



CTE COURSES

OSAGE COMMUNITY SCHOOLS

Career and Technical
Education Course lists,
descriptions, and
explanations.

Updated: March 2021

CTE COURSE LIST



AGRICULTURE

8th Grade Exploratory
Intro to Agriculture
Animal Science 1
Animal Science 2
Fall Horticulture
Spring Horticulture
Natural Resources
Agronomy
Ag Foods
Ag Business
Ag PAL

BUSINESS

Intro to Business
Personal Finance**
Work-Based Learning CTE
Intro to Entrepreneurship
Human Relations
Consumer Law
Marketing
Accounting

FCS

7th Grade Exploratory
8th Grade Exploratory
Intro to Culinary
ProStart 1
ProStart 2
Child Development
Exploring Early Childhood & Parenting

INDUSTRIAL TECH

7th Grade Exploratory
8th Grade Exploratory
Precon 1
Precon 2
Precon 3
Precon 4
Building Trades
Tech & Manufacturing

Ag & Industrial Welding
Basic Mechanics
Civil Engineering & Architecture
Digital Electronics
Intro to Engineering & Design

AGRICULTURE

COURSE DESCRIPTIONS



Intro to Agriculture (Previously Ag Ed 1)

Grade level(s) & length: 9-12. - Quarter

Course description: Intro to Ag introduces students to the range of agriculture. Units will be based on the various pathways and subjects of agriculture classes offered in high school to provide an introduction to the content such as horticulture, business, natural resources, animal science, foods, and agronomy.

Natural Resources

Grade level(s) & length: 9-12. Must have completed Intro to Ag - Quarter

Course description: Expand an interest in natural resources. Units will be habitats, global environmental issues, soil, erosion, conservation practices, protecting resources, outdoor recreation, and surveying.

Agronomy

Grade level(s) & length: 10-12. Must have completed Natural Resources - Quarter

Course description: Continue interest in animal science and dive deep into the specifics of agronomy. Units will be cropping systems, production, soil fertility, weed/disease/insect management, drying & storage, machinery, and planting/harvesting.

Ag PAL (Pesticide Applicators License)

Grade level(s) & length: 11-12. - Quarter

Course description: This is an independent study course with online modules to follow. The ultimate goal is to get your pesticide applicators license by taking the Iowa Core test. Units will be based out of the handbook and include laws, pests management, labeling, formulations, health/safety, transportation, emergency response, and application procedures.

Ag Foods

Grade level(s) & length: 11-12. Must have completed Animal Science 2 - Quarter

Course description: Expand on interest in food processing. Units will be meat cuts, meat processing, food grades, food labels, food product development, preservation techniques, food marketing.

Fall Horticulture

Grade level(s) & length: 9-12. Must have completed Intro to Ag - Quarter

Course description: Expand an interest in horticulture and landscaping. Units will be gardening harvest, greenhouse production, landscaping industry, site evaluation, plant selection, and landscape installation.

Spring Horticulture

Grade level(s) & length: 9-12. Must have completed Intro to Ag - Quarter

Course description: Expand a strong interest in horticulture and floriculture. Units will be greenhouse production, vegetables, gardening planting, floriculture, and floral design.

Animal Science 1

Grade level(s) & length: 9-12. Must have completed Intro to Ag - Quarter

Course description: Expand on interest in animal science. Units will be Identification methods, animal handling, biosecurity.

Animal Science 2

Grade level(s) & length: 10-12. Must have completed Animal Science 1 - Quarter

Course description: Continue interest in animal science and dive deep into the details of animal science. Units will be nutrition/rations, livestock production, functioning systems, and vet science.

Ag Business

Grade level(s) & length: 11-12. Must have completed at least 1 ag course pathway - Quarter

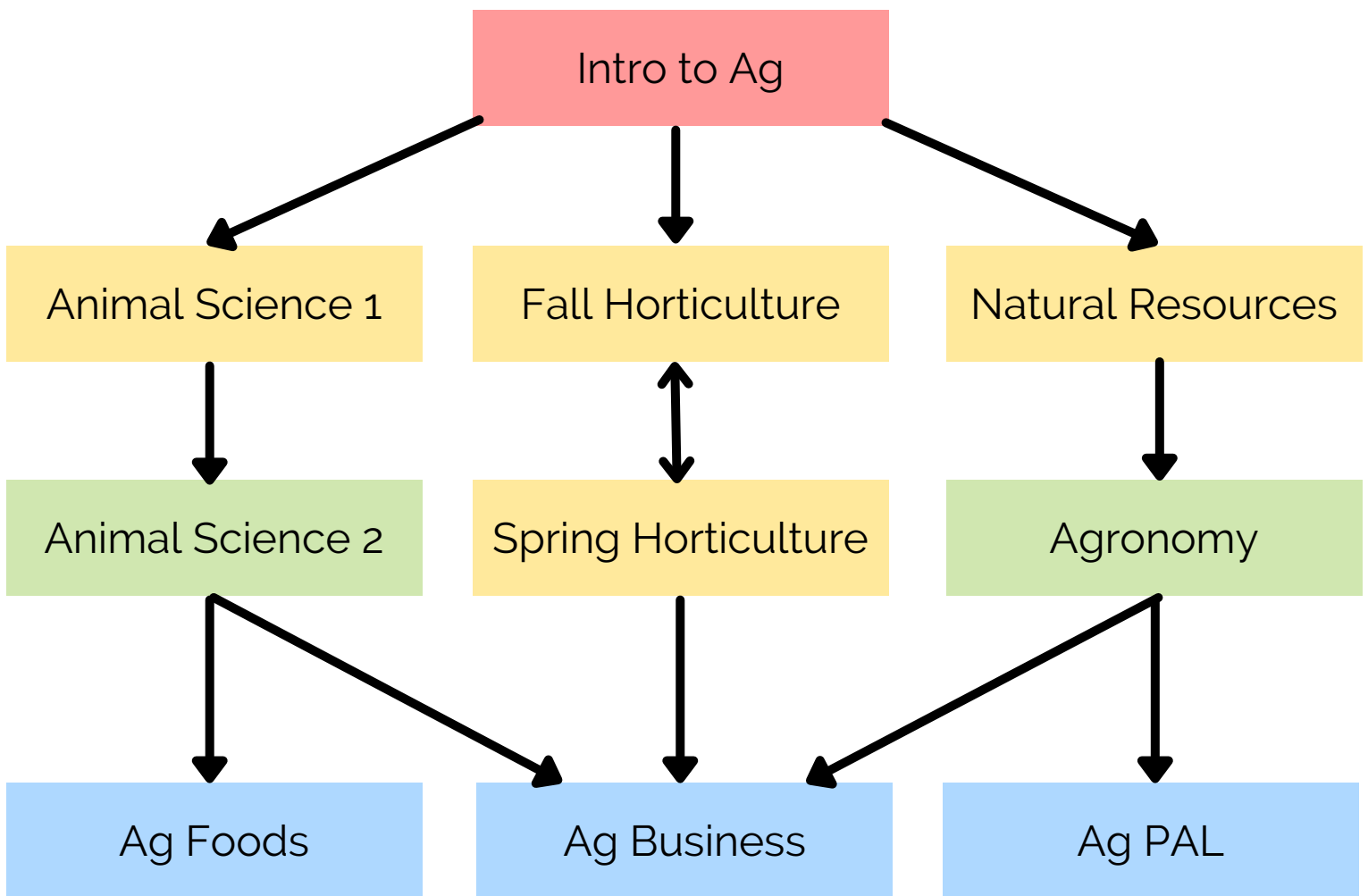
Course description: Summarize your learning from a course pathway(s) and apply it to agriculture business practices. Units will be starting a business, cost measures of a business, how to measure success, evaluating risk, exploring opportunities, and finalizing a business plan.

AGRICULTURE

FLOW/ORDER OF COURSES

Use this flow chart as a visual for the offered agriculture classes.

Think of this as working through the rainbow. Red (Intro to Ag) is the basic class that must be completed to move to any of the yellow courses (they can be taken in any order). The green courses can only be taken after the yellow course that leads to it. In order to take a blue class, you must have completed a certain pathway.



BUSINESS

COURSE DESCRIPTIONS



Intro to Business

Grade level(s) & length: 9-12. Quarter

Course description: General Business is designed to provide basic background about today's economy, a consumer's economic role, being an informed consumer, and using financial and banking services.

Marketing

Grade level(s) & length: 10-12. Quarter

Course description: This course introduces the basic functions of marketing and how they are vital in today's world. Business marketing is covered in both the domestic and world economics. Competition, customer behavior, and marketing strategies are also covered. Marketing is concerned with the needs and wants of prospective customers through exchange processes.

Accounting

Grade level(s) & length: 10-12. Semester

Course description: Introduction to double entry accounting system; Teaches how to record most types of typical business transactions, and create and read financial statements.

Work-Based Learning

Grade level(s) & length: 12. Quarter

Course description: The first semester of this course is classroom work - doing some career exploration and preparing for the work world through completion of job applications, cover letters, resumes, interview preparation and practice, reference lists, thank you letters, and job forms like the W-4 and I-9. In addition we have units on how to do well on the job, benefits and pay, as well as safety on the job.

The second semester of this course is spent working for a local business. You will have one or two class periods a day to work, and must put in an average of 15 hours a week. You must find your own job, with an employer who is willing to work with the program.

Consumer Law

Grade level(s) & length: 10-12. Quarter

Course description: An introduction to laws, constitutional rights, how our court system works, the difference between civil and criminal law and agency law. A good class for any U.S. citizen.

Personal Finance

Grade level(s) & length: 11-12. Required for Graduation. Quarter

Course description: This course is aimed at preparing students for life on their own. Students will take an in-depth look at financial decisions and planning, managing a checking account, applying for credit, completing tax forms, purchasing insurance, preparing a budget, and investing. Special attention will be paid to saving and investing tools for retirement.

Human Relations (NIACC Credit)

Grade level(s) & length: 10-12. Quarter

Course description: BUS-161 Human Relations (3 s.h.) Human Relations is a course designed to improve the student's ability to function in the workplace. This class will work on increasing the student's self-awareness and improving their ability to get along with customers, coworkers, and supervisors Equivalent to 15-241, BUSN-105.

Intro to Entrepreneurship (NIACC Credit)

Grade level(s) & length: 11-12. Recommend taking Marketing first. Quarter

Course description: BUS-130 Introduction to Entrepreneurship (3 s.h.)

This course introduces the concept of Entrepreneurship beginning with identifying characteristics of the Entrepreneur, evaluating opportunities, feasibility, financing, and planning for success. Students will also understand the need for a contingency plan as well as an exit strategy. (45-0)

(FCS) FAMILY CONSUMER SCIENCE

COURSE DESCRIPTIONS



Introduction to Culinary Arts

Grade level(s) & length: 9-12 - Semester

Course description: This is a semester long course that introduces students to the world of culinary and nutrition (food groups, nutrients, and exercise) The focus is on basic culinary kitchen skills, food preparation skills and how the food they eat affects their body and how to eat in order to keep your body healthy. This class is for those students who want to live a healthy lifestyle and are interested in taking ProStart courses.

ProStart 1.1

Grade level(s) & length: 9-12 - Semester

Course description: A short introduction to the history of the restaurant and foodservice industry starts the course. Units include: restaurant and foodservice industry, food and workplace safety, kitchen essentials, professionalism, standard recipes, equipment and techniques, and stocks, sauces, and soups.

ProStart 1.2

Grade level(s) & length: 9-12. Follows 1.1 - Semester

Course description: Learn about the importance of customer service by practicing serving skills. Students in this course will apply what they have learned to prepare foods in larger quantities. Units include: fruits and vegetables, potatoes and grains, building a successful career in the industry, communication, management essentials, and hospitality.

ProStart 2.1

Grade level(s) & length: 11, 12. Must have completed ProStart 1.1&1.2 - Semester

Course description: Learn basic garnishing and plating techniques while preparing breakfast foods including the preparation of protein foods. Applications of skills and techniques learned in earlier courses will be used to prepare foods from around the globe. Units include: breakfast food and sandwiches, nutrition, salads and garnishes, meat, poultry, and seafood, and sustainability in the foodservice industry.

Child Development 1

Grade level(s) & length: 10, 11, 12 - Semester

Course description: Students will learn and discuss topics such as conception, prenatal development, the birthing process, and toddler early childhood development. Physical, emotional, social, and intellectual development will be studied, with an application of this knowledge on parenting and in a childcare setting. Students are also introduced to different child development theorists.

Exploring Early Childhood and Parenting

Grade level(s) & length: 10, 11, 12 - Semester

Course description: This course will focus on skills and knowledge necessary to be a positive parent as well as parenting roles, communication and guidance techniques. There will be a strong focus on the cognitive, social, physical and emotional development of preschool aged children through adolescence. Developmentally appropriate activities will be developed and put into practice. Researching careers available to students in the health, childcare and education fields will be done.

ProStart 2.2

Grade level(s) & length: 11, 12. Follows 2.1 - Semester

Course description: Baking is an amazing combination of culinary techniques and science! Apply knowledge of ingredients and techniques to produce breads, cakes, pies, pastries and other baked goods. Units include: desserts and baked goods, cost control, purchasing and inventory, marketing, and global cuisine.

INDUSTRIAL TECH (WOODS FOCUSED)

COURSE DESCRIPTIONS



Pre-Construction 1 (Precon 1)

Grade level(s) & length: 9-12 - Quarter

Course description: The Student learns the three basic elements in construction: the kind of materials to select, how to design a project and how to perform the basic machine operations. There will be a safety tests on all shop machinery. The student will be required to make a project, which requires the use of machines in the building trades shop. With the advise of the instructor the student will select a project. The student is required to pay for material for the projects they choose.

Pre-Construction 2 (Precon 2)

Grade level(s) & length: 9-12 - Quarter. Must have completed Precon 1.

Course description: The instructor will assign the first woods project that will incorporate advanced techniques with multiple machines and varying technology. The students will be required to make a project of their own that is challenging and at the students ability level. Students should have a project selected before signing up for the course. The course of will be based on advanced techniques. The students are required to pay for material for the projects they choose.

Pre-Construction 3 (Precon 3)

Grade level(s) & length: 9-12 - Quarter. Must have completed Precon 2.

Course description: The students will be required to make a project of their own that is challenging and at the students ability level. Students should have a project selected before signing up for the course. The course of will be based on advanced techniques. The students are required to pay for material for the projects they choose. In this course students may also build construction projects the instructor assigns to the group.

Technology in Manufacturing

Grade level(s) & length: 10-12 - Quarter

Course description: Students will be required to use multiple high tech computer programs and machinery. Technology includes CNC Router, CNC Plasma Cutter, Laser Engraver/Cutter, Vinyl Cutter, Solid 3D Printer, Graphics Poster printer and Spray Powder Coater. Students will learn various computer drafting, design and drawing programs. Students will work with many different material types and have many opportunities for a wide variety of projects. This is a project based course and students need to have project ideas in mind before taking class.

Building Trades

Grade level(s) & length: 11-12 - Quarter

Course description: This course explores the construction as a profession, develops skills and knowledge in surveying, concrete, masonry, and an appreciation of construction safety. They will also develop skills and knowledge in floor framing, wall framing, roof framing, exterior finishing, roof materials, doors and window installation and insulation.

Pre-Construction 4 (Precon 4)

Grade level(s) & length: 9-12 - Quarter. Must have completed Precon 3.

Course description: This course will be based on advanced techniques of Construction. In this course students will build construction projects the instructor assigns to the group. This will include framing a building, concrete work and use of appropriate building materials.

INDUSTRIAL TECH (METAL FOCUS)

COURSE DESCRIPTIONS



Basic Mechanics

Grade level(s) & length: 9-12 - Quarter

Course description: Students will learn the basics in 4 cycle engine operation, components, assembly, and reassembly. Students will be using small engines electronic textbooks, manuals, and internet research to gain knowledge in locating and using information that pertains to engine specifications. Emphasis on safe operation of engines and shop safety will be stressed.

Introduction to Engineering & Design

Grade level(s) & length: 9-12 - Semester

Course description: Foundation course in the PLTW Engineering Program. Students are introduced to the engineering profession and a common approach to the solution of engineering problems, an engineering design process. Students will solve problems as they practice common engineering design and development protocols such as project management and peer review. Students will develop skill in technical representation and documentation of design solutions according to accepted technical standards, and they will use current 3D design and modeling software to represent and communicate solutions. In addition the development of computational methods that are commonly used in engineering problem solving, including statistical analysis and mathematical modeling are emphasized.

Ag and Industry Welding (NIACC Credit)

Grade level(s) & length: 9-12 - Semester

Course description: NIACC Class. This is a basic arc/oxy-fuel welding and cutting course. The students will perform introductory skills in SMAW, GTAW, and GMAW welding, oxy-acetylene welding, and oxy-fuel cutting. The student learns safety procedures relating to welding subjects and general shop safety. (15-30).

Civil Engineering & Architecture

Grade level(s) & length: 10-12 - Semester

Course description: Specialization course in the PLTW Engineering Program. In CEA students are introduced to important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software. Students will develop skill in engineering calculations, technical representation and documentation of design solutions according to accepted technical standards, and use of current 3D architectural design and modeling software to represent and communicate solutions.

Digital Electronics

Grade level(s) & length: 10-12 - Semester

Course description: Digital electronics is the study of electronic circuits that are used to process and control digital signals. The major focus of this course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. Utilizing the activity-project-problem-based (APB) teaching and learning pedagogy, students will analyze, design, and build digital electronic circuits. While implementing these designs, students will continually hone their professional skills, creative abilities, and understanding of the circuit design process.