School District of Marshfield
Course Syllabus

Course Name: ES - Agriscience
Length of Course: Full Year
Credits: 1

Course Description:
"Learning by doing" activities will provide exposure to various areas of agriscience. These include: careers, soils, plant science, horticulture, integrated pest management, animal nutrition, animal physiology, genetics, reproduction, forestry, wildlife management, natural resources and food science. The greenhouse, aquaculture tanks, hydroponics lab, cheesemaking lab and computer lab will be used as laboratories for various activities dealing with soils, plants, animals, food, and horticulture.

Learning Targets:
- Recognize the major sciences that explain the development, existence, and improvement of livings things.
- Determine important elements of a desirable environment and explore efforts made to improve the environment.
- Determine major sources of air, soil water pollution and identify procedures for maintaining and improving air, soil, and water quality and be able to recommend practices for conserving these resources.
- Determine the relationships of forests and wildlife to our environment and the recommended practices for using and conserving these resources.
- Identify major pest groups and effective and safe pest-management programs.
- Identify and determine function of major parts of plants and determine how plants make food and their relationship between air, water, soil and essential plant nutrients for good plant growth and reproduction.
- Determine nutritional requirements, healthy characteristics, and reproductive requirements in livestock.
- Determine the types, uses, care, and management of small and large animals.
- Explore the nutrient requirements for human health and the processes used in food science to ensure and adequate and wholesome food supply.

Topic/Content Outline-Units and Themes:

First Semester

1. Agriscience in the Information Age
   a. The Science of Living Things (3 days)
   b. Better Living Through Agriscience (6 days)

2. Soil Conservation and Management (15 days)

3. Natural Resource Management
   a. Maintaining Air Quality (5 days)
   b. Water Conservation (5 days)
   c. Forestry Management (14 days)
   d. Wildlife Management (12 days)
   e. Aquaculture (6 days)

4. Integrated Pest Management
   a. Biological, Cultural, Chemical Control of Pests (8 days)
   b. Safe Use of Pesticides (8 days)

5. Plant Sciences
   a. Plant Structures and Taxonomy (8 days)

Second Semester

5.(cont) Plant Sciences
   b. Plant Physiology (5 days)
   c. Plant Reproduction (4 days)
   d. Hydroponics (4 days)
   e. Indoor Plants (4 days)

6. Animal Sciences
   a. Animal Anatomy, Physiology, and Nutrition (15 days)
   b. Animal Health (5 days)
   c. Genetics, Breeding, and Reproduction (15 days)
   d. Small Animal Care and Management (10 days)
   e. Dairy and Livestock Managements (10 days)

7. Food Science and Technology
   a. The Food Industry (5 days)
   b. Food Science (5 days)
   c. Biotechnolgy (8 days)

Required Core Resources: Agriscience: Fundamentals & App., 5th Edition – L. DeVere Burton