ENGINEERING LEADERSHIP MINOR

Description

Overview and Purpose

Open to College of Engineering students only.

The engineering leadership minor provides College of Engineering students an opportunity to focus on building leadership, management, teamwork and interpersonal skills needed to solve many of our societal challenges. Courses provide developmental skills with experiential learning to enhance personal growth, improve practice, and provide frameworks for continued application of concepts in these areas. Courses explore strategies and skills for effective leadership in the engineering profession, and the working world, and for building relationships.

The minor includes leadership courses led by faculty in the College of Engineering and faculty in the Department of Agricultural Leadership, Education and Communication.

The minor contributes to the National Academy of Engineers call to expose engineering students to formal studies of leadership development (NAE, 2004) and the College of Engineering's mission to graduate "Complete Engineers." The leadership minor provides the framework around the technical skills and coursework to achieve the ABET Outcomes:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Admission

Open to students in the College of Engineering only.

College Requirements

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 Online 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.

College Degree Requirements

Grade Rules

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.

Catalog Rule

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.

Requirements

The engineering leadership minor is an interdisciplinary program; providing course offerings through the College of Engineering (COE) and the Department of Agricultural Leadership, Education and Communication (ALEC) at the University of Nebraska - Lincoln (UNL). To successfully complete the minor, students are required to complete 18 credit hours in leadership and professional development; 9 of which come from engineering leadership and management courses. Many of the ALEC courses are available as online courses. All ALEC courses are taught at the UNL.

Courses

Code	Title	Credits
ENGR Leadership & Management Courses (9 credit hours required)		
ENGR 100	INTERPERSONAL SKILLS FOR ENGINEERING LEADERS (ACE 2)	3
ENGR 200	PROFESSIONALISM & GLOBAL PERSPECTIVE (ACE 6 & 9)	3
ENGR 320	LEADERSHIP, MANAGEMENT, AND ETHICS	3
Leadership Courses (9 credit hours required)		**9**
Select one or two theory-based courses from the following:		
ALEC 202	FOUNDATION OF LEADERSHIP THEORY & PRACTICE	
ALEC 302	DYNAMICS OF EFFECTIVE LEADERSHIP IN ORGANIZATIONS	
ALEC 455	DYNAMICS OF EFFECTIVE LEADERSHIP IN GROUPS & TEAMS [1]	
ALEC 477	LEADERSHIP & MOTIVATION	
Select one or two application courses from the following:		
ALEC 407	SUPERVISORY LEADERSHIP	
ALEC 410	ENVIRONMENTAL LEADERSHIP [1]	
ALEC 422	FACILITATION & PROJECT PLANNING [1]	
ALEC 466	LEADERSHIP & DIVERSITY IN ORGANIZATIONS & COMMUNITIES [1]	
Experiential Learning in Leadership (0 -3 cr hrs)		
ALEC 337	INSTRUCTIONAL INTERNSHIP IN LEADERSHIP DEVELOPMENT [2]	
Total Credits		**18**

[1] Note that junior standing is required for these courses.
[2] Credit received for being an undergraduate teaching assistant at the selection of the instructor.

Additional Minor Requirements

All courses must be completed with a Pass, or grade of C or higher.

Up to 6 credit hours may be taken as Pass/No Pass.