

**Online Course Outline
Agricultural Science-Plant Course**

Grade Level: 9 & 10 Length of Course: Semester(16 weeks) Credit: 0.5 Unit

Course Description (ISBE ID:18003A001): This is an online course delivered via Google classroom, utilizing MYcaert curriculum. It is intended for students who work well independently. All teacher student-teacher interaction will occur via distance-learning. This semester-long agriculture course is designed for students seeking to learn the basics of plant and soil science. The course is divided into 10 units including introduction to plant science, plant classification, plant anatomy, plant physiology, and environmental factors that affect plant growth. Other units are plant reproduction, plant genetics, soil characteristics, soil chemistry and plant nutrition, and pest management. The content also includes introductory FFA and SAE topics. Each student may progress at his/her own pace during the semester. Throughout that time, a certified agriculture instructor will monitor student mastery of material through online assessment tools.

The following lessons can be found at: www.mycaert.com. Please contact your local FCAE Program Advisor for login information.

PLANT SCIENCE		
Unit 1: Introduction to Plant Science		5 hours
E1-1	Importance of Plant Science	
E12-1	Exploring Careers in Plant and Soil Science	
Unit 2: Introduction to FFA & SAE		3 hours
B2-1	FFA Mission, Motto & Creed	
C1-1	Understanding the Importance of an SAE Program	
Unit 3: Classifying and Naming Plants		4 hours
E1-2	Classifying and Naming Plants	
Unit 4: Plant Anatomy		12 hours
E2-1	Root Anatomy	
E2-2	Stem Anatomy	
E2-3	Leaf Anatomy and Morphology	
E2-4	Flower Anatomy	
E2-5	Fruit Function and Anatomy	
Unit 5: Plant Physiology		7 hours
E4-3	Photosynthesis	
E4-5	Cellular Respiration	
Unit 6: Light, Temperature, Air, and Water		11 hours
E4-4	The Role of Light in Plant Growth	
E4-6	The Influence of Temperature on Plants	

E4-7	The Significance of Air in Plant Growth	
E4-8	The Importance of Water in Plant Growth	
Unit 7: Plant Reproduction		9 hours
E3-1	Propagating Plants Sexually	
E3-2	Propagating Plants Asexually	
E3-3	Plant Breeding Techniques	
Unit 8: Plant Genetics		8 hours
B2-3	Genetics	
B2-3	Exploring Genetics	
B2-4	Heritability of Traits	
Unit 9: Soil Characteristics		12 hours
D1-1	Nature of Soil	
D1-2	Soil Formation	
D1-3	Soil Profile	
D1-4	Soil Color	
D1-5	Soil Texture and Structure	
D1-6	Moisture Holding Capacity	
Unit 10: Soil Chemistry and Plant Nutrients		9 hours
D3-1	Soil Nutrient Formation	
D3-2	Soil Chemistry	
D3-3	Fertilizer Formulations	
D3-4	Applying Fertilizers	
Unit 11: Pest Management		10 hours
E5-1	Integrated Pest Management	
E5-2	Weed Control	
E5-3	Insect Pest Control	
E5-4	Plant Diseases	
E5-5	Managing Plant Diseases	