



AGRICULTURAL & BIOLOGICAL SYSTEMS ENGINEERING (MS)

The graduate program leading to the Master of Science in agricultural and biological systems engineering and agricultural systems technology.

Description

Graduate study may be directed toward agricultural power and machinery systems, animal waste management, animal well-being, biomedical engineering, bioprocessing, computer applications, control systems, decision support systems, environmental engineering, food process engineering, geographic information systems, global positioning systems, ground and surface water management, irrigation system design, materials handling and processing systems, monitoring and controlling biological systems, plant environment, risk assessment, soil and water conservation, solid and hazardous waste management, water quality, and other areas of engineering science and design.

Students have access to state-of-the-art research facilities and equipment. These facilities include 15 laboratories in L. W. Chase Hall, Splinter Laboratories Building, and IAPC Pilot Plant. Field research sites in Nebraska include the Rogers Memorial Farm and Agricultural Research and Development Center in Lincoln; Haskell Agricultural Laboratory near Concord, Nebraska; and Research and Extension Centers at North Platte and Scottsbluff, Nebraska. Together these facilities capture the wide range of climate, soil, and cropping systems that exist in the state.

Specializations

- Animal Health, Welfare, and Precision Management
- Ecological Engineering
- Environmental Studies
- Irrigation and Agricultural Water Management
- Water Resources Planning and Management

Program-Related Information

Graduate Chair

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Support Staff

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Program Website

<https://engineering.unl.edu/bse/graduate-programs/>

Applying for Admission

Standard requirements for all graduate programs

- Application for Admission with \$50 non-refundable application fee (<https://graduate.unl.edu/admissions/requirements/#appfee>).
- Transcripts (<https://graduate.unl.edu/admissions/requirements/#transcripts>) (unofficial): Uploaded as part of application form.

If International: Uploads must include all college- or university-level transcripts or mark sheets (records of courses and marks earned), with certificates, diplomas, and degrees plus certified English translations.

After admission: Official documents are required from all students who are admitted and enroll. Photocopies of certified records are not acceptable. International students enrolled in other U.S. institutions may have certified copies of all foreign records sent directly to the Office of Graduate Studies by their current school's registrar office.

- If applicant's native language is not English, verification of English proficiency (<https://graduate.unl.edu/admissions/english-proficiency/>) is required.
When sending TOEFL scores, our institution code is 6877 and a department code is not needed.
- If applicant is not a US citizen and expects an F or J visa: financial information (<https://graduate.unl.edu/prospective/international/financial/>).
- Applicants must also fulfill any additional requirements the department specifies at the time of application.

Additional requirements specific to this program

- Academic eligibility: Applicants should have completed a Bachelor of Science (BS) degree in an engineering field. Applicants who have not completed a BS degree in an engineering field will be required to take undergraduate science, math, and engineering courses as selected by the BSE Graduate Committee.
- Minimum English proficiency: Internet TOEFL 80, IELTS 6.5
- GRE (optional)
- Resume/CV
- Personal Statement: Include a description of your 1) motivation and goals for pursuing a graduate degree; 2) relevant research and communication skills; 3) persistence or ability to overcome obstacles; and 4) examples of leadership and outreach. Also list any specific faculty members you are interested in working with.
- Three letters of recommendation
- Faculty: Applicants must be accepted by a faculty advisor to be admitted.

Admission Application Deadlines

For full financial consideration, students must apply by January 15 for Fall, September 1 for Spring.

Requirements

Hours required: 30

Options for the Master's Degree (<https://catalog.unl.edu/graduate-professional/policies/academic-program-requirements/#masters>)

Irrigation and Agricultural Water Management

AGEN 854	Irrigation Laboratory and Field Course	3
AGEN 953	Advanced Irrigation and Drainage Systems Engineering	3
Choose one of the following:		
AGEN 841	Animal Waste Management	3
AGEN 954	Watershed Modeling	3
BSEN 855	Nonpoint Source Pollution Control Engineering	3
BSEN 879	Hydroclimatology	3