

All CTE Clusters

9001CT

Problems and Solutions in CTE II

- ⇒ *Grade Placement 11-12*
- ⇒ *Credit ½ - 1 Unit*
- ⇒ *Prerequisite See CTE Counselor and Approval Process*

A project-based learning experience developed by a student or group of students, teacher and an interdisciplinary mentor team. The project provides opportunities for an in-depth study in varied aspects in the different clusters of Career and Technical Education. **This course receives advanced grade points. This course is designed to provide students an opportunity to earn one advanced measure for the Distinguished Achievement Program.**



The following programs of study are available within the Agriculture, Food and Natural Resources cluster.

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|-----------------------------------------|--------------------------------------|
| Agribusiness Systems | Animal Systems |
| Environmental Service Systems | Food Products and Processing Systems |
| Natural Resources Systems | Plant Systems |
| Power, Structural and Technical Systems | |

Being enrolled in these courses will give the student the opportunity to be involved in the FFA including animal projects, leadership and career development event travel teams, and scholarships.

All Systems

9040CT

Formerly Introduction to World Ag and Applied Ag Science

Principles of Agriculture, Food and Natural Resources

- ⇒ *Grade Placement 9-10*
- ⇒ *Credit ½ - 1 Unit*
- ⇒ *Prerequisite None*

A basic course designed to provide an introduction to all aspects in agriculture including agricultural career development, leadership, communications, personal finance, mechanized agriculture, soils, plants, animals, agricultural construction, food science, and supervised agricultural experience programs.

I (2hr-9048CT) (3 hr-9042CT) II (2hr-9049CT) (3hr-9043CT)

Agriculture, Food and Natural Resources Career Preparation I, II

- ⇒ *Grade Placement 11-12*
- ⇒ *Credit I 2-3 Units; II 2-3 Units*
- ⇒ *Prerequisite 16 years of age and Approval Process*

A work-based learning course designed to provide training in specific agribusiness careers. Classroom learning and work-based learning provide career and related training by alternating group and individual instruction in the classroom with the work-based experiences at an approved agribusiness training station in the local community. Students must provide their own transportation to their training station.

9065CT

Formerly Agriculture Independent Study

Problems and Solutions in Agriculture, Food and Natural Resources

- ⇒ *Grade Placement 11-12*
- ⇒ *Credit 1/2 to 1 Unit*
- ⇒ *Prerequisite Completion of at least two courses of AFNR in a Coherent Sequence and Approval Process*

A project-based learning experience developed by a student or group of students, teacher, and an interdisciplinary mentor team. The project provides opportunities for an in-depth study of at least one aspect of the agriculture science and technology area. The student or group demonstrates the ability to utilize a variety of resources, advanced technology, and communication skills in the development and presentation of the project. **This project-based course may allow a student to meet one of the Distinguished Achievement Program advanced measures. Incoming 9th graders of 2009-2010 will receive advanced grade points for this class.**

Agribusiness Systems

9044CT

Formerly Agribusiness Management and Marketing

Professional Standards in Agribusiness

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

A comprehensive course designed to develop agricultural leadership, citizenship, and interpersonal skills. Instruction includes such topics as personal development, employee/employer relations, and group and communication skills.

Natural Resources Systems

9058CT

New Course

Forestry and Woodland Ecosystems

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

This course examines current management practices for forestry and woodlands. Special emphasis is given to management as it relates to ecological requirements and how these practices impact the environment. Includes exploration of careers associated with the forestry system, tree identification, calculating tree harvest, and a study of the forest ecosystem.

9046CT

Formerly Wildlife and Recreation Management

Wildlife, Fisheries, and Ecology Management

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

A course designed to examine the importance of wildlife and outdoor recreation with emphasis on using wildlife, fish and natural resources and their management. Hunter, boater, and angler safety instruction are components of this class. Research into occupational opportunities and identification and laws associated with game, non-game, fur-bearing and fish species are included.

9047CT

Formerly Range Management and Ecology

Range Ecology and Management

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

A course designed to provide information regarding the management and ecology aspects of rangelands. Instruction will include the study and development of technical skills in renewable natural resources, range plants, ecosystems, water cycles, range conditions, carrying capacities, livestock management, wildlife management, and research. Information and safe working practices, recordkeeping, career exploration, and leadership will be included.

Plant Systems

9050CT

Formerly Intro to Horticulture and Horticultural Plant Production

Horticulture Science

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

A laboratory oriented course designed to develop skills in the production of greenhouse/nursery plants and the maintenance of plant growth and propagation structures. The course emphasizes production of fruit, nut, and vegetable crops.

9051CT

Formerly Landscape Design, Construction, and Maintenance

Landscape Design and Turf Grass Management

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

A course designed to develop skills in the design, construction, and maintenance of planted areas. The course includes the use of devices for the beautification of home grounds and other areas of human habitation and recreation. Students will also learn techniques in how to establish and maintain turf grass.

9053CT

Formerly Floral Design and Advanced Floral Design

Principles and Elements of Floral Design

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1 Unit*
- ⇒ *Prerequisite None*
- ⇒ *This course will satisfy the Fine Arts graduation requirement*

A course designed to develop and examine floral design in relation to arrangement of flowers, foliage, and related plant materials for interior locations. Also incorporates business practices and careers in the floral industry. Students will be responsible for purchasing materials or assessed a fee associated with this course. **Advanced Technical Credit is available through community colleges in Texas.**

9055CT, 9056CT

Formerly Horticulture I, II

Practicum in Horticulture Science I, Practicum in Horticulture Science II

- ⇒ *Grade Placement 11-12*
- ⇒ *Credit 2 Units*
- ⇒ *Prerequisite Horticulture Science or Landscape Design and Turf Grass Mgt or Principles of Floral Design and Approval Process*
- ⇒ *Past Prereq Approval Process*

A laboratory-oriented course designed to develop skills in the various technical areas of the horticulture industry. The major focus is preparing individuals to perform horticulture related skills. The course emphasizes greenhouse and nursery crop production; landscaping; floral design; and fruit, nut, and vegetable crop production. Instruction will include information on career opportunities, leadership activities, and recordkeeping practices related to the horticulture industry. Students will be responsible for purchasing materials or assessed a fee associated with this course.

9071CT

** New Course**

Advanced Plant and Soil Science

- ⇒ *Grade Placement 12*
- ⇒ *Credit 1 Unit*
- ⇒ *Prerequisite One Credit of AFNR*
- ⇒ *This course will meet the requirements for the 4th Science credit on the Distinguished and Recommended graduation plans.*

A course designed to study the exploration of principles related to plant production and the management of soils as related to agriculture. Included in the course are experiments, laboratory explorations, and the study of soil and plant relationships that affect the production of food and fiber.

5632CT, 5634CT

CTED Practicum in Horticulture Science I, II, Career and Technical Education for Students with Disabilities

- ⇒ *Grade Placement 9-12*
- ⇒ *Credit 1 Unit per year*
- ⇒ *Prerequisite Recommendation of ARD Committee*

A laboratory course designed to develop entry-level employment skills in horticultural related careers for special needs students. A laboratory-oriented course designed to develop skills in the various technical areas of the horticulture industry. The major focus is preparing individuals to perform horticulture related skills. The course emphasizes greenhouse and nursery crop production; landscaping; floral design; and fruit, nut, and vegetable crop production. Instruction will include information on career opportunities, leadership activities, and recordkeeping practices related to the horticulture industry. Students will be responsible for purchasing materials or assessed a fee associated with this course. This course may be taken for more than one year – up to four years.

Power, Structural & Technical Systems

9061CT

Formerly Introduction to Ag Mechanics and Metal Fabrication

Agricultural Mechanics and Metal Technologies

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1 Unit*
- ⇒ *Prerequisite None*

A course designed to introduce basic theory and specialized skills in agricultural mechanics. Skills to be developed include identification and safe use of tools, carpentry, electricity, plumbing, masonry, fencing, painting, hot and cold metal working, and welding processes. Construction of projects will be included in this course. Students will be responsible for purchasing materials or assessed a fee associated with this course. **Advanced Technical Credit is available through community colleges in Texas.**

9082CT

Formerly Agricultural Mechanics I

Agricultural Facilities Design and Fabrication

- ⇒ *Grade Placement 11-12*
- ⇒ *Credit 2 Units*
- ⇒ *Prerequisite Agricultural Mechanics and Metal Technologies or Approval Process*
- ⇒ *Past Prereq. Intro to Ag Mechanics or Metal Fabrication*

A laboratory oriented course designed to teach the basic principles of agricultural mechanics, including: blueprint reading and implementation, carpentry and construction, electrical and plumbing systems, concrete and masonry construction, small engine and power systems, metal construction and large project building. Structures constructed in this class could include, but not limited to: large and small trailers, wooden structures, outdoor recreational facilities, and other metal fabrication projects. CNC PlasmaCam design and fabrication will be taught and applied in this class. Students will be responsible for purchasing materials or assessed a fee associated with this course.

9086CT

Formerly Agriculture Mechanics II

Practicum in Agricultural Mechanics

- ⇒ *Grade Placement 12*
- ⇒ *Credit 2 Units*
- ⇒ *Prerequisite Agricultural Facilities Design and Fabrication and Approval Process*
- ⇒ *Past Prereq Agriculture Mechanics I*

A laboratory oriented course designed to teach the basic principles of agricultural mechanics, including: blueprint reading and implementation, carpentry and construction, electrical and plumbing systems, concrete and masonry construction, small engine and power systems, metal construction and large project building. Structures constructed in this class could include, but not limited to: large and small trailers, wooden structures, outdoor recreational facilities, and other metal fabrication projects. CNC PlasmaCam design and fabrication will be taught and applied in this class. Students will be responsible for purchasing materials or assessed a fee associated with this course.

Food Products and Processing Systems

9067CT

Formerly Food Technology

Food Technology and Safety

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

A course designed to examine world food production, governmental regulations regarding foods, and food safety. Methods of processing, preparing, and packaging of foods; exploration of career opportunities, and leadership development are included. Students will be responsible for purchasing materials or assessed a fee associated with this course.

Animal Systems

9069CT

Formerly Animal Science

Livestock Production

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

A technical course designed to develop the students knowledge and skills pertaining to the nutrition, reproduction, health and management of domestic livestock. Study of animal systems, animal restraint, business management, and careers are included.

9077CT

New Course

Small Animal Management

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

Students will be provided with opportunities to learn, reinforce, and apply information in a variety of settings in the areas of small animal, systems/business and associations. Subject areas in this course to be covered are but not limited to: small mammals, amphibians, reptiles, birds, dogs, cats and species specific information. Study will also highlight ownership, hazards, and welfare of small animals.

9070CT

Advanced Animal Science

- ⇒ *Grade Placement 12*
- ⇒ *Credit 1 Unit*
- ⇒ *Prerequisite Livestock Production and Small Animal Management*
- ⇒ *Past Prereq Animal Science*
- ⇒ *This course will meet the requirements for the 4th Science credit on the Distinguished and Recommended graduation plans.*

This technical course provides an academically stimulating environment for students wishing to advance their understanding of animal science. This will be a lab oriented course with emphasis on reproduction, breeding, genetics, anatomy, physiology, nutrition, health, and the marketing and harvesting of domestic livestock. **Students will receive advanced grade points for this course. Advanced Technical Credit and Tech Prep college credit are available through community colleges in Texas.**

9072CT

Equine Science

- ⇒ *Grade Placement 10-12*
- ⇒ *Credit 1/2 Unit*
- ⇒ *Prerequisite None*

Students will identify career opportunities, industry expectation, and attain general knowledge of horses, mules and donkeys. Areas of study shall include but are not limited to: breed identification, anatomy and physiology, nutrition, reproduction, diseases, parasites, proper handling, training, confirmation, and selection of horses.

9074CT

Formerly Vet Med I and Intro to Vet Med Assistant

Veterinary Medical Applications

- ⇒ *Grade Placement 11-12*
- ⇒ *Credit 1 Unit*
- ⇒ *Prerequisite 2 of the following: Livestock Production, Small Animal Management or Equine Science and Approval Process*
- ⇒ *Past Prereq Introduction to Veterinary Medical Assistant Technology*

Students will be prepared for careers in the field of animal science. Students will be provided opportunities to demonstrate proper knowledge and skills in the veterinary medicine industry. Topics to be covered in this course are, but not limited to veterinary practices and knowledge as they relate to both large and small animal species. Subject areas include: animal behavior, communication, species/breed information, diseases/disorders, parasites, clinical examinations, imaging equipment, hematology, hospital procedures, and surgical assisting procedures. **Students will receive advanced grade points for this course.**

9076CT

Formerly Veterinary Medical Assistant II

Practicum for Veterinary Medical Assistant

- ⇒ *Grade Placement 12*
- ⇒ *Credit 2 Units*
- ⇒ *Prerequisite Veterinary Medical Applications and Approval Process*
- ⇒ *Past Prereq Veterinary Medical Assistant I and Approval Process*

This course is a continuation of the Veterinary Medical Applications course providing more in-depth opportunities for students to increase their knowledge in animal anatomy, animal disease, treatment techniques, lab procedures, emergency procedures, and clinical operations. Students will be required to participate in clinical rotations, gaining hands-on experiences working in various veterinary assistant positions. This course provides further opportunities for students to explore the veterinary medical field as well as to continue earning possible industry standard certification in veterinary assistant and possible college credits toward certification as a Registered Veterinary Technician (RVT). Students must provide their own transportation to the clinical setting. Students will be responsible for purchasing materials or assessed a fee associated with this course. **Students will receive advanced grade points for this course.**