COLLEGE OF ENGINEERING

Description

Administration
Lance C. Pèrez, Ph.D., Dean
Sohrab Asgarpoor, Ph.D., Associate Dean for Undergraduate Programs

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 (114 Othmer 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, staff member, and faculty member 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 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) with the Exploratory and Pre-Professional Advising Center (Explore Center). Students in the Explore Center can transfer to the College of Engineering once college admission requirements are met.

Students for whom English is not their language of nurture must meet the minimum English proficiency requirements of the University.

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 Explore Center or other colleges at UNL.

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–Lincoln 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 the Explore Center or 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.

**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 Enrollment 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. Informing 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--Lincoln to be considered full-time students. For recognition on the Dean’s List, these 12 University of Nebraska--Lincoln credit hours must be for a letter grade.

**Academic Warning**

College Academic Warning. A student who receives a cumulative grade point average (GPA) of less than 2.4 will be placed on college academic warning. The student will remain on academic warning until a semester is completed with a cumulative GPA at or above 2.4. Any student with three sequential semesters on college academic warning will be dismissed from the College of Engineering.

The first semester of academic warning is defined as the semester in which failure to meet a cumulative or semester GPA threshold or a code of conduct violation occurs.

Completion of the following semester (12 credits) with a cumulative GPA above 2.4 is required for a student to be removed from college academic warning. Students may be placed on college probation (or dismissed) for violation of the University of Nebraska--Lincoln Student Code of Conduct at any time. A student cannot graduate from the College of Engineering while on college academic warning.

College Dismissal. A student will be dismissed from the College of Engineering at the end of any semester in which:

- The student has been placed on college academic warning for three sequential semesters.
- The student is dismissed by the University of Nebraska--Lincoln.

College dismissal will cause an administrative change in the student’s matriculation to the Explore Center or to a college indicated by the student. Students who have been dismissed from the College of Engineering may be readmitted (one time only) provided they have removed all academic deficiencies that led to dismissal.

**Application for Graduation**

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

Students should access their Degree Audit via MyRED 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 with MyRED access must submit an online Application for Graduation via MyRED for each degree to be received by:

- The fourth Friday in January for May graduation
- The second Friday in June for August graduation
- The second Friday in September for December graduation

Students submitting an electronic Application for Graduation via MyRED will be billed a $25.00 per degree fee on their student account. Those students without MyRED access may apply for graduation in person at Husker Hub in the Canfield Administration Building, or by mail. Applications for Graduation submitted in person or by mail must be accompanied by a check or money order in the amount of $25.00 payable to the University of Nebraska--Lincoln. Failure to submit a timely Application for Graduation may preclude the awarding of a degree in the intended term.

Your Application for Graduation and required $25.00 fee are good only for the term marked on your application. Neither your application nor your fee are transferrable to another term. If you submit an Application for Graduation and pay the $25.00 fee for a specified term but do not complete your degree requirements in that term, you will need to reapply to graduate in a future term and incur another $25.00 fee.

Commencement ceremony information including information about ordering cap and gown can be found at https://commencement.unl.edu. Each student who has applied for graduation must submit an online Commencement Attendance Form via MyRED, which will be available approximately one month before graduation.

Only those students who have applied for graduation, had the application accepted, and fulfilled all degree requirements as of the last day of the academic term may participate in the commencement ceremony for that term. Because the University of Nebraska--Lincoln has a commencement for each term, ceremony participation is allowed only in the term during which the student has properly and timely applied for graduation and fulfilled degree requirements.

**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, architectural engineering (Omaha only), biological systems engineering, chemical engineering, civil engineering, construction engineering, environmental engineering, mechanical engineering, and software engineering. 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. 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. 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

Agricultural engineering, biological systems engineering, chemical engineering, civil engineering (Lincoln and Omaha), computer engineering (Lincoln and Omaha), construction engineering (Lincoln and Omaha), electrical engineering (Lincoln and Omaha), mechanical engineering, and software engineering bachelor’s degree programs are accredited by the Engineering Accreditation Commission (EAC) of ABET; https://www.abet.org, under the General Criteria and the respective Program Criteria. The construction management program (Lincoln and Omaha) is accredited by the Applied and Natural Science Accreditation Commission (ANSAE) of ABET; https://www.abet.org, under the General Criteria and the Construction Management Program Criteria. Computer Science is accredited by the Computing Accreditation Commission (CAC) of ABET, https://www.abet.org, under the General Criteria and the Computer Science Program Criteria. The Master of Architectural Engineering (Omaha only) is also accredited by the EAC of ABET, https://www.abet.org, under the General Criteria and the Architectural Engineering Program Criteria.

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 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 for 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 (seehttp://educationabroad.unl.edu). (Students completing the bachelor of science in computer science or data science have different residency requirements that are outlined on the College of Engineering’s Computer Science page (https://catalog.unl.edu/undergraduate/engineering/computer-science/) and Data Science page (https://catalog.unl.edu/undergraduate/engineering/data-science/)).

3. Pass/No Pass courses: Students in the College of Engineering must take ENGR#10#Freshman Engineering Seminar#orCSCE#104Introduction 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, andENGR#20#Sophomore Engineering Seminar#with the grading option Pass/No Pass. Some majors in the College of Engineering also require taking ENGR#400#Professional Ethics and Social Responsibilities#with the grading option Pass/No Pass. Outside of
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.

Student Recognition & Organizations

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 3.500. The following do not qualify as part of the 12 credit hours: Pass/No Pass credit, transfer hours, removals of incompletes, 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 discipline), Tau Beta Pi (all engineering).

Honor Program

The College of Engineering encourages qualified students to participate in the University Honors Program which is a University of Nebraska–Lincoln 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. Patrice McMahon
University of Nebraska–Lincoln
213 Knoll Hall
Lincoln, NE 68588-0659

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.

Lincoln Campus. #American Institute of Chemical Engineers; The Society for Engineering in Agricultural, Food, and Biological Systems; American Society of Civil Engineers; American Society of Mechanical Engineers; Associated General Contractors; Association for Computer Machinery; Engineers Without Borders USA; Institute of Electrical and Electronics Engineers; American Society for Metals; Student Advisory Board; Institute of Transportation Engineers; National Society of Black Engineers; Society of American Military Engineers; Society of Women Engineers; and Society of Automotive 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 bachelor’s 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 UNL 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.