Agricultural Systems Technology and Education

Department Head: Gary S. Straquadine
Location: Agricultural Systems Technology and Education 101C
Phone: (435) 797-2230
FAX: (435) 797-4002
E-mail: garys@cc.usu.edu
WWW: http://www.aste.usu.edu

Agricultural Systems Technology *and* Agricultural Education Advisor: Eric B. Worthen, ASTE 117, (435) 797-7091, eric.worthen@usu.edu

Agricultural Machinery Technology Advisor: Evan P. Parker, ASTE 137, (435) 797-1928, epparker@cc.usu.edu

Family and Consumer Sciences Education Advisor: Betty J. Murri, Family Life 303A, (435) 797-1565, betty.murri@usu.edu

Degrees offered: Bachelor of Science (BS) in Agricultural Education; BS, Master of Science (MS) in Agricultural Systems Technology; BS in Family and Consumer Sciences Education

Undergraduate emphases: *BS—Agricultural Systems Technology*: Agribusiness and Agricultural Mechanization

Graduate specializations: *MS*—Agricultural Extension Education, Agricultural Mechanization, Family and Consumer Sciences Education and Extension, International Agricultural Extension, and Secondary/Postsecondary Agricultural Education

One-year Certificate and Associate of Applied Science (AAS): Agricultural Machinery Technology

Undergraduate Programs

Objectives

The programs offered in the Agricultural Systems Technology and Education Department are for students who are preparing for positions as family and consumer sciences *or* agricultural education teachers, as well as for positions in family and consumer sciences education *or* agricultural extension, agricultural mechanization, agribusiness, and agricultural production and management.

The facilities for these programs include laboratories with specially designed equipment for practical instruction in agricultural systems and mechanization, including computer applications, agribusiness, agricultural buildings, engines, electricity, hydraulics, machinery, and repair welding. Family and Consumer Sciences Education students use laboratories equipped for instruction in secondary education, clothing production, textile science, early childhood, nutrition, and interior design.

Requirements

Departmental Admission Requirements. Admission requirements for the Department of Agricultural Systems Technology and Education are the same as those described for the University on pages 15-18. Students in good standing may apply for admission to the department.

Bachelor of Science in Agricultural Education. Preparation in Agricultural Education includes technical agriculture, economics, and business. Students selecting the teaching option will also enroll in principles and techniques of teaching courses.

Students interested in teaching agricultural production and processing, agricultural mechanics, horticulture, or natural resources will be guided into areas of their major interest. Agricultural backgrounds or summer agricultural experiences are necessary for teacher certification.

An application for admission to teacher education should ordinarily be completed before the junior year (see College of Education and Human Services requirements, page 104). Approval for admission to teacher education is a prerequisite to enrollment in education and psychology courses. A 2.75 GPA is required for admission to the teacher education program.

Requirements for the **Bachelor of Science in Agricultural Education** are listed briefly. For more detailed information on courses and the recommended sequence for taking them, see the major requirement sheet available from the Agricultural Systems Technology and Education Department.

The Agricultural Education major involves four teaching areas, which correspond with the Utah agricultural education program model design. Students must complete the University Studies requirements (see pages 42-49). In addition, students must complete the following courses in preparation for teacher licensure: SCED 3100, 3210, 4200, 4210; SPED 4000; and ASTE 2710, 3240, 3300, 3620, 4150, 4300, 5500, 5630. An Instructional Technology course must also be taken (contact departmental advisor to determine which course to take).

All students in the Agricultural Education major will complete a core of technical agricultural courses to include ASTE 1010, 3050, 3080; ADVS 1110; BIOL 1110, 1210; CHEM 1110; and SOIL 3000. Students are required to designate a program emphasis for the following areas: Production and Processing; Agricultural Systems; Horticulture; and Natural Resources. Approximately 50 credits in a technical agriculture specialization are required in each of the four program area choices. All students who seek an agricultural education teaching position in Utah are encouraged to complete the biological science teaching endorsement, which includes an additional 19 credits.

Bachelor of Science in Agricultural Systems Technology (AST). This major has two emphases: *Agribusiness* and *Agricultural Mechanization*. Preparation in either emphasis includes technical agriculture, economics, and business. The agricultural mechanization emphasis requires additional courses in technical electives and communication skills development.

The Bachelor of Science in Agricultural Systems Technology, **Agribusiness Emphasis**, includes the following courses: ASTE 1010, 2200, 2830, 3030, 3050, 3080, 3090, 3100, 4100, 4900, 5260; ACCT 2010; CHEM 1110; ECON 1500, 3030, 3050; MATH 1050; SOIL 3000; STAT 2300; and 24 credits of departmental electives. Students will complete a minor in Business or Agribusiness. Additional requirements in Animal Science; Plant and Soil Sciences; and Forest, Range, and Wildlife Sciences must also be met. In addition, students must complete the University Studies Requirements.

Bachelor of Science in Agricultural Systems Technology, **Agricultural Mechanization Emphasis**, includes the following courses: ASTE 1010, 2200, 2830, 3030, 3050, 3080, 3090, 3100, 4100, 4900, 5260; ACCT 2010; CHEM 1110; ECON 1500, 3030; MATH 1050; and SOIL 3000. Students must also fulfill University Studies requirements and complete designated electives.

Bachelor of Science (Dual Major) in Agricultural Systems Technology **and** Agribusiness includes the following courses: ASTE 1010, 2200, 3030 (or 4100), 3050, 3090, 3200 (or 3080), 3600, 5260; ECON 1500, 1550, 3030, 3050, 4010, 4030, 5030, 5050, 5350; ACCT 2010, 2020, MATH 1050, 1100; MHR 2990; and STAT 2300. Students must also complete University Studies requirements.

The **Associate of Applied Science Degree in Agricultural Machinery Technology** requires 60 semester credits that include a minimum of 6 credits of University Studies classes, 38 credits in Agricultural Mechanization, and 6-10 credits in business and related classes. Required courses include: ASTE 1010, 1120, 1130, 1610, 1620, 2200, 3030, 3080, 3090, 3600, 3720, and 3730.

Agricultural Machinery Technology Certificate. This one-year agricultural program meets the needs of persons interested in employment opportunities with agricultural dealerships and companies in the areas of parts and service, as well as with farm suppliers, feed and fertilizer agencies, corporate farms and ranches, and other related industries. The vocationally oriented agricultural technology program includes a cooperative occupational experience placement at the end of the first year of instruction.

Requirements for the one-year program include a minimum of ASTE 1010, 1120, 1130, 1610, 1620, 2250, 3030, 3080, 3090, 3710. See major requirement sheet available from the department for more information.

Minor in Agricultural Systems Technology. A minimum of 18 credits approved by a faculty advisor are required.

Bachelor of Science in Family and Consumer Sciences Education (FCSE). This major provides professional preparation for teaching Family and Consumer Sciences Education and Occupational Family and Consumer Sciences Education in public schools, or for employment as a family and consumer scientist in business or government agencies, and extension. Many states, including Utah, require a master's degree to work for extension.

This composite major includes study in nutrition and food sciences, family and human development, interior design, housing, apparel and textiles, and consumer sciences, plus professional education courses.

Student teaching in secondary public schools is required. Internships in extension or business are available.

The suggested sequence for completing required coursework for the Family and Consumer Sciences Education Major includes the following courses.

Freshman Year: ENGL 1010; FCHD 1500; FCSE 2040, 2510; ID 1750, 1790; MATH 1010, 1050; NFS 1020; USU 1320. Computer and Information Literacy (CIL) requirements must be met or waived. Students should also register for the child development lab.

Sophomore Year: CHEM 1110, 1120; ENGL 2010; FCHD 2400, 2450; FCSE 3030, 3040; NFS 1240, 2020; USU 1300. Students should apply to the Secondary Teacher Education Program (STEP) during the spring of their sophomore year.

Junior Year: FCHD 3350, 4550; FCSE 3060, 3300, 3400; NFS 4070; SCED 3100, 3210; SPED 4000; Instructional Technology course (contact advisor for course number); DHA course.

Senior Year: FCHD 4960; FCSE 4300, 4400, 5500, 5630; SCED 4200, 4210.

Graduate Programs

Admission Requirements

See general admission requirements, pages 90-91. Applications will be considered throughout the year. However, students who wish to be considered for financial aid must apply by February 1 for the coming academic year. No application will be considered until all required information arrives at the office of the School of Graduate Studies.

Course Requirements

Master of Science. The MS program requires the completion of a minimum of 30 credits beyond the bachelor's degree. These credits must be approved by a supervisory committee. However, to optimize a student's academic experiences, 36 credits are recommended. A 10- to 15-credit core curriculum is required and includes courses in research/statistics and completion of a Plan A thesis for 6 credits or a Plan C program with a minimum of 33 credits. Students are also expected to select and complete an area of specialization. To complete all requirements, students should expect to be enrolled for a minimum of two semesters.

In the Family and Consumer Sciences Education and Extension specialization, a Plan B option is available. This plan involves 30 credits of instruction (including a minimum of 3 thesis credits) and the development and presentation of a creative project.

The following four specializations are available for the MS in Agricultural Education:

The **Agricultural Extension Education** specialization provides a program for individuals interested in cooperative extension work. The curriculum for the program includes coursework related to managing people; planning, implementing, and evaluating programs to promote technology transfer (adult education); understanding research techniques relevant to agricultural education; and the managing of fiscal affairs.

Electives are selected from each of the following departments: Agricultural Systems Technology and Education; Animal, Dairy and Veterinary Sciences; Economics; Biology; Plants, Soils, and Biometeorology; Forest, Range, and Wildlife Sciences; and Instructional Technology.

The purpose of the **Family and Consumer Sciences Education and Extension** specialization is to expand academic preparation in an area of study such as family studies, housing, textiles and clothing, nutrition and food sciences, and management of personal resources. This specialization places emphasis on teaching and curriculum/program development and/or Extension. Students are prepared for community professions, including secondary teaching (since students earn a teaching license), urban and rural extension, social science, and business. Study may lead to supervisory and administrative positions in business, technical schools, and applied technology colleges, or to consulting positions in mass media and industry. The master's degree *does not* result in a teaching license for public schools.

The **Agricultural Mechanization Systems** specialization allows for theoretical and applied study in the mechanical systems used in agricultural production, processing, and distribution. The curriculum for this program emphasizes coursework related to managing people; planning, implementing, and assessing systems used in the production and processing of agricultural products or services; and understanding research techniques used in agricultural systems technology. The remainder of the program is designed to be interdisciplinary, depending on student needs.

The **International Agricultural Extension** specialization was developed to prepare agriculturally educated people to perform administrative and supervisory roles in less-developed countries. The curriculum for this program includes coursework related to managing people; planning, implementing, and evaluating programs to promote technology transfer; and managing fiscal affairs. Electives are selected from each of the following departments: Agricultural Systems Technology and Education; Animal, Dairy and Veterinary Sciences; Economics; Biology; Plants, Soils, and Biometeorology; and Instructional Technology.

Research

The Utah Agricultural Experiment Station, a component of the College of Agriculture, supports graduate work in several areas of Agricultural Systems Technology and Education. Other state and federal agencies also support research in agricultural systems.

Financial Assistance

Both departmental and formal grant support are available to graduate students and are awarded on a competitive basis. Students requesting financial support should apply to the department.

Research assistantships are available through faculty members who have ongoing projects with the Utah Agricultural Experiment Station or who hold special research grants from the University, private companies, or state-federal agencies. Acceptance to pursue graduate study does not guarantee the student financial assistance.

Requirement Changes

Graduation requirements described in this catalog are subject to change. Students should check with their departments concerning possible changes.

Agricultural Systems Technology and Education Faculty

Professors

Robert L. Gilliland, extension

Bruce E. Miller, agricultural systems and mechanization

Weldon S. Sleight, teacher preparation

Gary S. Straquadine, agricultural education/extension

Adjunct Professor

Kevin C. Kesler, 4-H and youth development programs

Professor Emeritus

Gilbert A. Long, agricultural education

Associate Professor

F. Richard Beard, research and extension, agricultural engineering

Assistant Professors

John D. Harrison, agricultural waste management/extension specialist

Rhonda L. Miller, sustainable agriculture/agricultural systems

Rudy S. Tarpley, agricultural education, teacher preparation

Nancy Thompson, family and consumer sciences education

Instructor

Betty J. Murri, apparel and textiles

Lecturers

Evan P. Parker, agricultural technology and machinery management

Daryl L. Reece, agricultural engineering and equipment repair

Afifa Sabir, education and outreach, Biotechnology Center

Julie P. Wheeler, family and consumer sciences education

Course Descriptions

Agricultural Systems Technology and Education (ASTE), pages 340-342

Family and Consumer Sciences Education (FCSE), pages 397-398