Course:	Organic Sustainable Food Production
PEIMS Code:	N1300252
Abbreviation:	ORGFOOD
Grade Level(s):	11-12
Number of Credits:	1-2

Course description:

Organic Sustainable Food Production is designed to explore the history, industry, principles, and practices of organic sustainable food production. Students will research how food raised organically might benefit people and the environment. Students will gain knowledge in organic nutrition, passive solar greenhouses, organic certification requirements, composting, organic agricultural economics, and recycling. Career choices in the Agriculture, Food and Natural Resources career cluster will also be explored. This will include sourcing local food, a practice which can reduce the number of miles food must travel, and how it can support rural economies and deliver fresh and seasonal produce. Family farming concepts and practices such as rotation of crops, planting multiple crops, avoiding pesticides, and generally farming in a sustainable way will also be explored. A petite crop project will follow the organic process from seed to market so that in addition to the certification and the growing process students might better understand organic marketing opportunities.

Essential knowledge and skills:

(1) Organic agriculture history and industry. The student will understand the history of agriculture as it relates to civilizations, the current use of industrialized farming and the reasons for the shift to sustainable organic farming. The student is expected to:

(A) explain the origins of agriculture;

(B) describe the development of modern agricultural technologies including monoculture;

(C) explain the human health risks associated with modern agriculture;

(D) explain the major social and economic obstacles to the adoption of more sustainable farming systems; and

(E) describe growth and development in the sustainable and organic food industry locally, nationally and internationally.

(2) Organic principles and practices. The student will learn the key concepts and practices of organic certified crop production. The student is expected to:

(A) demonstrate an introductory command of organic soil science terminology;

(B) define the major components of sustainable soil fertility and waste lagoons;

(C) use plant pathology knowledge to diagnose plant problems;

(D) use the major preventative strategies for weeds; and

(E) discuss the enhancement of soil conservation, the building of organic matter and pest management through crop rotation.

(3) Organic certification. The student will learn the laws and regulations of National Organic Certification. The student is expected to:

(A) define the environmental and social criterion that is used to determine organic requirements including United States Department of Agriculture (USDA) organic meat requirements;

(B) identify a certification organization located nearby and determine the requirements in order to be in compliance;

(C) create an organic production and handling system plan which is a template for the mandatory organic system plan;

(D) use organic documentation forms; and

(E) maintain a compliance checklist for the National Organic Program Standards.

(4) Organic compost production. The student will learn how to build and manage an organic compost process. The student is expected to:

(A) explain National Organic Standards for composting;

(B) compare and contrast organic composting methods;

(C) explain key factors involved in successful organic composting;

(D) demonstrate an ability to successfully build an organic compost process;

(E) manage an organic composting process; and

(F) assess the organic compost quality and maturity.

(5) Supervised agriculture experience. The student develops a supervised agriculture experience program as it relates to organic sustainable food production. The student is expected to:

(A) plan, propose, conduct, and evaluate organic entrepreneurship; placement; exploratory; research, either experimental or analytical; improvement; supplementary; laboratory-based; or other identified, supervised agricultural experience as an experiential learning activity;

(B) apply proper record-keeping skills as they relate to the supervised agricultural experience;

(C) design and use a customized record-keeping system for the individual supervised agricultural experience;

(D) participate in youth leadership opportunities to create a well-rounded-experience program in organic agriculture;

(E) produce a challenging approach for a local program of activities in organic sustainable food production; and

(F) cultivate organic plants that meet National Organic Program Standards that can be sold in locally.

Description of specific student needs this course is designed to meet:

Although the Agriculture, Food and Natural Resources cluster includes classes in food, natural resources, and livestock production, there are currently no programs of study or courses that tie these concepts into sustainable organic food production. This is a concept that will definitely prepare young people to manage the dual roles of family member and wage earner. It will also allow students to successfully pursue a career in organic sustainable food production or as accredited certifying agents. The students enrolled in the class will understand and execute National Organic Program Standards.

Major resources and materials:

Textbooks, videos, field trips, soil, vegetable seeds for planting

Organic Farming Manual: A Comprehensive Guide to Starting and Running a Certified Organic Farm by Anne Larkin Hansen,

Georgia Organics at http://www.georgiaorganics.org,

United States Department of Agriculture (USDA) at http://usda.gov,

Texas Department of Agriculture at http://texasagriculture.gov

National Organic Program at http://www.ams.usda.gov/AMSv1.0/nop

Required activities and sample optional activities to be used:

Sample activities would include researching and reporting on the environmental, social, and economic impacts of organic sustainable agriculture and recycling. Students will be provided the opportunity to grow, document, maintain, and harvest USDA certified organic vegetables. They will also learn to build and maintain organic compost. Many various research projects/topics can also be included in the course including research on restaurants using organic foods; nutritional value in organic foods; comparison of natural, organic, and refined foods; medical research linking organic foods and health benefits; planting fruits and vegetables using organic methodologies; and identifying the difference in quality organic foods.

Methods for evaluating student outcomes:

Project based rubrics, course assignments, examinations, quizzes, reports, class discussions, community projects, FFA/CTSO competitions, and self-reflections

Teacher qualifications:

Agriculture Science and Technology Certification (any agriculture certificate)

Additional information:

Agriculture is an important resource in Texas. Texas CTE should be one of the first states to implement organic education at the high school level.