Ledyard Agri-Science & Technology Program

Curriculum

at

Ledyard High School

2022

Approved by Instructional Council on November 16, 2022

Agricultural Science and Technology Education (ASTE) programs serve secondary students in full- and shared- time programs. Each program is located at a comprehensive high school with the exception of Bridgeport Regional Aquaculture Science and Technology Education Center, which has its own independent facility. The ASTE programs prepare students for college and careers in animal science, agribusiness, agricultural mechanics, aquaculture, biotechnology, food science, marine technology, natural resources, and plant science, (not all ASTE centers offer all the before mentioned programs). The ASTE programs incorporate a hands-on, active curriculum that integrates subject area skills and knowledge, applied skills in the core subjects of mathematics, science and English/Language Arts while incorporating leadership skills and work-based learning experiences through the National FFA Organization and Supervised Agricultural Experiences. The Ledyard Agri-Science curriculum is aligned with the Connecticut Edition of the National Agriculture, Food, and Natural Resources (AFNR) standards, Next Generation Science Standards, the State Common Core Standards English Language Arts and Mathematics.

CCTC Career Ready Practices (CRP) – encompasses fundamental skills and practices that all students should acquire to be career ready such as: responsibility, productivity, healthy choices, maintaining personal finances, communication, decision-making, creativity and innovation, critical-thinking, problem solving, integrity, ethical leadership, management, career planning, technology use and cultural/global competency.

AFNR Cluster Skills (CS) – encompasses the study of fundamental knowledge and skills related to all AFNR professions. Students completing a program of study in any AFNR career pathway will demonstrate fundamental knowledge of the nature, scope and relationships of AFNR systems and the skills necessary for analysis of current and historical issues and trends; application of technologies; safety, health and environmental practices; stewardship of natural resources; and exploration of career opportunities.

Agribusiness Systems (ABS) —encompasses the study of agribusinesses and their management including, but not limited to, record keeping, budget management (cash and credit), business planning, and sales and marketing. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the planning, development, application and management of agribusiness systems in AFNR settings.

Aquaculture Systems (AQ): encompasses the study of content areas such as life processes, health, nutrition, genetics, management and processing, of aquatic organisms service and repair of aquaculture vessels, machines and equipment. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of aquaculture facilities in AFNR settings.

Animal Systems (AS): encompasses the study of animal systems, including content areas such as life processes, health, nutrition, genetics, management, and processing, as applied to small animals, aquaculture, exotic animals, livestock, dairy, horses and/or poultry. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of animal systems in AFNR settings.

Biotechnology Systems (BS): encompasses the study of using data and scientific techniques to solve problems concerning living organisms with an emphasis on applications to agriculture, food and natural resource systems. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of biotechnology in the context of AFNR.

Environmental Service Systems (ESS): encompasses the study of systems, instruments and technology used to monitor and minimize the impact of human activity on environmental systems. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of environmental service systems in AFNR settings.

Food Products and Processing Systems (FPP): encompasses the study of food safety and sanitation; nutrition, biology, microbiology, chemistry and human behavior in local and global food systems; food selection and processing for storage, distribution and consumption; and the historical and current development of the food industry. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of food products and processing systems in AFNR settings.

Marine Trades (MT): encompasses the study of including content areas such as boat building, service and repair of aquaculture vessels, machines and equipment, seamanship, navigation, boat safety and operations. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of marine trades.

Natural Resource Systems (NRS): encompasses the study of the management, protection, enhancement and improvement of soil, water, wildlife, forests and air as natural resources. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of natural resource systems in AFNR settings.

Plant Systems (PS): encompasses the study of plant life cycles, classifications, functions, structures, reproduction, media and nutrients, as well as growth and cultural practices through the study of crops, turf grass, trees, shrubs and/or ornamental plants. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of plant systems in AFNR settings.

Power, Structural and Technical Systems (PST): encompasses the study of agricultural equipment, power systems, alternative fuel sources and precision technology, as well as woodworking, metalworking, welding and project planning for agricultural structures. Students completing a program of study in this pathway will demonstrate competence in the application of principles and techniques for the development, application and management of power, structural and technical systems in AFNR settings.

Students are expected to follow a specific course of study related to their career interests and goals that will prepare them for further study after high school or direct entry into the workplace. Some students may elect to pursue study in two diverse areas. Course selection is developed with the assistance of the SAE advisors and classroom teachers. Students are encouraged to participate in FFA Career Development Events (CDEs) in order to further develop skills.

PACING: Due to the nature of the Agri-Science Program and the individual course offerings, the pacing for each unit within each course will vary depending on student needs, project details and the school schedule.

The Agri-Science Department has been able to create their curriculum with the Ledyard High School Academic Expectations in mind and although the curriculum addresses a majority of the academic expectations, we included those expectations that are assessed.

Vision of the Graduate:

Collaboration. Demonstrate an ability to work effectively with others, sharing ideas, acknowledging one another's strengths, and collaborating to produce presentations, projects, performances, or events.

Communication. Demonstrate an ability to communicate information clearly and effectively through a variety of media, including written, oral, visual, musical, and/or video productions.

Problem-Solving. Demonstrate an ability to solve problems of varying complexity across a variety of content areas.

Critical Thinking. Demonstrate critical thinking skills to find solutions, support arguments, and overcome challenges in a variety of content areas.

Creativity. Demonstrate perseverance in academic and extracurricular settings by working through and past obstacles in pursuit of goals.

Perseverance. Demonstrate creativity through their participation in fine arts courses as well as through their inventive approaches to learning activities in a variety of settings.