

COLLEGE OF ENGINEERING, ARCHITECTURE AND TECHNOLOGY

College Administration

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The vision of the College of Engineering, Architecture and Technology (CEAT) is to be the leading public university in engineering, architecture, and technology that engages diverse students, faculty and staff with industry and government to deliver excellence in advanced learning, leadership, relevant research, and benefits to society.

Our mission is to provide a diverse student population with the highest quality education in engineering, architecture and technology. OSU develops ethical leaders with technical knowledge, innovation, and communication skills to benefit the State of Oklahoma, the nation and the world.

The College of Engineering, Architecture and Technology is a community of scholars, innovators and leaders that is transforming our lives. The preparation of professionals that anticipate the needs of a changing world is at the nexus of society, economy, ethics, sustainability, and humanity. The College is committed to educating professionals who innovate, design and build projects that provide solutions for both the developed and the developing world.

The College of Engineering, Architecture and Technology (CEAT) embraces students from diverse backgrounds to imagine and discover the challenges of engineering, architecture and technology, and to bring about innovation using their proficiency in science, mathematics, communications, ethics, and humanity. This mission is built on the foundation of the University's mission and the expectations of a world class university.

As Oklahoma's land-grant university, CEAT fulfills the most fundamental premise that founded OSU; to promote economic and community viability through technical assistance, academic and professional education, training, and communication in the areas of engineering, architecture and technology, and by connecting scientific research and scholarship

to industry, communities, and individual citizens in Oklahoma, the region and the world.

As we progress into the future, professionals with a higher education will continue to be largely responsible for shaping our world. The power they exercise is an exciting prospect and presents a sobering responsibility. Less complex problems have been solved and are now a part of history. Many difficult problems remain. The need for talented and highly educated professionals is obvious; one will be embarking on a lifetime of challenge as he or she prepares for a career in engineering, engineering technology or architecture at Oklahoma State University.

The College of Engineering, Architecture and Technology offers a complete spectrum of educational opportunities at both the undergraduate and graduate levels designed to give graduates the capability and flexibility to meet the ever-changing needs of a society that is committed to technological innovation. To make continuing contributions, engineers, architects, and technologists must have many abilities at their command. The modern tools and processes of industry must be understood. The processes of design and analysis require a firm understanding of mathematics and the sciences. An effective engineer, architect or engineering technologist must develop sensitivity to human needs, ideas, institutions, and cultures. These programs prepare graduates to be effective contributors within human organizations and provide an increased understanding of both the technical and non-technical factors that shape our human environment. With this firm foundation, and a commitment to lifelong learning, College of Engineering, Architecture and Technology graduates are fully prepared to make contributions to society throughout their professional careers.

The curriculum in each program provides the optimum combination of breadth in the enduring fundamentals and specialization in a discipline. Each curriculum sensitizes the student to ethical, social, cultural, and global issues that will shape their ideas and contributions. To equip the student to contribute to solutions at the cutting edge of technology, curricula are continuously evolving to include current applications of the principles. Through the combination of theory, practice and improved sensitivity to diverse issues, graduates will be prepared to support their diverse interests while positively contributing to the advancement of technology and the world.

ENDEAVOR was opened in the fall of 2018. This one of a kind, hands-on, 72,000-square-foot facility allows undergraduate students to explore and experiment with engineering principles, systems, and new technologies. ENDEAVOR is a platform for interdisciplinary and collaborative learning and solutions that lead to entrepreneurial enterprise.

Academic Programs

Academic programs offered in the College of Engineering, Architecture and Technology culminate in the following degrees:

Schools of Engineering

- Bachelor of Science in Aerospace Engineering; Biosystems Engineering with options in Bioprocessing and Food Processing, Environment and Natural Resources, Machine Systems and Agricultural Engineering, and Pre-medical; Chemical Engineering with options in Biomedical/Biochemical and Pre-medical; Civil Engineering with an option in Environmental; Computer Engineering with an option in Software Engineering; Electrical Engineering; Industrial Engineering and Management; and Mechanical Engineering with options in Fire Protection Systems, Petroleum and Premedical.

- Undergraduate Minors in Data Analytics for Engineers, Environmental Engineering, Nuclear Engineering, and Petroleum Engineering.
- Master of Science in Biosystems Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering with options in Control Systems and Optics and Photonics, Engineering and Technology Management, Industrial Engineering and Management with options in Operations Research and Analytics and Supply Chain Logistics, Materials Science and Engineering, Mechanical and Aerospace Engineering with an option in Unmanned Aerial Systems and Petroleum Engineering.
- Master of Engineering in Electrical Engineering, Materials Science and Engineering, and Mechanical Engineering.
- Graduate certificates in Engineering and Technology Management, Supply Chain and Logistics.
- Doctor of Philosophy in Biosystems Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, Industrial Engineering and Management, Materials Science and Engineering, Mechanical and Aerospace Engineering, and Petroleum Engineering.

School of Architecture

- Bachelor of Architecture, Bachelor of Architectural Engineering with options in Structures and Construction Project Management, Bachelor of Science in Architectural Design Studies with options in Design Management and Leadership, Design Thinking and Communication, and Design, Culture and Urban Studies.
- Undergraduate minors in Architectural Studies: Architecture and Entrepreneurship, Architectural Studies: Design, and Architectural Studies: History and Theory.
- Graduate Certificate in Integrative Design of Building Envelope.

Division of Engineering Technology

- Bachelor of Science in Engineering Technology in Construction Engineering Technology with options in Building and Heavy/Highway, Electrical Engineering Technology with a Computer option, Fire Protection and Safety Engineering Technology, Mechanical Engineering Technology, and Mechatronics and Robotics.
- Undergraduate minors in Construction, Mechatronic Engineering Technology for EET students, Mechatronic Engineering Technology for MET students, and Safety and Exposure Sciences.
- Master of Science in Engineering Technology with options in Fire Safety and Explosion Protection and Mechatronics and Robotics.
- Master of Science in Fire and Emergency Management Administration.
- Doctor of Philosophy in Fire and Emergency Management Administration.

Accreditation

UNDERGRADUATE ENGINEERING DEGREE PROGRAMS

The following OSU College of Engineering, Architecture and Technology programs are individually accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org> (<https://www.abet.org/>).

- Aerospace Engineering
- Architectural Engineering
- Biosystems Engineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering

- Industrial Engineering & Management
- Mechanical Engineering

UNDERGRADUATE ENGINEERING TECHNOLOGY DEGREE PROGRAMS

The following OSU College of Engineering, Architecture and Technology programs are individually accredited by the Engineering Technology Accreditation Commission of ABET, <https://www.abet.org> (<https://www.abet.org/>).

- Construction Engineering Technology (BS in Engineering Technology)
- Electrical Engineering Technology (BS in Engineering Technology)
- Fire Protection and Safety Engineering Technology (BS in Engineering Technology)
- Mechanical Engineering Technology (BS in Engineering Technology)
- Mechatronics and Robotics (BS in Engineering Technology)

UNDERGRADUATE ARCHITECTURE DEGREE PROGRAM

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year term, an eight-year term with conditions, or a two-year term of continuing accreditation, or a three-year term of initial accreditation, depending on the extent of its conformance with established education standards. Doctor of Architecture and Master of Architecture degree programs may require a non-accredited undergraduate degree in architecture for admission. However, the non-accredited degree is not, by itself, recognized as an accredited degree.

The Oklahoma State University School of Architecture offers the following NAAB-accredited degree programs:

B. Arch. (154 undergraduate credits)

Next accreditation visit: 2025, <http://www.naab.org/>.

High School Preparation

In addition to the curricular requirements for admission specified by OSU, the College of Engineering, Architecture and Technology strongly recommends that students have a fourth year of mathematics and an additional year of laboratory science.

Initial placement in OSU mathematics courses is by placement examination to ensure that each student will be challenged but has the preparation to be successful in the first mathematics course. Placement in science courses is based on prior preparation in the science and completion of or placement beyond prerequisite mathematics courses. When appropriate, a student with an exceptionally strong background can obtain academic credit by advanced standing examination or by College Level Examination Program (CLEP) tests or similar.

Enrolling in the College of Engineering, Architecture, and Technology

A freshman student who has been admitted to OSU can be enrolled directly into a CEAT degree program if the student has:

1. an ACT Composite score of 24 or higher, or a total SAT score of 1160 or higher, or ACT MATH score of 24 or higher, or a SAT Math score of 600 or higher, or
2. Four years of high school math, four years of high school science, and four years of high school English.

SAT score is the combination of Critical Reading and Math sections only. SAT scores represent tests taken on or after the National March 2016 test.

Prospective engineering, architecture or technology students who do not meet these performance qualifications may enroll in University College in the Pre-CEAT program and work with a CEAT-focused advisor to gain the academic background for enrollment in CEAT degree programs. Those students will be enrolled in a CEAT degree program when they have met the following performance requirements:

1. passed all prerequisite MATH courses needed to enroll in Calculus I or Calculus for Technology I, and
2. have an OSU Cumulative GPA of at least 2.0.

Transfer students can enroll directly into a CEAT degree program if they satisfy all OSU resident transfer student requirements, have a GPA of at least 2.0, and are qualified to enroll in Calculus I or higher in the MATH sequence. Other transfer students may enroll in University College in the Pre-CEAT program until they meet the qualifications for enrolling in a CEAT pre-professional program.

Students transferring to CEAT from another major at OSU must meet the same requirements for admission as a student transferring from another college or university.

Special College Programs

CEAT Living/ Learning Program (LLP). CEAT residential floors have been established in CEAT Parker Hall for both male and female CEAT students. Parker Hall is reserved for CEAT Freshman and provides an immersive environment to help freshman succeed in CEAT and at OSU. Special programming is provided, and upper-class mentors live on each of the floors. The CEAT Parker In Residence program allows a CEAT representative to live on the ground floor of Parker Hall and provide inspiration and mentorship for students. The second floor of CEAT Parker Hall is referred to as Maude's Squad and is our freshmen female LLP. All Living/ Learning Programs provide an atmosphere that is conducive to study. The students experience a community where they can work together, have access to tutoring and other services, and serve as role models for other students. Special activities are planned for the floors, including events with faculty and other leaders. They are highly recommended for student success in CEAT. <https://ceat.okstate.edu/student-services/living-learning-parker.html>

CEAT Summer Bridge is a three-week residential, on-campus, preparatory program for incoming freshmen students who have been accepted to Oklahoma State University and who plan to study a major in CEAT. This program is designed to guide students as they transition from high school to the academic rigors of CEAT coursework through academic review, mock exams, orientation seminars and engineering design projects. In addition, the students will build relationships with peers, faculty and staff, and start the process of building strong study habits with the assistance of CEAT upperclassmen as mentors. CEAT Summer Bridge participants are required to live in Parker Hall. <https://ceat.okstate.edu/student-services/summer-bridge-program.html>

The **Discover Architecture Program** introduces high school students to Architecture, Architectural Engineering, Landscape Architecture, and

Construction Engineering Technology. This week-long summer program has academic projects that are designed to stimulate creativity and be fun! Participants live in campus housing, and complete projects that include the application of sketching and designing in model, using computer presentation tools, and several hands-on building projects to help students understand if a career in the building arts might be right for them. The program is offered by Oklahoma State University faculty at the Stillwater campus for students who are at least 16 years of age. <https://ceat.okstate.edu/arch/discover-architecture.html>

The **Pre-CEAT Program** is housed within University College but physically located in CEAT. This program provides a focused advisor, tutoring and other activities to help students get academically ready for success in CEAT.

CEAT Scholars Program provides educational experiences for a select group of students to develop and enhance their technical competence, world view, professional and public responsibility, and leadership skills. Based on demonstrated academic and leadership potential, up to 100 scholars are selected each year, by application and interview, to enter this four-year program. Students participate in special lectures, regional tours, cultural events, seminars, personal development activities, faculty mentoring, and international travel. https://ceat.okstate.edu/scholarships/ceat_scholars_program.html

CEAT Freshman Research Scholars Program provides opportunities for accelerated intellectual development of a select group of students. Each student is assigned a research faculty mentor and participates in a research program. The initial assignment is for one year and it may be extended based on student interest, research project continuation and mentor availability. [https://scholardevelopment.okstate.edu/freshman-research-scholars/prospective-freshman-researchers/](https://scholardevelopment.okstate.edu/freshman-research-scholars/prospective-freshman-researchers)

WW Allen Scholars Program is designed for top academic students who also show significant promise in leadership and career ambition. The program is highlighted by the opportunity to pursue a master's degree at the University of Cambridge in the UK following graduation from OSU. <https://ceat.okstate.edu/scholarships/w-w-allen-scholars-program.html>

CEAT Grand Challenge Scholars Programs focus on preparing students to be the generation that solves the grand challenges facing society in this century with emphasis on integrative research, interdisciplinary curriculums, entrepreneurship, global understanding and service learning. <https://ceat.okstate.edu/gcsp.html>

CEAT Diversity and Inclusion Programs (CDP) provide services to support, retain and graduate all CEAT students which includes underrepresented populations such as Native Americans, African Americans, Hispanic/Latino Americans, Women, First-Generation, Non-Traditional, Disabled, Veterans and LGBTQ. All students are welcome to participate, learn and celebrate the value of a diverse CEAT community. <https://ceat.okstate.edu/student-services/diversity-equity-inclusion/index.html> (<https://ceat.okstate.edu/student-services/diversity-equity-inclusion/>)

CEAT Tutoring provides free tutoring for most required Math, Physics, Chemistry, Computer Science and Engineering core courses. Services include advising, tutoring, career placement and more. <https://ceat.okstate.edu/student-services/tutoring.html>

CEAT Career Services is dedicated to helping students reach their career goals by providing individualized career assistance, specialized workshops, and resources on a variety of topics including career

exploration, job search strategies, resume and job search correspondence preparation, interviewing skills, and salary negotiation. The office also supports the Cooperative Education Program (Co-op) and provides individual career assessments for undergraduate students. As part of the OSU Career Services system, CEAT Career Services works in close partnership with CEAT Student Academic Services to link academic and career success. <https://ceat.okstate.edu/student-services/career-services/index.html> (<https://ceat.okstate.edu/student-services/career-services/>)

CEAT Cooperative Education Program (Co-op) provides an avenue for undergraduate students to complete a year of full-time work experience directly related to their academic studies. Co-op students alternate terms of major-related employment with terms of full-time coursework to achieve a quality education and industry experience. In addition to professional development, participation in the Co-op program earns academic credit and maintains full-time enrollment status for students during the work experience terms. <https://ceat.okstate.edu/student-services/career-services/coop-faq.html>

CEAT Study Abroad Programs offer students the opportunity to expand their education by traveling and studying outside the United States. Opportunities range from shorter faculty-led programs to semester exchange opportunities.

Departmental Clubs and Honor Societies

Alpha Epsilon (Biosystems and Agricultural Engineering Honor Society)
 Alpha Omega Epsilon (Professional and Social Sorority for Women in Engineering)
 Alpha Pi Mu (Industrial Engineering and Management Honor Society)
 Alpha Rho Chi (Architecture Honor Society)
 The Almighty S(he)
 Amateur Radio Club - W5YJ
 American Association of Drilling Engineers
 American Indian Science and Engineering Society
 American Institute of Architecture Students
 American Institute of Aeronautics & Astronautics
 American Institute of Chemical Engineers
 American Society for Quality
 American Society of Agricultural and Biological Engineers
 American Society of Civil Engineers
 American Society of Heating, Refrigeration and Air Conditioning Engineers
 American Society of Mechanical Engineers
 American Society of Mechanical Engineers - Technology
 American Society of Safety Engineers
 APICS
 Association for Supply Chain Management
 Architectural Engineering Institute
 Architecture Students Teaching Elementary Kids (ASTEK)
 CEAT Student Council
 CHEM Kidz
 Chi Epsilon (Civil and Architectural Engineering Honor Society)
 Concrete Canoe
 Construction Management Society
 Construction Specifications Institute
 Cowboy Motorsports Quarter Scale Tractor Team
 Cowboy Waterworks
 Engineers Without Borders
 Eta Kappa Nu (Electrical and Computer Engineering Honor Society)
 Firefighter Combat Challenge
 Fire Protection Society

Freedom by Design
 Institute for Operations Research and the Management Sciences
 Institute of Electrical and Electronics Engineers (IEEE)
 Institute of Electrical and Electronics Engineers - Technology (IEEE-T)
 Institute of Industrial and Systems Engineers
 Institute of Transportation Engineers
 International Fluid Power Society
 International Society for Automation
 Mercury Robotics
 National Society of Black Engineers
 National Organization of Minority Architecture Students
 Omega Chi Epsilon (Chemical Engineering Honor Society)
 Out in Science, Technology, Engineering, and Mathematics (oSTEM)
 OSU Automation Society
 Pi Tau Sigma (Honorary Mechanical Engineering Society)
 Sigma Gamma Tau (Honorary Aerospace Engineering Society)
 Sigma Lambda Chi (Construction Engineering Technology Honor Society)
 Society of Asian Scientists and Engineers
 Society of Automotive Engineers
 Society of Automotive Engineers Formula Racing Team
 Society of Automotive Engineers Mini-Baja Team
 Society of Fire Protection Engineers
 Society of Hispanic Professional Engineers
 Society of Petroleum Engineers
 Society of Manufacturing Engineers
 Society of Women Engineers
 Student Association of Fire Investigators
 Student Firefighter Combat Challenge Team
 Tau Alpha Pi (Technology Student's Honor Society)
 Tau Beta Pi (Engineering Student's Honor Society)
 Tau Sigma Delta (Architecture Student's Honor Society)
 Theme Park Engineering Group
 Theta Tau

CEAT Honors Program

The OSU Honors College provides challenges for undergraduate students of unusually high ability, motivation and initiative. Honors classes, seminars and independent study courses are designed to align students and instructors in a manner that encourages discussion and provides a mature approach to learning.

Information regarding The Honors College at OSU, and Scholar Development/Leadership Programs can be found on the Honors College tab in the left menu.

Scholarships

Numerous CEAT scholarships are funded through the generosity of alumni, private and corporate donations. Awards are available for undergraduate and graduate students at all levels and are granted based on academic achievement, campus involvement and leadership potential, as well as financial need. Freshmen and undergraduate transfer students are automatically considered for most CEAT scholarships, based off the student's eligibility through their OSU application and acceptance to OSU and CEAT. For priority scholarship consideration students should apply and be accepted to CEAT by November 1st. Student must be accepted by Feb. 1st for all other scholarship considerations. All CEAT scholarships are awarded on a competitive basis. Some scholarships require additional applications. Details can be found at <https://ceat.okstate.edu/scholarships/index.html> (<https://ceat.okstate.edu/scholarships/>).

Current undergraduate (continuing) students should submit applications for general CEAT scholarships online at <https://ceat.okstate.edu/scholarships/index.html> (<https://ceat.okstate.edu/scholarships/>).

Computing Requirements

For students in Engineering, Architecture and Technology, the college requires that all students have several basic tools. Students in the College must have a scientific calculator and a laptop computer. The scientific calculator should be capable of computing trigonometric functions, logarithmic and natural logarithmic functions, basic statistical analysis, and all algebraic functions. The laptop requirements are published at <https://ceat.okstate.edu/itservices/>.

Academic Advising

The College's Office of Student Academic Services (<https://ceat.okstate.edu/student-services/>) provides advising services for all CEAT freshman students, except for those being advised in their academic department. University College provides advisement through the Pre-CEAT program for OSU students who do not meet the qualifications for enrollment in CEAT but wish to become qualified to enroll in a CEAT degree program in the future. Each student is personally advised in the planning and scheduling of his or her coursework, assisted with the selection of a major, and is counseled and advised individually on matters of career choice, activities at OSU and other academic matters.

Each CEAT student and his or her advisor, carefully selects general education, core engineering or architecture, and elective courses to meet the curriculum objectives and accreditation criteria. To assist students in planning and mapping their academic success, an electronic account is created for each student at the time of initial enrollment. Students have access to their personal account, via the STAR System, where they can review their advising materials, degree sheet, flowchart and other documents. The advisor assists the student with academic decisions and works to ensure accuracy and compliance; however, the ultimate responsibility for meeting degree requirements rests with the student.