

# Agricultural Engineering

## Pre-Professional Program

### Career Opportunities

Agricultural engineering is the branch of the engineering profession that applies engineering principles, techniques and technology to the needs of agriculture and land, water and air resources. Focal points are the production of food and fiber, the processing of food and fiber, and the efficient use of land, water and air resources. Agricultural engineers bring engineering to agriculture through the use of mobile mechanical power, electrical energy, structural design, waste management systems, structural environments and techniques in land and water use. There is a recent involvement in alternative energy sources for agriculture, such as solar energy; in protecting the quality of air, soil and water; in improved safety practices, lower construction costs and new materials; and in predicting and controlling the environmental impact of new techniques and practices.

The College of Agriculture and Applied Sciences, in cooperation with the College of Engineering and Natural Sciences, offers a two-year pre-professional program which is basic to a B.S. in Agricultural Engineering. After completion of freshman and sophomore years at UT Martin, students may transfer to the Department of Biosystems Engineering at UT Knoxville or another university to complete their junior and senior years and receive their degrees.

### Employment Possibilities

Current employment and career opportunities for graduates in agricultural engineering are excellent. In addition, increasing U.S. and world demands for food and fiber, the greater use of complex technology in agricultural production and processing, and the concern for natural resources and environmental protection indicate there is a bright future for students interested in agricultural engineering and technology fields. Those who complete the B.S. degree in agricultural engineering may find employment with agricultural machinery and equipment companies, feed manufacturing companies, food processing, electric power suppliers and building material suppliers. There are career opportunities in farm equipment design, manufacturing and sales, building design and construction, electric power systems in agriculture, soil and water conservation engineering, material handling and processing systems and animal waste disposal systems. Graduates are also employed by agricultural colleges in research, teaching and extension, particularly those who have advanced degrees, and by federal and state agencies such as USDA, Natural Resource Conservation Service and the Department of the Interior.

### Facilities

Well-equipped engineering classrooms and laboratories are located on the UT Martin Campus. In addition, numerous computer facilities are available for student use.

# Program of Study

This list includes all courses required; however, the sequence may be flexible.

## Freshman Year

### Fall

Chemistry 121: General Chemistry...	4
Engineering 101: Engineering Graphics	4
English 111: English Composition	3
Math 251: Calculus I	4

**Total Hours 15**

### Spring

Chemistry 122: General Chemistry...	4
Engineering 121: Statics	3
English 112: English Composition	3
Math 252: Calculus II	4
Social Science/Humanities Elective*	3

**Total Hours 17**

## Sophomore Year

### Fall

Engineering 241: Dynamics...	3
Math 310: Linear Algebra...	3
Math 320: Multivariate Calculus...	4
Physics 220: University Physics	4
Social & Behavioral Sciences Elective*	3

**Total Hours 17**

### Spring

Physics 221: University Physics	4
Mathematics 330: Differential Equations...	3
Microbiology 251: General Bacteriology...	4
Soil Science 210: Introduction to Soil Science	4

**Total Hours 15**

\*See catalog for options.

## For More Information Contact

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