Biosystems & Agricultural Engineering

College of Engineering

The Biosystems and Agricultural Engineering Department offers programs leading to the M.S. (Plan A and Plan B available) and the Ph.D. degree.

Admission Requirements
Admission into the M.S. graduate program of the Biosystems and Agricultural Engineering Department requires the concurrence of the Department Graduate Committee, and the Director of Graduate Studies, and the Department Chair and the availability of an advisor for the student. The Biosystems and Agricultural Engineering Graduate Committee reviews the applicant's three letters of recommendation, resume, statement of professional objective and transcripts with special emphasis given to the science and mathematics area. The department requires a minimum grade point average of 2.8 and a GRE score of at least 1500. An engineering B.S. degree from an ABET-accredited engineering program (or international equivalent) is generally required, however, non-engineering students may be admitted by agreeing to take additional undergraduate courses specified by the graduate committee. Exceptions to these requirements are considered on a case-by-case basis, taking into account the materials described above as well as GRE scores.

Admission into the Ph.D. graduate program of the Biosystems and Agricultural Engineering Department requires the concurrence of the Department Graduate Committee, the Director of Graduate Studies, and the Department Chair, and the availability of an advisor for the student. The Biosystems and Agricultural Engineering Graduate Committee reviews the applicant's previous graduate record, three letters of recommendation, resume, statement of professional objective, and transcripts with special emphasis given to the science and mathematics area. The department requires a minimum grade point average of 3.2 on all previous graduate work for unconditional admission. Exceptions to these requirements are considered on a case-by-case basis, taking into account the materials described above as well as GRE scores. Ph.D. students are admitted into candidacy after they have successfully completed the Qualifying Exam.

Degree Requirements
The objectives of the Biosystems and Agricultural Engineering graduate program are to develop and strengthen:

1. the ability to plan and conduct research and design involving the application of engineering science to biological and agricultural systems.
2. an understanding of mathematical, physical, and biological sciences that enables critical assessment of scientific literature in these and related fields.
3. the skills required to use precision instruments, techniques and computers in research and design.
4. the ability to make sound engineering and management decisions.
5. the ability to teach college level courses in Biosystems and Agricultural Engineering, particularly at the doctoral level.

Graduate students will combine courses in Biosystems and Agricultural Engineering, other engineering fields, the physical sciences, and the biological sciences to develop a program of study that facilitates these objectives. The advanced degrees, however, are primarily research degrees awarded for significant creative research accomplishment, not for the completion of a specified number of courses. Therefore, the program normally concentrates on a strong thesis or dissertation problem completed under the supervision of the graduate faculty of the department. A design-oriented, non-thesis option is also available for the master's degree.

Graduate Courses

BAE 435G	Waste Management For Biosystems	(3)
BAE 438G	Fundamentals Of Groundwater Hydrology (Same As CE 460)	(3)
BAE 502	Modeling Of Biological Systems	(3)
BAE 513	Soil Dynamics In Tillage And Traction	(3)
BAE 515	Fluid Power Systems	(3)
BAE 517	Off-Road Vehicle Design	(3)
BAE 532	Introduction To Stream Restoration	(3)
BAE 536	Fluvial Hydraulics (Same As CE 546)	(3)
BAE 537	Irrigation And Drainage Engineering	(3)
BAE 538	Applications For Water Resources	(3)
BAE 545	Engineering Hydraulics (Same As CE 549)	(3)
BAE 549	Food And Bioprocess Engineering	(3)
BAE 556	Solid And Hazardous Waste Management (Same As CE 556)	(3)
BAE 569	Water Resources System Design (Same As CE 569)	(4)
BAE 580	Heating, Ventilating And Air Conditioning (Same As ME 580)	(3)
BAE 581	Physics Of Plant And Animal Environments	(3)
BAE 599	Topics In Agricultural Engineering	(2-3)
BAE 618	Advanced Plant, Soil, And Machinery Relationships	(3)
BAE 625	Topics In Advanced Environment Control And Analysis (Subtitle Required)	(3)
BAE 638	Groundwater Hydrology (Same As CE 660)	(3)
BAE 642	Open Channel Flow (Same As CE 642)	(3)
BAE 648	Energy And Mass Transfer In Agricultural Processing	(3)
BAE 653	Water Quality In Surface Waters (Same As CE 653)	(3)
BAE 658	Instrumentation For Engineering Research	(3)
BAE 660	Similitude In Engineering	(3)
BAE 665	Water Resources Systems (Same As CE 665)	(3)
BAE 667	Stormwater Modeling (Same As CE 667)	(3)
BAE 748	Master's Thesis Research	(0)
BAE 749	Dissertation Research	(0)
BAE 750	Special Problem.S In Agricultural Engineering	(1-3)
BAE 767	Dissertation Residency Credit	(2)
BAE 768	Residence Credit For Master's Degree	(1-6)
BE 769	Residence Credit For Doctor's Degree	(0-12)
BAE 775	Seminar	(0)
BAE 795	Thesis	(0)
AEN 463G	Agricultural Safety And Health	(3)
AEN 647	System Optimization I (Same As ME 647)	(3)
AEN 680	Biochemical Engineering (Same As CME 680)	(3)