Your Student’s Head Start on Career Goals and College Aspirations

AGRICULTURE, FOOD, AND NATURAL RESOURCES
ENVIRONMENTAL SERVICE SYSTEMS PATHWAY

The Destinations Environmental Service Systems Pathway provides a foundation for students who plan to pursue career paths ranging from agricultural teaching to water quality management to toxicology. Also included in this career sector are jobs as environmental technicians and solid waste managers.

SAMPLE COURSE PROGRESSION

Possible Careers
• Agriculture Teacher
• Water Quality Manager
• Toxicologist
• Environmental Technician
• Solid Waste Manager

Industry-Recognized Credentials
Destinations programs prepare students for the:
• National Occupational Competency Testing Institute Natural Resources Systems Certification Exam
• Microsoft® Office Certifications Exams

Success Beyond High School
Destinations graduates may pursue:
• Associate’s degree in agriculture, environmental systems, surveying and mapping
• Bachelor’s degree in chemical engineering, environmental engineering, solid waste management, toxicology, water quality management

DID YOU KNOW??

NATURAL SCIENCE MANAGERS CAN EARN
$120,160/YR

FIRST LINE LANDSCAPING SUPERVISORS CAN EARN
$48,790/YR

1,800 JOBS ADDED EXPECTED BY 2024

900,000 EMPLOYED IN LANDSCAPING NATIONALLY

*Program may be accelerated depending on student goals and abilities and course availability **Course may be taken in 11th or 12th grade at any slot in the course sequence †May be taken at any point in this sequence if student meets prerequisites ††Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2014–15 Edition
INTRODUCTION TO AGRISCIENCE

Agriculture has played an important role in the lives of humans for thousands of years. It has fed us and given us materials that have helped us survive. Today, scientists and practitioners are working to improve and better understand agriculture and how it can be used to continue to sustain human life. In this course, students learn about the development and maintenance of agriculture, animal systems, natural resources, and other food sources. Students also examine the relationship between agriculture and natural resources and the environment, health, politics, and world trade.

AGRISCIENCE 2

Science and technology are revolutionizing many areas of our lives, and agriculture is no exception! From aquaculture to genetic engineering, agriscience is finding new ways to better produce and manage plants, animals, and other natural resources. In Agriscience 2, you’ll build on your existing knowledge of plant and animal science and delve deeper into important areas such as soil science and weed management. You’ll also explore research on plant and animal diseases as well as the insects and other pests that can impact agricultural enterprises and natural resources.

PRINCIPLES OF AGRICULTURE, FOOD, AND NATURAL RESOURCES

Food has to travel from the farm to the table, and in Agriculture and Natural Resources, you will learn about the steps in that journey as well as the history of agriculture through animal husbandry, plant science, and managing our use of natural resources. In this course, you will receive a broad understanding of the subject matter, preparing you for future hands-on learning, participation in Future Farmers of America, and supervised agricultural experiences.

INTRODUCTION TO FORESTRY AND NATURAL RESOURCES

Forests and other natural resources play an important role in our world, from providing lumber and paper products to providing habitat for birds and animals. In the Introduction to Forestry and Natural Resources course, you’ll learn more about forest ecology, management, and conservation. You’ll explore topics such as environmental policy, land use, water resources, and wildlife management. Finally, you’ll learn more about forestry-related careers and important issues facing forestry professionals today.

WILDLIFE AND NATURAL RESOURCES MANAGEMENT

This course explores wildlife, fisheries, and natural resource management in today’s world. The course provides students with the history of the administration of natural resources as well as broader concepts that impact everyone, including conservation, endangered species, and human impacts on wildlife. Students also focus on how to identify species, including wild animals in their habitats. Finally, the course helps students view their role in the future and learn how a better understanding of the natural world can prepare them for success.

ENVIRONMENTAL SCIENCE

This course surveys key topic areas, including the application of scientific processes to environmental analysis; ecology; energy flow; ecological structures; earth systems; and atmospheric, land, and water science. Topics also include the management of natural resources and analysis of private and governmental decisions involving the environment. Students explore actual case studies and conduct four hands-on, unit-long research activities, learning that political and private decisions about the environment and the use of resources require accurate application of scientific processes, including proper data collection and responsible conclusions.
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AGRICULTURE, FOOD, AND NATURAL RESOURCES
FOOD PRODUCTS AND PROCESSING SYSTEMS PATHWAY

The Destinations Food Products and Processing Systems Pathway prepares students to discover new food sources, analyze food content, and develop ways to process, preserve, package, or store food according to industry and government regulations.

SAMPLE COURSE PROGRESSION

Possible Careers
- Farmer
- Rancher
- Food Buyer
- Agricultural and Food Scientist

Industry-Recognized Credentials
Destinations programs prepare students for the:
- ServSafe Food Handler Certification Exam

Success Beyond High School
Destinations graduates may pursue:
- Associate’s degree in agricultural communications, agricultural sales, food and drug inspection, food processing, meal supervision, meat processing and produce buying
- Bachelor’s degree in agriculture, agricultural education, bacteriology, bioengineering, food engineering, food science, microbiology, and quality control

DID YOU KNOW?†

AGRICULTURAL AND FOOD SCIENTISTS CAN EARN
$62,470/YR
1,900 NEW JOBS ADDED
EXPECTED BY 2024

AGRICULTURAL INSPECTORS CAN EARN
$44,260/YR
14,710 EMPLOYED NATIONALLY
3.1% ANNUAL GROWTH

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INTRODUCTION TO CULINARY ARTS
Food is fundamental to life. Not only does it fuel our bodies, but it’s often the centerpiece for family gatherings and social functions. In this course, students learn all about food, including food culture, food history, food safety, and current food trends. They also learn about the food service industry and prepare some culinary dishes. Through hands-on activities and in-depth study of the culinary arts field, this course helps students hone their cooking skills and gives them the opportunity to explore careers in the food industry.

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FOOD PRODUCTION 1
This course explores the foundations of the food industry and current food-related issues. Topics include genetically engineered foods, environmental concerns and sustainability, global food needs, and the impacts of food on health. The course is designed with future agricultural professionals in mind, and is designed to broaden their understanding of concepts with practical, hands-on activities. Content also correlates with National Agricultural Education Standards and Future Farmers of America Career Development Events (CDEs) to prepare students for meaningful careers.

FOOD PRODUCTION 2
Food Production 2 expands on the concepts introduced in Food Production 1. The course continues to explore the foundations of the food industry and current food-related issues. Topics include genetically engineered foods, environmental concerns and sustainability, global food needs, and the impacts of food on health. The course is designed with future agricultural professionals in mind, and is designed to broaden their understanding of concepts with practical, hands-on activities. Content also correlates with National Agricultural Education Standards and Future Farmers of America Career Development Events (CDEs) to prepare students for meaningful careers.
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AGRICULTURE, FOOD, AND NATURAL RESOURCES
NATURAL RESOURCES SYSTEMS PATHWAY

The Destinations Natural Resources Systems Pathway prepares students to develop, maintain, and manage the forest and natural environments that supply wood products, livestock forage, minerals and water; serve as sites for recreational activities; and provide habitats for wildlife.

SAMPLE COURSE PROGRESSION

Possible Careers
• Teacher
• Forest and Conservation Worker
• Conservation Scientist
• Logger
• Soil Specialist
• Geologist
• Fish Hatchery Manager

Industry-Recognized Credentials
Destinations programs prepare students for the:
• National Occupational Competency Testing Institute Natural Resources Systems Certification Exam

Success Beyond High School
Destinations graduates may pursue:
• Associate’s degree in commercial fishing, fishing technology, geology technology, logging, park management, range technology, or wildlife manager
• Bachelor’s degree in agriculture, agricultural education, ecology, geology, hydrology, or mining engineering

DID YOU KNOW?††

CONSERVATION SCIENTISTS AND FORESTERS CAN EARN
$160,220/yr
2,700 JOBS ADDED EXPECTED BY 2024

LOGGING EQUIPMENT OPERATORS CAN EARN
$38,880/yr
27,000 EMPLOYED NATIONALLY 2.4% ANNUAL GROWTH RATE

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VISIT K12.COM/DESTINATIONS
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AGRICULTURE, FOOD, AND NATURAL RESOURCES
POWER, STRUCTURAL, AND TECHNICAL SYSTEMS PATHWAY

The Destinations Power, Structural, and Technical Systems Pathway prepares students to apply knowledge of engineering, hydraulics, pneumatics, electronics, power, structures, and controls to the field of agriculture. They design agricultural structures, machinery and equipment, and develop conservation methods.

SAMPLE COURSE PROGRESSION

**Possible Careers**
- Teacher
- Forest and Conservation Worker
- Conservation Scientist
- Logger
- Soil Specialist
- Geologist
- Fish Hatchery Manager

**Industry-Recognized Credentials**
Destinations programs prepare students for the:
- National Occupational Competency Testing Institute Agricultural Mechanics Certification Exam

**Success Beyond High School**
Destinations graduates may pursue:
- GPS/GIS technology, heavy equipment maintenance, information lab technology, machine operation, recycling technology, and welding
- Bachelor’s degree in agriculture, agricultural education, agricultural engineering

**DID YOU KNOW?**

**AGRICULTURAL ENGINEERS CAN EARN**
$75,090/yr

**AGRICULTURAL EQUIPMENT OPERATORS CAN EARN**
$30,430/yr

28,700 EMPLOYED NATIONALLY
4.7% ANNUAL GROWTH RATE

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AGRICULTURAL MECHANICS 1
This course provides a thorough introduction to agricultural mechanics, covering fundamental mechanical and engineering theory, common tools and materials, and a wide range of practical applications. The course also covers essential topics such as career opportunities, shop orientation and procedures, woodworking and metal working, tool fitting, project planning, cutting and welding, paints and paint application, power mechanics, electrical wiring, plumbing, hydraulics, concrete and masonry, and agricultural structures.

AGRICULTURAL MECHANICS 2
This is the second semester of Agricultural Mechanics. This course provides a thorough introduction to agricultural mechanics, covering fundamental mechanical and engineering theory, common tools and materials, and a wide range of practical applications. The course also covers essential topics such as career opportunities, shop orientation and procedures, woodworking and metal working, tool fitting, project planning, cutting and welding, paints and paint application, power mechanics, electrical wiring, plumbing, hydraulics, concrete and masonry, and agricultural structures.

AGRICULTURAL MECHANICS 3
This is the third semester of Agricultural Mechanics. This course provides a thorough introduction to agricultural mechanics, covering fundamental mechanical and engineering theory, common tools and materials, and a wide range of practical applications. The course also covers essential topics such as career opportunities, shop orientation and procedures, woodworking and metal working, tool fitting, project planning, cutting and welding, paints and paint application, power mechanics, electrical wiring, plumbing, hydraulics, concrete and masonry, and agricultural structures.

INTRODUCTION TO MECHANICAL ENGINEERING OR ENGINEERING FUNDAMENTALS 1
This course is designed to give students strong problem-solving skills and a solid foundation in fundamental principles they will need to become analytical, detail-oriented, and creative engineers. The course begins with an overview of what engineers do, an inside glimpse of the various areas of specialization, and a straightforward look at what it takes to succeed in the field. It then covers the basic physical concepts and laws that students will encounter on the job. The course also includes professional profiles that highlight the work of practicing engineers from around the globe. Throughout, the course demonstrates how engineers apply physical and chemical laws and principles as well as mathematics, to design, test, and supervise the production of millions of parts, products, and services that people use every day.

OR

This course introduces students to the field of mechanical engineering and helps them develop an appreciation for how engineers design hardware that builds and improves societies around the world. The course covers topics such as technical problem-solving skills, design, engineering analysis, and modern technology to provide a solid mechanical engineering foundation students need for future success in the field.