

# AGRICULTURAL OCCUPATIONS (AGOC)

## **AGOC 101 Agricultural Occupations (1 Credit Hour)**

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 0

Introduction to the occupational opportunities in the agriculture industry. Students will begin to develop a plan for a work based learning experience and employment beyond college. Participation and opportunities available in school agriculture organizations such as Post-Secondary Agriculture Students (PAS) and Collegiate Farm Bureau will be discussed and encouraged.

## **AGOC 102 Agriculture Careers Survey (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course is composed of interactive experiences and career focused field trips that connect students to industry professionals and places of employment within the animal, plant, food, technology, mechanics, and environmental science sectors of the agricultural industry. Students will learn about modern science and technology within the agricultural industry as they explore careers, discuss current events, and participate in laboratory activities.

## **AGOC 103 Ag Survey: Animals/Technology (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course is composed of interactive experiences and career focused field trips that connect students to industry professionals and places of employment within the animal science and mechanical technology sectors of the agricultural industry. Students will learn about modern science and technology practices within the agricultural industry as they explore careers, discuss current events, and participate in laboratory activities.

## **AGOC 104 Ag Career Exploration (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course is composed of interactive experiences and career focused field trips that connect students to industry professionals and places of employment within the animal, plant, food, and environmental science and mechanical technology sectors of the agricultural industry. Students will learn about modern science and technology within the agricultural industry as they explore careers, discuss current events, and participate in laboratory activities.

## **AGOC 108 Comm Applicator Operations (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 2

This course will introduce students to the operations of a commercial sprayer commonly used in the custom application field. Students will learn basic machine controls and maintenance. Introduction to the spray simulator will be included and completion of various field simulations will be a requirement of the course.

## **AGOC 109 Pesticide License Training I (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

This course is designed for agriculture students seeking to obtain a Commercial Pesticide Operator license or a Private Pesticide Applicator license through the Illinois Department of Agriculture. All content needed to pass the general standards licensing exam and the private applicator licensing exam is studied in this course.

## **AGOC 110 Commercial Drvr Lic Permit Tra (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Repeatable: 3 times

This course is designed for agriculture students needing to obtain a CDL permit. All study material needed to pass the CDL permit exam will be covered in the course. Students will have the ability to complete the CDL training and necessary driving through workplace experience.

## **AGOC 111 Pesticide License Training II (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

This course is designed for agriculture students seeking to obtain a Commercial Pesticide Applicator license through the Illinois Department of Agriculture. All content needed to pass the Field Crops category exam is studied in this course.

## **AGOC 112 Pesticide License Training III (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

This course is designed for agriculture students seeking to obtain a Commercial Pesticide Operator License through Illinois Department of Agriculture. All content needed to pass the Vegetable Crops category Exam is studied in this course.

## **AGOC 114 Principles of Plant Science (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

This course will introduce students to the basics of plant growth and production. Topics of this course include plant identification, plant classification, plant anatomy, and plant growth requirements.

## **AGOC 116 Principles of Animal Science (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

This course will introduce students to the livestock, poultry, large and small animal industries. Major topics of instruction will include anatomy and physiology, genetics, nutrition, reproduction, health, and animal welfare.

## **AGOC 118 Basic Horticulture Science (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

This course introduces students to the basics of growing horticultural plants. Identification, classification, selection, propagation, growth, design and care of horticultural crops will be discussed. Students will also explore technology and careers within the horticultural industry.

## **AGOC 124 Intro to Agribusiness (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

This introductory course will develop students' understanding of basic principles used in the successful operation of an agricultural business. Students will learn about the various sectors of the agriculture industry and compare and contrast agribusiness ownership structures. Students will also create and evaluate complete business and marketing plans for an agribusiness of their choice.

**AGOC 127 Forage Production (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Studies legume and grass crops as they are used for hay, silage and pasture. Seed establishment, weed control, disease, insects, fertility, harvesting and usage will be covered.

**AGOC 129 Livestock Production (4 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 3

Lab hours: 2

This course surveys the fundamentals of nutrition and management, ruminant and non-ruminant animal digestion, genetics of breeding and improvement, marketing livestock and the handling of livestock products and the physiology of animals.

**AGOC 130 Vegetable Crop Production (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

Through classroom, greenhouse, and field instruction, students will gain the knowledge necessary for planning, growing, and managing vegetable crops in Northwest Illinois. Seed selection, soil health, fertilizer requirements, weed management, and pest control will be taught in this course. Post-harvest handling, storage, and processing practices will also be covered.

**AGOC 132 Landscape Design (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This is an introductory course to landscaping and landscape design. Students will become familiar with landscape plants and grasses, materials, tools, and equipment utilized in the landscape industry. Students will learn landscape design elements and principles to create hand drawn and computer based landscape drawings. Students will analyze the costs associated with providing landscaping services to price landscaping projects.

**AGOC 134 Introduction to Cannabis (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 3

Students will learn about a range of topics related to cannabis in this introductory course. Through the study of history, laws, research, students will gain foundational knowledge in the social, legal, and scientific facets of the cannabis industry.

**AGOC 135 Cannabis Production/Processing (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

Students will get hands-on experience with growing and processing the cannabis plant in this course. Cannabis propagation, plant life cycle, growth requirements, pest management, harvesting, and cannabinoid testing and extraction will be discussed.

**AGOC 140 Agriculture Equipment Maint (0-3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 0-2

Lab hours: 0-2

Repeatable: 18 times

This course will provide the knowledge and skill set for basic machinery repair and maintenance procedure. Emphasis will be on major types of agriculture equipment such as tractors, harvesters, planting, and tillage equipment.

**AGOC 142 Lvstk Facilities/Waste Mgmt (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 3

Repeatable: 6 times

Covers the design of beef, dairy and swine facilities including ventilation, insulation, environment, space and scheduling, feed movement, and methods of waste storage and disposal consistent with environmental standards.

**AGOC 143 Evaluation Of Ls Animals (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 2

Presents the basic criteria necessary in evaluating livestock animals and provides the opportunity to gain actual evaluation experiences with live animals. The course will include the preparation and the oral delivery of placement evaluations.

**AGOC 144 Evaluation Of Dairy (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 2

Presents the basic criteria necessary for evaluating dairy animals and provides the opportunity to gain actual evaluation experience with live animals. The course will include the preparation and the oral delivery of placement evaluations.

**AGOC 145 Dairy Production (4 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 3

Lab hours: 2

Considers the principles and practice of milk production. Topics include physiology of milk secretion, feeding the dairy herd and raising replacement stock.

**AGOC 152 Soils Evaluation (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 2

Repeatable: 2 times

Studies the criteria necessary for evaluating soil for land use and conservation. Physical characteristics, usability features, and limiting factors of soil profiles are described. This course provides opportunities to gain actual soils judging experiences with soil profiles across the region and requires participation in soils judging competitions.

**AGOC 220 Finance Ag Production (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 3

Investigates ways and means of securing and using borrowed capital. Priority use of capital, sources and types of credit, the financial statements, and the pros and cons of various types of financing are considered. Capital planning is considered for the agricultural firm.

**AGOC 221 Ag Policies & Programs (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Analyzes the unique position of food producers and considers the statement, intent and results of international, federal and state laws and policies and their application to specific situations. A study of the major farm organizations and their structure is included.

**AGOC 222 Ag Commodity Marketing (0-3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 0-3

This course is designed to introduce students to the various methods and tools to market farm commodities. The students will study types of marketing contracts, cash markets, the roles of brokers and market advisors, and the importance of insurance. A marketing simulation tool will be used in the course to allow students to understand how to apply various marketing strategies.

**AGOC 224 Artificial Insemination (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 2

Studies the physiology of the reproductive tract of farm animals and the use of insemination equipment for the breeding of livestock. The course will be taught primarily for dairy insemination. Completion of this course will approve the student as an Artificial Insemination Technician.

**AGOC 226 Animal Nutrition (4 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 3

Lab hours: 2

This course will cover digestive systems, nutrient needs, and common feedstuffs utilized in the livestock industry. Other topics covered in this course are feeding practices, feed additives, nutrient costs, and feed processing.

**AGOC 227 Corn/Soybean Production (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Studies growth, reproduction and utilization of crops, crop hazards, and environments; and cropping and tillage principles and practices.

**AGOC 229 Agri Business Seminar (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 3

Provides for a series of lectures and discussions related to the management of agri-business. Some are led by specialists in specific areas. Some students will experience the specific field or topic by shadowing the mentor of their chosen subject area.

**AGOC 230 Animal Health (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course provides general knowledge on disease and conditions affecting major livestock species. Major topics discussed in the course include, prevention of disease, herd health planning, responsible drug use, and the use of veterinary expertise.

**AGOC 232 Animal Reproduction (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

Anatomy and physiology of the reproductive systems of livestock animals, the hormones and cycles involved in animal reproduction, genetics, and breeding systems are major topics of this course. Artificial insemination, embryo transplant, and genetic engineering will also be discussed.

**AGOC 240 Farm Accounting (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 3

Introduces the practical use of accounts and records in the management of the farm business. Budgeting, planning, enterprise selection, and management of crops and livestock along with labor management and farm business records will be included. Experience in utilizing management tools such as computers is also included.

**AGOC 242 Livestock Management (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course will focus on the management of beef, swine, sheep, and goat operations. All aspects of management from breeding to marketing will be covered in the course. Analysis of current trends and issues involving the livestock industry will be included in the course. Quality Assurance Programs of the various livestock industries will be utilized throughout the course.

**AGOC 243 Swine Management (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course will focus on the day-to-day management of swine operations. All swine industry operations will be discussed including the management of breeding, gestation, farrowing, nursery and feeder pigs. Analysis of current trends and issues involving the swine industry will also be included as well as information on Pork Quality Assurance Program.

**AGOC 245 Dairy Management (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course will focus on the care and management of all dairy cattle in each part of their life cycle. Proper environment, health protocols, reproductive management, nutrition, and overall improvement of the herd will be topics covered. Analysis of current trends and issues involving the dairy industry will also be included as well as information on the F.A.R.M Program.

**AGOC 285 Soil Fertility (2 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 1

Lab hours: 2

Prerequisite: AGRI 284 or AGRI 286 with minimum grade of C.

In-depth exploration of the physical, chemical, and biological properties of soils in relation to productivity and management. Discussion of the use, composition, and production of soil amendments including lime, fertilizers, and manure. Laboratory techniques for soil testing and interpretations of soil test results will be discussed. Regulations on the use of soil amendments and their impact to the environment will also be covered.

**AGOC 289 Applications of Precision Tech (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course will provide a hands-on application of several precision agriculture hardware and software systems. Students will install, operate, and troubleshoot precision farming hardware components. The use of various precision farming software systems will be used to create field boundaries, import and analyze field data, and create prescription maps.

**AGOC 291 Crop Scouting (3 Credit Hours)**

Type of credit: Occupational/Technical

Lecture hours: 2

Lab hours: 2

This course will examine the various methods used in an Integrated Pest Management program for the prevention or removal of common crop pests in Northern Illinois. Crop scouting guidelines, pesticide management, environmental regulations, and application of control methods will be covered in the course. Much of the course time will be spent outdoors at the Highland Community College Foundation Research plots.

**AGOC 299 Ag Capstone Experience (1 Credit Hour)**

Type of credit: Occupational/Technical

Lecture hours: 1

This course is designed to give the students an opportunity to showcase their overall agriculture program experiences. Students will develop a presentation to highlight their acquired skills gained through experiences completed during their sequence of courses. Examples of experiences a student may have completed include internships, study abroad, research projects, or other field experiences. This capstone experience will serve as an outreach to current and potential agriculture students, faculty and staff, community partners, and industry professionals.

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