

Department of Agricultural
Systems Technology
and Education
College of Agriculture

Agricultural Mechanization Emphasis Agribusiness Emphasis

Published June 2007

Effective for students beginning degree Summer Sem. 2007 thru Spring Sem. 2008

Admission Requirements For This Major

1. New freshmen admitted to USU in good standing qualify for admission to this major.
2. Transfer students from other institutions need a minimum GPA of 2.2 for admission to this major in good standing.
3. Students transferring from other USU majors need a minimum GPA of 2.0 for admission to this major in good standing.

The Programs

Agricultural Systems Technology (AST) prepares individuals to manage businesses with the application of sound technical, economical, and environmental practices. Leading-edge technology is applied to real-world problems, with the emphasis on being productive. Each program within the baccalaureate degree emphasizes technical information, applied research, and a systems approach to solving problems.

Problem solving practices rely on a basic strategy that includes problem identification, collection of information, and evaluating solutions to achieve a goal. The AST program tackles these concepts in a formal manner, using computer software, information technology, and mathematics. The AST major provides real-world instruction with resources that afford the greatest balance between leading-edge technology and its full, productive use.

Agricultural Systems Technology prepares individuals to organize and manage environmentally sound, technology-based businesses. The emphasis is on planning and directing industry or business projects, placing emphasis on results. National and international job opportunities include:

- manufacturing and processing operations
- advice and trouble-shooting help on technical equipment (or projects)
- planning buildings and equipment to fit and work together, working with the handling and flow of materials such as grain, feeds, chemicals, vegetables, fruits, etc. and products made from them
- applying technical training in selling or product demonstration
- teaching people about product use and value
- managing and operating farms or agri-businesses
- sustainable agriculture practices

Agricultural Systems Technology is based on an understanding of how equipment and structures are used with people, plants and animals, and their products.

Agricultural Systems Technology students complete a series of courses in communications and business management, in addition to specialty courses taught in the Agricultural Systems Technology and Education Department. The program provides in-depth technical instruction for selecting and applying advanced technologies in the agricultural system. Graduates are prepared to solve a wide variety of business and technical problems in a job field that continues to grow.

The facilities for the department include specially designed classrooms and laboratories for practical instruction in agricultural systems technology. Instructional areas include computer applications, agricultural structures, engine power, electrical power, management, marketing, and agricultural machinery. The research farms available in the College of Agriculture supplement instructional activities with research in agronomy, animal science, and agribusiness.

Bachelor of Science (BS) Degree. The Department of Agricultural Systems Technology and Education offers two emphases leading to the Bachelor of Science (BS) Degree in Agricultural Systems Technology: Agricultural Mechaniza-

tion and Agribusiness. The department also offers a composite major in Agricultural Systems Technology and Agribusiness.

The **Agricultural Mechanization Emphasis** provides a broad understanding of the production processes in agriculture, with a depth of understanding related to using machinery. Students select courses in such areas as agricultural mechanics, animal science, natural resources, plant science, and soil science.

The **Agribusiness Emphasis** provides in-depth technical education in agricultural economics and business management. This emphasis is designed to provide basic knowledge of business concepts and approaches, as well as an understanding of current agricultural changes. Increasing technological developments in the agricultural field demand knowledge of changes in the field and of products available to the agricultural businessman.

Departmental Policies

Departmental Requirements. Graduates from the ASTE Department must satisfy requirements for the basic core curriculum and adhere to the following three conditions: (1) The required ASTE courses may not be taken as *pass-fail*. (2) The GPA for all required ASTE courses must be 2.5 or higher to graduate. (3) The University courses required for this major may be repeated only once to improve a grade.

Academic Advising. The format of the AST curriculum allows students great flexibility in the selection of courses. Students are encouraged to meet with an advisor to plan the completion of courses required by USU and ASTE. By the end of the sophomore year, students should select the designated electives (list follows) and, if so desired, should identify the courses required to earn a minor from a second department. Delaying the selection of these courses can extend the time necessary to complete the BS degree and/or earn a minor. Students must take the responsibility for determining future goals and assist the advisor in identifying a group of courses that will satisfy these needs.

General Catalog. A *General Catalog* may be obtained by phoning Express-a-book at one of the following numbers: (800) 662-3950, (435) 797-3950, or FAX (435) 797-8261. The *General Catalog* may also be purchased at the USU Bookstore.

Career Opportunities

The **Bachelor of Science (BS) Degree with an Agricultural Mechanization Emphasis** prepares students for positions in agricultural machinery dealerships through service and sales opportunities, agricultural production operations, and as independent farmers and ranchers.

The **Bachelor of Science (BS) Degree with an Agribusiness Emphasis** prepares students for positions in agricultural businesses, as well as in production operations. Students choosing this emphasis find careers in a broad spectrum of agricultural businesses. Many students work in service-oriented businesses and agencies assisting production agriculturists, as well as use their degrees to operate farms and ranches.

Graduates of the AST programs have found careers as agricultural machinery industry field staff, managers and sales agents for retail agricultural businesses, directors and supervisors of manufacturing and processing operations, production farm and ranch managers, and independent farmers and ranchers. Careers in government services include positions with the Natural Resource and Conservation Service, Agricultural Extension (at the MS level), and the Bureau of Land Management.

Degrees and Programs Offered Through This Department

Agricultural Machinery Technology:

One-year Technology Certificate
Associate of Applied Science (AAS)

Agricultural Education:

Bachelor of Science (BS)

Agricultural Systems Technology:

Bachelor of Science (BS)
Agricultural Mechanization Emphasis
Agribusiness Emphasis
Master of Science (MS)
Agricultural Mechanization Specialization
International Agricultural Extension Specialization
Agricultural Extension Education Specialization
Family and Consumer Sciences Education and Extension Specialization
Secondary/Postsecondary Agricultural Education Specialization

Family and Consumer Sciences Education:

Bachelor of Science (BS)

Agricultural Communication and Journalism:

Bachelor of Science (BS) offered jointly with Journalism and Communication Department

Academic Advisement

Students should contact their ASTE academic advisor for assistance with course selection, program planning, and meeting graduation requirements. If students do not have an advisor, they may contact the ASTE Department at (435) 797-2230, the College of Agriculture at (435) 797-2215, or the Office of University Advising at (435) 797-3373.

Graduation Requirements: BS Degree in Agricultural Systems Technology

Minimum University Requirements*

Total credits	120
Grade point average (most majors require higher GPA)	2.00 GPA
Credits of C- or better	100
Credits of upper-division courses (#3000 or above)	40
USU credits	30
(20 of which must be upper division, including 10 required by major)	
Completion of approved major program of study	See department
Credits in minor (if required by department)	12
Credits in American Institutions (ECON 1500; HIST 1700, 2700, or 2710; POLS 1100; or USU 1300)	3
University Studies requirements	See below

*Colleges and departments may require more credits or a higher GPA. See requirements on this sheet.

University Studies Requirements for Agricultural Systems Technology Major

Note: Approved University Studies courses and requirements are listed in the back section of each semester's *Schedule of Classes*.

General Education Requirements (27-28 credits)

Competency Requirements (9-10 credits)

Communications Literacy (CL1 and CL2) (6 credits)

ENGL 1010 (CL1) (3 credits) or satisfactory AP, CLEP, IBO, ACT, or SAT score

AND

ENGL 2010 (CL2) (3 credits) or satisfactory IBO score

Quantitative Literacy (QL) (3-4 credits)

MATH 1030 or 1050 or STAT 1040 (3-4 credits)

OR

One MATH or STAT course requiring MATH 1050 as a prerequisite

OR

Satisfactory AP, CLEP, IBO, ACT, or SAT score

Computer and Information Literacy (0 credits)

Passing grade on six computer and information literacy related examinations.

Breadth Requirements (18 credits)

Select at least one approved course from each of the following six categories: **American Institutions (BAI)**, **Creative Arts (BCA)**, **Humanities (BHU)**, **Life Sciences (BLS)**, **Physical Sciences (BPS)**, and **Social Sciences (BSS)**. At least two of the six breadth courses must be University Studies courses with a **USU prefix** (excluding USU 1000, 1010, 1100, 3330, 4900, and 6900). (CLEP or AP credit may be used.) USU 1350 will fulfill the Life Sciences requirement and CHEM 1110 will fulfill the Physical Sciences requirement for students in the Agricultural Systems Technology major.

Depth Education Requirements

Communications Intensive (CI) (2 courses)

ASTE 3050 and 5260 will meet this requirement.

Quantitative Intensive (QI) (1 course)

One course having QI designation (such as ASTE 3040 or 3600) will meet this requirement.

Depth Course Requirements (4 credits minimum)

Complete at least 2 credits in approved 3000-level or above courses from each of the following two categories: **Humanities and Creative Arts (DHA)** and **Social Sciences (DSS)**. ECON 3030, 3050, or 4010, or MHR 3110 will meet the DSS requirement.

Agricultural Systems Technology Major

Technical Requirements (20 credits) Credits

<input type="checkbox"/> ACCT 2010 Survey of Accounting I (F,Sp,Su)	3
<input type="checkbox"/> CHEM 1110 (BPS) General Chemistry I (F,Sp)	4
<input type="checkbox"/> ECON 1500 (BAI) Introduction to Economic Institutions, History, and Principles (F,Sp)	3
<input type="checkbox"/> ECON 3030 (DSS) Introduction to Agribusiness Marketing (F)	3
<input type="checkbox"/> ECON 3050 (DSS) Introduction to Agribusiness Management (Sp)	3
<input type="checkbox"/> SOIL 3000 Fundamentals of Soil Science (F,Sp)	4

Communications Intensive Courses (6 credits)

<input type="checkbox"/> ASTE 3050 (CI) Technical and Professional Communication Principles in Agriculture (F,Sp)	3
<input type="checkbox"/> ASTE 5260 (CI) Environmental Impacts of Agricultural Systems (F)	3

Agricultural Systems Courses (minimum of 24 credits)

<input type="checkbox"/> ASTE 1010 Introduction to Agricultural Systems Technology (F)	3
<input type="checkbox"/> ASTE 2200 Electricity in Agricultural Systems (Sp)	3
<input type="checkbox"/> ASTE 2830 Agribusiness Sales and Marketing (F)	3
<input type="checkbox"/> ASTE 3030 Metal Welding Processes and Technology in Agriculture (F)	3
<input type="checkbox"/> ASTE 3080 Compact Power Units for Agricultural and Turfgrass Applications (Sp)	3
<input type="checkbox"/> ASTE 3090 Computer Applications in Agriculture (F)	3
<input type="checkbox"/> ASTE 4100 Agricultural Structures and Environment (Sp)	3
<input type="checkbox"/> ASTE 4900 Senior Project Research and Creative Opportunity (Sp)	1-6

Designated Electives (minimum of 24 credits)

Select 24 credits from the following courses. Twelve of these credits must be selected from upper-division (3000-level and above) courses.

<input type="checkbox"/> ASTE 1610 Agricultural Machinery Engines (F)	6
<input type="checkbox"/> ASTE 1620 Agricultural Machinery Power Trains (Sp)	6
<input type="checkbox"/> ASTE 3040 (QI) Fabrication Practices in Agricultural Buildings (Sp)	2
<input type="checkbox"/> ASTE 3100 Leadership Applications in Agricultural Science, Management, and Development (Sp)	2
<input type="checkbox"/> ASTE 3200 Irrigation Principles and Practices (Sp)	3

	Credits
<input type="checkbox"/> ASTE 3600 (QI) Management of Agricultural Machinery Systems (Sp) . . .	3
<input type="checkbox"/> ASTE 3900 Special Problems in Agricultural Systems Technology and Education (F,Sp,Su)	1-6
<input type="checkbox"/> ASTE 4250 Occupational Experiences in Agriculture (F,Sp,Su)	1-6
<input type="checkbox"/> ADVS courses	6-12
<input type="checkbox"/> ACCT courses	6-12
<input type="checkbox"/> ECON courses (Agricultural)	6-12
<input type="checkbox"/> MHR courses	6-12
<input type="checkbox"/> BA courses	6-12
<input type="checkbox"/> BIS courses	6-12
<input type="checkbox"/> PLSC courses	6-12
<input type="checkbox"/> SOIL courses	6-12

Electives (maximum of 11 credits)

Total Credits for Graduation 92
(plus University Studies Requirements)

Agricultural Systems Technology and Agribusiness Composite Major

Economics Courses (27 credits)	Credits
<input type="checkbox"/> ECON 1500 (BAI) Introduction to Economic Institutions, History, and Principles (F,Sp)	3
<input type="checkbox"/> ECON 2010 (BSS) Introduction to Microeconomics (F,Sp,Su)	3
<input type="checkbox"/> ECON 3030 (DSS) Introduction to Agribusiness Marketing (F)	3
<input type="checkbox"/> ECON 3050 (DSS) Introduction to Agribusiness Management (Sp)	3
<input type="checkbox"/> ECON 4010 (DSS) Managerial Economics (F,Sp)	3
<input type="checkbox"/> ECON 4030 (CI) Agribusiness Finance (F)	3
<input type="checkbox"/> ECON 5030 Agricultural Marketing and Price Analysis (F)	3
<input type="checkbox"/> ECON 5050 Farm and Ranch Planning and Analysis (Sp)	3
<input type="checkbox"/> ECON 5350 (CI) Agribusiness, Cooperatives, and Management (Sp) . . .	3

Agricultural Systems Courses (24 credits)

<input type="checkbox"/> ASTE 1010 Introduction to Agricultural Systems Technology (F)	3
<input type="checkbox"/> ASTE 2200 Electricity in Agricultural Systems (Sp)	3
<input type="checkbox"/> ASTE 3030 Metal Welding Processes and Technology in Agriculture (F) (3 cr) or	
<input type="checkbox"/> ASTE 4100 Agricultural Structures and Environment (Sp) (3 cr)	3
<input type="checkbox"/> ASTE 3050 (CI) Technical and Professional Communication Principles in Agriculture (F,Sp)	3
<input type="checkbox"/> ASTE 3090 Computer Applications in Agriculture (F)	3
<input type="checkbox"/> ASTE 3200 Irrigation Principles and Practices (Sp) (3 cr) or	
<input type="checkbox"/> ASTE 3080 Compact Power Units for Agricultural and Turfgrass Applications (Sp) (3 cr)	3
<input type="checkbox"/> ASTE 3600 (QI) Management of Agricultural Machinery Systems (Sp) . . .	3
<input type="checkbox"/> ASTE 5260 (CI) Environmental Impacts of Agricultural Systems (F) . . .	3

Technical Requirements (27 credits)	Credits
<input type="checkbox"/> ACCT 2010 Survey of Accounting I (F,Sp,Su)	3
<input type="checkbox"/> ACCT 2020 Survey of Accounting II (F,Sp,Su)	3
<input type="checkbox"/> CHEM 1010 (BPS) Introduction to Chemistry (F,Sp)	3
<input type="checkbox"/> MATH 1050 (QL) College Algebra (F,Sp,Su)	4
<input type="checkbox"/> MATH 1100 (QL) Calculus Techniques (F,Sp,Su)	3
<input type="checkbox"/> MHR 2050¹ Legal and Ethical Environment of Business (F,Sp,Su) (formerly MHR 2990)	3
<input type="checkbox"/> SOIL 4000 Soil and Water Conservation (F)	4
<input type="checkbox"/> STAT 2300 (QL) Business Statistics (F,Sp,Su)	4

University Studies Requirements (not met as part of above requirements) (18 credits)

<input type="checkbox"/> Communications Literacy (CL1 and CL2) courses	6
<input type="checkbox"/> Breadth Creative Arts (BCA) course	3
<input type="checkbox"/> Breadth Humanities (BHU) course	3
<input type="checkbox"/> Breadth Life Sciences (BLS) course	3
<input type="checkbox"/> Depth Humanities and Creative Arts (DHA) course	3
<input type="checkbox"/> Computer and Information Literacy (CIL) Exam	0

General Electives (24 credits)

Total Credits for Graduation 120

¹Due to House Bill 320 (Common Course Numbering), MHR 2990 was changed to MHR 2050, effective Summer Semester 2006.

Requirements to Earn a Minor

AST students may earn a minor in areas such as Food Sciences, Agronomy, Economics, and Business. To accomplish this within the required credits, students must select a minor during their sophomore year and complete 12 credits in courses satisfying requirements for *both* the AST major *and* the minor.

Requirement Changes

Requirements shown on this sheet are subject to change. Students should check with their departments concerning possible changes.

Materials for Persons with Disabilities

This requirement sheet is available in large print, audio, and braille format upon request to the USU Disability Resource Center.

For information contact

Agricultural Systems Technology and Education Department; ASTE 101;
1498 North 800 East; Utah State University; 2300 Old Main Hill;
Logan UT 84322-2300; tel. (435) 797-2230; FAX (435) 797-4002;
e-mail eric.worthen@usu.edu; <http://www.usu.edu/aste/>

Prepared by Registrar's Office, Utah State University