

GALLOGLY COLLEGE OF ENGINEERING



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Administrative Officers

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General Information

Instruction in professional engineering was first given at the University of Oklahoma in 1899 when a course in surveying was offered. The following year, 1900–01, the first two years of engineering were presented. In 1902–03 a curriculum in civil engineering was established, and a School of Mines was organized. At the same time, courses in electrical and mechanical engineering were listed. In 1904 the courses in engineering were organized as a School of Applied Science. In 1909 the School of Mines and the School of Applied Science were joined and reorganized as the College of Engineering. The first professional degrees were conferred in 1909.

The college has grown substantially since that time. It now offers degrees in 11 undergraduate engineering fields, as well as computer science and environmental science. The student body includes approximately 3,200 undergraduate students and 800 graduate students. Its facilities fill eight major buildings with research facilities in portions of six other buildings.

In recent years, the college has been a major contributor to the philosophy of modern engineering education. It was one of the first to develop and adopt the “core” type engineering curricula now prevalent throughout the country. It was also one of the first to use the new approach to engineering laboratory work, wherein the student’s creativity is developed through the planning and carrying out of the experiment as an exercise in engineering analysis and design. Thus, the curricula in engineering are constantly being updated and modified to meet the needs of industry and future graduate work, increase the versatility of the student, and prolong the usefulness of the material taught.

The college is organized into schools and departments with the responsibility for administering the undergraduate and graduate programs of study, or curricula, as listed in the later pages of this catalog.

The professional subjects in these curricula are supported by courses from other colleges of the University. Upon satisfactory completion of one of the curricula, a student will be recommended for a degree, in most cases qualified by the name of the engineering field pursued.

Faculty

The University of Oklahoma celebrated its centennial of engineering education in the 2009-10 academic year. As the Gallogly College of Engineering completes its first hundred years and looks forward to the next, the faculty is dedicated to excellence in carrying out the University mission of teaching, research and service. The faculty are drawn from many of the nation’s leading universities, including University of California, Georgia Tech, MIT, Rice, and Yale, to name a few. Over one in four faculty members in the college hold an endowed chair or professorship, and one in five hold Presidential Professorships. Four hold University of Oklahoma David Ross Boyd Professorships and eight hold George Lynn Cross Research Professorships. Many of them are recognized as Fellows of national professional societies. In addition, several of the faculty members advise student organizations, including design teams that compete at the championship level in national and international competitions.

Computing

The OU Network consists of a high-speed backbone with connections to faculty, staff, laboratory, and classroom computers. Wireless technology extends the network to cover the engineering buildings, outside areas, laboratories, and classrooms. For more detailed information, visit the OU Information Technology Support page.

Programs Offered

- College of Engineering Administrated Programs
 - Engineering Leadership, Undergraduate Certificate
 - Engineering Leadership Course Lists
 - Engineering Leadership: Sustainability, Undergraduate Certificate
 - Engineering Leadership Sustainability Course Lists
 - Applied Computing, M.S.
 - Electives Course List
 - Engineering, M.S.
 - Engineering Leadership and Management, M.S.
 - Electives Course List
 - Engineering, Ph.D.
 - Engineering: Engineering Education, Ph.D.
- School of Aerospace and Mechanical Engineering
 - Aerospace Engineering, B.S.
 - Aerospace & Mechanical Engineering Elective Lists
 - Mechanical Engineering (Standard), B.S.
 - Mechanical Engineering - Premedical Option, B.S.
 - Aerospace Engineering, B.S./M.S.
 - Mechanical Engineering (Standard), B.S./M.S.
 - Aerospace Engineering, M.S.
 - Mechanical Engineering, M.S.
 - Aerospace Engineering, Ph.D.
 - Mechanical Engineering, Ph.D.
 - Cellular and Behavioral Neurobiology: Aerospace and Mechanical Engineering, Ph.D.
- Stephenson School of Biomedical Engineering
 - Biomedical Engineering, B.S.
 - BME Course Lists

- Biomedical Engineering, B.S./M.S.
- Biomedical Engineering, M.S.
 - Course Lists
- Biomedical Engineering, Ph.D.
- School of Sustainable Chemical, Biological and Materials Engineering
 - Chemical Engineering (Standard), B.S.
 - Course Lists
 - Chemical Engineering - Bioengineering Option, B.S.
 - Chemical Engineering - Pre-Medical Option, B.S.
 - Chemical Engineering - Sustainability Option, B.S.
 - Course Lists
 - Bioprocessing, Undergraduate Certificate
 - Chemical Engineering (Standard), B.S./M.S.
 - Advanced Chemistry Electives Course Lists
 - Chemical Engineering, M.S.
 - Sustainability - Energy and Materials Management, M.S.
 - Electives Course List
 - Bioprocessing, Graduate Certificate
 - Chemical Engineering, Ph.D.
- School of Civil Engineering and Environmental Science
 - Architectural Engineering, B.S.
 - Civil Engineering, B.S.
 - Environmental Engineering, B.S.
 - Environmental Science, B.S.
 - Environmental Science, Minor
 - Water and Sanitation for Health and Sustainable Development, Minor
 - Architectural Engineering, B.S./Civil Engineering, M.S.
 - Civil Engineering, B.S./M.S.
 - Environmental Engineering, B.S./M.S.
 - Environmental Science, B.S./M.E.S.
 - Civil Engineering: Geotechnical Engineering, M.S.
 - Geotechnical Engineering Electives Course List
 - Civil Engineering: Geotechnical Engineering (Online), M.S.
 - Civil Engineering: Structural Engineering, M.S.
 - Structural Engineering Electives Course List
 - Civil Engineering: Structural Engineering (Online), M.S.
 - Civil Engineering: Transportation Engineering (Online), M.S.
 - Civil Engineering: Water Resources Engineering, M.S.
 - Water Resources Engineering Electives Course List
 - Civil Engineering: Water Resources Engineering (Online), M.S.
 - Environmental Engineering, M.S.
 - Environmental Engineering Electives Course List
 - Environmental Science, M.E.S.
 - Environmental Science Electives Course List
 - Hydrology and Water Security (Online), M.E.S.
 - Hydrology and Water Security Guided Electives
 - Civil Engineering, Ph.D.
 - Environmental Engineering, Ph.D.
 - Environmental Science, Ph.D.
- School of Computer Science
 - Computer Science, B.S.
 - Elective Course Lists
 - Computer Science, Minor
 - Computational Technology, Minor
- Computer Science, B.S./M.S.
 - BS/MS Elective Course Lists
- Computer Science, M.S.
 - Computer Science, M.S. Approved Course List
- Computer Science, Ph.D.
- Program in Data Science and Analytics
 - Data Science and Analytics, Undergraduate Certificate
 - Data Science and Analytics Undergraduate Certificate Electives
 - Data Science and Analytics, M.S.
 - Data Science and Analytics, Graduate Certificate
 - Data Science and Analytics, Ph.D.
- School of Electrical and Computer Engineering
 - Computer Engineering, B.S.
 - Electrical Engineering, B.S.
 - Electrical and Computer Engineering, Minor
 - Computer Engineering, B.S./Computer Science, M.S.
 - Computer Engineering, B.S./Electrical and Computer Engineering, M.S.
 - Electrical Engineering, B.S./Electrical and Computer Engineering, M.S.
 - Electrical and Computer Engineering, M.S.
 - Electrical and Computer Engineering, Ph.D.
- Program in Engineering Physics
 - Engineering Physics, B.S.
 - Engineering Physics, M.S.
 - Engineering Physics, Ph.D.
- School of Industrial and Systems Engineering
 - Engineering Analytics, B.S.
 - Industrial and Systems Engineering, B.S.
 - Industrial and Systems Engineering - Analytics Option, B.S.
 - Industrial and Systems Engineering - Pre-Medicine Option, B.S.
 - Industrial and Systems Engineering, B.S./M.S.
 - Industrial and Systems Engineering, B.S./Data Science and Analytics, M.S.
 - Industrial and Systems Engineering, B.S./M.B.A.
 - Industrial and Systems Engineering - Analytics, B.S./M.S.
 - Industrial and Systems Engineering - Analytics, B.S./Data Science and Analytics, M.S.
 - Industrial and Systems Engineering, M.S.
 - Industrial Systems and Engineering Electives Course List
 - Industrial and Systems Engineering, Ph.D.

Programs & Facilities

The Gallogly College of Engineering is primarily located on the northeast corner of the University's Norman campus. Within the Gallogly College of Engineering, there are 12 engineering programs and nearly 40 degree options. In addition to these degree offerings, the college also offers a collaborative program in engineering physics and a program in data science and analytics.

About the College:

The mission of the Gallogly College of Engineering is to foster creativity, innovation and professionalism through dynamic research, development

and learning experiences. For more information, view the 2020-2025 Strategic Plan.

Facilities Include:

- The Carson Engineering Center includes classrooms and laboratories for the School of Civil Engineering and Environmental Science, the School of Industrial and Systems Engineering and the Data Science and Analytics Institute.
- Felgar Hall houses laboratories and facilities for the School of Aerospace and Mechanical Engineering, the McCasland Foundation Engineering Pathways Hub, The Boggs Foundation Engineering Pathways Studio, and the Williams Student Services Center (WSSC).
- Sarkeys Energy Center houses the School of Sustainable Chemical, Biological and Materials Engineering.
- Devon Energy Hall houses the School of Computer Science and the School of Electrical and Computer Engineering as well as team and forum rooms, and laboratories.
- Gallogly Hall houses the Stephenson School of Biomedical Engineering and our engineering tutoring spaces.
- The Exxon-Mobil Lawrence G. Rawl Engineering Practice Facility is the home for engineering outreach and recruitment, and houses our engineering competition teams. The REPF also serves as the hub for student professional and leadership development with the Jerry Holmes Leadership Program for Engineers and Scientists, Sooner Engineering Education Center, Student Life and more than fifty student organizations and clubs. Every year, thousands of K-12 students visit the REPF to observe engineering students design, build and test their projects.
- The University's south and north campuses house additional offices and labs in support of the college's research enterprise and makes OU Engineering one of the finest engineering education complexes in the Southwest.

Laboratories:

The laboratories of the college are well-equipped to demonstrate the principles of courses offered and are described in other sections of this catalog. Through these laboratories and the actual use of apparatus, instruments, and equipment, a student is able to make practical applications of the theories and principles which the student has learned in the classroom. Students of the college are active in fieldwork. In addition, laboratories and other facilities of the college are used by students and faculty members in the classroom and for research and experiments which add value to the global economy.

View list of nearly 50 labs in the Gallogly College of Engineering.

Undergraduate ENGINEERING PATHWAYS

The McCasland Foundation Engineering Pathways Hub
Felgar Hall Room 222
865 Asp Avenue
Norman OK 73019
Phone: (405) 325-2621
www.ou.edu/coe/academics/pathways

Engineering Pathways (EP) is a framework to bring cohesive research-informed practices and an ethos of care to nurturing and supporting students along each stage of their journey to becoming engineers. Components of EP provide entry to engineering through educational outreach with preK-12 schools and families and active recruitment of high school students; support students in their transition to college life

and along whatever their engineering academic path may be; and ensure students have access to technical and professional development for success in the workplace. A student-focused EP faculty and staff team welcomes incoming students to the Gallogly College of Engineering in first and second-year courses required for all students, as well as through elective opportunities, student organizations, events, and so much more.

Engineering Pathways implements many programs to help young people on their engineering path, from deciding on an engineering career, choosing the University of Oklahoma for their engineering education, and successfully navigating their education for this exciting career.

Engineering Catalyst

The Engineering Catalyst Program is a two-year radical support program designed to help students with a drive to succeed in engineering build their academic and professional success as they travel through their curriculum-to-career pathway. Engineering Catalyst is a selective, by-application program designed for students entering engineering in mathematics prerequisites. The number of Scholars admitted is limited to ensure each Scholar receives optimal resources and support for the duration of the two-year program. As a part of the program's resource-rich framework, Engineering Catalyst Scholars engage in a variety of custom-tailored building blocks for success, including: Specialized classes, Robust learning support, Personalized planning, Community connections, and Financial support.

EMPOWER - Engineering Mathematics Program for Orientation, Workshops, and Other Educational Resources

Loving mathematics is NOT required for being an engineer; engineers only need to be able to use it. Because math is one of the important tools or languages that engineers use, Engineering Pathways EMPOWER offers various degrees of support for GCoE students, beginning before students arrive on campus and continuing during their time here. These include: summer on-campus or virtual math study sessions (Math 'Til You Drop) and suggested review material to support first-year math placement for incoming students and Math 'Til You Drop study sessions, workshops, optional support classes and emailed math study tips to support first-year math classes once students are here.

Undergraduate Advising at Williams Student Services Center

Whether you are a prospective, first-time, continuing or graduating student, the Williams Student Services Center provides centralized support for academic and curricular guidance. Our advising team provides basic information about academic programs and advising, scholarships, student groups, organizations, college support programs, tutoring, mentoring, and graduation. Advisors are available to answer questions and provide guidance regarding courses, academic performance, scholastic requirements and transfer equivalencies.

The Gallogly College of Engineering provides students the support of a faculty and college academic advisor related to their discipline. Students risk delaying their graduation if they do not make a timely selection of a major. Students are advised each semester prior to enrollment.

All incoming engineering freshmen are advised during the University's New Sooner Orientation program coordinated by The Office of Admissions and Recruitment. Freshmen will continue to be advised by an Academic Success Center academic advisor until the student has completed 24 credits hours in residence at OU and has maintained at

least a minimum 2.0 GPA, at which point students will be switched to their degree granting college.

Engineering Laptop Policy

Visit the Gallogly College of Engineering's webpage to learn more about the college's laptop policy.

Admission to the Gallogly College of Engineering

The OU Gallogly College of Engineering uses the same admissions policies for accepting new students into its programs as that of the institution. Students are admitted to the University of Oklahoma using a holistic admissions process. Entry into the Gallogly College of Engineering is open to all students who wish to major in an engineering discipline.

Freshman Admission

For more information regarding freshman admission, visit the OU Admissions webpage.

Transfer Admission

For more information regarding transfer engineering admission, visit the OU Admissions webpage.

A 2.5 combined GPA is required for students with less than 60 hours -or- 2.0 for students with 60 or more hours earned.

The Office of Admissions conducts all initial assessment of transfer coursework. Transfer students who wish to apply un-equated transfer courses towards degree completion are urged to meet with one of the college's academic advisors.

Major specific transfer coursework will be reviewed by the faculty in the specific discipline for evaluation. For more information, visit the University's Transfer Equivalency Database.

Scholastic Requirements & Equivalencies Academic Standards

Students in the Gallogly College of Engineering must meet the following academic standards:

- A minimum grade of C in each course required in the curriculum.
- Both an OU retention and a combined retention grade point average of 2.00 or higher.¹
- A 2.00 minimum combined retention average for all attempted courses presented to satisfy curriculum requirements. *Curriculum requirements include every course on the selected degree requirement sheet.*¹
- A 2.00 minimum OU retention average for all courses attempted at the University of Oklahoma used to satisfy curriculum requirements.¹
- No more than two unsuccessful attempts (D or less) in a course required in the curriculum.

¹ Note: The Gallogly College of Engineering (GCoE) requires a 2.0 OU and Combined GPA to be in good academic standing. If the OU and/or Combined GPA remains below a 2.0 for two consecutive semesters (excluding summer term), the student might be dismissed from the GCoE. Specific accelerated degree programs within the Gallogly College of Engineering may require a higher minimum grade point average.

Please contact Williams Student Services Center (WSSC) 112 Felgar Hall for specific requirements.

For purposes of graduation and retention, these grade point averages may be affected by academic forgiveness policies. Students should consult the Academic Records - Academic Forgiveness Policy section of this catalog for more information.

Students who do not meet these standards will be notified by the Director of Advising and guided to meet with their assigned college advisor for support.

The University of Oklahoma utilizes a 4.0 or A=4, B=3, C=2, D=1, F=0 system. The Gallogly College of Engineering requires:

- a minimum grade of C in any course applied toward degree completion.
- P/NP coursework does not count toward degree completion (except for those P/NP grades earned in SP2020 due to Covid-19).
- S grades are accepted toward degree completion as obtained by Advanced Placement (AP), Departmental, higher-level IBC, and CLEP exams.

Time Limitations on Coursework

A student may elect to graduate under the requirements for an undergraduate degree plan in effect at the time of their first enrollment in the state system, *provided that they complete the work for a degree within a maximum of six years*, which is reflected in the degree check. If the work for a degree covers a period longer than that specified by the college, the college will determine the degree plan to be in effect for that student's graduation.

A student whose initial enrollment in the state system is during the summer session will be subject to the University of Oklahoma catalog in effect for the year following that summer.

Credit in the student's major field or area of concentration that is more than 10 years old may not be applied toward a bachelor's degree unless it is validated by the major department, or by the departments in the student's area of concentration. The term "area of concentration" is included in addition to "major field" to allow for those cases in which the equivalent of a major may be earned by a combination of work in several departments.

Honor Roll

To be eligible for the Dean's Honor Roll, a full-time undergraduate student must earn at least 12 or more hours and attain a grade point average of 3.00 or higher during a regular fall or spring semester. Part-time students may qualify for the honor roll by earning at least six but less than 12 hours and attaining a grade point average of 3.00 or higher, provided they have no W's for that semester. There is no college honor roll during the summer session or during Winter Session, and hours and grades earned during these sessions are not included in any way in determining eligibility for inclusion on regular semester honor rolls.

State-Mandated Articulation Agreements that Impact Engineering Programs

To facilitate the transfer of students within Oklahoma's state system of higher education, the state Board of Regents created the Oklahoma State Regents for Higher Education Course Equivalency Matrix. The Regents established a policy that Freshman and Sophomore-level general education requirements are deemed satisfied for students who complete

a two-year Associates of Arts or Associates of Science degree from an Oklahoma public college, and who transfer to a four-year university.

For these reasons, general education coursework readily transfers from Oklahoma colleges into OU. Additionally, if the student has completed the Associates of Arts or Associates of Science, and they earned a D in one of the general education courses used to complete that degree, the GCoE will accept the course toward degree completion unless it is a direct pre-requisite for an engineering course.

Non-Collegiate Learning Experiences

For more information, visit the Academic Records and Transcripts webpage.

Enrollment & Major Declaration

Enrollment Limitations

Pass/No Pass Course Enrollments

Pass/No Pass Course Enrollments may not be used to satisfy Gallogly College of Engineering course requirements. Engineering students may not proceed in their major courses until they have achieved a minimum grade of C in all prerequisites. All required courses listed on the official University of Oklahoma degree checksheet (p. 1) for any engineering major must be completed with a grade of C or better (except for those P/ NP grades earned in SP2020 due to Covid-19.)

Minimum Grade Requirement/Course Repeats

Students may retake a course in their curriculum a maximum three times (i.e. retake due to not completing the course with a grade of C or above.) If the course is completed unsuccessfully after three attempts (grades such as: I, AU, W, AW, D, F), and if it is a course required in any curricula in the College of Engineering, the student will receive an Enrollment Stop from the Gallogly College of Engineering. (Note: A first course attempt which results a final grade of I, W, AW, or an audit A) is not counted in the "three attempts" rule.) If the course is taken unsuccessfully three times and is required only in the major, the possibility of a student continuing in the Gallogly College of Engineering in a different major will be determined on an individual basis. When courses are repeated, the grade of the last (most recent) attempt is the grade of record.

Enrollment in Upper-division Courses

Enrollment in upper-division Gallogly College of Engineering courses, except any courses specifically exempted in the General Catalog or Class Schedule, is restricted to students who are admitted to the Gallogly College of Engineering and in some cases to those admitted to a specific degree program, have completed the necessary grade and course prerequisites, and are advised into the classes by their engineering faculty or staff advisor. Qualified students from outside the Gallogly College of Engineering are welcome in advanced courses if they have completed the necessary grade and course prerequisites, and are encouraged to explore specific interests with the schools and instructors involved. Approval must be obtained from the professor teaching the course and the Director of Advising in the Williams Student Services Center (WSSC), 112 Felgar Hall.

Conduct of Engineering Courses

A student is responsible for the prerequisite and the content of any course in which they are officially enrolled. The establishment of specific policy concerning class attendance requirements, as well as announced and unannounced examinations, is the responsibility of the individual instructor. When absences seriously affect a student's classwork, the

instructor may report this fact to the Office of Student Affairs and the information will be directed to the student's college dean.

The Gallogly College of Engineering requires final examinations to be given during the regularly scheduled examination periods in all undergraduate courses excluding directed readings, pure laboratory courses and project type design courses and seminars. No faculty member is authorized to depart from this regulation or from the published examination schedule for a class or an individual without prior approval. Special early examinations given to individual students or groups of students as substitutes for final examinations are prohibited. A student will not be expected to take more than two examinations in one day.

Academic Appeals

The Gallogly College of Engineering has established an Academic Appeals Panel to hear grade appeals and academic misconduct cases. To obtain the procedures to be followed, a student should contact the Dean's office in 107 Carson Engineering Center, and refer to Title 14 of the Student Code.

Credit Hour Load

Students requesting to enroll in more than 19 maximum hours in a fall or spring semester or 9 hours in a summer semester must obtain permission from the GCoE Director of Advising.

Change of Major Requests

Students interested in pursuing a change of major within engineering must meet with an academic advisor in the GCoE WSSC academic advising unit to change majors. To add or change majors outside of the GCoE, students must contact the advising office in that college. The advisor will assess the student's GPA and completed courses. If the student lacks necessary preparation to begin coursework in the major, the student might be advised to remain in their current major until they are adequately prepared for the course curriculum. Approved changes of major requests are only processed by the Office of the Registrar within the first 10 weeks of the semester or after final grades are posted. In accordance with State Regents' requirements, students are assigned to the degree program year that was current at the time they entered the Oklahoma State System of Higher Education.

Graduation Requirements

The student must satisfy the following requirements:

- **Curricular Courses:** complete all prescribed curricular courses or equivalent courses as approved by the faculty with a minimum grade of C in each course.
 - Students graduating from a program accredited by the Engineering Accreditation Commission of ABET must complete 37.5% or 48 hours of engineering and 25% or 32 hours of combined mathematics (at the calculus level or above), physics, chemistry, or other science coursework.
 - Students graduating from a program accredited by the Computing Accreditation Commission of ABET must complete a minimum of 40 hours in computing, 15 hours of mathematics and 30 hours of combined mathematics and science coursework with some exposure to laboratory work.
- **Two-year College Transfer Credits:** a minimum of 60 semester hours must be earned in a senior college or four-year school for a baccalaureate degree.
- **Degree Requirements:** fulfill all requirements listed on the official degree checksheet (p. 1). Gallogly College of Engineering academic advisors in the Williams Student Services Center (WSSC)

clear undergraduate degrees and encourage consultation on remaining degree requirements. However, responsibility for meeting graduation requirements lies with the student.

- Be in good academic standing both scholastically and in accordance with academic integrity standards of the College and University.
- Apply for graduation of your respective degree by the deadline for the semester in which you intend to graduate.
- To ensure that the above conditions will be met, students are encouraged to request a degree check in the Williams Student Services Center (WSSC). This action should be taken at least two semesters before the student expects to graduate. The student can access their degree audit at any time online through Degree Navigator.
NOTE: Students will not be cleared for graduation if they have an I or N grade on their transcript from the University of Oklahoma. These must be resolved prior to degree clearance.
- **Residence Requirements** – to be recommended for a degree, a candidate must have:
 - spent two semesters or the equivalent in residence, with at least one semester enrolled as a Gallogly College of Engineering student;
 - completed at OU 36 of the hours listed in the junior and senior years on their curriculum checksheet, 24 of these 36 hours must be in the major field;
 - fulfilled the grade and grade point requirements of the college and school.
NOTE: Academic credit from any division of the University of Oklahoma – Norman campus, OU Health Sciences Center, OU-Tulsa, OU Polytechnic, OU Online or The College of Professional and Continuing Studies – is considered resident credit at the University of Oklahoma. Grades and hours earned at any of these divisions are included in the OU retention and cumulative grade point averages for purposes of determining completion of degree requirements.
- Undergraduate degrees offered in the Gallogly College of Engineering:
 - **Bachelor of Science:** the Gallogly College of Engineering is organized into departments and schools. The degree of Bachelor of Science is qualified by the name of the engineering field pursued and is conferred upon graduates of the college.
 - **Honors:** Please refer to the Office of Academic Records.

Degrees are formally conferred at spring commencement and fall convocation exercises. However, degrees are also awarded in absentia at the end of summer session. All diplomas are mailed to students following the official graduation date. The degree and date of the diploma are entered on the student's permanent academic record. The date of graduation is the last day of the semester or summer session in which all requirements for the degree are completed. When a student completes all requirements for a degree, other than at the close of a semester or summer session, the Office of Academic Records, upon request, will issue a certified statement that the student is eligible for the degree as of the date when the requirements for the degree were completed.

Graduate Study

EMPOWERING YOU THROUGH LIFE-CHANGING LEARNING EXPERIENCES

The Gallogly College of Engineering offers advanced degrees from seven schools.

The Gallogly College of Engineering is committed to fostering creativity, innovation and professionalism through dynamic research, development and learning experiences. We are committed to attracting a talented and collaborative student body, and we empower our students through life-changing learning experiences, high-impact discoveries and innovations. Graduate programs, research and creative activity are key components in realizing this vision.

With nationally and internationally renowned faculty, world-class research facilities and talented students, we are leaders in a number of areas including materials & manufacturing, weather radar, water resources, medical imaging, immuno-engineering, surface transportation, energy, and data science and analytics. These areas of excellence, and many others, provide the foundation upon which our comprehensive selection of graduate degrees are built, including 12 doctoral programs and 14 masters programs.

Two closely affiliated programs are also available to students through Engineering Physics and the Mewbourne College of Earth and Energy. Please follow the links provided for a brief overview of the school or program. Please contact the appropriate school or program for further information on specific degree programs and areas of specialization offered.

- Aerospace and Mechanical Engineering
- Biomedical Engineering
- Sustainable Chemical, Biological, and Materials Engineering
- Civil Engineering and Environmental Science
- Computer Science
- Data Science and Analytics
- Electrical and Computer Engineering
- Engineering Physics
- Industrial and Systems Engineering

Online Programs

- M.S. in Civil Engineering
- M.S. in Data Science and Analytics
- Graduate Certificate in Data Science and Analytics
- M.S. of Engineering Leadership and Management
- M.S. of Environmental Science Hydrology & Water Security
- M.S. of Industrial and Systems Engineering
- M.S. in Sustainability
- M.S. Applied Computing

Related Links

- Mewbourne College of Earth and Energy
- Financial Aid
- Student Life
- Career Services
- OU One

Opportunities

Engineering Pathways Mentors

The Engineering Pathways Mentors Program fosters connections to the community within the Gallogly College of Engineering through student-to-student interaction. These interactions are based on service, dedication, respect, encouragement, and professionalism. Program members are

current engineering students with excellent academic credentials, and a desire to provide strong mentorship and leadership. Program members serve as mentors to first-year engineering students. EP Mentors are selected through an application process.

Undergraduate Research

GCoE students have many opportunities to participate in individual or team research projects with faculty. The Engineering Pathways faculty offer workshops to assist students in getting started with research and in fundamental research skills. Sophomore courses are adding course-based research projects to benefit learning. GCoE offers an Opportunity Portal to assist students in being matched with a faculty-member's project. GCoE also offers a limited number of research fellowships for students.

Gallogly Student Affairs Team (GSAT)

Contact Randa Shehab, Senior Associate Dean for Academic Affairs and Faculty Development, for more information.

Engineering Student Life

Engineering Student Life promotes students' professional and leadership development by hosting and supporting a variety of co-curricular opportunities. These opportunities include workshops, job and internships fairs, tech talks, and the support of a multitude of engineering and STEM focused student organizations including technical and professional societies, service organizations, social organizations, competitive student teams and more.

Engineering Student Competition Teams

The Gallogly College of Engineering supports a variety of student organizations with the focus of competing in specific regional, national, and international engineering competitions. These teams give students a unique opportunity to work on interdisciplinary projects and apply their academic knowledge while learning hands-on skills that will help them in their future careers. Teams also work with faculty and staff on further developing their foundation of engineering and project management skills.

Competition team projects include building and designing planes, rockets, formula-one cars, off-road vehicles, steel bridges, concrete canoes, and creating and programming robots.

Engineering Catalyst

The Engineering Catalyst Program is a two-year radical support program designed to help students with a drive to succeed in engineering build their academic and professional success as they travel through their curriculum-to-career pathway. Engineering Catalyst is a selective, by-application program designed for students entering engineering in mathematics prerequisites. The number of Scholars admitted is limited to ensure each Scholar receives optimal resources and support for the duration of the two-year program. As a part of the program's resource-rich framework, Engineering Catalyst Scholars engage in a variety of custom-tailored building blocks for success, including: Specialized classes, Robust learning support, Personalized planning, Community connections, and Financial support.

Jerry Holmes Leadership Program for Engineers and Scientists

The Jerry Holmes Leadership Program for Engineers and Scientists (JHLP) provides leadership education for undergraduate and graduate students in the Gallogly College of Engineering and the Mewbourne

College of Earth and Energy. Through JHLP's pillar-based approach, students enhance their capabilities across five domains: personal development, interpersonal relationship, management and teamwork, generative leadership, and intercultural competence. Leadership development opportunities include retreats, workshops, courses, Distinguished Speaker days, and an academic Undergraduate Certificate in Engineering Leadership. Students have the option to further develop their leadership capabilities as Holmes Leadership Associates (HLAs). HLAs work with professional mentors to design a personal leadership development plan. They attend monthly topical meetings and other events where they hone their leadership skills, and they create real impact as leaders within the University and surrounding communities.

Study Abroad | International & Global Opportunities

Educational and co-curricular experiences are offered through the College's Study Abroad and International & Global Opportunities (IGO) program. This program includes engineering specific coursework, opportunities for practice related service learning, internships and research. These programs are open to current OU students in collaboration with the University's Education Abroad Office and affiliated partner universities.

Honor Societies

In addition to University-wide honor societies and organizations, the Gallogly College of Engineering has a robust participation in engineering honor societies such as Tau Beta Pi, Pi Tau Sigma, Sigma Gamma Tau, Chi Epsilon, Eta Kappa Nu and Alpha Pi Mu.

Tau Beta Pi

The Tau Beta Pi honor society, which was founded at Lehigh University in June 1885, offers students of technical schools membership in an honorary association. Students who are qualified in any branch of engineering may become members. The annual election to the society, which is based upon scholarship, integrity, breadth of interest (both inside and outside of engineering), adaptability and unselfish activity, is limited to the upper one-fifth of the senior class and to the students who have grade averages within the upper one-eighth of the junior class. The government of the organization in each chapter is under the direction of the elected student officers and an advisory board consisting of four faculty members of Tau Beta Pi. Membership in Tau Beta Pi is one of the highest scholastic honors that an undergraduate engineering student can receive. The Oklahoma charter was granted in 1926.

Pre-K-12 Outreach

Engineering faculty and students engage in promoting science and engineering with pre-K-12 communities. The Boggs Family Sooner Engineering Education Student Ambassadors lead over 3000 students, teachers, and families in hands-on learning of engineering design and computer science fundamentals. Schools bring students to campus; we run Engineering Days for high school students each summer; and we host Family Engineering nights during the academic year. GCoE schools and faculty host their own activities as well.

Scholarships and Financial Aid Information

Future Students

To be considered for first-year scholarships from the Gallogly College of Engineering, you must apply for admissions to the University of Oklahoma by December 15th. Scholarships are competitive for students demonstrating strong academic merit, leadership, community service, co-curricular activities, financial need, etc. Incoming students can learn

more about additional scholarship opportunities through the Office of Admissions & Recruitment.

Transfer Students

To be considered for a transfer scholarship from the Gallogly College of Engineering, you must apply for admissions to the University of Oklahoma by March 1st and have completed 24 hours or more from an accredited two or four year institution. Scholarships are competitive for students demonstrating strong academic merit, leadership, community service, co-curricular activities, financial aid, etc. Incoming transfer students can learn more about additional scholarship opportunities through the Office of Admissions & Recruitment.

Current Students

All undergraduate and graduate engineering students can apply for scholarships through the Centralized Academic Scholarship Hub (CASH). The deadline is February 1st of each year.

Financial Aid

The FAFSA (or Free Application for Federal Student Aid) is the government-provided application for need-based funds to help pay for college. OU highly recommends completing the FAFSA regardless of family's income.

Career Guidance

Our mission is to provide engineering students with a strong foundation for success through responsive, supportive and meaningful academic and career guidance. Each semester, students are required to meet with both their College and Faculty Advisors in order to assist with their academic progression and address concerns related to career pathways, internships, graduate school, etc. Faculty with past and/or current corporate collaborations are excellent resources for our students, as are the college's alumni, many of whom welcome connecting with students regarding career questions. During the first-year Engineering Orientation and the second-year Professional Development courses, students are introduced to the career planning process and the assistance available via the OU Career Services. These courses also introduce students to undergraduate research experience programs and graduate school. The college also hosts a Graduate School Fair for the undergraduate students. The Gallogly College of Engineering collaborates with the OU Career Services Office to host two annual Career Fairs for engineering students; one in September and the other in February. The September career fair is the largest with an average of 140 companies seeking to recruit our students. Many companies also commit to a regular presence on campus as speakers at student organizations' regular meetings or "Tech Talks."

The OU Career Services offers specialized services to students and alumni, that includes:

- Job search and interviewing skills
- Resume and cover letter writing
- Major specific career advice
- Internship and Job postings
- Information regarding Career Fairs and on-campus interviews

Co-op Program

The Co-op Program offers a work-study experience that combines a sequence of academic study and engineering employment in industry or government. Participating in the Co-op Program allows the engineering

student to gain first-hand experience in the application of academic studies to engineering problems.

Participation in the Co-op Program is optional and open to students enrolled full-time in a degree program administered by the Gallogly College of Engineering. Students who wish to participate in the Co-op Program must have completed all of the requirements of the first year of their degree program with a minimum 2.50 GPA. Students also must have the approval of the director of the school of their major. Employment in a Co-op position requires the approval of the participating company. Interested students should apply as soon as possible during their first three semesters on campus.

The time required to complete an engineering degree program as a Co-op student will be longer than the usual eight-semester program. (Caution: Major courses in several GCoE degree programs are sequential and offered only one time per year.) For further information and application forms, contact the Gallogly College of Engineering Undergraduate Advising Office.

Internships

The Gallogly College of Engineering encourages all students to seek an internship either with college faculty assisting with research or with industry. Both the college's Undergraduate Advising office and the OU Career Services office work to facilitate this process.

Work Experience

Students may request to receive credit for internship or co-op experiences. Specific faculty oversee such enrollments and may require the student to provide a final project report and presentation. The faculty of the student's program determine if the credits may apply towards degree completion, and if so, if the credits will apply as a professional or technical elective in the student's program. For more information, contact the college's Undergraduate Advising Office.

Faculty

Last Name	First/Middle Name	Middle init.	OU Service start	Title(s), date(s) appointed	Degrees Earned, Schools, Dates Completed
Denton	Maya	E	2023	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2023	PhD, Univ of Texas-Austin, 2023; MS, Univ of Texas-Austin, 2021; BS, Purdue Univ, 2014
Harvey	Tierney		2022	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2022	PhD, Duke Univ, 2015; BS, Univ of Virginia, 2009
Haskins	Casey	V	2022	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2022	PhD, Univ of Oklahoma, 2023; MA, Univ of Oklahoma, 2017; BS, Univ of Oklahoma, 2015
Kittur	Javeed		2022	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2022	PhD, Arizona State Univ, 2022; M.Tech, Natl Inst of Eng, Mysore, India, 2014; BVB, Coll of Eng and Tech, Hubballi, India, 2011

McSkimming Brian	M	2022	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2022	PhD, Univ Calif, Santa Barbara, 2015; BS, BA, Univ of Buffalo, 2009	Walden	Susan	E	1998	EXECUTIVE DIRECTOR OF ENGINEERING PATHWAYS, 2022; DIRECTOR, UNDERGRADUATE RESEARCH PROGRAM FOR VICE PRESIDENT FOR RESEARCH, 2015-2018; ADJUNCT PROFESSOR OF ENGINEERING, 2011; ASSOCIATE DIRECTOR, ENGINEERING OUTREACH, SOONER ENGINEERING EDUCATION CENTER, 2008; RESEARCH ASSOCIATE PROFESSOR OF ENGINEERING, 2008; RESEARCH SCIENTIST, 1998	Fellow, American Society of Engineering Education, 2017; PhD, Univ of Oklahoma, 1997; MS, Univ of Oklahoma, 1995; BS, Arkansas State, 1984
Neeman Henry	J.	2012	ASSOCIATE PROFESSOR OF ENGINEERING, 2012; EXECUTIVE DIRECTOR OF RESEARCH COMPUTING; DIRECTOR OF OU SUPERCOMPUTING CENTER FOR EDUCATION & RESEARCH (OSKER)	PhD, Univ of Illinois, 1996; MS, Univ of Illinois, 1990; BA, BS, SUNY Buffalo, 1987						
Okolie Jude	A	2022	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2022	PhD, Univ of Saskatchewan, 2021; MS, Tallinn Univ, Estonia, 2018; MS, Imperial Coll London, 2016; B.Eng, Univ of Benin, Nigeria						
Olayemi Moses	O	2023	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2023	PhD, Purdue Univ, 2023; BS, Univ of Lagos, Nigeria, 2011						
Pittenger Dominique	M	2008	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2022; RESEARCH ASSISTANT PROFESSOR OF ENGINEERING, 2013	PhD, Univ of Oklahoma, 2012; MS, Univ of Oklahoma, 2010; BS, Univ of Oklahoma 2002						
Quiroga Allison		2017	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2022; SUMMER BRIDGE PROGRAM COORDINATOR, 2020; LECTURER, SCHOOL OF CIVIL ENGINEERING AND ENVIRONMENTAL SCIENCE, 2017	PhD, Univ of Oklahoma, 2018; MS, Univ of Oklahoma, 2013; BS, Univ of Oklahoma, 2012						
Wolfenbarger Kim	G	2005						2005	ASSISTANT PROFESSOR ENGINEERING PATHWAYS, 2022; INTERIM DIRECTOR, ENGINEERING STUDENT LIFE, 2018; DIRECTOR OF JERRY HOLMES LEADERSHIP PROGRAM FOR ENGINEERS & SCIENTISTS, 2015; INDUSTRIAL ENGINEERING LEADERSHIP PROGRAM COORDINATOR, 2010; RECRUITMENT COORDINATOR, ISE, 2006; INSTRUCTOR AND ACADEMIC ADVISOR, ISE, 2005	PhD, Univ of Oklahoma, 2015; MS, Univ of Oklahoma, 2000; BBA, Univ of Oklahoma, 1996