

# ISBE Course Code 22151A001 Career Exploration

#### **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.





## ISBE Course Code 68003A001 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.





# ISBE Course Code 18001A001 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.



# ISBE Course Code 18999A001 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.



### ISBE Course Code 18504A003 Basic Natural Resource Management

#### Key Course Details

- ✓ Aligned to Natural Resource 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 Natural Resource Systems (NRS) Career Pathway 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.

#### **Course Description**

This course is designed to introduce students to management and conservation skills and provide them with basic natural resource management knowledge that can be further developed in more advanced courses. Units include introduction to: understanding natural resources science and management, understanding of conservation and different practices, ecological concepts and scientific principles, impacts of pollution, fish and wild ecology, fire ecology, renewable and nonrenewable resources, and human impacts on wildlife. Career exploration will be discussed including: park ranger, game warden, campground manager, forester, conservation officer, wildlife manager, and related occupations. 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 18501A001 Wildlife Management

#### **Key Course Details**

- ✓ Aligned to Natural Resource 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 Natural Resource Systems (NRS) Career Pathway 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.

#### **Course Description**

Often with an emphasis on the conservation of natural resources and frequently including outdoor recreation topics. Wildlife Management courses provide students with the opportunity to understand and appreciate the importance of maintaining the land and ecological systems that enable non-domesticated animals to thrive. Wildlife Management courses emphasize how humans and animals may both take advantage of the same land or how to gain economic benefits from the land while not degrading its natural resources or depleting plant or animal populations. 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 18502A001 Forestry

#### **Key Course Details**

- ✓ Aligned to Natural Resource 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 Natural Resource Systems (NRS) Career Pathway 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.

#### **Course Description**

Forestry courses provide students with the information and experience necessary for the cultivation, management, and care of forests or timberlands. Forestry courses cover topics such as the processes of regeneration and reforestation, harvesting and conservation of natural resources, erosion and pest control, trail development and maintenance, mapping and surveying, operation of forestry tools, government regulations, environmental stewardship, and recreational use of forests. 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 18504A002 Natural Resources Conservation Management

#### **Key Course Details**

- ✓ Aligned to Natural Resource 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 Natural Resource Systems (NRS) Career Pathway 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.

#### **Course Description**

This course develops management and conservation skills in understanding the connection between agriculture and natural resources. Student knowledge and skills are developed in: understanding natural resources and its importance; fish, wildlife, prairies, and forestry management and conservation; and exploring outdoor recreational enterprises. Hunting and fishing as a sport, growing and managing tree forests, and outdoor safety education will be featured. Career exploration will be discussed including: park ranger, game warden, campground manager, forester, conservation officer, wildlife manager, and related occupations. 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 18505A002 Urban Forestry

#### **Key Course Details**

- ✓ Aligned to Natural Resource 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 Natural Resource Systems (NRS) Career Pathway 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.

#### **Course Description**

Urban Forestry courses provide introduction to principles and practices useful in the management of trees and forests in urban settings. Topics typically include the benefits of trees and forestry; duties and responsibilities of municipal foresters; street tree management planning; and management strategies consistent with the biological, physical, economic and social constraints of the urban environment. 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 18203A002 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.





# ISBE Course Code 18204A002 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.



# ISBE Course Code 18505A001 Hunter Safety

#### **Key Course Details**

- ✓ Aligned to Natural Resource 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 Natural Resource Systems (NRS) Career Pathway 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.

#### **Course Description**

Hunter Safety courses provide students with the basic skills and knowledge of hunter safety and responsibility. Topics typically include hunter responsibility and ethics; tree stand safety; firearms and ammunition; field safety; first aid; bowhunting; muzzle loading; wildlife conservation and identification; and Illinois state regulations. 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 18203A003 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.





# ISBE Course Code 18205A001 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**

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 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.





# ISBE Course Code 18506A001 Alternative Energy

#### **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 Environmental Service Systems (ESS) and Natural Resource Systems (NRS) pathways within the Agriculture, Food and Natural Resources (AFNR) career cluster. Course concepts will provide a structure for advanced study in each aligned pathway.

#### **Course Description**

Alternative Energy courses help students identify renewable and nonrenewable energy sources and natural resources. Topics typically include alternative energy sources and their respective advantages and disadvantages; the impact of conventional and alternative energy sources on the environment; the efficiency of energy production from various sources; and careers in the fields of alternative energy and sustainability.





# ISBE Course Code 21054A004 Technology, Society and Sustainability

#### **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 Environmental Service Systems (ESS) and Natural Resource Systems (NRS) pathways within the Agriculture, Food and Natural Resources (AFNR) career cluster. Course concepts will provide a structure for advanced study in each aligned pathway.

#### **Course Description**

Technology, Society and Sustainability course will provide an overview of the importance of, impact on, and relationships between technological endeavors and society at large. This courses typically emphasize environmental factors, economics impacts and the influences of society on technological/environmental endeavors.





# ISBE Course Code 21058A001 Geospatial 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: Environmental Service Systems (ESS), Natural Resource Systems (NRS), and Power, Structural, and Technical Systems (PSTS). Course concepts will provide a structure for advanced study in each aligned pathway.

#### **Course Description**

Geospatial Technology courses provide students with experiences pertaining to the study of geographic information systems (GIS), global positioning systems (GPS), remote sensing (RS), digital image processing simulator (DIPS), Geodesy, automated cartography (Auto-Carto), land surveying (LS), and navigation. These courses may use spatial analysis models and guidelines for integrating, interpreting, analyzing, and synthesizing geographic data, with a focus on both the implications and limitations of such technologies. Other topics may include interfacing with telecommunications and automated database management systems.





### ISBE Course Code 18055A001 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.





# ISBE Course Code 18306A001 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.



# ISBE Course Code 18547A001 Natural Resource Systems Independent Study

### Key Course Details

- ✓ Aligned to Natural Resource 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 Natural Resource Systems (NRS) Career Pathway 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.

### **Course Description**

Courses in Natural Resources Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to natural resources. 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 18548A001 Natural Resource Systems Workplace Experience

### Key Course Details

- ✓ Aligned to Natural Resource 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 Natural Resource Systems (NRS) Career Pathway 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.

### **Course Description**

Natural Resources Workplace Experience courses provide students with work experience in fields related to natural resources. 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.





# ISBE Course Code 18998A003 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.

