eDynamic Learning Course Title: Principles of Agriculture, Food, and Natural Resources

State: Texas
State Course Title: Principles of Agriculture, Food, and Natural Resources
State Course Code: 130.2
State Standards: Texas Essential Knowledge and Skills for Career and Technical Education, Subchapter A. Agriculture,
Date of Standards: 2015

TEKS	Unit Name(s)	Lesson(s) Numbers
(1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:		
(A) identify career development, education, and entrepreneurship opportunities in the field of agriculture, food, and natural resources;	Unit 1: Careers in Agriculture, Food, and Natural Resources	Unit 1: L5, Text Questions, Quiz
(B) apply competencies related to resources, information, interpersonal skills, problem solving, critical thinking, and systems of operation in agriculture, food, and natural resources;		
(C) demonstrate knowledge of personal and occupational safety, environmental regulations, and first-aid policy in the workplace;	Unit 1: Careers in Agriculture, Food, and Natural Resources	Unit 1: L6, Text Questions, Quiz
(D) analyze employers' expectations such as appropriate work habits, ethical conduct, legal responsibilities, and good citizenship skills;		
(E) identify careers in agriculture, food, and natural resources with required aptitudes in science, technology, engineering, mathematics, language arts, and social studies.	Unit 1: Careers in Agriculture, Food, and Natural Resources	Unit 1: L1, L2, L3, L4, Text Questions, Quiz, Lab questions, Discussion 2
(2) The student develops a supervised agriculture experience program. The student is expected to:		
(A) plan, propose, conduct, document, and evaluate a supervised agriculture experience program as an experiential learning activity;	Unit 1: Careers in Agriculture, Food, and Natural Resources, Unit 2: Leadership, Ethics, and Work Habits	Unit 1: Science Experiment Part 1, Unit 2: Activity
(B) apply proper record-keeping skills as they relate to the supervised agriculture experience;		
(C) participate in youth leadership opportunities to create a well-rounded experience program;		
(D) produce and participate in a local program of activities using a strategic planning process.		
(3) The student analyzes concepts related to global diversity. The student is expected to:		

(A) compare and contrast global agricultural markets, currency, and trends;	Unit 3: Agriculture, Food, and Natural Resources in Context, Unit 7: Food Processing and Production	Unit 3: L4, Text Questions, Quiz, Unit 7: L2
(B) evaluate marketing factors and practices that impact the global markets.		
(4) The student explains the historical, current, and future significance of the agriculture, food, and natural resources industry. The student is expected to:		
(A) define the scope of agriculture;	Unit 1: Careers in Agriculture, Food, and Natural Resources	Unit 1: L1, L2, L3, L4, L5, Text Questions, Lab Questions, Quiz, Activity, Discussion 1, Discussion 2
(B) analyze the scope of agriculture, food, and natural resources and its effect upon society;	Unit 1: Careers in Agriculture, Food, and Natural Resources, Unit 2: Leadership, Ethics, and Work Habits, Unit 3: Agriculture, Food, and Natural Resources in Context	Unit 1: L1, L2, L3, L4, L5, Text Questions, Lab Questions, Quiz, Activity, Discussion 1, Discussion 2, Unit 2: Activity, Unit 3: L1, L2, L3, L4, L5, Text Questions, Quiz, Lab Questions, Discussion 2
(C) evaluate significant historical and current agriculture, food, and natural resources developments;		
(D) identify potential future scenarios for agriculture, food, and natural resources systems, including global impacts;	Unit 4: Recordkeeping and Information Technology	Unit 4: Lab Questions
(E) describe how emerging technologies and globalization impacts agriculture, food, and natural resources; and	Unit 3: Agriculture, Food, and Natural Resources in Context, Unit 8: Power, Structural, and Technical Systems	Unit 3: L3, Text Questions, Quiz, Discussion 1, Discussion 2
(F) compare and contrast issues impacting agriculture, food, and natural resources such as biotechnology, employment, safety, environment, and animal welfare issues.	Unit 1: Careers in Agriculture, Food, and Natural Resources, Unit 2: Leadership, Ethics, and Work Habits	Unit 1: L6, Unit 2: L2, L4, Text Questions, Quiz, Activity, Discussion 1
(5) The student analyzes the structure of agriculture, food, and natural resources leadership in organizations. The student is expected to:		
(A) develop and demonstrate leadership skills and collaborate with others to accomplish organizational goals and objectives;	Unit 2: Leadership, Ethics, and Work Habits	Unit 2: L3, L5, Text-Questions, Quiz, Discussion 2

(B) develop and demonstrate personal growth skills and collaborate with others to accomplish organizational goals and objectives; and		
(C) demonstrate democratic principles in conducting effective meetings.		
(6) The student demonstrates appropriate personal and communication skills. The student is expected to:		
(A) demonstrate written and oral communication skills appropriate for formal and informal situations such as prepared and extemporaneous presentations; and		
(B) demonstrate effective listening skills appropriate for formal and informal situations.		
(7) The student applies appropriate research methods to agriculture, food, and natural resources topics. The student is expected to:		
(A) discuss major research and developments in the fields of agriculture, food, and natural resources;		
(B) use a variety of resources for research and development; and	Unit 1: Careers in Agriculture, Food, and Natural Resources, Unit 5: Plant Structures and Systems, Unit 6: Understanding Animal Science, Unit 8: Power, Structural, and Technical Systems	Unit 1: Science Experiment Part 1, Unit 5: Activity, Unit 6: Activity, Unit 8: Activity
(C) describe scientific methods of research.	Unit 1: Careers in Agriculture, Food, and Natural Resources	Unit 1: Science Experiment Part 1
(8) The student applies problem-solving, mathematical, and organizational skills in order to maintain financial and logistical records. The student is expected to:		
(A) develop a formal business plan; and	Unit 4: Recordkeeping and Information Technology	Unit 4: L1, L2, Activity, Text Questions, Quiz, Discussion 1, Discussion 2
(B) develop, maintain, and analyze records.	Unit 4: Recordkeeping and Information Technology	Unit 4: L3, L4, Text Questions, Quiz, Discussion 1
(9) The student uses information technology tools to access, manage, integrate, and create information related to agriculture, food, and natural resources. The student is expected to:		
(A) apply technology applications such as industry-relevant software and Internet applications;		

(B) use collaborative, groupware, and virtual meeting software;		
(C) analyze the benefits and limitations of emerging technology such as online mapping systems, drones, and robotics; and		
(D) explain the benefits of computer-based and mobile application equipment in agriculture, food, and natural resources.		
(10) The student develops technical knowledge and skills related to soil systems. The student is expected to:		
(A) identify the components and properties of soils;	Unit 5: Plant Structures and Systems	Unit 5: L4, Lab Questions
(B) identify and describe the process of soil formation; and	Unit 5: Plant Structures and Systems	Unit 5: L4, Lab Questions
(C) conduct experiments related to soil chemistry.		
(11) The student develops technical knowledge and skills related to plant systems. The student is expected to:		
(A) describe the structure and functions of plant parts;	Unit 5: Plant Structures and Systems	Unit 5: L1, L2, L3, Text Questions, Activity
(B) discuss and apply plant germination, growth, and development;	Unit 3: Agriculture, Food, and Natural Resources in Context, Unit 5: Plant Structures and Systems	Unit 3: Activity, Unit 5: L2, L3, L4, Discussion 2
(C) describe plant reproduction, genetics, and breeding;	Unit 5: Plant Structures and Systems	Unit 5: L3, Text Questions, Quiz
(D) identify plants of importance to agriculture, food, and natural resources; and	Unit 5: Plant Structures and Systems	Unit 5: L5, Activity, Discussion 1
(E) use tools, equipment, and personal protective equipment common to plant systems.		
(12) The student develops technical knowledge and skills related to animal systems. The student is expected to:		
(A) describe animal growth and development;	Unit 6: Understanding Animal Science	Unit 6: L2, L3, L4, L5, Text Questions, Quiz, Lab Questions, Discussion 1
(B) identify animal anatomy and physiology;	Unit 6: Understanding Animal Science	Unit 6: L2, Text Questions, Quiz

(C) identify and evaluate breeds and classes of livestock; and	Unit 6: Understanding Animal Science	Unit 6: L2, Text Questions, Quiz, Discussion 1
(D) explain animal selection, reproduction, breeding, and genetics.	Unit 6: Understanding Animal Science	Unit 6: L5
(13) The student describes the principles of food products and processing systems. The student is expected to:		
(A) evaluate food products and processing systems;	Unit 7: Food Processing and Production	Unit 7: L1, L2, L3, L4, L5, Text Questions, Lab Questions, Activity, Quiz, Discussion 1, Discussion 2
(B) determine trends in world food production;	Unit 7: Food Processing and Production	Unit 7: L5, Text Questions, Lab Questions, Quiz
(C) discuss current issues in food production; and	Unit 7: Food Processing and Production	Unit 7: L4, L5, Text Questions, Lab Questions, Quiz
(D) use tools, equipment, and personal protective equipment common to food products and processing systems.		
(14) The student safely performs basic power, structural, and technical system skills in agricultural applications. The student is expected to:		
(A) identify major areas of power, structural, and technical systems;	Unit 8: Power, Structural, and Technical Systems	Unit 8: L1, L2, L3, L4, L5, Text Questions, Quiz, Lab Questions, Activity, Discussion 1, Discussion 2
(B) use safe and appropriate laboratory procedures and policies;		
(C) create proposals that include bill of materials, budget, schedule, drawings, and technical skills developed for basic power, structural, and technical system projects or structures;		
(D) identify building materials and fasteners; and		
(E) use tools, equipment, and personal protective equipment common to power, structural, and technical systems.		
(15) The student explains the relationship between agriculture, food, and natural resources and the environment. The student is expected to:		

(A) determine the effects of agriculture, food, and natural resources upon safety, health, and the environment;	Unit 9: Natural Resources Today, Unit 10: Agriculture and the Environment	Unit 9: L1, L2, L3, L4, L5, Text Questions, Quiz, Lab Questions, Activity, Unit 10: L1, L2, L3, L4, L5, Text Questions, Lab Questions, Quiz, Discussion 1, Discussion 2
(B) identify regulations relating to safety, health, and environmental systems in agriculture, food, and natural resources;	Unit 9: Natural Resources Today, Unit 10: Agriculture and the Environment	Unit 9: L3, Text Questions, Quiz, Unit 10: L5
(C) identify and design methods to maintain and improve safety, health, and environmental systems in agriculture, food, and natural resources;		
(D) research and analyze alternative energy sources that stem from or impact agriculture, food, and natural resources; and	Unit 9: Natural Resources Today, Unit 10: Agriculture and the Environment	Unit 9: L2, Text Questions, Unit 10: L3, Text Questions, Quiz, Lab Questions, Discussion 1
(E) evaluate energy and water conservation methods.	Unit 9: Natural Resources Today, Unit 10: Agriculture and the EnvironmenT	Unit 9: L3, Text Questions, Quiz, Lab Questions, Activity, Unit 10: L3, L4, Text Questions, Quiz, Lab Questions, Discussion 1, Discussion 2