Agricultural and Biological Engineering

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Graduate study is offered in the Department of Agricultural and Biological Engineering leading to the degree of Master of Science in Biological Engineering or a Doctor of Philosophy in Engineering. Major areas of study are:

- agricultural machinery systems,
- precision agriculture,
- animal waste management,
- sustainable design,
- pesticide applications and protection,
- bioenvironmental systems,
- seed processing and storage,
- aquacultural systems,
- agricultural modeling, and
- bioenergy.

The department has several major research laboratories including: remote sensing (the Kimbrough Precision Agriculture and Remote Sensing Engineering Laboratory), water quality and environmental engineering, cotton ginning (the MAFES/ABE Mini-Gin, a fully operational cotton gin), and bioenergy. A limited number of graduate research and teaching assistantships are available.

Admission Criteria

Prerequisites for admission into the graduate program include all the general requirements of the Graduate School, an undergraduate engineering degree (or remedial engineering coursework), a satisfactory performance on the GRE for students with a degree from a program that is not EAC/ABET accredited, and identification of a departmental professor who is willing to serve as research director for the master's or Ph.D. project. International students must obtain a TOEFL score of 550 PBT (213 CBT or 79 iBT) or IELTS score of 6.5 or higher.

Provisional Admission

If a student does not fully meet the admission requirements of the program, it may be possible for that student to be provisionally admitted. If provisionally admitted, the student must attain a 3.00 GPA on the first 9 hours of graduate courses taken at Mississippi State University. Courses with an S grade, transfer credits, or credits earned while in Unclassified status cannot be used to satisfy this requirement. If a 3.00 GPA is not attained, the student may be dismissed from the graduate program.

If a student applying to the M.S. program does not have an undergraduate degree in engineering, the student will be required to complete or have previous credit in 51 hours of engineering, mathematics, and physical science courses. The student will be granted contingent admission until the course requirement has been satisfied. Similarly, a student applying to the Ph.D. program must have a B.S. or M.S. degree in engineering. The same set of courses will be required before the student is fully admitted into the Ph.D. program.

Academic Performance

Unsatisfactory performance in the graduate program in Agricultural and Biological Engineering is defined as any of the following:

- failure to maintain a B average in attempted graduate courses after admission to the program;
- a grade of U, D, or F in any one course;
- more than two grades below a B;
- failure of the qualifying or preliminary exam (Ph.D. students only);
- failure of the research defense;
- unsatisfactory evaluation of a thesis or dissertation; or
- failure of a required component of the program of study.

Any one of these, or a combination of these, will constitute the basis for review for possible dismissal. The graduate coordinator will review the record, along with the student's graduate committee, and take a final course of action, which will be immediate dismissal or the establishment of a probationary

period in which corrective action must take place. Appeal of dismissal can be made by submitting a written appeal statement to the department head. If the dismissal is upheld by the department head upon the student's appeal, the student can then submit a written appeal to the dean of the College of Engineering.

Graduate study is offered in the College of Agriculture and Life Sciences leading to the degree of Master of Science in Agriculture with a concentration in Engineering Technology or a Doctor of Philosophy in Agricultural Sciences with a concentration in Engineering Technology. See program information in the College of Agriculture and Life Sciences (http://catalog.msstate.edu/archives/2014-15/graduate/colleges-degree-programs/agriculture-life-sciences/agricultural-biological-engineering/#programsofstudytext) section of this publication.

Master of Science in Biological Engineering

ST 8114	Statistical Methods	4
Select at least one of the following:		1
ABE 8911	Agricultural and Biological Engineering Seminar	
ABE 8921	Agriculturual and Bio Engineering Seminar	
ABE XXXX	Graduate course	3
Additional graduate-level coursework		16
ABE 8000	Thesis Research/ Thesis in Agricultural and Biological Engineering	6
Total Hours		30

A thesis and an oral comprehensive examination in defense of the thesis are required. The Master of Science in Biological Engineering requires 24 credit hours of coursework beyond the baccalaureate degree and 6 or more credit hours of thesis research/thesis.

Doctor of Philosophy in Engineering with concentration in Biological Engineering

MA XXXX	Graduate mathematics course	3
ABE XXXX	Graduate-level coursework	48
8000-level coursework		10
Select two of the following:		2
ABE 8911	Agricultural and Biological Engineering Seminar	
ABE 8921	Agriculturual and Bio Engineering Seminar	
Dissertation/Research		20
Total Hours		83

A preliminary examination, a dissertation, and an oral examination in defense of the dissertation are required. Doctoral students are required to take or have credit in a graduate level math course, complete a minimum of 60 credit hours of coursework beyond the baccalaureate degree and complete 20 hours of dissertation research.