DEPARTMENT OF AGRICULTURE

Agriculture Building Room 206
T: 512.245.2130 F: 512.245.3320
www.ag.txstate.edu (http://www.ag.txstate.edu)

Agriculture majors have a choice of four different degree tracks:

• Agriculture, 
• Agriculture Teacher Certification, 
• Agriculture Animal Science, 
• Agriculture Business and Management.

The Department of Agriculture offers programs reflecting the diversity of choices available and skills required in modern agriculture and its related professions. This dynamic, global industry uses new technologies to improve the production, management, manufacture, and distribution of food and agricultural products.

Major in Agriculture

Agriculture majors are provided a broad exposure to agriculture. With this curriculum, students may expect to manage a ranch or a farm, or work in any career that requires a general agriculture education such as county extension agents, banking or government service.

Major in Agriculture with Teacher Certification in Agricultural Science and Technology

A comprehensive educational program concerned with the broad field of agriculture. Emphasis in the major is on production techniques, managerial skills and competencies necessary to function as agricultural scientists, educators, or agricultural managers in today's complex agricultural industry. Agricultural science and technology teachers are certified to teach in grades six through twelve in the public schools of Texas.

Major in Agriculture Animal Science

The study of all aspects of the livestock and poultry industries including commercial production and management; food processing; and animal feed/animal health including nutrition, biotechnology and veterinary medicine. Involvement of students in ongoing faculty research prepares graduates for careers in research and industry; and for further education in veterinary schools or graduate schools. Students may pursue two specializations with this major:

• Basic Science and Pre-Vet. The department supervises the Pre-Veterinary Science program, which provides two years of specialized course work for students planning to enter veterinary school.
• Integrated Ranch and Natural Resources Management

Major in Agriculture Business and Management

This major reaches far beyond the farm to encompass the activities involved in bringing food and fiber to consumers. Students may pursue three specializations with this major:

• Agribusiness Management. In this specialization students learn about the acquisition and use of capital, the working of the marketplace, financial institutions, and the effect of government policies on agriculture. Therefore, the Agribusiness Management specialization includes courses in agricultural finance, marketing and policies dealing with resource use as well as courses in technical agriculture and general education core curriculum.
• Agricultural Systems Management. This specialization integrates and applies engineering technology, agricultural sciences, and business. It prepares graduates for careers in technical fields and engineering such as agricultural machinery and power systems, electrical energy systems including sensors and controls, agricultural structures, surveying, and environmental systems including water utilization and quality. Students are involved with ongoing research, farm power and machinery, and precision farming and global positioning systems. Graduates are expected to assume positions of leadership and responsibility in careers such as product testing and service management, agricultural sales and services, and agricultural production systems.
• Horticultural Business. This specialization teaches management of commercial establishments and institutions that produce ornamental plants such as greenhouses and nurseries, floral shops and plant therapy businesses. The major also contains specialized courses in horticulture that utilize greenhouses, the Freeman Center and the Living Library Gardens.

Internship

Students are encouraged to apply for internships and enroll in AG 4310 after their junior year. The department will assist students in securing internships in agriculturally related businesses or agencies. For specific information and requirements about internships, contact the Department Chair.

Bachelor of Science in Agriculture (B.S.A.G.)

• Major in Agriculture (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/agriculture-bsag)
• Major in Agriculture (Teacher Certificate in Agriculture Science and Technology, Grades 6-12) (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/agriculture-teacher-certification-science-technology-grades-612-bsag)
• Major in Agriculture Animal Science (Basic Science and Pre-Vet Specialization) (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/agriculture-animal-science-basic-pre-vet-specialization-bsag)
• Major in Agriculture Animal Science (Integrated Ranch and Natural Resources Management Specialization) (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/agriculture-animal-science-integrated-ranch-natural-resources-management-specialization-bsag)
• Major in Agriculture Business and Management (Agribusiness Management Specialization) (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/agribusiness-management-agribusiness-specialization-bsag)
• Major in Agriculture Business and Management (Agricultural Systems Management Specialization) (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/agriculture-business-management-agricultural-systems-specialization-bsag)
Major in Agriculture Business and Management (Horticultural Business Specialization) (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/agriculture-business-management-horticultural-specialization-bsag)

Minors

- Agriculture (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/agriculture-minor)
- Animal Science (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/animal-science-minor)
- Horticulture (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/horticulture-minor)
- Plant and Soil Science (http://mycatalog.txstate.edu/undergraduate/applied-arts/agriculture/plant-soil-science-minor)
- Second Teaching Field in Agriculture Science and Technology (Grades 6-12)

Information about graduate programs can be found in the Graduate Catalog (http://mycatalog.txstate.edu/graduate).

Courses in Agriculture (AG)

AG 1110. Careers in Agriculture.
This course is an introduction to careers available in the broad field of agriculture including an overview of personal and career qualifications needed for workplace success.

1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.
Grade Mode: Standard Letter
TCCN: AGRI 1131
about Careers in Agriculture

AG 1445. Basic Animal Science.
An introductory course designed to acquaint students with the importance of the livestock industry. A study of the types and breeds; market classes and grades of beef cattle, swine, sheep, goats, horses, and poultry; attention will be given to breeding, judging, care, and management.

4 Credit Hours. 3 Lecture Contact Hours. 2 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
TCCN: AGRI 1419
about Basic Animal Science

Preparation for professional leadership and service, with emphasis on application of leadership principles. The course will focus on guiding students in developing enhanced leadership skills through group and individual leadership enhancement projects and topic research.

Prerequisite: AG 1110.

3 Credit Hours. 2 Lecture Contact Hours. 2 Lab Contact Hours.
Grade Mode: Standard Letter
about Applied Leadership Principles

AG 2313. Agronomic Crops.
A study of the production, harvest practices, storage, and use of cereal and feed grains, fiber crops, forages, and other related crops requiring special technology.

3 Credit Hours. 2 Lecture Contact Hours. 2 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
TCCN: AGRI 1307
about Agronomic Crops

AG 2345. Horse Management.
A course designed as a broad but thorough coverage of most areas of horse husbandry and production, including anatomy, physiology, breeding, feeding, training, and health care. Laboratory sessions are designed to acquaint the student with modern methods of breeding, training, and care of the horse.

3 Credit Hours. 2 Lecture Contact Hours. 2 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Horse Management

AG 2367. Animal Ultrasonography.
A study of current developments and utilization of animal ultrasonography technology in agriculture. Hands-on training in animal growth and development, animal breeding, animal handling and management, animal reproduction, computer technology and data interpretation.

3 Credit Hours. 2 Lecture Contact Hours. 2 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Animal Ultrasonography

AG 2373. Introduction to Agricultural Engineering.
An introductory course designed to acquaint students with a wide range of concepts, principles and applied technologies in agricultural engineering. A problem solving course.

3 Credit Hours. 2 Lecture Contact Hours. 2 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
TCCN: AGRI 2303
about Introduction to Agricultural Engineering

AG 2374. Metal Fabrication and Welding Technology for Agriculture.
This course covers the principles and practices of applied metallurgy and welding. Emphasis is given to the management of the technologies and techniques associated with oxy-fuel cutting, shielded metal arc welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), and Plasma Arc Cutting (PAC). Prerequisite: AG 2373.

3 Credit Hours. 2 Lecture Contact Hours. 2 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Metal Fabrication and Welding Technology for Agriculture
AG 2379. General Horticulture.
A survey of the general field of horticulture including general areas of employment.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
TCCN: AGRI 1315
about General Horticulture

AG 2383. Introduction to Agricultural Economics.
The role of agriculture in the general economy; the study of basic economic concepts with their application to the agricultural firm; the structure and operation of the marketing system; the functional and institutional aspects of agricultural finance; international trade; and government farm programs.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
TCCN: AGRI 2317
about Introduction to Agricultural Economics

AG 2390. Computer Applications in Agriculture.
Introduction to computers and computer technology; operation and application of the computer in production agriculture and agricultural business, services and industries. Includes characteristics of computer hardware and software, accessing and using the computer in agriculture.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
TCCN: AGRI 1309
about Computer Applications in Agriculture

AG 3301. Genetics of Livestock and Plant Improvement.
Fundamental principles of genetics and their application to higher plants and animals. The physical basis of Mendelian inheritance, expression and interaction of genes, gene frequency, linkage, sex linkage, inbreeding, line breeding, and crossbreeding as applied to selection indices for livestock and plants. Prerequisites: AG 1445; BIO 1330 and BIO 1130 (WI).
Course Attribute(s): Writing Intensive
Grade Mode: Standard Letter
TCCN: AGRI 1315
about Genetics of Livestock and Plant Improvement

AG 3302. Herbaceous Plant Materials.
This course will include the identification, selection, use, and management of annuals, perennials, herbs, and ornamental grasses in the landscape. Each student will learn irrigation, fertilization, pruning, and other cultural needs of such plants. The laboratory will complement lecture.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Herbaceous Plant Materials

AG 3304. Propagation of Horticultural Plants.
Principles and practices of propagating ornamental plants, vegetables, and fruits by sexual and asexual methods including germination of seed, layerage, graftage, division, cuttage, bulbs, corms, and other vegetative plant structures. Study of physical, physiological and environmental factors affecting propagation of ornamental plants.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Propagation of Horticultural Plants

AG 3305. Woody Plant Materials for Outdoor Landscapes.
Study of woody plant material including fruit and ornamental trees, shrubs, and ground covers and their identification, nomenclature, and use in the planting and development of home landscapes.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Woody Plant Materials for Outdoor Landscapes

AG 3306. Flowers and Plants for Interior Design.
Study of flowers, cut flowers, foliage and blooming pot plants to enhance the interior design of homes and businesses including their identification, cultural requirements, uses, diagnoses and corrective measures of disorders. Basic principles of flower arrangement and the preparation of floral and plant decoration as used in interior design. (WI).
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Flowers and Plants for Interior Design

AG 3308. Organic Gardening.
Study of principles and practices that involve the production of vegetables by organic methods. Fertility and irrigation; as well as weed, insect and disease control by practices will be covered.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Organic Gardening

AG 3310. Agriculture Power and Machinery Technology.
This course covers the principles of 2 stroke and 4-stroke cycle engines, ignition, and combustion types including injection systems. Components including power and power transmissions and hydraulic systems will also be addressed. Prerequisites: Math 1315 and AG 2373.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
about Agriculture Power and Machinery Technology
AG 3314. Animal Health and Disease Control.
A course designed to enable the animal science student to understand basic veterinary principles as applied to prevention of disease in domestic livestock. Common diseases of livestock are considered, with emphasis on sanitation and modern preventative methods concerned with keeping livestock healthy. Prerequisite: AG 1445.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
About Animal Health and Disease Control

AG 3317. Farm Management.
Tools and techniques which are basic to the study of farm organization and decision making, the wise allocation of factors of production, the keeping of records, and income tax management. Prerequisites: AG 2383, AG 2390; MATH 1315 or MATH 1319.

3 Credit Hours. 2 Lecture Contact Hours. 2 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
About Farm Management

AG 3318. Agricultural Business Management.
Introduction to the institutions and functions in agribusiness. The institutional structure of the agribusiness sector such as the feed, farm machinery and equipment, farm chemicals, financial institutions and private and public agri-services will be delineated. The second part of the course will introduce and develop the various functions such as organizational behavior, financial management, market management and human resource management. Prerequisites: AG 2383, AG 2390; MATH 1315 or MATH 1319.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Grade Mode: Standard Letter
About Agricultural Business Management

Presents the food and fiber system from an international Component. Analysis of food production and consumption patterns under different world economic systems, causes of surpluses and shortages throughout the world; the role of trade in solving food and agricultural problems. Outlook and situation for food and fiber is discussed for both developed and developing nations, and impact of U.S. food policy on world trade flows is presented. (MC).

About International Food and Fiber Systems

Basic and fundamental principles of nutrition for ruminant and non-ruminant wildlife with emphasis on North American and African wildlife. Attention will be given to digestive physiology and anatomy, feed sources, forage resources, and nutrient requirements. Prerequisite: AG 1445 or BIO 1330 and BIO 1130.

3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Lab Required
Grade Mode: Standard Letter
About Applied Wildlife Nutrition

AG 3321. Range Management.
Practical problems met in managing native pastures and rangelands. Attention to determining range condition and proper stocking rates, methods of handling livestock on the range, range reseeding, brush control, and poisonous plants. The ecological and physiological response of range vegetation to grazing. Prerequisite: AG 1445.

About Range Management

AG 3322. Livestock Selection and Evaluation.
Detailed consideration of the factors involved in the selection and evaluation of beef cattle, sheep, swine, rabbits, goats, and chickens. Emphasis will be placed on the care, grooming and exhibition of livestock projects. Prerequisite: AG 1445; junior classification.

About Livestock Selection and Evaluation

Principles of animal nutrition with emphasis on digestion, absorption, metabolism, and function of nutrients; estimation of feedstuff nutritive value; and requirements of animals. Prerequisites: CHEM 1341, CHEM 1141 and BIO 1330 BIO 1130. (WI).

About Animal Nutrition

AG 3329. Economic Entomology.
A study of the most common insects of field crops, fruits, and vegetables; life history, methods of attack, damage, and means of preventing and controlling. Collection and mounts of insects will be made.

About Economic Entomology

Basic and fundamental principles of nutrition for ruminant and non-ruminant wildlife with emphasis in North American and African wildlife. Attention will be given to digestive physiology and anatomy, feed sources, forage resources, and nutrient requirements. Prerequisite: AG 1445 or BIO 1330 and BIO 1130.

About Applied Wildlife Nutrition

AG 3331. Reproduction in Farm Animals.
An examination of the anatomy and physiology of reproductive systems of livestock of economic importance. Attention is given to reproductive failure and disease. The laboratory includes pregnancy testing, semen collection and evaluation, artificial insemination techniques, and evaluation of breeding records. Prerequisites: AG 1445 and 3301, or BIO 2450.

About Reproduction in Farm Animals

AG 3345. Livestock Selection and Evaluation.
Detailed consideration of the factors involved in the selection and evaluation of beef cattle, sheep, swine, rabbits, goats, and chickens. Emphasis will be placed on the care, grooming and exhibition of livestock projects. Prerequisite: AG 1445; junior classification.

About Livestock Selection and Evaluation
AG 3351. Agricultural Marketing and Sales.
A study of the food marketing system and farm input sales; includes the functional systems approach that integrates the agricultural input industries into a discussion of food marketing; takes a micro approach to the development of marketing management skills needed in agribusiness; and provides a critical outlook on issues ranging from inputs to final food products. Prerequisites: AG 2383; MATH 1315 or MATH 1319. (WI).

AG 3352. Quantitative Methods in Agricultural Economics.
Principles involved in collection, tabulating and analyzing agricultural data. Topics include sampling procedures, questionnaire development, descriptive analysis of data, correlation, prediction and forecasting and tests of significance. Simple computer programs will be stressed for class exercises during the course. Prerequisite: MATH 1315, MATH 1319, MATH 2321, or MATH 2471.

AG 3353. Agricultural Structures and Environment.
Principles and practices associated with structural components, selection, materials of construction, heat and moisture control, and the environmental issues of waste management systems; a problem solving course. Prerequisites: MATH 1315, AG 2373 and AG 2390.

AG 3375. Management of Agricultural Machinery and Equipment.
This course addresses the optimization of the equipment phases of agricultural production and processing. Emphasis will be placed on management and decision making principles concerned with the efficient selection, operation, repair, maintenance, and replacement of machinery and equipment. Prerequisites: AG 2373, MATH 1315, CHEM 1341, CHEM 1141, and AG 2390.

AG 3426. Soil Science I.
The fundamental principles of soil science to acquaint the student with some physical, chemical, and biological properties of the soil. Prerequisites: CHEM 1341 and CHEM 1141; and AG 2313 or AG 2379.

AG 3427. Soil Science II.
Management of soils as pertaining to their place in the environment. Special emphasis will be given to the role of soil in conventional agricultural systems, natural resource systems, waste management systems, and reclaimed and artificial soil systems. Prerequisite: AG 3426. (WI).

AG 3455. Land Surveying.
Engineering practices used in plane and geodetic surveying including differential and profile leveling, topographic, land, boundary and cadastral, and construction surveys. Laboratory exercises include use of dumpy levels, transits and total stations, and GPS (Global Positioning System) total station with RTK (real time kinematic). Planimeters and stereoscopes are used in analyzing aerial maps. Prerequisites: MATH 1315 or MATH 1317 or MATH 1319; AG 2373 and AG 2390.

A course for advanced undergraduates to study subject matter of special interest in agriculture. Problems in agronomy, economics, animal science, plant science, and farm mechanics may be selected. Prerequisite: Approval by department chair. May be repeated for up to three semester credit. Course may not be taken for graduate credit. (WI).

AG 4212. Program Building.
This course will focus on program and curriculum development in agricultural education settings. Primary course elements will include determining program and curriculum goals and objectives, implementing the program, and curriculum evaluation. Prerequisites: AG 4343, AG 4361 (to be taken in final semester).

AG 4300. Greenhouse and Nursery Management.
Planning greenhouses for commercial and home use; plant-nursery layouts. Study of the physical and economic factors affecting the production of plants in the greenhouse and other forcing structures, and in the field; management techniques used in the production and marketing of greenhouse and nursery plants. (WI).

AG 4343. Program Planning.
This course is designed for students to plan and schedule their professional activities. Students will be introduced to the concepts of time management and the importance of making plans for career development. Prerequisites: AG 2383; MATH 1315 or MATH 1319; AG 2373 and AG 2390.

AG 4361. Program Evaluation.
This course is designed to provide students with the methods, tools, and techniques necessary for the evaluation of agricultural education programs. Students will be introduced to the concepts of program evaluation, including the development of objectives, the use of outcome measures, and the evaluation of the effectiveness of educational programs. Prerequisites: AG 2383; MATH 1315 or MATH 1319; AG 2373 and AG 2390.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Grade Mode</th>
<th>Course Attribute(s)</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>AG 4302</td>
<td>Fruit and Vegetable Crop Production.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>Factors influencing small-fruit and tree-fruit and vegetable crop production in the field including root stocks, varieties, soil, planting, transplanting, irrigating, fertilizing, pruning, insects, diseases, nematodes, weeds, chemicals, harvesting, storing, and marketing; greenhouse production of certain vegetables. Prerequisite: AG 2313 or AG 2379. (WI). about Fruit and Vegetable Crop Production</td>
</tr>
<tr>
<td>AG 4304</td>
<td>Landscape Management.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>To acquaint students with the practices and techniques used in professional landscape construction and management, and with the scientific and technical basis for such practices. about Landscape Management</td>
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<tr>
<td>AG 4305</td>
<td>Landscape Design.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>Landscaping combines elements of art and science to create functional, aesthetically pleasing outdoor space. This class helps students develop knowledge of design elements and principles. Students learn site and client analysis techniques for critiquing landscapes. Students learn to communicate ideas through the planning and drawing of landscape plans. about Landscape Design</td>
</tr>
<tr>
<td>AG 4307</td>
<td>Professional Development in Agriculture.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>This course requires students to select a topic of current interest appropriate to the major. Critical analysis of the situation including both positive and negative aspects will be encouraged. Findings will be presented in both oral and written form. (Capstone Course). Senior Classification required to enroll. about Professional Development in Agriculture</td>
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<tr>
<td>AG 4310</td>
<td>Agricultural Internship.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>This course integrates professional and academic experience through internship with an external employer. The internship is designed to provide actual work experience, observation and analysis in the student’s chosen career field. Prerequisites: Junior or Senior standing and a GPA of 2.75 or higher. about Agricultural Internship</td>
</tr>
<tr>
<td>AG 4311</td>
<td>Instructional Methods for Career and Technology Educators.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>Writing Intensive</td>
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<tr>
<td>AG 4325</td>
<td>Feeds and Feeding.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>Study of feedstuffs used in livestock enterprises. Application of basic nutrients to the needs of different species of livestock. Formulating rations, methods of feeding, feed control laws, and feeding investigation. Prerequisites: AG 1445; CHEM 1341, CHEM 1141; BIO 1330, BIO 1130. about Feeds and Feeding</td>
</tr>
<tr>
<td>AG 4326</td>
<td>Advanced Animal Science-Ruminants.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>The application of scientific and technological advances to production and management in ruminant animal production and management. Prerequisite: AG 1445. (WI). about Advanced Animal Science-Ruminants</td>
</tr>
<tr>
<td>AG 4328</td>
<td>Advanced Animal Science-Poultry and Swine.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>Application of basic principles in the production and management of nonruminant animals. Scientific and technological advances with emphasis on overall management, health care, nutrition, genetics, physiology, and marketing of nonruminant animals. Prerequisite: AG 1445. (WI). about Advanced Animal Science-Poultry and Swine</td>
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<tr>
<td>AG 4330</td>
<td>Food Technology: Processing Meats.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>Evaluation and grading of carcasses; wholesale and retail cuts of beef, pork, lamb, and poultry. Emphasis on quality controls, testing of finished products that have been frozen, cured, fried, pickled, and canned. Prerequisites: AG 1445, BIO 1330, 1130 and CHEM 1341, 1141; or consent of instructor. about Food Technology: Processing Meats</td>
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<tr>
<td>AG 4332</td>
<td>Food Technology: Processing Meats.</td>
<td>Standard Letter</td>
<td>Lab Required</td>
<td>Evaluation and grading of carcasses; wholesale and retail cuts of beef, pork, lamb, and poultry. Emphasis on quality controls, testing of finished products that have been frozen, cured, fried, pickled, and canned. Prerequisites: AG 1445, BIO 1330, 1130 and CHEM 1341, 1141; or consent of instructor. about Food Technology: Processing Meats</td>
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</tbody>
</table>
AG 4343. Organization and Management for Laboratory Programs. Instructional programs involving laboratory equipment and facilities will be examined. Curriculum, teaching methods, equipment and facility management practices including various aspects of safety, tool management, inventory and security are emphasized along with facilities layout planning. Must be taken in last semester of program. Prerequisites: AG 4212 and AG 4681.

Course Attribute(s): Lab Required
Grade Mode: Standard Letter

AG 4361. Agriculture Electric and Mechanical Systems. Electrical fundamentals applied to agricultural production and processing. Circuits, power, energy, wiring design, and motor fundamentals; selection, installation and operational characteristics. Sensors and control devices including switches, relays, timers, and circuit breakers will be studied. Prerequisite: AG 2373.

Course Attribute(s): Lab Required
Grade Mode: Standard Letter

AG 4371B. Agriculture Irrigation Technology. Principles associated with water management practices in maintaining soil productivity and the influence of water management on environmental quality. Emphasis will be placed on the selection and layout of irrigation and drainage systems, waste management systems, and the impact on the environment. Prerequisite: AG 2373.

Course Attribute(s): Exclude from 3-peat Processing
Grade Mode: Standard Letter

AG 4371T. International Horticulture. The purpose of this program is to introduce students to the English culture and way of life, as well as England’s historic role in Horticulture, past and present. Students will intensively study from the following four horticultural fields: Ornamental Horticulture, Landscape Design, Vegetables/Fruit Crops, and Vineyards and Hops. The program includes basic instruction in English history, as well as lectures and field trips. Prerequisite: AG 2373.

Course Attribute(s): Exclude from 3-peat Processing
Grade Mode: Standard Letter

AG 4380. Agricultural Finance. An introduction to finance and financial problems faced by agribusiness managers. The subject matter includes financial analysis, planning, and control; capital budgeting; capital structure, liquidity, and risk management; and financial markets. Prerequisites: AG 2383; MATH 1315 or MATH 1319; ACC 2361.

Course Attribute(s): Lab Required
Grade Mode: Standard Letter

AG 4381. Agricultural Policy. Identification and analysis of governmental programs and policies affecting the production and marketing of agricultural products. An economic evaluation of alternative policies and their application for farmers, consumers and agribusinesses will be considered. Prerequisites: AG 2383; MATH 1315 or MATH 1319. (WI).

Course Attribute(s): Writing Intensive
Grade Mode: Standard Letter

AG 4383. Agricultural Resource Economics. Economic concepts and institutional factors relating to the use of agricultural resources such as land, air, water, energy, space, etc. Emphasis is on the conservation of resources and the environmental interactions resulting from the use of natural resources for agricultural production. Prerequisite: AG 2383, MATH 1315 or MATH 1319. (WI).

Course Attribute(s): Writing Intensive
Grade Mode: Standard Letter

AG 4681. Student Teaching in Agricultural Science and Technology. Planning for teaching agricultural science in selected schools in Texas. Course to be taken in final semester. Senior classification required to enroll.

Course Attribute(s): Writing Intensive
Grade Mode: Credit/No Credit

Angiras, Aditi K, Professor, Agriculture, Ph.D., Texas A&M University
Benavides, Elizabeth Ashley, Assistant Professor, Agriculture, Ph.D., Univ of Missouri-Columbia
Bruner, Brian L, Lecturer, Agriculture, M.B.A., Texas State University
Cade, Tina Marie, Professor, Agriculture, Ph.D., Texas A&M University
Davis, Bob, Professor Emeritus, Agriculture, Ph.D., North Carolina State University
Guney, Selin, Assistant Professor, Agriculture, Ph.D., North Carolina State University
Hoitt, Charles B, Lecturer, Agriculture, M.Ed., Texas State University
Le Duc, Frances A, Lecturer, Agriculture, Ph.D., University of Texas at Austin
Missildine, James A, Lecturer, Agriculture, M.Ed., Texas State University
Mix, Kenneth D, Assistant Professor, Agriculture, Ph.D., Texas State University
Morrish, Douglas G, Associate Professor, Agriculture, Ph.D., Texas A&M University
Pulley, Justin David, Senior Lecturer, Agriculture, M.S., Sam Houston State University
Richardson, Carl R, Professor, Agriculture, Ph.D., Univ of Illinois Urbana-Champaign

Wakefield, Dexter Bernard, Assistant Professor, Agriculture, Ph.D., Purdue University Main Campus