Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Orientation Course* (Group 1)
- ✓ Recommended for Grades 5-8

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
Career Exploration courses help students identify and evaluate personal goals, priorities, aptitudes, and interests with the goal of helping them make informed decisions about their careers. These courses expose students to various sources of information on career and training options and may also assist them in developing job search and employability skills.
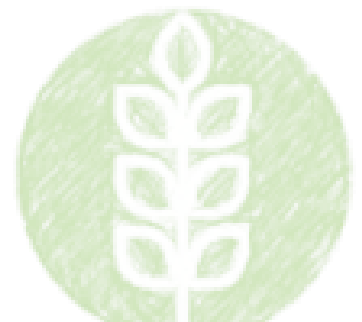
Exploratory Agricultural Science

Key Course Details

- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Orientation Course* (Group 1)
- ✓ Recommended for Grades 5-8

Instructional Model

Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
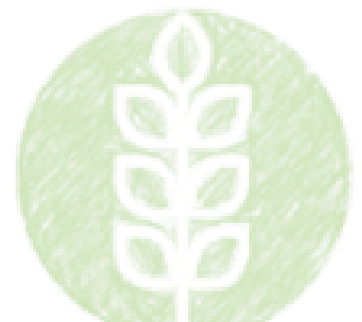
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment

This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description

This exploration course provides the opportunity to learn fundamental concepts in agriculture to serve as a foundation for future courses and to inform students about the industry that is so vital to society and to their future. Major units of instruction include an introduction to the agricultural industry, animal science, plant science, horticulture science, agribusiness, environmental science, agricultural mechanics, food science, and leadership and personal development. Participation in FFA student organization activities is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Introduction to the Agricultural Industry

Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Introductory Course* (Group 2)
- ✓ Recommended for Grades 9-11

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
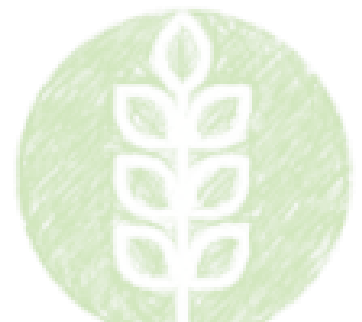- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
This course provides an opportunity for students to learn how the agricultural industry is organized; its major components; the economic influence of agriculture at state, national and international levels; and the scope and types of job opportunities in the agricultural field. Basic concepts in animal science, plant science, soil science, horticulture, natural resources, agribusiness management, and agricultural mechanics, will be presented. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

ISBE Course Code 18003A001
Basic Agricultural Science

Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Introductory Course* (Group 2)
- ✓ Recommended for Grades 9-11

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
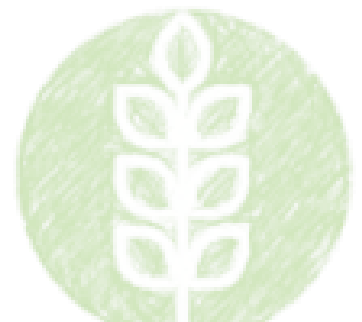- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
This course builds on basic skills and knowledge gained in the Introduction to the Agricultural Industry course. Major units of instruction include agricultural research, soil science, advanced plant science, biotechnology, advanced animal science. Applied science and math skills and concepts will be stressed throughout the course as they relate to each area. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Foundational Supervised Agricultural Experience (SAE)

Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Introductory Course* (Group 2)
- ✓ Recommended for Grades 9-11

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
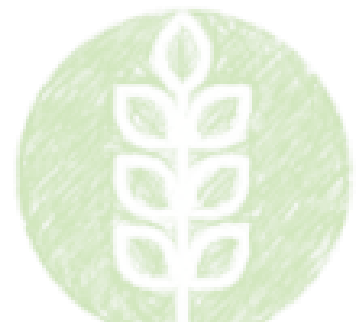- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
This course is designed to establish, improve, and/or expand knowledge and skills in various agricultural careers. Students will increase their awareness of agricultural careers through the following components: Career Exploration and Planning; Employability Skills for College and Career Readiness; Personal Financial Management and Planning; Workplace Safety; and Agricultural Literacy (may be transitioned to Immersion SAE). Participation in FFA student organization activities and exploration of Immersion Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

PS

Basic Biological Science Applications in Agriculture - Plants

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Introductory Course* (Group 2)
- ✓ Recommended for Grades 9-11

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course is designed to reinforce and extend students' understanding of science by associating basic scientific principles and concepts with relevant applications in agriculture. Students will examine major phases of plant growth and management in agriculture and the specific biological science concepts that govern management decisions. Topics of study are in the areas of initiating plant growth – cell structure and function , germination, plant sensory mechanisms, enzyme action, absorption, and managing plant growth – photosynthesis, respiration, translocation, metabolism, genetics, taxonomy and growth regulation. The course will be valuable preparation for further education and will increase the relevance of science through the applied setting of agriculture by enhancing literacy in science and the scientific process. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.
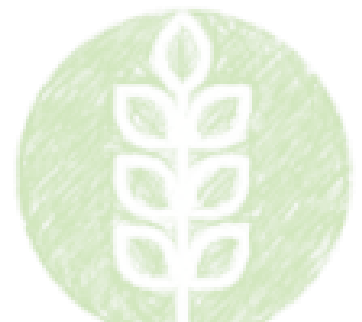
ISBE Course Code 18052A001
Basic Horticultural Science

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Introductory Course* (Group 2)
- ✓ Recommended for Grades 9-11

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course is designed to introduce students to the horticulture industry and provide them with basic plant science knowledge that can be further developed in advanced horticulture courses. Major units of instruction include horticulture research, horticultural careers, plant anatomy, seed germination, plant propagation, growing media, pest management, hydroponics, identifying horticultural plants, growing greenhouse crops, and floral design. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.
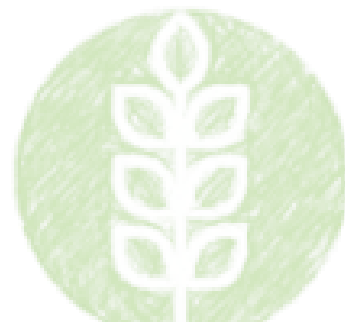
ISBE Course Code 18309A002
Community Food Production

Key Course Details
- ✓ Aligned to **Multiple Pathways**
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns to both the Food Products and Processing Systems (FPPS) and Plant Systems (PS) pathways within the Agriculture, Food and Natural Resources (AFNR) career cluster. Course concepts will provide a structure for advanced courses in each aligned pathway.

Course Description
This course explores the principles and practices of urban agricultural production. Topics typically include urban crop production, harvesting, and management strategies. Other topics may include ethical, social, and environmental impacts of food and urban farming, and urban agriculture as a social movement. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

PS
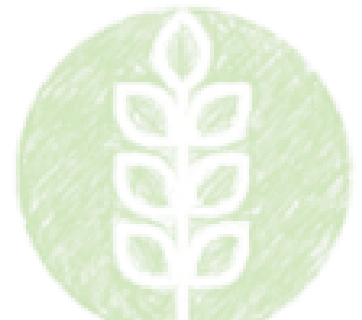
Advanced Biological Science Applications in Agriculture (BSAA) - Plants

Key Course Details
✓ Aligned to **Plant Systems** Pathway
✓ Recognized as an *AFNR Skills Course* (Group 3)
✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
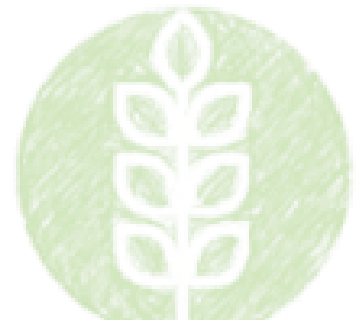- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course is designed to reinforce and extend students' understanding of biology by associating advanced scientific principles and concepts with relevant applications in agricultural plant systems. Students will examine major phases of plant growth and management in agriculture and the specific biological science concepts that govern management decisions. Topics of study are in the areas of initiating plant growth – germination, plant sensory mechanisms, enzyme action, absorption, and managing plant growth – photosynthesis, respiration, translocation, metabolism, and growth regulation. The course will be valuable preparation for post-secondary education and will increase the relevance of science through the applied setting of agricultural plant systems by enhancing literacy in science and the scientific process. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Agronomy

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
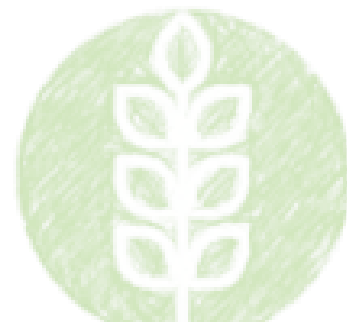- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course is designed to provide students with the knowledge and skills necessary for future employment in the agronomy or related industries. Major units of instruction include scientific method, cellular biology, genetics, biotechnology, soil classifications, soil erosion and management, soil fertility, plant classification, plant anatomy and physiology, plant propagation, plant growth, integrated pest management, grain, oil, forage, sugar, and fiber crop production methods, grain quality, grain storage, and grain transportation. Applied science and math skills and concepts will be stressed throughout the course as they relate to each area. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Greenhouse Production

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course provides advanced agriculture students a technical understanding and working knowledge of the greenhouse industry. Topics include safety, plant physiology, plant identification, growing media, plant nutrition, integrated pest management, propagation, growing greenhouse crops and greenhouse business concepts. Students will gain knowledge and skills related to the care and management of gardens and greenhouses. Agribusiness units will be introduced in merchandising, advertising, sales, and operating a greenhouse business. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

PS
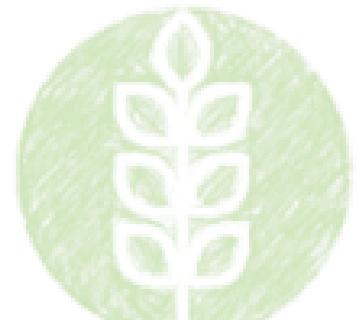
Horticultural Production & Management

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
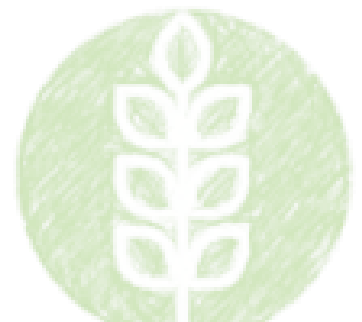- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course offers instruction in both the greenhouse production and landscape areas of horticulture. Units of study include plant identification, greenhouse management, growing greenhouse crops, landscape design, installation, and maintenance, horticulture mechanics, nursery management, and turf production. Agribusiness units will cover operating a horticultural business, pricing work, advertising, and sales. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

PS

Landscape Management

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
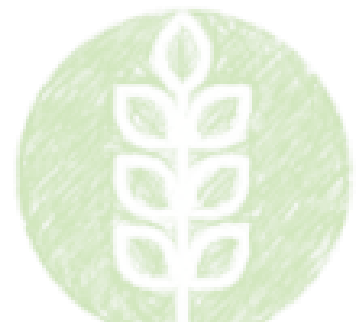- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course focuses on the landscape and nursery of the horticulture industry. Units of student instruction include: identifying landscape plants, designing landscape plans, hardscape construction techniques, and installing landscape plants. Also included are nursery production, and maintenance of existing landscapes. Agribusiness units will cover calculating prices for work, managing a horticulture business, advertising, and sales. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

PS

Landscaping & Turf Management

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This advanced course focuses on the landscape, nursery, and turf segments of the horticulture industry. Units of student instruction include: identifying landscape plants, designing landscape plans, hardscape construction techniques, and installing landscape plants. Also included are nursery production, turfgrass production, small engine repair, and maintenance of existing landscapes. Agribusiness units will cover calculating prices for work, managing a horticulture business, advertising, and sales. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Agricultural Communications

Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
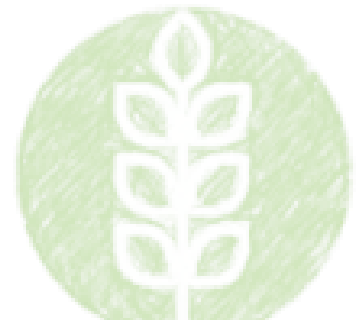- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
Students will analyze current agricultural issues and determine how they affect people on all sides of the issue. The students then learn and enhance their written and oral communication skills by presenting their views and opinions to the class. Students learn how to arrange and present debates, speeches, and interviews to be effective leaders in today 's society. This course can also be designed to provide students with the knowledge and leadership experiences to help them to become successful in life and in the workplace. Students will further enhance their potential for leadership development, personal growth, and career success. Topics may include workplace skills, effective communication, decision -making, problem-solving, leadership styles and qualities, and successful execution of teamwork or collaborative activities. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Global Agriculture

Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
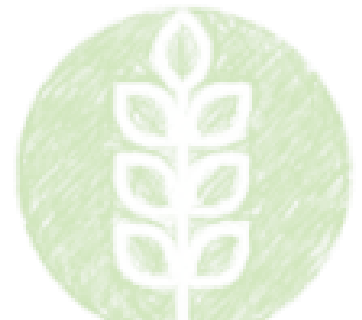- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
This course will primarily focus on agriculture in developing countries and frame this focus within a discussion of contemporary crucial issues facing food, agriculture and natural resources on a global scale. The course will look at the impacts of geographic, political, economic, and social issues of a particular country or region and how that affects their agriculture and trade. This course will also examine the impacts that trade agreements have on other countries' agriculture. Specific emphasis will also be placed on debates concerning global hunger and food security. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

PS

Urban Agriculture

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Skills Course* (Group 3)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
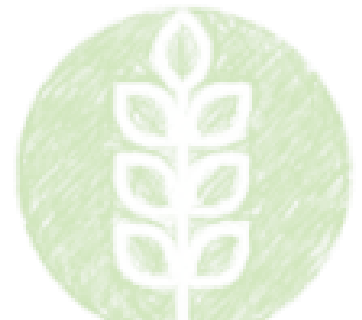- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
Urban Agriculture courses explore the principles and practices of urban agricultural production. Topics typically include urban crop production, harvesting, and management strategies. Other topics may include ethical, social, and environmental impacts of food and urban farming, and urban agriculture as a social movement. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Agricultural Leadership

Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
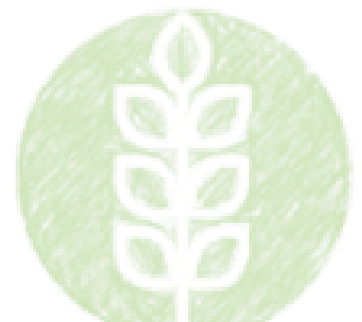- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
Agricultural Leadership courses help students develop leadership skills with a focus on opportunities in the food, fiber, and natural resources industries. Topics may include but are not limited to human relationships and effective communication, decision-making and problem-solving, leadership qualities and styles, and ensuring successful completion of group activities. Students will learn to lead groups and teams, manage volunteers, exercise leadership ethics, and be able to demonstrate leadership in multicultural settings. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
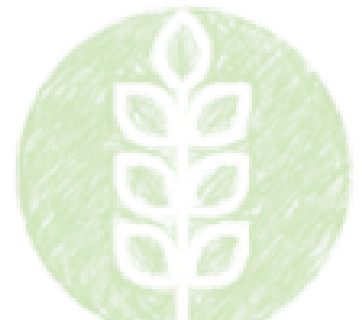- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course covers principles of floral art with an emphasis on commercial design. Topics include basic design styles and color harmonies; identification, use, and care of processing of cut flowers and foliage; mechanical aids and containers; personal flowers; holiday designs; and plant identification and care. The student will demonstrate the ability to identify floral design styles and color harmonies; identify cut flowers and foliage and the care and processing methods for extended vase life; select containers and mechanical aids; and create basic floral arrangements. The study of the general principles of plants, and their life processes and morphology, with emphasis on major floral crops are also covered. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Agriculture Computers and Technology

Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
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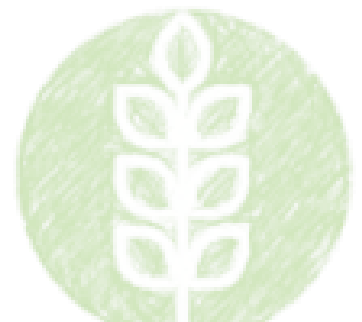- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
Agriculture Computers and Technology courses help students develop their knowledge and skills in using computer and other technology to operate and manage agricultural businesses. These courses allow students to use computer hardware, software, and the Internet to find information, record and analyze financial and production data, track market trends and economic forecasts, monitor weather, utilize global positioning systems, and prepare communications and reports. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

PS

Plant Systems Independent Study

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Independent Study Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
Courses in Plant Systems Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to plant systems. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts
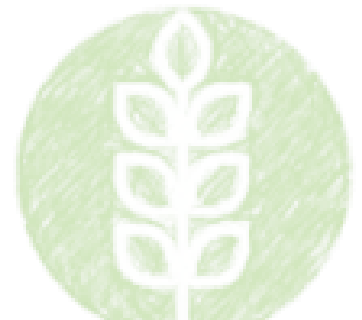
ISBE Course Code 18056A001
Specialty Crop Production

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This skills-based course includes a study of sustainable crop production practices, including but not limited to vegetables, culinary and medicinal herbs, fruit production, ornamental crops and cut flowers. Topics include harvest methods, seasonal crop selection, planting procedures, cultural practices, soil testing, soil amendment, integrated pest management, marketing and economic viability, and various record keeping procedures, such as those needed for organic certification. Manual, mechanical, and chemical weed and pest management techniques will be discussed. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Turfgrass and Sports Field Management

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
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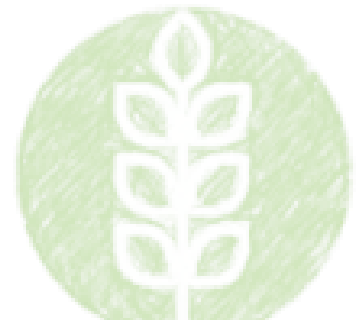- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
This course is designed for students interested in gaining knowledge and skills associated with the duties and tasks of industry and professionals who establish and maintain turf in public areas such as golf courses; parks; athletic fields; school, industrial, and institutional campuses; and residential lawns. "Hands on" applications associated with turf grass management and sports field management will be applied to include: establishing turf, fertilizing, irrigating, and pest management control of grassed areas; operating and maintaining machinery and equipment. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Viticulture

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
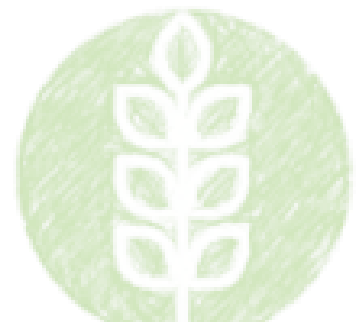- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
Viticulture courses prepare students for further studies in grape-growing, viticulture, and wine-making industry. Course topics typically include establishing and managing vineyards; harvesting; fermentation and wine making; marketing; and exploring career options within the industry. Agricultural applications specific to vineyards and wineries are emphasized. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Advanced Biological Science Applications in Agriculture

Key Course Details
- ✓ Aligned to **Multiple Pathways**
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
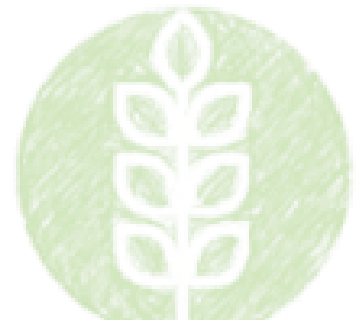- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns to both the Animal Systems (AS) and Plant Systems (PS) pathways within the Agriculture, Food and Natural Resources (AFNR) career cluster. Course concepts will provide a structure for advanced courses in each aligned pathway.

Course Description
Advanced Biological Science Applications in Agriculture courses are designed to provide information regarding the fundamental concepts of life and life processes as related to the local environment. Course topics may include nature appreciation, local flora and fauna, biology, and zoology. The course will be valuable preparation for further education and will increase the relevance of science through the applied setting of agriculture by enhancing literacy in science and the scientific process. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Aquacultural Science and Technology

Key Course Details
- ✓ Aligned to **Multiple Pathways**
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
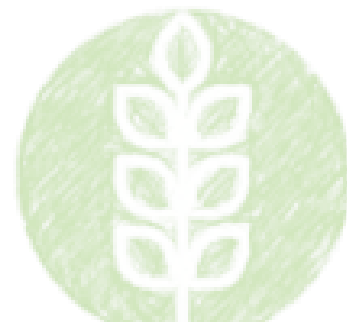- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns to the following pathways within the Agriculture, Food and Natural Resources (AFNR) career cluster: Biotechnology Systems (BS), Food Products and Processing Systems (FPPS), Natural Resource Systems (NRS), and Plant Systems (PS). Course concepts will provide a structure for advanced study in each aligned pathway.

Course Description
This course is designed to develop student knowledge and skills in the area of aquacultural science and technology. Instructional units include basic studies of aquacultural species; reproduction processes, genetics, nutrition and health in aquacrops; ecological balances; and environmental requirements of aquatic plants and animals. Water quality, chemical and temperature analyses will be conducted for a variety of aquacrops. Individual and group experimentation and student research project(s) are required for satisfactory completion of this course. Careers to be examined include fish hatchery technician, production manager, fish nutritionist, and researcher. Improving computer and workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Soil Science

Key Course Details

- ✓ Aligned to **Multiple Pathways**
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model

Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
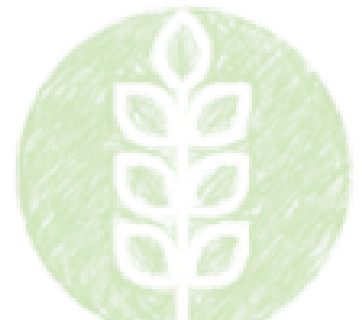
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment

This course aligns to the Environmental Service Systems (ESS), Natural Resource Systems (NRS), and Plant Systems (PS) pathways within the Agriculture, Food and Natural Resources (AFNR) career cluster. Course concepts will provide a structure for advanced courses in each aligned pathway.

Course Description

Soil Science courses involve the study of soil properties, including soil chemistry, biology, fertility, mineralogy, and hydrology. Topics covered may also include soil conservation, irrigation, soil genesis, soil surveys, and management. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Sustainable Agriculture

Key Course Details
- ✓ Aligned to **Multiple Pathways**
- ✓ Recognized as an *AFNR Advanced Course* (Group 4)
- ✓ Recommended for Grade 12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
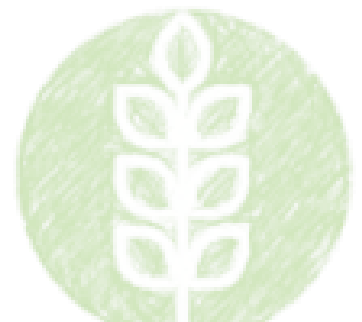- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns to the following pathways within the Agriculture, Food and Natural Resources (AFNR) career cluster: Biotechnology Systems (BS), Environmental Service Systems (ESS), Food Products and Processing Systems (FPPS), and Plant Systems (PS). Course concepts will provide a structure for advanced study in each aligned pathway.

Course Description
Sustainable/Alternative Agriculture courses explore technological and environmental changes and concerns. These courses address alternative approaches to food production including, but not limited to, organics, low-input, natural, and sustainable production methodology and practices. Course content may include comparing the effects of alternative production practices to those of conventional production practices. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.

Agriculture, Food & Natural Resources Workplace Experience

Key Course Details
- ✓ Aligned to **all AFNR** Pathways
- ✓ Recognized as an *AFNR Workplace Experience Course* (Group 5)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
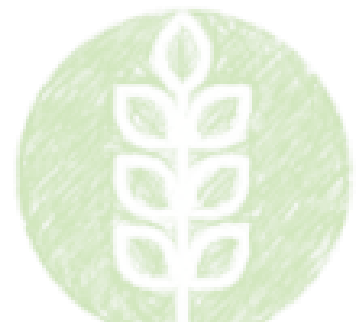- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
This course aligns with all pathways in the AFNR career cluster. Skills and knowledge gained by students throughout this course are applicable to a wide range of AFNR occupations.

Course Description
Agriculture, Food & Natural Resources Workplace Experience courses provide work experience in fields related to the Agriculture, Food, & Natural Resources cluster. Goals must be set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses must include classroom instruction at least once per week, involving further study of the field, discussion of relevant topics that are responsive to the workplace experience and employability skill development. Workplace Experience courses must be taught by an approved WBL educator-coordinator. These courses should be aligned to a Career Development Experience that could include: Student-led Enterprises; School-based Enterprises; Immersion Supervised Agricultural Experiences; Clinical Experiences in Science and Technology programs; Internships; and Apprenticeship programs including Youth Apprenticeships, Pre-apprenticeships, and Registered Apprenticeships.

Plant Systems Workplace Experience

Key Course Details
- ✓ Aligned to **Plant Systems** Pathway
- ✓ Recognized as an *AFNR Workplace Experience Course* (Group 5)
- ✓ Recommended for Grades 10-12

Instructional Model
Agriculture, Food, and Natural Resources (AFNR) education prepares students for successful careers and a lifetime of informed choices in global agriculture, food, fiber and natural resources systems. The AFNR instructional model provides students with opportunities for leadership development, personal growth, and career success. Model instruction in all AFNR courses is delivered via three major components:
- Classroom/Laboratory Instruction
- AFNR Work-based Learning
- Student Leadership Organizations

Pathway Alignment
The Plant Systems (PS) Career Pathway 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.

Course Description
Plant Systems Workplace Experience courses provide work experience in fields related to plant systems (care, propagation, and processing). Goals must be set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses must include classroom instruction at least once per week, involving further study of the field, discussion of relevant topics that are responsive to the workplace experience and employability skill development. Workplace Experience courses must be taught by an approved WBL educator-coordinator. These courses should be aligned to a Career Development Experience that could include: Student-led Enterprises; School-based Enterprises; Immersion Supervised Agricultural Experiences; Clinical Experiences in Science and Technology programs; Internships; and Apprenticeship programs including Youth Apprenticeships, Pre-apprenticeships, and Registered Apprenticeships.