INFORMATICS MINOR

Description

The Informatics minor is an interdisciplinary program that prepares students with core computational skill sets and competencies that allow them to solve problems within their chosen discipline or field. The program also builds interdisciplinary problem solving skills that are applicable and advantageous across academia and within industry. The minor's objectives are anchored around a set of core outcomes, such that students completing the minor will be able to:

1. Apply computational thinking to solve problems effectively and implement it using a programming language.
2. Apply statistical techniques to assess outcomes of empirical studies or experiments and set up research designs to evaluate tools, techniques, or hypotheses effectively.
3. Interact, use, and manage data or databases and solve data-centric problems; or organize, visualize, and communicate digital data effectively and efficiently; or use creative competencies to generate creative solutions.
4. Contribute one's expertise to the solution of interdisciplinary problems by effectively collaborating and communicating with those from other disciplines.

College Requirements

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.
7. Students having an ACT score of 19 or less in English (or equivalent SAT score) or a grade lower than B in high school English, must take ENGL 150 Writing and Inquiry or ENGL 151 Writing for Change.

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.

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 for Minor Offered by Department

Minor Requirements

At least eighteen (18) hours of coursework, including at least nine (9) hours at the 300 level or above.

Core Courses		**9**
CSCE 311	Data Structures and Algorithms for Informatics	
CSCE 320	Data Analysis	
CSCE 493A	Interdisciplinary Capstone	
Credit Hours Subtotal:		9
Area 1: Computational Thinking and Programming [1]		
Select one course from the following:		3
CSCE 155A	Computer Science I	
CSCE 155E	Computer Science I: Systems Engineering Focus	
CSCE 155N	Computer Science I: Engineering and Science Focus	
CSCE 155T	Computer Science I: Informatics Focus	
Credit Hours Subtotal:		3
Area 2: Statistical and Research Design		
Select one course from the following:		3
ECON 215	Statistics	
EDPS 459	Statistical Methods	
PSYC 350	Research Methods and Data Analysis	
SOCI 206	Introduction to Social Statistics	
STAT 218	Introduction to Statistics	
STAT 380	Statistics and Applications	
Area 3 or Area 4: Select only one course from one of the Areas		**3-4**
Area 3: Data Analysis and Database Techniques [2]		
CSCE 413	Database Systems	
CSCE 471	Computational Methods in Bioinformatics	
CSCE 474	Introduction to Data Mining	
CSCE 478	Introduction to Machine Learning	
ENGL 279	Digital Literary Analysis	
ENGL 478	Digital Archives and Editions	
JOUR 307	Data Journalism	
NRES 218	Introduction to Geospatial Technologies	
NRES 418 / GEOG 418	Introduction to Remote Sensing	
STAT 318	Introduction to Statistics II	
Area 4: Visualization and Creative Thinking [2]		
AHIS 406 / ANTH 406 / CLAS 406	Visualizing the Ancient City	
ANTH 389	GIS in Archaeology	
ARTP 189H	University Honors Seminar	
ARTS 398	Special Topics in Studio Art III	
CSCE 470	Computer Graphics	
JOUR 407	Data Visualization	
TMFD 121	Visual Communication with Animation	
Credit Hours Subtotal:		6
Total Credit Hours		**18**

1 *AP or transfer credit equating to CSCE 155 may also apply.*

2 *Special topics courses, seminar courses, independent study courses, or honors courses with a relevant topic may be applied toward the minor by permission of the advisor.*

Grade Rules

C- and D Grades

A grade of C or above is required for all courses in the minor.

Pass/No Pass

No course taken Pass/No Pass will be counted toward the minor.

Restriction

The informatics minor is not available to students majoring or minoring in computer science, software development, computer engineering, or software engineering.