



Biological Studies in Agricultural Science

-Curriculum Guide-

Pequea Valley Agricultural Education



Course Description: Agricultural sciences and biology share a common thread; the study of the living organisms on our planet. The students in this course will investigate all the topics in biology but in an agricultural context. The course is centered around an extensive laboratory component that will help connect the big ideas of life science to the practical application of agricultural sciences, which will provide students with the science and leadership skills needed to be successful in a future career and for the Biology Keystone Exam.

FFA Membership: You are an FFA member when you are enrolled in an agriculture class taught by Mr. Masser and/or Mrs. VanSant! You are welcome to attend FFA meetings when they are held on Wednesdays. Keep your ears open for opportunities that may interest you such as...

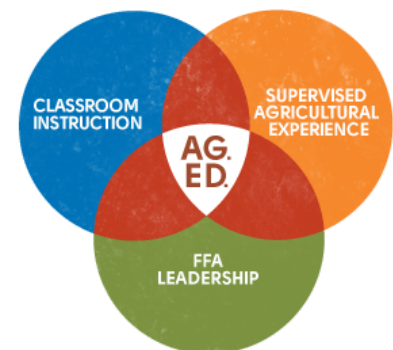
Career Development Events - See ffa.org for a complete listing of events!
Agriscience Research
Leadership Event (Conferences, Public Speaking, Parliamentary Procedure)

Events occur throughout the year. Much of the preparation for these events occurs outside regular class time, but your hard work could get you a trip to the Penn State campus in June, National FFA Convention in Indianapolis, IN, or BOTH! See Mr. Masser or Mrs. VanSant for details.

Supervised Agricultural Experience (SAE): Looking to earn an additional elective credit for completing a project that interests you? The Agricultural Education department offers elective credit to students who successfully complete an SAE project.

An SAE is ANY project that is student-driven, agriculturally-related, and supervised by an agriculture teacher. These projects could include:

Agriscience Fair Project
Work Experiences
Caring for Animals or Plants
Improvement Projects
Career Exploration Projects



Have a cool idea for an SAE?

Ask your teacher how you can get started. We have connections to local businesses that will hire you, provide you greenhouse space, space to house animals and more!

Course Outline: (Subject to Change)

Ag Bio Units	Related Biology Units	Outline	Related Agriculture Classes
Unit 1: What is Agriscience?	Unit 1: Characteristics of Life	Topic 1: What is Agricultural Education? Topic 2: Laboratory Safety Topic 3: Scientific Thinking	Introduction to Agricultural Science Advanced Scientific Research
Unit 2: Environmental & Natural Resources (ENR)	Unit 2: Ecology	Topic 1: Population Growth Topic 2: Food Webs Topic 3: Ecosystems Topic 4: Cycles Topic 5: Human Impact on the Environment	Natural Resources
Unit 3: Food Science	Unit 3: Biochemistry	Topic 1: Water Topic 2: pH Topic 3: Food Macromolecules Topic 4: Enzymes	Food Science Foods Unwrapped
Mid-Term <u>Exam</u> OR Agriscience <u>Project</u>			
Unit 4: Plant & Animal Science	Unit 4: Cells Unit 5: Cellular Energy Unit 6: Cell Division	Topic 1: Plant and Animal Cells Topic 2: Photosynthesis Topic 3: Respiration Topic 4: Mitosis and Meiosis	Horticulture Animal Science Veterinary Science
Unit 5: Agricultural Biotechnology	Unit 7: DNA/Protein Synthesis Unit 8: Genetics Unit 9: Evolution	Topic 1: Genetically Modified Organisms Topic 2: Genetics Topic 3: Animal and Plant Breeding	Agricultural Biotechnology
Final <u>Exam</u> OR Agriscience <u>Project</u>			