AGRICULTURAL & BIOLOGICAL ENGINEERING, PHD

for the degree of Doctor of Philosophy in Agricultural & Biological Engineering

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overview of admissions & requirements: https://abe.illinois.edu/
apply#graduate (https://abe.illinois.edu/apply/#graduate)
overview of grad college admissions & requirements: https://
grad.illinois.edu/admissions/apply (https://grad.illinois.edu/
admissions/apply/)
department website: https://abe.illinois.edu/
program website: https://abe.illinois.edu/graduate (https://
abe.illinois.edu/graduate/)
department faculty: https://abe.illinois.edu/directory/faculty
(https://abe.illinois.edu/directory/faculty/)
college websites: https://grainger.illinois.edu/ and https://
aces.illinois.edu/
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Opportunity exists for specializing in computational science and
engineering via the Computational Science & Engineering (http://
catalog.illinois.edu/graduate/engineering/concentration/computational-
science-engineering/) optional graduate concentration.

Admission Requirements

Admission to the PhD program is limited to individuals who have
demonstrated exceptional ability through outstanding performance in
obtaining an MS degree and/or through a high degree of technical and
professional accomplishment. Candidates must also satisfy entrance
requirements for the MS degree program.

All applicants whose native language is not English must submit a
minimum TOEFL (http://www.toefl.org/) score of 88 (iBT), 230 (CBT) or
570 (PBT); or minimum International English Language Testing System
(IELTS) (http://www.ielts.org/) academic exam scores of 6.5 overall.
Applicants may be exempt from the TOEFL if certain criteria (http://
grad.illinois.edu/admissions/instructions/04c/) are met. For those
taking the TOEFL or IELTS, full admission status (http://grad.illinois.edu/
admissions/instructions/04c/) is granted for scores greater than
102 (TOEFL iBT), 253 (TOEFL CBT), 610 (TOEFL PBT), or 7.0 (IELTS).
Limited status (http://grad.illinois.edu/admissions/instructions/04c/) is
granted for lesser scores and requires enrollment in English as a Second
Language (ESL) courses (http://linguistics.illinois.edu/students/esl/
guidelines/) based on an ESL Placement Test (EPT) taken upon arrival to
campus.

Financial Aid

Fellowships, supported by University, College of Agricultural, Consumer
and Environmental Sciences, and The Grainger College of Engineering
funds, are available on a competitive basis. A limited number of
assistantships, providing both teaching and research experience, are
often available on a half-time basis. Starting in Fall 2020, Grainger
Engineering PhD students in their first five years of enrollment who

meet the minimum eligibility requirements (https://grainger.illinois.edu/
academics/graduate/phd-funding-guarantee/) are guaranteed a funded
appointment for fall and spring that includes a full tuition waiver, a partial
fee waiver, and a stipend.

All applicants, regardless of US citizenship, whose native language is
not English and who wish to be considered for teaching assistantships
must demonstrate spoken English language proficiency (http://
grad.illinois.edu/admissions/taengprof.htm) by achieving a minimum
score of 24 on the speaking subsection of the TOEFL iBT or 8 on the
speaking subsection of the IELTS. For students who are unable to take
the iBT or IELTS, a minimum score of 4CP is required on the EPI test
(http://cte.illinois.edu/testing/oral_eng/epi_overview.html), offered on
campus. All new teaching assistants are required to participate in the
Graduate Academy for College Teaching (https://citl.illinois.edu/citl-101/
teaching-learning/grad-academy-for-college-teaching/) conducted prior
to the start of the semester.

Graduate Teaching Experience

Experience in teaching is considered a vital part of the graduate program
and is required as part of the academic work of all PhD candidates in
this program. For details of expectations, see the department’s Graduate
Handbook (https://abe.illinois.edu/graduate/handbook/).

Department Research

Current research interests of the faculty include off-road equipment
engineering (robotics and machinery automation, remote sensing
and precision agriculture, machinery management systems, pesticide
application technology, engines and biofuels); soil and water resources
(hydrology, erosion and sediment transport, water management,
water quality); bioenvironmental engineering (building
environment and energy conservation, air quality, renewable energy,
bioenergy conversion, structural analysis and facility design,
biosensors and controls, energy systems, machine vision, near-infrared
spectroscopy applications, bionanotechnology, microfabricated devices,
bioconjugation techniques, transcriptional control, modeling life support
systems, and multiscale biological processes). For more details, visit
the department’s Research Website. (https://abe.illinois.edu/research/
areas/)

Other Graduate Programs in the Department of
Agricultural & Biological Engineering

degrees:

Information listed in this catalog is current as of 01/2021
The Department of Agricultural & Biological Engineering offers a graduate degree program which is at the forefront of the application of engineering principles to solve problems of agricultural production, utilization, environmental control, and biological systems and to improve the quality of life. Students may concentrate study in one of the faculty research interest areas listed below. Supporting course work includes: mathematics; computer science; statistics; engineering mechanics; chemical, civil, electrical, and mechanical engineering; animal science; crop sciences; food science; and other appropriate fields.

Opportunity also exists for specializing in energy and sustainability engineering via the Energy and Sustainability Engineering (EaSE) Graduate Certificate Option for the degree of Doctor of Philosophy in Agricultural & Biological Engineering.

For additional details and requirements for all degrees, please refer to the program’s Graduate Degree Requirements and the Graduate College Handbook.

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