
The University of Tennessee at Martin

Agricultural Engineering Pre-Professional Program, 2004-2005

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 agricultural engineering classrooms and laboratories are located in the West Tennessee Agricultural Pavilion. In addition, many field laboratories are scheduled on the UTM Agricultural Field Teaching/Demonstration Complex. Field trips are also scheduled to visit local farm machinery and equipment firms, manufacturing firms, etc. Numerous computer facilities are available for student use.

For More Information

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Program of Study

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

Freshman Year

Fall

Engineering 111: Engineering Methods	2
English 111: English Composition	3
Math 251: Calculus I	4
Engineering 121: Statics	3
<u>Microbiology 251: General Bacteriology</u>	<u>4</u>
Total Hours	16

Spring

Engineering 112: Engineering Methods II	2
English 112: English Composition	3
Math 252: Calculus II	4
Engineering 241: Dynamics	3
<u>Social Science/ Humanities Elective*</u>	<u>3</u>
Total Hours	15

Sophomore Year

Fall

Chemistry 121: General Chemistry	4
Physics 220: University Physics	4
Computer Science 231: Computer Programming for Engineers	3
Mathematics 330: Differential Equations	3
<u>Social Science/ Humanities Elective*</u>	<u>3</u>
Total Hours	17

Spring

Chemistry 122: General Chemistry	4
Physics 221: University Physics	4
Soil Science 210: Introduction to Soil Science	4
Mathematics 310: Linear Algebra	3
<u>Mathematics 320: Multivariate Calculus</u>	<u>4</u>
Total Hours	19

*See catalog for options.