

## **Agriculture Education Course Topics and Roadmaps at Mt Vernon**

### **Ag. Food and Natural Resources**

***This is the first course in the Agriculture and Environmental System career field. It introduces students to the pathways that are offered in the Agriculture and Environmental System career field. As such, learners will obtain fundamental knowledge and skills in food science, natural resources management, animal science, and management, plant and horticulture science, power technology and biotechnology. Students will be introduced to the FFA organization and begin development of their leadership ability. Students will learn skills in basic wood and metal working. Students will also complete s Supervised Agricultural Experience project done outside of the classroom.***

FFA History  
FFA Leadership  
SAE project planning and record  
keeping  
Parliamentary Procedure

Introduction to Woodworking  
Introduction to Livestock Production  
Cells and Heredity  
Basic Small Engines  
Introduction to welding

Urban Soils  
Habitat Management  
Intro to Food Science  
Energy Sources  
Basic Plant Science

### **Livestock Production**

***Students will identify and apply principles and routine husbandry practices to production animal populations. Topics will include principles of nutrition, feed utilization, animal welfare, selection and management of facilities and herd populations. Students will apply knowledge of production animal care to enhance animal growth, selection of breeding stock, and management practices. Throughout the course, students will develop management plans reflecting practices for care and legal compliance.***

Careers  
Business Planning  
Personal Safety and Biosecurity  
Nutrition and Anatomy

Herd Management and Waste  
Handling  
Diseases and Disorders  
Quality Assurance

Reproduction and Genetics  
Behavior  
Food and Meat Science

### **Plant and Animal Sciences**

Parliamentary Procedure  
Ag Sales and Marketing

Livestock Production  
Rural Soils

Forestry  
Agronomy

### **Ag Business**

***Students will examine elements of business, identify organizational structures and apply management skills while developing business plans, financial reports and strategic goals for new ventures or existing businesses. Learners will use marketing concepts to evaluate the marketing environment and develop a marketing plan with marketing channels, product approaches, promotion and pricing strategies. Throughout the course, students will apply concepts of ethics and professionalism while implications of business regulations will be identified.***

### **Natural Resources and Wildlife management**

***Students will apply science principles and management practices to the protection of renewable and nonrenewable natural resources. Students will learn fundamentals of land use as well as watershed, wildlife, fishery and forest management. Furthermore, students will learn management practices related to managing air and water quality along with requirements for managing solid and liquid waste. Throughout the course, students will apply communications, business principles and leadership skills.***

Career Exploration

Speaking and Communications

Ecosystems

Waste management

Pollution Control

Habitat Management

Air and Water Management

Soil Conservation

Forestry

Energy Systems

Wildlife

### **Vet Science**

***Students will examine the structure and function of the major organ systems as well as the function and principle of blood flow in animals. Students will study internal and external anatomical parts, their functions, and will investigate the relationship among these parts and systems within the body of animals. Throughout the course, students will apply the internal functions of anatomical structures to the business and industry principles of the animal industry.***

Career Exploration

Speaking and Communications

Office Management

Personal safety in Vet Science

Diseases and Disorders

Body Systems

Welfare and Rights

Population Management

Animal Behaviors

Lab Skills and Techniques