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# *Agricultural Education Course Offerings and Codes*

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The following is the list of Agricultural Education Pathways, Courses, and OCAS codes. **It is important to list courses on high school transcripts by these course titles and codes.** These are the pathways that are used for Carl Perkins grants as well. A career major completer would have completed all the courses within a career major.

A career major concentrator completes 360 hours within a career major. For Ag Ed purposes, pathways and career majors are the same except for the Plant and Soil Science pathway. All course development guides (includes course outline, benchmarks, and resources available) are available at [www.okcareertech.org](http://www.okcareertech.org). Click on the “Career Clusters” icon on the right-hand side of the page.

## **Foundation Courses**

(Courses offered through Ag Ed that do not tie to a pathway and are not associated with one.)

- 8001 *Agricultural Exploration and Orientation* (One-Year Program)
- 8002 *Agricultural Exploration and Orientation* (One-Semester Program)
- 8003 *Agricultural Exploration and Orientation* (One-Quarter Year Program)
- 8004 *Introduction to Agriscience* (Ag I)

This course is a prerequisite to all other Ag courses and is the first course in each of the sequence of courses in each pathway.

- 8005 *Agriscience II*
- 8021 *Employment in Agribusiness* (Senior Only Course)

## **Plant and Soil Science Pathway**

- 8006 *Introduction to Plant and Soil Science*
- 8007 *Agriculture Crop Production*
- 8008 *Advanced Biological Plant Science*
  
- 8029 *Introduction to Horticulture*
- 8030 *Greenhouse Production and Floral Design*
- 8031 *Landscape and Nursery Production*

## **Agricultural Power and Technology Pathway**

- 8009 *Introduction to Power and Technology*
- 8010 *Agricultural Power and Technology*
- 8011 *Agricultural Structures*

## **Animal Science Pathway**

- 8012 *Introduction to Animal Science*
- 8013 *Livestock Production*
- 8014 *Small Animal Care and Veterinary Assisting*
- 8015 *Equine Science*
- 8016 *Advanced Biological Animal Science*

## **Food Science Pathway**

*8017 Introduction to Food Science*

*8018 Food Science and Biotechnology*

## **Agribusiness Pathway**

*8019 Introduction to Agribusiness Management*

*8020 Agricultural Sales and Marketing*

## **Agricultural Communications Pathway**

*8022 Introduction to Ag Communications*

*8023 Agricultural Leadership and Personal Development*

*8024 Print and Broadcast Journalism in Agricultural Communications*

## **Natural Resources and Environmental Science Pathway**

*8025 Introduction to Natural Resources and Environmental Science*

*8026 Pasture and Range Management*

*8027 Wildlife Science and Management*

*8028 Forestry*

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# *Agricultural Education Courses Available*

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The focus of the agricultural education curriculum is a core of basic knowledge relating to agriculture. This knowledge base, coupled with a strong Supervised Agricultural Education program and the FFA, creates a well-rounded program that serves all students who wish to pursue an advanced interest for career development in agriculture.

In 2006, Agricultural Education took a big step to ensure that Oklahoma's Agricultural Education students have the skills and abilities to be successful in college or successful in the workplace. That is why we developed curriculum standards for Agricultural Education.

These benchmarks are designed around the state and national Career Clusters Initiative and serve as a compass to direct curriculum, set goals, and measure successes. By following courses in seven different pathways, we in Agricultural Education have found a place for all students who are college-bound and job-ready.

These pathways and standards will serve as the catalyst in adding value to the experiences of students who enroll in our programs and give us the opportunity to prove that what we provide has value and why. All courses have an FFA component as well as a Supervised Agricultural Experience (SAE).

For complete course descriptions and standards, go to [www.okcareertech.org/aged](http://www.okcareertech.org/aged).

**NOTE:** *Not all programs offer all these courses. Check with your agricultural education instructor for more information.*

## **FOUNDATION COURSES**

### ***8001 - 8002 - 8003 – Agricultural Exploration and Orientation***

This course is intended as an eighth-grade offering that focuses on developing student awareness for the agricultural industry through the seven pathways. Content will include the role of food production and processing, careers, relationships in natural resources, agricultural safety, and the strong undergirding science provides in the study of agriculture. Personal development, FFA, and SAEs will also be initiated.

**Suggested Level: 8th Grade**

### ***8004 – Agriscience I***

This course is a ninth-grade course that lays the foundation for introduction into one of the seven career pathways. Content includes animal science, plant and soil science, agribusiness and economic principles, and agricultural mechanics. This course is a prerequisite to all upper-level agricultural education courses.

**Suggested Level: 9th Grade**

### ***8005 – Agriscience II***

Although this course is not a part of the career pathways, it can still be offered as a course to introduce students to the content that leads to a Career Development Event. A student can specialize in five areas: Animal Science, Plant and Soil Science, Food Science, Ag Power and Technology, and Agricultural Communications and Leadership.

**Suggested Level: 10th Grade**

## **PLANT AND SOIL SCIENCE PATHWAY**

### ***8006 – Introduction to Plant and Soil Science***

This introductory course for students has an agronomic crop emphasis. Content includes species and importance of plant crops, plant growth and cultural practices in plant crop production, including disease and pest management. Content in soil science includes soil composition, fertility, sustainability, and moisture management.

**Suggested Level: 10th Grade**

**Required Prerequisite: Agriscience I**

### ***8007 – Agricultural Crop Production***

This course is for students interested in advanced production practices for important agricultural crops in Oklahoma. Content includes identification of major crops; cultural practices with grain, fiber, forage, and other crops; sustainable practices in crop systems; irrigation; pest management; and resource conservation. Precision technologies may also be utilized.

**Suggested Level: 11th or 12th Grade**

**Required Prerequisite: Agriscience I**

**Recommended Prerequisite: Introduction to Plant and Soil Science**

### ***8008 – Advanced Biological Plant Science***

This course is for students with interests in higher-level, science-based plant agriculture. Course standards include those of biological science. Content includes cell structure and function, heredity and genetics, plant breeding and improvement, hormones and growth regulators, chemical nature of plant life, flower structure and function, seed formation and germination, DNA and biotechnology, and emerging technologies.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Plant and Soil Science or Introduction to Horticulture***

## **HORTICULTURE**

### **(Plant and Soil Science Pathway)**

### ***8029 – Introduction to Horticulture***

This introductory course has a horticultural emphasis. Content includes species and importance of horticultural plants, ornamental horticulture (including floristry, landscaping, turf, and greenhouse production), disease and pest management, plant nutrition, and growth regulation.

***Suggested Level: 10th Grade***

***Required Prerequisite: Agriscience I***

### ***8030 – Greenhouse Production and Floral Design***

Content includes greenhouse production, plant anatomy, plant propagation, climate control, media and plant nutrition, disease and pest management, and cultural practices with bedding plants. Content also includes care and handling of fresh flowers, floral tools and supplies, containers, corsages, boutonnieres, centerpieces, and holiday arrangements.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Horticulture***

### ***8031 – Landscape and Nursery Production***

Content includes principles of design, xeriscaping, nursery production in fields and containers, plant selection, landscape plant nutrition, pruning, fertilization, irrigation, and disease and pest management. Also includes nursery business management.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Horticulture***

## **AGRICULTURAL POWER, STRUCTURE, AND TECHNOLOGY PATHWAY**

### ***8009 – Introduction to Agricultural Power and Technology***

This is an introductory course for students with an interest in agricultural mechanics and power equipment. Content includes importance of agricultural mechanics; personal and employability safety; identifying, using, and maintaining common hand tools; metal fabrication; and preparing and using simple project plans.

***Suggested Level: 10th Grade***

***Required Prerequisite: Agriscience I***

### ***8010 – Agricultural Power and Technology***

This course is designed for students who want to build on the skills and fundamentals in agricultural mechanics. Content includes maintenance of agricultural tractors, kinds and uses of agricultural equipment, internal combustion engine principles, and some metal fabrication.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Agricultural Mechanics and Power***

### ***8011 – Agricultural Structures***

This course is designed to develop skills and competencies in planning, constructing, and maintaining agricultural structures. Content includes sketching, drawing, plan reading, laying out structures, masonry, and some metal fabrication.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Agricultural Mechanics and Power***

## **ANIMAL SCIENCE PATHWAY**

### ***8012 – Introduction to Animal Science***

This course is designed for students interested in learning the fundamentals of science-based animal agriculture. Content includes importance of agricultural animals; taxonomy; anatomy; physiology; reproduction; nutrition; disease management; facilities; evaluation; fitting; and marketing, ethics, and safety.

***Suggested Level: 10th Grade***

***Required Prerequisite: Agriscience I***

### ***8013 – Livestock Production***

This course is designed to offer students advanced knowledge in livestock agriculture. Content includes livestock species, biology of species, genetics and breeding, nutrition and feeding, health, and disease management.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Animal Science***

### ***8014 – Small Animal Care and Veterinary Assisting***

This course is designed for students who have an interest in service, companion, and laboratory animals. Content includes importance of small animals, anatomy and physiology, nutrition and feeding, disease and health management, facilities and well-being. Also includes asepsis, animal safety, administration of medication, terminology, and vital signs.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Animal Science***

### ***8015 – Equine Science***

This course is designed for students with an interest in horses and careers associated in the field of equine management. Content includes importance of equine, breeds, anatomy and physiology, nutrition and feeding, facilities, production practices, and disease and pest control. Also includes grooming, equitation, tack and safety.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Animal Science***

### ***8016 – Advanced Biological Animal Science***

This course is for students with interests in higher-level, science-based animal agriculture. Content includes taxonomy, anatomy and physiology, body systems, heredity and genetics, hormonal and immune systems, nutrition, health, and well-being. This course addresses biological science standards.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Animal Science***

## **FOOD SCIENCE PATHWAY**

### ***8017 – Introduction to Food Science***

This course is designed for students with an interest in the food industry. Content includes careers in the food industry, food safety principles, food and nutrients, world hunger, microbiology, food processing and preservation, storage, and merchandising.

***Suggested Level: 10th Grade***

***Required Prerequisite: Agriscience I***

### ***8018 – Food Science and Biotechnology***

This course is designed for students with more advanced applications of food science. Content includes food quality, microbiology and spoilage, food chemistry and physics, meat industry, cereal industry, beverage industry, vegetable industry, and biotechnology in the food industry.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Food Science***

## **AGRIBUSINESS PATHWAY**

### ***8019 – Introduction to Agribusiness Management***

This course is the introduction for students interested in managing and otherwise operating agricultural businesses. Content includes meaning and role of management, economic systems, risk management, starting an agribusiness, and complying with legal regulations, records, and financial analysis.

***Suggested Level: 10th Grade***

***Required Prerequisite: Agriscience I***

### ***8020 – Agricultural Sales and Marketing***

Course builds on introductory course and is for students with an interest in marketing processes, particularly selling and distribution. Content includes importance of marketing, agricultural commodity marketing, international marketing, input marketing, preparing marketing plans, promotion and advertising, technology in sales and marketing, and personal selling.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Ag Business and Management***

### ***8021 – Employment in Agribusiness***

This course is designed for work-site agricultural learning experiences. Work-site learning locations must relate to selected agricultural career pathway. This course is offered to seniors only.

***Suggested Level: 12th Grade (Seniors Only)***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introductory Course of Work-Related Career Pathway***

## **AGRICULTURAL COMMUNICATIONS PATHWAY**

### ***8022 – Introduction to Agricultural Communications***

This course introduces students to the broad field of ag communications. Content includes the role and history of electronic media, legal aspects of communication, news and feature writing in agriculture, news photography, ethics, and Web layout and design.

***Suggested Level: 10th Grade***

***Required Prerequisite: Agriscience I***

### ***8023 – Agricultural Leadership and Personal Development***

This course is designed for students with an interest in personal skills development and leadership in agriculture. Content includes leadership theory and attributes, conflict resolution, planning and carrying out meetings, using parliamentary procedure, preparing and making speeches, and ethics.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Ag Communications***

### ***8024 – Print and Broadcast Journalism in Agricultural Communications***

This course is designed to provide specialized knowledge and skill in broadcast journalism. Content includes history of print and broadcast media, journalistic writing, radio and television production, videography, and trends and issues in the agricultural industry.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to Ag Communications***

## **NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE PATHWAY**

### ***8025 – Introduction to Natural Resources and Environmental Science***

This course is for students with an interest in the use and stewardship of natural resources and the environment. Content includes the importance of natural resources, issues associated with preservation and conservation, kinds of resource use, human population demands, recycling, ecology, weather and climate, biosecurity, land description, energy, minerals, rangeland, and waste management.

***Suggested Level: 10th Grade***

***Required Prerequisite: Agriscience I***

## ***8026 – Pasture and Range Management***

This course is offered for students with an interest in the management of pastures and rangeland. Content includes identification and importance of pasture and range plants, land surveying, range ecology, uses of rangeland, ownership and property, wildlife habitat, grazing, seeding and fertilizing, pest management, and fire prevention.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to  
Natural Resources and Environmental Science***

## ***8027 – Wildlife Science and Management***

This is a course for students with an interest in wildlife and its conservation and ecology. Content includes importance of wildlife species, history of wildlife conservation, safety, species identification, wildlife biology and ecology, habitat protection, legal regulations, and hunter safety.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to  
Natural Resources and Environmental Science***

## ***8028 – Forestry***

This course is for students with an interest in forestry. Content includes history of forestry, tree products and benefits, legal aspects of forestry, forestry safety, dendrology, tree health and nutrition, fire protection, tree biology and growth, prescribed burning, tree and wood measurement, land surveying, remote sensing and geographic information systems, silviculture, reforestation, and wood products.

***Suggested Level: 11th or 12th Grade***

***Required Prerequisite: Agriscience I***

***Recommended Prerequisite: Introduction to  
Natural Resources and Environmental Science***