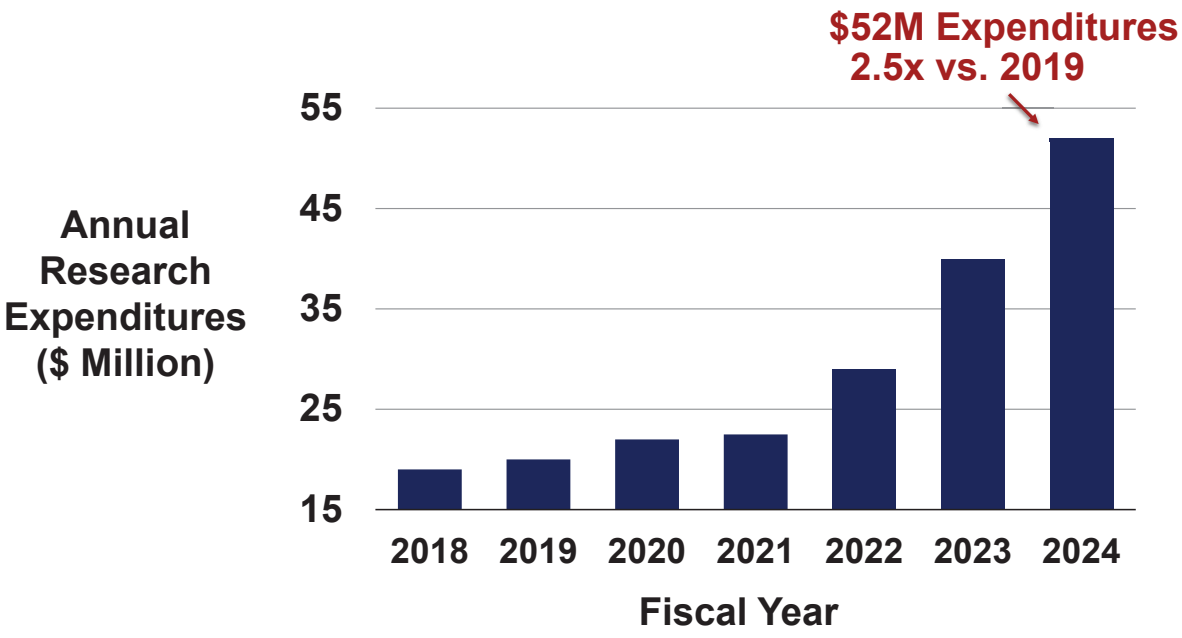
ACTIONS:

Deploying State Investments | Growing Teaching Focused Faculty Team
Adding Research Focused Faculty | Adding Critical Staff Positions



GROWING RESEARCH

Research expenditures increased by 30% from last year, reaching $52 million in FY24—more than 2.5 times higher than in 2019. Below are several initiatives we are implementing to support this growth.



ACTIONS TO SUPPORT RESEARCH GROWTH:

Expanding and Supporting Faculty Teams | Supporting Opportunity Identification

Supporting Grant Applications

Providing Financial Support: grants, equipment, and startups

$80.2 Million New research awards in FY24,highlighting the potential for future growth in research

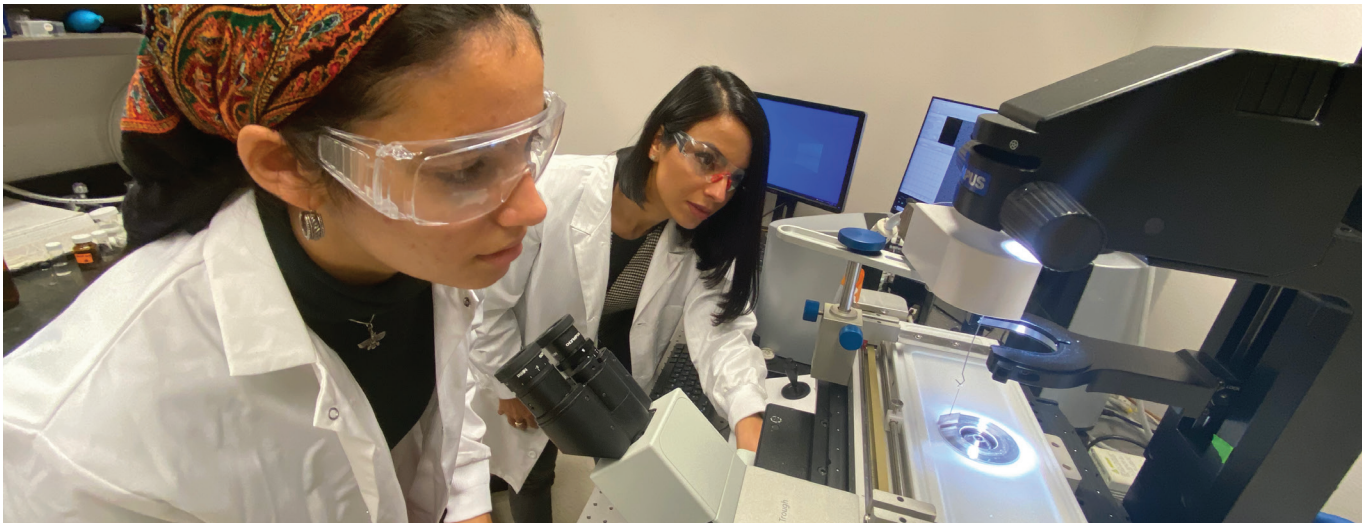
TOP LEVEL PERFORMANCE

20+ RESEARCH CLUSTERS

The college is home to over 20 research clusters, with some of the largest highlighted here. Notably, we have reached 15 faculty members in advanced manufacturing, establishing one of the largest programs in the country. Additionally, we have seen significant growth in areas such as immune engineering, water, transportation, and AI/ML.

CLUSTERS

	INITIATIVES	INDUSTRY IMPACT
Materials & Manufacturing	Digital Advanced Manufacturing	OC-ALC Partnerships and Small / Mid-size Aerospace & Defense Manufacturing Companies
	Polymers & Coatings	
Sensing	Radar	Defense, Aerospace & Transportation Industries
	Quantum Sensing	Defense, Aerospace & Semi-Conductor Industry
Medical Technologies	Medical Imaging	OU-HSC and Emerging Companies
	Immuno-Engineering	
	Bio Manufacturing	OKC Chamber – Bio Pharma Manufacturing Partnership
Infrastructure Technologies	Water	Civil Engineering Industry, State Health & Infrastructure
	Transportation	Civil Engineering Industry, ODOT
	Energy	Transitioning and advancing Oklahoma's energy economy, Energy Industry, Utility, Construction, Consulting
Data Science		Multiple Industry Sectors – Software, Aerospace, Defense…



ACCESS TO ENGINEERING

OUTREACH AND RECRUITING

We are actively recruiting across the state and region, as detailed by the number of events and visits listed. Our efforts also extend to graduate-level recruitment, which includes dedicated events, virtual outreach, student engagement, and an enhanced online presence and support.

OUTREACH

30+
Schools Reached

2,000+
K-12 Students at Campus Events

6
Family Engineering Nights

5
Big Events

RECRUITING

56
Large or Multi-School College & Career Fairs

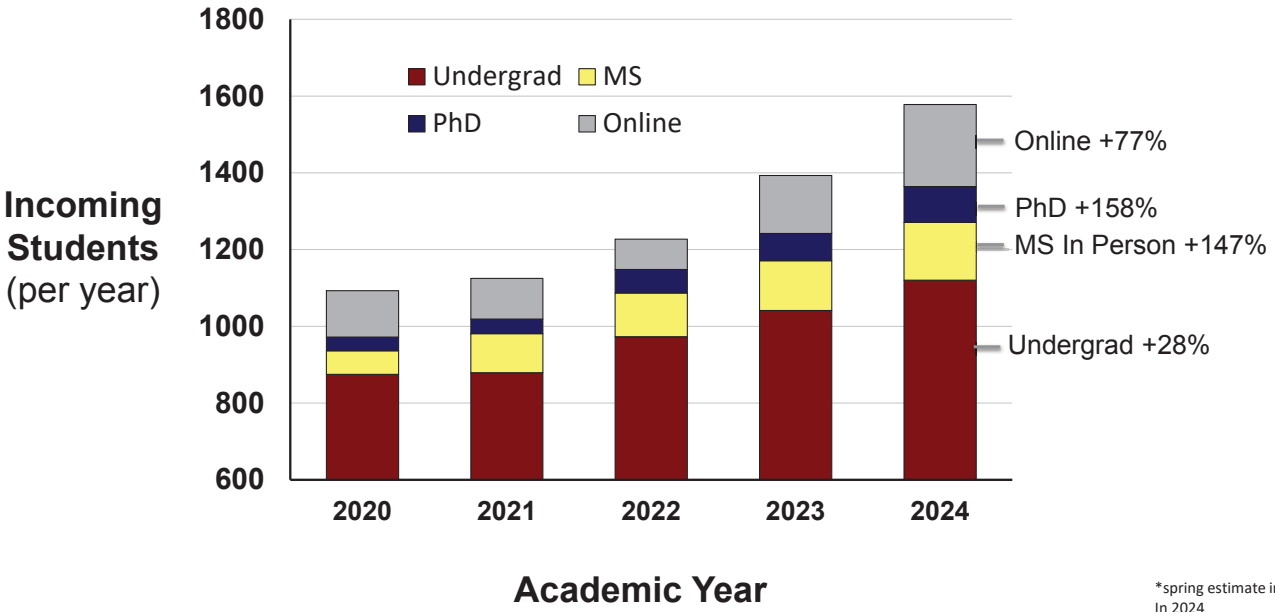
300+
Schools Reached through fairs and visits

1,000+
Students Visited OU

150+
Recruitment Events

ACCESS TO ENGINEERING

As a result, we have seen a significant increase in incoming students, rising by 45% over the past four years. Notably, PhD enrollment has surged by over 40% since 2020 and by 10% compared to last year, reaching a record high of 354 students.

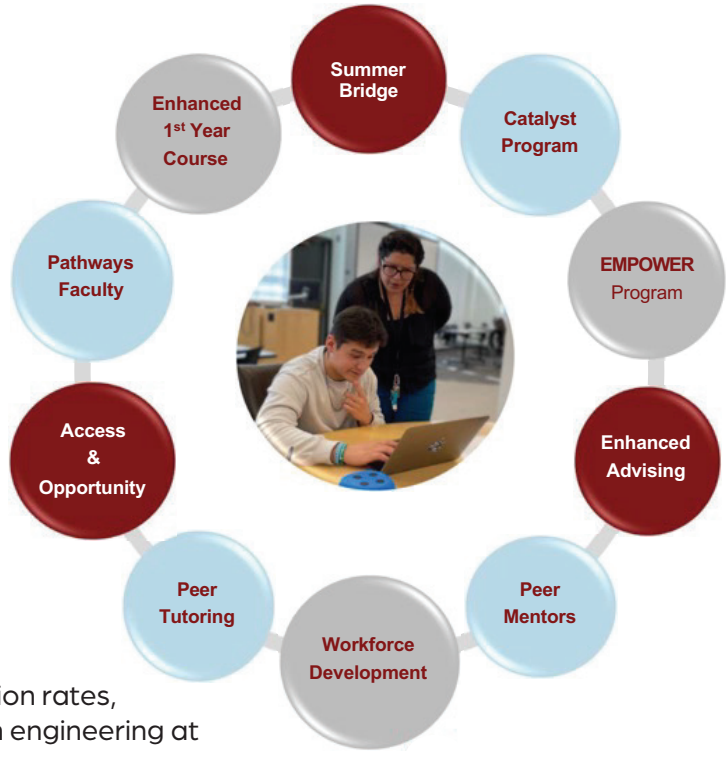


*spring estimate included In 2024

STUDENT SUPPORT

SUPPORTING TRANSITION FROM HIGH SCHOOL TO COLLEGE

Once students arrive on campus, we offer a comprehensive array of programs to support their success. These include our Engineering Summer Bridge Program prior to their arrival and an enhanced first-year course designed to equip them with the skills and perspectives necessary for success in engineering. We also provide the Catalyst and Empower programs, which focus on strengthening math and engineering skills for those who need additional support, along with various advising enhancements and support programs.



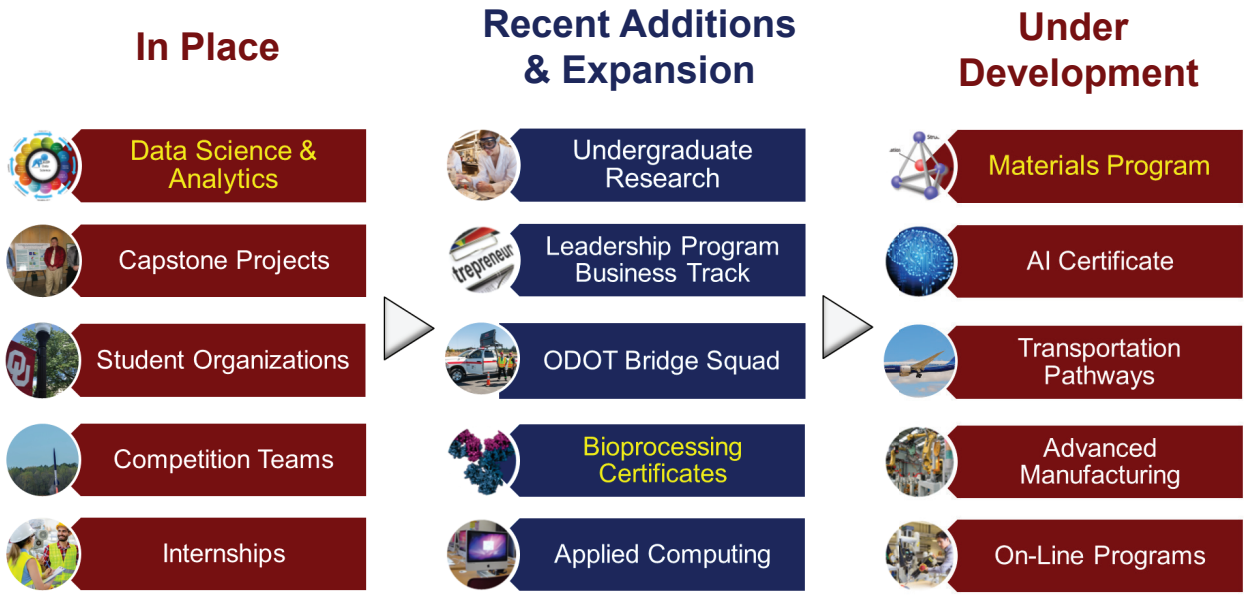
These initiatives have led to record retention rates, with students persisting and succeeding in engineering at unprecedented levels.

PRODUCING MORE WELL-PREPARED ENGINEERS

We are dedicated to helping students prepare for their future careers, whether in industry, graduate school, or government. Our students engage in competition teams, undergraduate research, and capstone projects, while also gaining business and entrepreneurship skills through our leadership program. Additionally, student organizations and internships equip them with advanced professional skills.

We have developed a suite of advanced technical programs that equip students for cutting-edge careers or graduate-level studies. Our newly launched bioprocessing undergraduate and graduate certificates provide specialized training in biopharmaceutical manufacturing, featuring a state-of-the-art lab. Additionally, our Data Science and Analytics Institute equips students with the skills needed for this fast-growing field. With online programs in applied computing and engineering leadership and management, we prepare students for the demands of the modern workplace. We're also in the process of expanding our offerings with new certificates in advanced manufacturing and AI-ML, a university-wide materials program, advanced aerospace design program, and more. Notably, we have spearheaded and launched a university-wide Materials Ph.D. program in advanced materials and an AI in healthcare initiative, both of which are making significant progress.

ADVANCED PREPARATION PROGRAMS



NEW SPACE AND PLANNING

To support our continued growth, we have completed eight expansions and major renovation projects, significantly increasing our research and instructional spaces.

We have fully funded and are breaking ground on a new Infrastructure Innovation building at our south campus, designed to expand our research capacity. The new south campus I2B building will house infrastructure and transportation–based research, and the new building will help support major research clusters and initiatives. The building prioritizes shared instrumentation labs for unmanned ground vehicles, vehicles with alternate energy input, modernization of transportation network, and reliant transportation infrastructure to support these emerging technologies and Southern Plains Transportation Center (Regional UTC).

We have also secured $80 million for a new engineering building and are working closely with architects to finalize the detailed plans. This facility will significantly enhance our research and educational capabilities.

We have established an Office of Industry Partnerships and are actively building relationships with companies. This includes launching a consortium in aerospace and defense, creating connections for students, including graduate students, with industry partners, and offering professional skills courses and online programs tailored to the needs of our corporate partners.

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@EngineeringAtOU