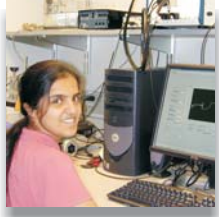




Biological Systems Engineering

Biological Systems Engineering brings engineering to life--working with living systems and the environment, by using biology, mathematics, and engineering to improve peoples' lives. This major leads to rewarding careers in Biomedical Engineering, Food and Bioproducts Engineering, and Environmental and Water Resources Engineering. The program provides a broad, flexible engineering background with a biological emphasis. A high percentage of our students graduate and go to work immediately in well-paid positions.



Possible Engineering Career Areas

Prosthetic Design
Bioprocessing
Water Treatment
Biosensors

Erosion Control
Wetlands Restoration
Bioinstrumentation
Bioproducts

Bioremediation
Biofuels
Biomedical Imaging
Flood Mitigation

Post graduate study can also lead to careers in medicine, law, dentistry, veterinary medicine, or business.

The curriculum includes 21 credit hours of required biological systems engineering courses; 17 hours of engineering core courses (including computer science); 15 hours of engineering electives; 20 hours of mathematics and statistics; 12 hours of biological sciences; 19 hours of chemistry, biochemistry, and physics; 24 hours of communications skills, humanities, and social sciences, and 6 hours of additional electives. Graduation requires 134 semester hours.

Examples of topics addressed in the curriculum include watershed protection, ecosystem restoration, nonpoint source pollution control, bioremediation, and pollution prevention; extrusion and bioreactor design, pharmaceutical and animal health product production, and plant and animal protection; surgical and prosthetic device development, biosignal and image processing, and industrial hygiene and safety. The curriculum emphasizes report writing, speaking, and teamwork, as well as computer-aided design.

The senior capstone engineering design sequence includes a two-semester project working with, and solving a problem for, a real-world client. These projects come from private, government, agencies, and academic settings.

Students are expected to work hard, maintain a minimum cumulative gpa of 2.4 (4.0 scale), have an interest in math and biology, and possess the desire to solve complex problems using engineering skills. Though not required, internships and co-operative work experiences are encouraged. Research and study abroad opportunities for undergraduate students are plentiful. There are several student clubs with professional affiliations for participation. An excellent faculty-to-student ratio, a faculty recognized for their teaching and advising skills, plus being awarded the 2002 University of Nebraska System Department Teaching Award, and a top 10 ranking by US News and World Report, combine for a superior quality education in the Department of Biological Systems Engineering.

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