

# COLLEGE OF ENGINEERING

## Description

### Administration

Lance C. Perez, Ph.D., Dean

Website: <https://engineering.unl.edu/>

### Administrative Structure

The College of Engineering is located on three campuses (Lincoln City Campus, Lincoln East Campus, and Scott Campus in Omaha) and has two Dean's Offices (641 Kiewit Hall in Lincoln and 301 Peter Kiewit Institute in Omaha). The College is subdivided into units, each under the leadership of a chairperson, department head, or director.

### Role and Mission

The College of Engineering improves the lives of every Nebraskan. We pursue this vision through our shared values of Community, Impact, and Inclusion. These values are embedded in and strengthened by the academic ideals of the university, the ethos of Nebraskans, and the principles of the entire Nebraska Engineering Community.

Our mission is to drive economic development in the state and region while solving problems of global importance. The College of Engineering will fulfill this mission through our deep commitment to engineering, computing, and construction education, research, and engagement. As the only engineering college in Nebraska, we have a particularly strong mandate to the state to ensure our resources and opportunities are accessible to all Nebraskans.

An essential and distinctive pillar of our mission is the notion of the Complete Engineer. At its most fundamental, the Complete Engineer is a commitment by the college to the development of every student in technical, professional, and personal dimensions. It enables everyone to become the best version of themselves in support of the fulfillment of the college's mission and reinforces the values of Community, Impact, and Inclusion.

## College Admission

### College Entrance Requirements

Students must meet both the University and College of Engineering entrance requirements. The following includes both the University and College of Engineering entrance requirements.

Students must have high school credit for (one unit is equal to one high school year):

1. Mathematics – 4 units: 2 of algebra, 1 of geometry, and 1 of precalculus and trigonometry
2. English – 4 units
3. Natural sciences – 3 units that must include 1 unit of physics and 1 unit of chemistry (chemistry requirement waived for students in construction management or computer science)
4. Foreign language – 2 units of a single foreign language
5. Social studies – 3 units
6. Students having a composite ACT score of 28 or greater (or equivalent SAT score) will be admitted to the College of Engineering even if they lack any one of the following: trigonometry, chemistry, or physics. Students without test scores who are missing a full unit of trigonometry/pre-calculus/calculus or chemistry or physics will be evaluated through College Review.

A total of 16 units is required for admission.

Engineering requires that student performance meet one of the following standards: composite ACT of 24, SAT of 1180, ACT Math subscore of 24, SAT Math subscore of 580, or a 3.5 cumulative GPA.

Any domestic first-year student who does not gain admission to Engineering but does gain admission to the University of Nebraska-Lincoln (UNL) will be reviewed through College Review. College Review is conducted through the College Review Committee which considers factors beyond standardized testing. Any first-year student who is not admitted through college review is placed in Pre-Engineering (PENG) within the college and are advised by the Engineering Student Services.

Students who lack entrance units may complete precollege training by Independent Study through the University of Nebraska-Lincoln Office of On-line and Distance Education, in summer courses, or as a part of their first or second semester course loads while in the Academic and Career Development Center at the University of Nebraska Omaha.

Students should consult their advisor, their department chair, or Engineering Student Services (ESS) if they have questions on current policies.

### Other Admission Requirements

Students who transfer to the University of Nebraska Omaha from other accredited colleges or universities and wish to be admitted to the College of Engineering (COE) must meet COE first-year student entrance requirements, have a minimum cumulative GPA of 2.5, and be calculus-ready. Students not meeting either of these requirements must enroll in another University college until they meet COE admission requirements. Students transferring from UNO, UNL, or UNK to the College of Engineering must be in good academic standing with their institution.

The COE accepts courses for transfer for which a C or better grade was received. Although the University of Nebraska-Lincoln accepts D grades from the University of Nebraska Kearney and the University of Nebraska Omaha, not all majors in the COE accept such low grades. Students must conform to the requirements of their intended major and, in any case, are strongly encouraged to repeat courses with a grade of C- or less.

Students who were previously admitted to COE and are returning to the College of Engineering must demonstrate a cumulative GPA of 2.5 to be readmitted to COE.

## Classification and Professional Admission

### Student Classification

**Sophomore Standing.** For admission to sophomore standing, a student must have completed all the College entrance requirements except foreign language, earned a minimum of 27 semester hours of credit, and attained a total grade point average of at least 2.0.

**Junior Standing.** A student has junior standing after meeting the requirements for sophomore standing and completing 53 semester hours of credit.

**Senior Standing.** A student has senior standing after meeting the requirements for junior standing and completing 89 semester hours of credit.

### Professional Admission

Professional admission to a student's degree program is a requirement for graduation from that program. The progression to Professional Admission is as follows.

**Explore Center Pre-Engineering Students.** These are students who aspire to enter the College of Engineering but who are not immediately admitted due to not meeting one or more admission criteria such as required high school mathematics, chemistry or physics course(s), ACT, or other qualifications. These students are admitted to the Explore Center and receive advising services from the Explore Center. These students may enroll in any engineering courses provided they meet the prerequisites on a space-available basis. Once the student has earned a 2.5 cumulative GPA in at least 12 graded credit hours and has removed all entrance deficiencies, they will be admitted to the College of Engineering (COE).

After being admitted to the COE, students wishing to pursue degree programs in the College of Engineering will be classified as described below.

**Pre-Professionally Admitted COE Students.** These are students who have been admitted to the College of Engineering and are in the process of establishing their academic credentials and confirming their choice of major. Transfer students from other colleges and universities or from the Explore Center will be classified as pre-professionally admitted for at least one semester (12 credits) while they confirm their career path and establish their academic credentials (see Professional Admission). Most students are in pre-professionally admitted status for one to four semesters. Pre-professionally admitted students may enroll in upper-level engineering courses provided they meet the prerequisites, space is available, and no departmental restrictions exist.

**Professionally Admitted COE Students.** These students may register for engineering courses where they meet all prerequisites or have permission. A professionally admitted student who wishes to transfer from one COE major to another must re-apply for Professional Admission to gain professionally admitted status in the new major, subject to the admission criteria of the new major.

Students who are enrolled in the Explore Center or in other colleges may enroll in any engineering courses for which they have met the prerequisites. Those with greater than a 2.5 cumulative GPA may register for upper-level engineering courses, but only on a space-available basis in courses where they meet all prerequisites and have permission from the department. These students may retake an engineering course for C-, D, and F removal, on a space-available basis and with permission.

Professional Admission must be earned by a student to move from pre-professionally admitted status to professionally admitted status within the College of Engineering. A review of the student's academic history is completed by the department of the student's intended major after the student has completed at least 43 credit hours within his or her intended degree program. Additional review criteria are based on the individual degree program and can be found under that major's information in the undergraduate catalog.

A student may be reviewed up to two times for Professional Admission in a single major. If the student is rejected for Professional Admission on the second review, the student will not be allowed to continue in that major. The student may choose to pursue a new College of Engineering major but will be subject to the review criteria of the new major. If the student is rejected for Professional Admission by the new major, the student will be dismissed from the College of Engineering. Further reviews for Professional Admission will not be allowed and the student will no longer be eligible to enroll in College of Engineering courses.

## Catalog to Use

Students must fulfill the requirements stated in the catalog for the academic year in which they are first admitted at the University of Nebraska-Lincoln. In consultation with advisors, a student may choose to follow a subsequent catalog for any academic year in which they are admitted to and enrolled

as a degree-seeking student at Nebraska in the College of Engineering. Students must complete all degree requirements from a single catalog year. The catalog which a student follows for degree requirements may not be more than 10 years old at the time of graduation.

Students who have transferred from a community college may be eligible to fulfill the requirements as stated in the catalog for an academic year in which they were enrolled at the community college prior to attending the University of Nebraska-Lincoln. This decision should be made in consultation with the student's College of Engineering academic advising team (e.g., ESS professional advisor and the chief faculty advisor for the student's declared degree program). The chief faculty advisor has the final authority for this decision. Eligibility is based on a) enrollment in a community college during the catalog year the student wishes to utilize, b) maintaining continuous enrollment of at least 12 credit hours per semester at the previous institution for at least 2 semesters, and c) continuous enrollment at the University of Nebraska-Lincoln within 1 calendar year from the student's last term at the previous institution. # Students must complete all degree requirements from a single catalog year and within the timeframe allowable for that catalog year.

## Academic Advising

Advisors assigned to students are either part of the Engineering Student Services located at 107 Peter Kiewit Institute (PKI) or are in the student's major department.

## Student Responsibility

Students are responsible for fulfilling all the requirements of the curriculum in which they are enrolled. Students are also responsible for initiating advising contacts and preparing for advising sessions. The mentoring relationship between academic advisors and students is confidential and is strengthened by advisors' ability to listen with empathy.

Students are expected to take responsibility for successful university experiences and effective advising sessions by:

1. Participating in New Student Orientation and priority registration programs.
2. Scheduling appointments with advisors well in advance of priority registration and at other times as needed.
3. Identifying class choices from the requirements of the selected program.
4. Identifying questions to address in advising sessions.
5. Informing advisors of any special needs, deficiencies, or barriers that might affect academic success.
6. Following academic policies and procedures and meeting academic calendar deadlines (e.g., registration, fee payment, degree audit, filing for degree, etc.).
7. Knowing and completing degree or program requirements.
8. Monitoring their progress toward meeting degree requirements by maintaining a copy of their academic records and seeking assistance to resolve any errors or questions.
9. Acting on recommendations to seek assistance from the various student support services provided by the University and College.

## Academic Load

College of Engineering (COE) students may register for up to 18 credit hours per semester. Permission must be obtained from the student's advisor to exceed the credit hour maximum and must be filed with an Override Authorization form at the time of registration. Students must be enrolled for 12 credit hours at the University of Nebraska Omaha to be considered

full-time students. For recognition on the Dean's List, these 12 University of Nebraska Omaha credit hours must be for a letter grade.

## Application for Graduation

Students are expected to develop a clear understanding of degree requirements and to plan their course of study with the academic advisor. Students requiring clarification of outstanding degree requirements should visit their academic advisor promptly.

Students should access their Degree Audit via MavLink at least once each term to review degree requirements and progress toward graduation. It is the student's responsibility to make sure their Degree Audit accurately reflects their current College and program of study.

Students who believe their Degree Audit has errors or omissions should visit their academic advisor promptly. It is important that these matters be resolved as soon as practicable to avoid a delay in graduation.

Each student who expects to receive a diploma must file an application of candidacy for the diploma online on MavLINK. Announcements about deadline dates are posted on the University of Nebraska Omaha's (UNO) Academic Calendar webpage, Maverick Weekly email to students, and by an email sent by the UNO Registrar's office.

It is the responsibility of the students to inform the Registrar's Office of their graduation plans including their mailing address and the manner in which they are completing their requirements.

Failure to meet these stipulations may necessitate the postponement of graduation until the next semester.

Scott Campus COE students wishing to attend Commencement on the UNL campus may do so by completing the online form found at <https://engineering.unl.edu/undergraduate-programs/alternate-campus-commencement-ceremony-application/>.

## Academic Programs & Policies Engineering

To meet the need for innovative engineers, the College's programs offer a broad education in the physical sciences, social sciences, mathematics, information sciences, and humanities. This education is complemented by a study of engineering methods of modeling, analysis, synthesis, and design in students' areas of specialization. In addition to preparing students for careers in engineering, the College's bachelor's degree programs provide excellent preparation for graduate study in those fields.

## Construction

This profession is allied with architecture, engineering, and business. Construction managers coordinate people, machines, and materials to produce (within the constraints of budget and time) buildings, highways, bridges, dams, and other structures essential to modern society. The College's construction management program provides a solid technical background, develops business knowledge, and considers ethical issues of the profession.

## Computing

Computer scientists are collaborators, working within teams from other areas of expertise to determine and resolve needs and issues. Students will learn to use and build the tools to make the technology currently being used - and will in the future - work better. Computer science majors learn programming languages and theory that will prepare them for any computing career path.

## Undergraduate Degree Programs

**Engineering.** The College offers Bachelor of Science degree programs in each of the following engineering fields: agricultural engineering (Lincoln only), architectural engineering (Omaha only), biological systems engineering (Lincoln only), chemical engineering (Lincoln only), civil engineering, computer engineering, construction engineering, electrical engineering, environmental engineering, mechanical engineering (Lincoln only), and software engineering (Lincoln only). Students with interests in specialty fields such as aerospace, or biomedical engineering should seek advice in the Engineering Student Services Center or with their faculty advisor.

**Computer Science.** Lincoln only. The College offers the Bachelor of Science degree program and a minor in computer science.

**Construction Management.** The College offers the Bachelor of Science degree program and a minor in construction management.

**Data Science.** Lincoln only. The College offers the Bachelor of Science degree with a major in Data Science.

**Dual Degrees.** Students can major in two departments in the college by consulting their advisors (one from each department) and completing all the requirements for the departmental majors.

## Accreditation

- The Agricultural Engineering (BSAE) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Agricultural and Similarly Named Engineering Programs.
- The Architectural Engineering (MAE) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Architectural and Similarly Named Engineering Programs.
- The Biological Systems Engineering (BSBS) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Biological and Similarly Named Engineering Programs.
- The Chemical Engineering (BSCH) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Chemical, Biochemical, Biomolecular and Similarly Named Engineering Programs.
- The Civil Engineering (BSCE) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Civil and Similarly Named Engineering Programs.
- The Computer Engineering at Lincoln Campus (BSCP) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs.
- The Computer Engineering at Omaha Campus (BSCP) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Electrical, Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs.
- The Construction Engineering (BS) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Construction and Similarly Named Engineering Programs.
- The Electrical Engineering (BS) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Electrical,

Computer, Communications, Telecommunication(s) and Similarly Named Engineering Programs.

- The Mechanical Engineering (BS) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Mechanical and Similarly Named Engineering Programs.
- The Software Engineering (BSSE) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Software and Similarly Named Engineering Programs.
- The Computer Science (BS) program is accredited by the Computing Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Computer Science and Similarly Named Computing Programs.
- The Construction Management (Bachelor of Science in Construction Management) program is accredited by the Applied and Natural Science Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Construction Management and Similarly Named Programs.

### Programs Seeking Accreditation

- The Environmental Engineering (BS) program is seeking accreditation through the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the commission's General Criteria and Program Criteria for Environmental and Similarly Named Engineering Programs.

### Minors & Areas of Specializations Offered

College faculty encourage students to minor in a discipline outside the College of Engineering to further develop critical thinking skills, curiosity, understanding of the connections between engineering and the social or natural sciences and fine arts, and sensitivity to ethical issues.

1. A minor will not reduce or alter the existing course or degree requirements for students electing to pursue a minor.
2. A student's minor program(s) must be reviewed by an advisor prior to the submission of the senior check to the department chair or head. It is the responsibility of the student to determine that all requirements for the minor are met.
3. The minor(s) must be approved by the cognizant program offering the minor(s).
4. The College of Engineering will follow the "A/B" format of the UNL College of Arts and Sciences in which a student pursuing a single minor must complete the "A" requirements. A student pursuing a double (or greater) minor must fulfill either the "A" or "B" requirements for both minors depending on which plan is offered by the cognizant department.
5. Departments may restrict students in their major(s) from obtaining certain minor(s) at their discretion; see the bulletin entry for individual majors for details.

### General College Policies

These policies are applicable to all students in the College of Engineering:

1. Student priority for entrance into classes for which demand exceeds available class space will be based on accumulative GPA. This priority will be applied at the end of early registration (when applicable).
2. At least 30 of the last 36 credit hours needed for a degree must be registered for and completed at UNL or UNO while identified with the College of Engineering. This means that practically speaking, the last year of a student's work must be spent in residence. Credit earned during

education abroad may be used toward degree requirements if students participate in prior approved programs and register through the University of Nebraska–Lincoln (<http://educationabroad.unl.edu>) or the University of Nebraska Omaha (<https://www.unomaha.edu/international-studies-and-programs/study-abroad/index.php> (<https://www.unomaha.edu/international-studies-and-programs/study-abroad/>)).

3. Credit/No Credit courses: Students in the College of Engineering must take ENGR 101 Freshman Engineering Seminar or CSCE 101 Introduction to CSE, or RAIK 10 Raikes School Freshman Seminar, or ENGR 30 Transfer Student Engineering Seminar, or ENGR 193 Kiewit Scholars Freshman Seminar, or AREN 1010 Introduction to Architectural Engineering, and ENGR 202 Sophomore Engineering Seminar with the grading option Credit/No Credit. Some majors in the College of Engineering also require taking ENGR 400 Professional Ethics and Social Responsibilities with the grading option Credit/No Credit. Outside of these courses, students may take up to 12 credit hours of courses certified as ACE 5, 6, 7, 8, or 9 with the grading option of Credit/No Credit, if the major does not require a predetermined engineering course to fulfill the ACE requirement (example, some majors require BSEN/CONE 206 Engineering Economic to fulfill the ACE 8 requirement). # Students in the College of Engineering may not take any other ACE category, required or engineering/technical elective courses, with the grade option of Credit/No Credit.

4. Credits for "international students who are non-native speakers of English" at UNL and "English as a Second Language" at UNO are not applicable to degree programs in the College of Engineering.

5. Students who enroll at UNL, UNO, or UNK under the academic year (Fall, Spring, Summer) of this catalog must fulfill the requirements stated in this University of Nebraska–Lincoln catalog or in any other University catalog which is published while they are enrolled in the College, provided that the catalog is no more than 10 years old at the time of graduation. A student must, however, meet the graduation requirements from one catalog only. A student may not choose a portion from one catalog and the remainder from another catalog.

**Undergraduate Seminars.** All College of Engineering students are required to attend ENGR 101 CSCE 10, RAIK 10, ENGR 30, AREN 1010, or ENGR 193. These seminars provide information on engineering, computing, and construction disciplines, resources and tools available to students at the University, and opportunities to meet engineering, computing, and construction faculty members. Sophomore engineering students are required to attend ENGR 202 The Sophomore Engineering Seminar provides information on career planning, interviewing, resumé preparation, and coop/internship opportunities.

**Curriculum Requirement.** All engineering majors require a minimum of 45 credit hours (or equivalent) of engineering topics appropriate to the program, consisting of engineering and computer sciences and engineering design, and utilizing modern engineering tools. Engineering design is a process of devising a system, component, or process to meet desired needs and specifications within constraints. It is an iterative, creative, decision-making process in which the basic sciences, mathematics, and engineering sciences are applied to convert resources into solutions. Engineering design involves identifying opportunities, developing requirements, performing analysis and synthesis, generating multiple solutions, evaluating solutions against requirements, considering risks, and making trade-offs, for the purpose of obtaining a high-quality solution under the given circumstances.

**Experiential Learning Requirement.** All undergraduates in the University of Nebraska–Lincoln, starting with the 2022-2023 catalog requirements, must complete an Experiential Learning (EL) course. # The capstone course for each program is designated as an experiential learning course.



## Grade Appeals

In the event of a dispute involving any college policies or grades, the student should appeal to their instructor, and appropriate department chair or school director (in that order). If a satisfactory solution is not achieved, the student may appeal their case through the College Academic Appeals Subcommittee.

## Appeals for Academic Bankruptcy or Amnesty

Academic bankruptcy or amnesty removes the grade point factors of a semester taken at the University of Nebraska-Lincoln or the University of Nebraska Omaha from a student's cumulative grade point average, but the course(s) and grades(s) remain on the student's academic record. To review the criteria for eligibility, see <https://registrar.unl.edu/academic-standards/policies/academicbankruptcy/>. Students seeking academic amnesty/bankruptcy should consult with their academic advisor first.

## Appeals of Academic Suspension

Appeals of academic suspension must be filed in writing with the Office of the Dean within 21 days after official electronic notification/posting of the grades by the Registrar for the semester at the end of which the suspension was invoked. Suspended students who have filed a notice of appeal may apply to the Office of the Dean for a temporary release from suspension pending the final disposition of their appeal by the Academic Appeals Subcommittee of the College of Engineering.

## Student Recognition & Organizations

### The Complete Engineer®

The goal of the Complete Engineer® program is to help students focus on and enhance specific non-technical competencies in coordination with their strong technical foundation. Based on industry input concerning what they seek from employees, six competencies have been identified allowing growth in three levels. The first level (Exposure) is addressed in their classes. The second (Engagement) and third (Transformation) levels are addressed when students create their own development pathways by engaging in additional experiences and opportunities to develop greater skills in these competencies. To learn more about the Complete Engineer®, go to <https://engineering.unl.edu/complete-engineer/>.

### Dean's List

The College recognizes students for academic achievement during the fall and spring semesters by placement on the College Dean's List. To qualify for the College of Engineering Dean's List, students must complete 12 credit hours of graded coursework (courses must be started and completed in one semester) by the census date of the grade reports and attain a minimum semester grade point average of 3.700. The following do not qualify as part of the 12 credit hours: Credit/No Credit hours, transfer hours, removals of incompletes, and grade changes submitted after the census grade reports.

### Dean's Commendation List

The College recognizes part-time students for academic achievement during the fall and spring semesters by placement on the College Dean's Commendation List. To qualify for the College of Engineering Dean's Commendation List, students must complete 6 credit hours or more (up to 11 credit hours) of graded coursework (courses must be started and completed in one semester) by the census date of the grade reports and attain a minimum semester grade point average of 3.700. The following do not qualify as part of the 6-11 credit hours: Credit/No Credit credit, transfer hours, removals of incomplete, and grade changes submitted after the census grade reports.

## Graduation with Distinction

GPA requirements for engineering students to graduate with levels of distinction are:

Distinction: # # # # # # # # # 3.750 – 3.849

High Distinction: 3.850 – 3.949

Highest Distinction: 3.950 – 4.000

For engineering students to graduate with Distinction, High Distinction, or Highest Distinction, they must meet the GPA levels listed above, and be approved by a majority vote of the faculty in the department offering their respective academic program. The GPA level is based on the cumulative GPA earned in the semester prior to the semester in which the student graduates.

## Honor Societies

These recognize students who excel in scholarship and give promise of being leaders in professional areas. They are branches of national societies and are generally open upon invitation to juniors and seniors: Alpha Epsilon (agricultural engineering), Chi Epsilon (civil engineering, both campuses), Eta Kappa Nu (electrical engineering, both campuses), Pi Tau Sigma (mechanical engineering), Sigma Lambda Chi (construction management, both campuses), Upsilon Pi Epsilon (computing and information disciplines <https://upe.acm.org/>), Sigma Xi (scientific, all colleges), Tau Alpha Pi (engineering technology, Scott campus in Omaha), and Tau Beta Pi (all engineering).

## Honors Program

The College of Engineering encourages qualified students to participate in the University Honors Program which is a University of Nebraska Omaha program. The College's honors students pursue degree programs offered by the College while completing the required honors courses.

All University Honors Program students are expected to complete a mentored thesis project with a faculty member of their choosing.

Students may also seek support from the University of Nebraska-Lincoln's Undergraduate Creative Activities and Research Experience (UCARE) program.

For more information about the University Honors Program, contact:

Dr. Lucy Morrison  
University of Nebraska Omaha  
208 Kayser Hall  
Omaha, NE 68182

## Professional Licensure

The College encourages professional licensure. Most of the College's engineering seniors take the Fundamentals of Engineering (FE) examination prior to graduation. This examination is administered by NCEES (<https://ncees.org/>) and is the first step in the process of becoming a licensed professional engineer. To become a licensed professional engineer, one must pass the FE exam, have at least four years of experience, and pass the Principles and Practice of Engineering (PE) Examination, including the Structural Engineering (SE) Exam (<https://ea.nebraska.gov/engineer-initial-licensure>). Students may take the FE exam in the last semester of their baccalaureate program.

## Technical Societies

The technical student societies help develop greater personal and professional interest and understanding in engineering, computer science, and construction management. Student branches of the major national

technical and scientific societies are sponsored by the academic programs and departments.

Scott Campus (Omaha). Acoustical Society of America; American Society of Heating, Refrigeration and Air-conditioning Engineers; Architectural Engineering Institute; Architectural Engineering Student Leadership and Advisory Committee; Associated General Contractors of America; Earthquake Engineering Research Institute; Emerging Green Builders; Illuminating Engineering Society of North America; Mechanical Electrical Specialty Contractors; National Association of Home Builders Student Chapter; American Society of Civil Engineers; American Water Works Association/Water Environment Federation; Engineers Without Borders; Institute for Transportation Engineers; Structural Engineering Association of Nebraska; and Institute of Electrical & Electronics Engineers.

## Experiential Learning

Experiential Learning provides students with hands-on experiences that inform the educational experience and allows students to practice what they are learning in the classroom. UNL requires all students seeking a bachelors degree to complete one Experiential Learning class. The College of Engineering programs automatically include experiential learning courses in their curriculum as well as providing for additional experiential learning opportunities.

## Internships and Coops

For a student who anticipates pursuing a career as a practicing engineer, it is strongly recommended that the student engages in an internship or equivalent practical training experience.

## Undergraduate Research

The College and UNO offer a variety of opportunities for undergraduate students to obtain hands-on experience through research. Learn more about opportunities at <https://engineering.unl.edu/undergraduate-programs/undergraduate-research/>.

## International Study/Education Abroad

The College offers a variety of opportunities for students to enhance their international awareness. All students are required to demonstrate that they have at least a minimal international awareness, either through coursework or experience. A minor in International Engineering is available for students who seek a broad understanding of the nature and role of engineering in the integrated world economy and the implications of world events for engineering. International study tours of one to three weeks in duration are also sponsored by UNL's Office of Global Experience. The Office of Global Experiences has opportunities of various lengths in numerous countries on all continents.

## Other Items of Note

### Scholarships and Financial Aid

Each year the College awards scholarships to first-year students and upper-level students worth more than \$750,000. Scholarship awards are made possible through generous gifts of alumni and friends, as well as local and national organizations. Contact the Office of the Dean or the Office of Scholarships and Financial Aid for information regarding these awards and for other financial assistance.

Application for University of Nebraska–Lincoln first-year student scholarships automatically makes you eligible for College of Engineering scholarships, as well as other university awards such as the Regents and David scholarships. You must submit the University of Nebraska–Lincoln Application form (due January 15, prior to the beginning of the next academic year) to be eligible.

A significant number of entering students have academic records that qualify them for university-wide scholarship awards. Each year, about 25 percent of the first-year Regent Scholarship recipients are engineering students.

Many students can find part-time employment in fields related to their interests.

## Graduate Course Opportunities

Courses supporting several engineering graduate programs are offered both on and off campus. For details, see the University of Nebraska–Lincoln Graduate Studies Catalog (<https://catalog.unl.edu/graduate-professional/>) and contact the appropriate department or Engineering Student Services.

Seniors in this University who have obtained prior approval from the Dean of Graduate Studies may receive up to 12 hours credit for graduate courses taken in addition to their required undergraduate work. However, these credits must be earned within the calendar year prior to receipt of the bachelor's degree. For procedures, inquire at the University's Graduate Studies Office. Graduate credits earned prior to receipt of the bachelor's degree may not always be accepted for transfer to other institutions as graduate work.

## Lifelong Learning

The education of professionals in construction management, computing, and engineering is a continuing process. The groundwork in both technical and non-technical studies is laid while in college, but education continues after graduation. For a professional, education will continue not only in the technical areas but in areas that relate to human and social concerns. A professional may expect to take a leadership role in the community and must have a broad awareness of human and social accomplishments, needs, values, and a willingness to take the responsibility for meeting these needs. For these reasons, an integrated program of coursework in the humanities and social sciences is a part of the educational requirements.

## College Admission

### College Entrance Requirements

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Engineering requires that student performance meet one of the following standards: composite ACT of 24, SAT of 1180, ACT Math subscore of 24, SAT Math subscore of 580, or a 3.5 cumulative GPA.

Any domestic first-year student who does not gain admission to Engineering but does gain admission to the University of Nebraska-Lincoln (UNL) will be reviewed through College Review. College Review is conducted through the College Review Committee which considers factors beyond standardized testing. Any first-year student who is not admitted through college review is placed in Pre-Engineering (PENG) within the college and are advised by the Engineering Student Services.

Students who lack entrance units may complete precollege training by Independent Study through the University of Nebraska-Lincoln Office of On-line and Distance Education, in summer courses, or as a part of their first or second semester course loads while in the Academic and Career Development Center at the University of Nebraska Omaha.

Students should consult their advisor, their department chair, or Engineering Student Services (ESS) if they have questions on current policies.

## Other Admission Requirements

Students who transfer to the University of Nebraska Omaha from other accredited colleges or universities and wish to be admitted to the College of Engineering (COE) must meet COE first-year student entrance requirements, have a minimum cumulative GPA of 2.5, and be calculus-ready. Students not meeting either of these requirements must enroll in another University college until they meet COE admission requirements. Students transferring from UNO, UNL, or UNK to the College of Engineering must be in good academic standing with their institution.

The COE accepts courses for transfer for which a C or better grade was received. Although the University of Nebraska-Lincoln accepts D grades from the University of Nebraska Kearney and the University of Nebraska Omaha, not all majors in the COE accept such low grades. Students must conform to the requirements of their intended major and, in any case, are strongly encouraged to repeat courses with a grade of C- or less.

Students who were previously admitted to COE and are returning to the College of Engineering must demonstrate a cumulative GPA of 2.5 to be readmitted to COE.

## College of Engineering Programs

### Engineering

#### Architectural Engineering

- B.S. Degree Program (<http://catalog.unomaha.edu/undergraduate/college-engineering/bs-architectural-engineering/>)

#### Civil Engineering

- B.S. Degree Program (<http://catalog.unomaha.edu/undergraduate/college-engineering/civil-engineering-bs/>)

#### Computer Engineering

- B.S. Degree Program (<http://catalog.unomaha.edu/undergraduate/college-engineering/electrical-computer-engineering/computer-engineering-bs/>)

#### Construction Engineering

- B.S. Degree Program (<http://catalog.unomaha.edu/undergraduate/college-engineering/construction/construction-engineering-bs/>)

#### Construction Management

- B.S. Degree Program (<https://catalog.unomaha.edu/undergraduate/college-engineering/construction/construction-management-bs/>)

## Electrical Engineering

- B.S. Degree Program (<http://catalog.unomaha.edu/undergraduate/college-engineering/electrical-computer-engineering/electrical-engineering-bs/>)

## Environmental Engineering

- B.S. Degree Program (<http://catalog.unomaha.edu/undergraduate/college-engineering/environmental-engineering/>)

## First two years of:

- Agricultural Engineering (<http://catalog.unomaha.edu/undergraduate/college-engineering/pre-engineering/pre-agricultural-engineering/>)
- Biological Systems Engineering (<http://catalog.unomaha.edu/undergraduate/college-engineering/pre-engineering/pre-biological-systems-engineering/>)
- Mechanical Engineering (<http://catalog.unomaha.edu/undergraduate/college-engineering/pre-engineering/pre-mechanical-engineering/>)

## Graduate Programs

A variety of graduate programs in engineering and construction management are available. For details on programs leading to masters and doctorate degrees, including the application process, individuals should contact the appropriate department or office of the dean in the College of Engineering. Application forms are available at <http://www.unl.edu/gradstudies> (<http://www.unl.edu/gradstudies/>).

## Minors & Areas of Specializations Offered

College faculty encourage students to minor in a discipline outside the College of Engineering to further develop critical thinking skills, curiosity, understanding of the connections between engineering and the social or natural sciences and fine arts, and sensitivity to ethical issues.

## Policies

1. A minor will not reduce or alter the existing course or degree requirements for students electing to pursue a minor.
2. A student's minor program(s) must be reviewed by an advisor prior to the submission of the senior check to the department chair or head. It is the responsibility of the student to determine that all requirements for the minor are met.
3. The minor(s) must be approved by the cognizant program offering the minor(s).
4. Departments may restrict students in their major(s) from obtaining certain minor(s) at their discretion; see the catalog entry for individual majors for details.