

AGRICULTURE, FOODS, AND NATURAL RESOURCES (AFNR)

221410 Introduction to Agriculture, Food, and Natural Resource Sciences

Grade(s): 10-12 **Credit:** .5 per semester **Term(s):** 1 or 2

CTE

Introduction to Agriculture and Natural Resource Sciences provides a project-based survey of the array of professions in these fields. Students will be introduced to the breadth of these industries. Particular focus will be given to engaging students in firsthand experiences of these industries in Duluth and how emerging technologies behind urban agriculture, food science, and natural resources are revolutionizing issues of scale, efficiency, yield, and local community-based production to power the rapid expansion of this industry in our city. Students will survey a wide array of topics within the industry, gaining understanding of types of agriculture, trends, and career opportunities. Using the SAE model, students will explore where their career interests lie and identify areas for continued study. Students will learn and practice career and leadership skills, through introduction and involvement in Future Farmers of America (FFA).

221621 Plant Science Fall

Grade(s): 10-12 **Credit:** .5 per semester **Term:** 1

CTE

During this class we will study plant structures, learn basic functions and explore plant propagation. We will investigate factors that affect plant growth, including light, temperature, soil/media and nutrients. Students will be exposed to career opportunities in horticulture and greenhouse operations, while cultivating salad greens for the school deli. Students will also plan, propagate plants and lead a plant sale as a fundraiser.

221622 Plant Science Spring

Grade(s): 10-12 **Credit:** .5 per semester **Term:** 2

CTE

During this class we will study plant structures, learn basic plant functions and explore seed starting. We will investigate factors that affect plant growth, including light, temperature, soil/media and nutrients. Students will be exposed to career opportunities in horticulture and greenhouse operations, while cultivating greens for the school deli. Students will start plants for local gardens & work with community members on community-based gardening projects.

221720 Plant Science: Greenhouse 1 (1-hour class)

Grade(s): 10-12 **Credit:** .5 per semester **Term(s):** 1 or 2

CTE

This course provides experiences in various plant science concepts, exciting hands-on activities and projects, and problems similar to those that plant science specialists such as horticulturists, greenhouse and nursery managers, and plant researchers face in their respective careers. Students will research the value of plant production and its impact on the individual, the local and global economy. Student experiences will involve the study of plant anatomy and physiology, classification, soil and soilless growing systems, propagation, and the fundamentals of production and harvesting.

221822 Plant Science: Greenhouse 2* (2-hour class)

Prerequisite: Plant Science

Grade(s): 10-12 **Credit:** 1 per semester **Term(s):** 2

CTE

The state-of-the-art greenhouse allows students to continue the development of skills and knowledge needed to perform successfully in a career involving plants. Various challenging projects in the greenhouse and outdoors in the landscape provide real-world experiences. These include producing a spring horticulture crop for sale, and designing an environmentally friendly landscape. Students lead the way in a school Service Learning project of a schoolyard garden. Applying plant and soil science knowledge, along with technical math, occurs in these projects.

**This course is offered at East High School. Denfeld High School students may register for this course. Transportation is provided to and from the East.*

221420 Forestry, Fish, and Wildlife* (2-hour class)

Grade(s): 10-12 **Credit:** 1 per semester **Term(s):** 1 or 2

CTE

This course will give students the opportunity to experience forestry, fish, and wildlife firsthand. The school grounds serve as an outdoor classroom for studying tree morphology, identification, timber cruising, and small and large mammals. The school's proximity to Hawk Ridge and Lake Superior are ideal for learning about local birds and fish. Course work is divided into class discussions, group work, labs, projects, and outdoor activities. Upon completion of the class, students will have gained job skills related to the field of natural resources and an understanding of the importance of flora and fauna in Northern Minnesota. Students will perform a service-learning project at a Duluth city park or school property.

**This course is offered at East High School. Denfeld High School students may register for this course. Transportation is provided to and from East.*