CULTIVATING RESOURCES

CAREER CLUSTERS

Agriculture
Cultivating Sustainability and Nourishing the World

Energy & Natural Resources
Powering Progress and Preserving Our Planet

Cultivating Resources: Sustaining Life Through Science, Stewardship, and Innovation

The Cultivating Resources Career Cluster Group centers on the stewardship, production, and protection of natural resources that sustain life. This includes agriculture, food systems, environmental science, conservation, and energy and natural resources. Careers in this group focus on sustainable practices, scientific innovation, and responsible management of land, water, plants, animals, and energy. Students learn how to support global food systems, protect ecosystems, and power communities through renewable and traditional energy pathways. This group includes the **Agriculture** and **Energy & Natural Resources** Career Clusters.

Start Your Pathway with 2 or more credits of Pathway courses

9th Grade Explore & Launch

- Intro to Agriculture, Food, & Natural Resources

PATHWAY COURSES:

Animal Systems:

- Animal Biology (9-12)
- Veterinary Science (10-12)
- Veterinary Assisting*

Plant Systems:

- Plant Biology (9-12)
- Landscape, Greenhouse, & Nursery Production (10-12)
- Floriculture (9-12)

Natural Resources & Environmental Systems:

- Environmental Biology (9-12)
- Wildlife & Woodland Systems (10-12)

Agricultural Technology, Automation, & Utilities:

- Mechanical Technology I (11-12)
- Mechanical Technology II (11-12)
- Diesel Technology*
- Welding*

*Courses offered at Sno-Isle

Then, After You Have Finished High School...

Apply college credits earned in this pathway directly into these partner college programs:

Bellingham Technical College

- Veterinary Assisting

Continue your training in an Apprenticeship Program:

- Carpenters
- Electricians
- Plumbers
- Iron Workers
- Mechanic

Continue your training in another college program such as:

- Skagit Valley College
- Everett Community College
- Bellingham Technical College
- Edmonds Community College
- Walla Walla Community College
- Pima Medical Institute
- Washington State University
- Western Washington University
- Central Washington University
- Eastern Washington University
- University of Washington

Finally, Begin Your Career!

Jobs you can get after graduation with this High School training:

- Groundskeeper
- Irrigation Specialist
- Landscaper
- Landscaping, Groundskeeping
- Tree Trimmer/Pruner
- Turf Manager

Jobs you can get with 2-Years Post-High School Training:

- Veterinary Technician
- Wildlife Conservationist
- Laboratory Technician
- Civil Engineering Tech
- Winemaker/ Brew master
- Park Ranger
- Environmental Engineer
  Landscape Architect
- Soil and Plant Scientist

Jobs you can get with 4 or more Years Post-High School Training:

- Veterinarian
- Pharmaceutical Sales
- Biologist
- Landscape Design/ Architect
- Agronomist
- Forester
- Environmental Engineer
- CTE Teacher
- Biochemist
- Biomedical Engineer
- Environmental Engineer
- Microbiologist
- Quality Control Analyst
- Research Scientist

INTRO TO AGRICULTURE, FOOD, AND NATURAL RESOURCES

Course Code: *CTA100* ***Grade Levels:*** *9*
Length: *1 Semester* ***Credits:*** *0.5 CTE*
Prerequisite: *None*

Dive into the exciting world of agriculture, food, and natural resources with this hands-on, adventure-packed Introduction to AFNR course! This class lets you explore everything from animal and plant science to food systems, environmental stewardship, and cutting-edge agricultural technology. You'll design real projects, investigate today's biggest challenges in sustainability, and discover surprising connections between agriculture and the world around you—whether you're interested in science, engineering, the environment, or just love learning how things work. Get ready to build new skills, try new tools, and uncover the hidden systems that keep our world thriving!

ANIMAL BIOLOGY

Course Code: *CTA231/232* ***Grade Levels:*** *9-12*
Length: *1 YEAR* ***Credits:*** *1.0 Lab Science (Biology) or CTE*
Prerequisite: *None*

An applied laboratory science class focusing on the Washington State Standards of life science using scientific inquiry and problem-solving approaches. Animal Biology centers on the science of the animal. The focus is based on production agriculture.

PLANT BIOLOGY

Course Code: *CTA221/222* ***Grade Levels:*** *9-12*
Length: *1 Year* ***Credits:*** *1.0 Lab Science (Biology) or CTE*
Prerequisite: *None*

An applied laboratory science class focused on the biology of plants. Ever wonder how a tiny seed can become a towering tree? Or how plants can thrive in scorching deserts and icy tundras? Prepare to be amazed in Plant Biology, where we'll explore the fascinating, intricate, and sometimes bizarre world of plants! This isn't your grandma's botany class – we're going beyond the basics to uncover the secrets of plant life. This is a hands on application based biology class.

ENVIRONMENTAL BIOLOGY

Course Code: *CTA241/242* ***Grade Levels:*** *9-12*
Length: *1 Year* ***Credits:*** *1.0 Lab Science (Biology) or CTE*
Prerequisite: *None*

An applied laboratory science class focusing on the Washington State Standards of life science using scientific inquiry and problem-solving approaches. Natural Resources explores the fundamental elements of our environment, including soil, air, water, energy, plants, animals, and ecosystems from a biological perspective. Students will examine the role of natural resource management in sustaining healthy environments. Through hands-on activities, lab investigations, and real-world applications, students will learn about conservation, ecological interactions, energy systems, and the impact of human activities on natural resources. Emphasis will be placed on environmental stewardship and sustainable practices to protect and manage resources for future generations. Do you like wildlife and the outdoors? This is the class for you.

FLORICULTURE

Course Code: *CTA321/322* ***Grade Levels:*** *9-12*
Length: *1 Year* ***Credits:*** *1.0 Fine Art or CTE*
Prerequisite: *None*

Students will develop career skills as they learn a variety of floral design techniques that are important for obtaining a job in the industry. The production, management, marketing and sale of floral and home landscape crops are part of the curriculum. Indoor and flowering plant design, maintenance and production will be included.

WILDLIFE & WOODLAND SYSTEMS

Course Code: *CTA341/342* ***Grade Levels:*** *10-12*
Length: *1 Year* ***Credits:*** *1.0 Lab Science or CTE*
Prerequisite: *None*

An activity driven course which offers the students the opportunity to explore wildlife management, aquatic systems, and forest management. Topics include wildlife population dynamics, fisheries and aquaculture production, forestry practices, ecosystem balance, and the role of human activity in shaping natural environments. Hands-on labs, field studies, and real-world applications will give students practical experience in environmental stewardship, sustainability, and responsible resource management. Whether interested in conservation, agriculture, or natural resource careers, students will gain valuable knowledge and skills to understand and protect the world around them.

VETERINARY SCIENCE

Course Code: *CTA331/332* ***Grade Levels:*** *10, 11, 12*
Length: *1 Year* ***Credits:*** *1.0 CTE or Science*
Prerequisite: *Animal Science or Biology*

An activity driven course, which offers students the opportunity to explore veterinary science with an emphasis on technical skills required for a career in the veterinary or animal production industries. Laboratory techniques used by a veterinary assistant will be practiced. Students will work with various animals as a regular part of this course. Students will learn about veterinary terminology, how an animal functions inside and out, techniques for performing lab tests for animal health, how to conduct clinical exams on a variety of species, skills to care for an animal's overall health, proper techniques to work with animals safely, and leadership and career readiness skills.

LANDSCAPE, GREENHOUSE, NURSERY PRODUCTION

Course Code: *CTA325/326* ***Grade Levels:*** *10, 11, 12*
Length: *1 Year* ***Credits:*** *1.0 CTE or 3rd Year Science*
Prerequisite: *None*

Dive into the vibrant world of plants and production in Landscape, Greenhouse, and Nursery Production, an action-packed course where science comes to life! Students will explore the art and business of growing plants as they design landscapes, propagate greenhouse crops, and manage nursery systems using real-world agricultural and environmental science. From analyzing soil chemistry and monitoring plant health to applying principles of botany, ecology, and sustainable growing practices, learners will use hands-on experiments and scientific problem-solving to nurture thriving plant systems. Whether you're cultivating your own botanical creations or exploring careers in horticulture, this course offers an exciting blend of creativity, innovation, and scientific discovery.

MECHANICAL TECHNOLOGY I

Course Code: *CTA251/252* ***Grade Levels:*** *11, 12*
Length: *1 Year* ***Credits:*** *1.0 CTE*
Prerequisite: *None*

This class is an introduction to mechanical technology applications. Through a hands-on STEM integrated approach students will explore and apply techniques in arc welding, develop skills in oxy-fuel and gas welding, repair and rebuild small gas engines, learn how to complete residential electrical wiring, and learn about basic construction techniques.

MECHANICAL TECHNOLOGY II

Course Code: *CTA351/352* ***Grade Levels:*** *11, 12*
Length: *1 Year* ***Credits:*** *1.0 CTE or Science*
Prerequisite: *Mech Tech I*

A year-long advanced course in mechanical technology in agriculture applications. Through a hands-on STEM integrated approach students will explore career opportunities, surveying agricultural structures, and electric motors, develop advanced skills and techniques in various type of welding (arc, oxy fuel, MIG, TIG), explore basic machining and sheet metal skills, utilized project planning and design skills, and complete a required semester long project for home and/or community

WORKSITE LEARNING

Course Code: *CTE421/422* ***Grade Levels:*** *11, 12*
Length: *1 Year* ***Credits:*** *1-2 Credits*
Requirements:

1. Currently enrolled in or have successfully completed a CTE class related to the student's career pathway and worksite.
2. Age 16 before enrolling
3. Must provide own transportation to/from/during the Worksite Learning experience

Course Description: This course allows students to apply their skills in the workplace. Students may earn 1 credit for working 360 hours (approximately 11 hours per week). Students will:

- Apply skills and concepts learned in Career and Technical Education courses in a real-life work setting.
- Gain occupational and employability skills while applying and advancing your knowledge in academic and technical areas.
- Gain exposure and experience while obtaining instructional training in a specific career pathway of your own choosing.
- Be responsible for obtaining their own worksites.