

# Osage High School



**2021-2022**

**Course Book**

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## ***High School Graduation Requirements***

**English**- 8 credits required

English 1- 2  
English 2- 2  
English 3- 2  
Speech- 1  
Other English credit- 1

**Math**- 6 credits required

**Science**- 6 credits required

Biology- 2  
Physical Science- 2  
Chemistry- 2

**Social Studies**- 6 credits required

U.S. History- 2  
World Studies- 2  
Economics, Psychology, OR sociology- 1  
American Government- 1

**Business**- 1 credit required

Personal Finance- 1

**Health**- 1 credit required

Health 1- 1

**STEM**- 1 credit required

Introduction to Computer Science

**Physical Education**- 4 credits required

**Electives**- 19 credits required

**Total**- 54 credits for graduation

### ***Honor Roll***

3.67 - 4.0 "A" Honor Roll

2.67 - 3.66 "B" Honor Roll

A = 4.0	C = 2.0
A- = 3.67	C- = 1.67
B+ = 3.33	D+ = 1.33
B = 3.0	D = 1.0
B- = 2.67	D- = .67
C+ = 2.33	F = 0

### ***Graduation Honors***

3.0 - 3.333	Honors
3.334 - 3.666	High Honors
3.667 - 4.0	Highest Honors

### ***College Coursework***

All students are first reminded by the high school and colleges that they are still in high school not college. High schools have a full slate of high school courses to choose from prior to being ready for college courses.

High school students are limited to taking 23 college credits per year. This is to make certain they do not become full time college students.

High school students have to take a high school course if it is similar to a college course they want to take. College courses cannot be used to replace high school classes.

### **Advanced Placement(AP®)**

Advanced Placement (AP®) courses are college-level courses offered by high schools. The courses, curriculum requirements, and optional tests are provided by The College Board. Based on the examination score and the postsecondary institution's policies, students may be eligible for college credit or advanced standing at the college or university they later matriculate.

### **Career Academies**

Career academies are programs of study offered to high school students through an agreement or contract between their high school and a community college. They bridge high school and community college CTE programs.

### **Concurrent Enrollment**

The concurrent enrollment program, also known as district-to-community college sharing, promotes rigorous academic or career and technical pursuits by providing opportunities for high school students to enroll part-time in eligible nonsectarian courses at or through community colleges. Per Senior Year Plus, concurrent enrollment courses are offered through contractual agreements between community colleges and school districts within their service area.

### **Agriculture Education**

#### **Ag Ed 1**

**Grade level(s) offered to:** 9th grade

**Course length:** Semester

**Course description:** Ag Ed 1 introduces students to the range of agricultural opportunities and the pathways of study they may pursue. Science, mathematics, reading, and writing

components are woven in the context of agriculture. There will also be a focus on developing employability skills of students through practical applications. Ag 1 fall topics include: history of agriculture, general agriculture, FFA/leadership, SAE, and careers. Ag 1 spring topics include: plants, animal science, and food science. Additional topics will be spread from throughout the course.

## **Ag Ed 2**

**Grade level(s) offered to:** 10th grade

**Course length:** Year long

**Course description:** Examine a general overview of agriculture while going more in-depth from agriculture 1 content and adding new content and areas of agriculture. Science, mathematics, reading, and writing components are woven in the context of agriculture. There will also be a focus on developing employability skills of students through practical applications. Ag 2 fall topics include: natural resources, agronomy, ag issues, and advocating for agriculture. Ag 2 spring topics include: genetics, animal science, and food science. Additional topics will be spread from throughout the course.

## **Fall Semester Courses:**

### **Fall Horticulture**

**Grade level(s) offered to:** 11-12th grade

**Course length:** Fall semester

**Course description:** Expand an interest in horticulture. In addition to harvesting the school garden, the focus during fall horticulture will be nursery and landscape. Topics that will be covered are plant materials, plant disorders, cultural practices, design and construction, supplies and equipment, and safety. Some labs will include using the food harvested by the school garden.

### **Agriculture Communications**

**Grade level(s) offered to:** 11-12th grade

**Course length:** Fall semester

**Course description:** In order for agriculture to be successful it needs to be clearly communicated. In this course you will learn many ways to effectively communicate agriculture. Additionally you will better learn how to communicate yourself and who you are. Topics within this course will include: employability skills, communication methods, resumes, interviews, careers, sales, problem solving, and more.

### **Agriculture Business**

**Grade level(s) offered to:** 11th-12th grade

**Course length:** Fall Semester

**Course description:** Learn more about agriculture business and what it all entails. Topics will include the concepts of agribusiness and agriculture economics. We will talk about and compare different types of agriculture businesses along with what it takes to run your own business or work for a business. A final project will include creating a mock business and integrating all topics discussed in class.

### **Spring Semester Courses:**

#### **Animal Science Course**

**Grade level(s) offered to:** 11th-12th grade

**Course length:** Spring semester

**Course description:** This course is designed to provide students with a general overview of the livestock industry. The beginning of the course will cover topics related to overall animal science such as body systems, nutrition, and biosecurity. Several weeks will also be spent on specific animals to learn how they are raised, management options, and their role in our economy.

#### **Agronomy**

**Grade level(s) offered to:** 10th-12th grade

**Course length:** Spring semester

**Course description:** Topics covered include: plant anatomy and physiology; plant classification and ID; pest classification and ID; and pesticides, pest management, application equipment, calibration, laws/regulations. Students will take the Iowa Core Manual examination as a requirement for this course. (38-15) *Equivalent to 90-160, AGAS-701.*

#### **Spring Horticulture**

**Grade level(s) offered to:** 11-12th grade

**Course length:** Spring semester

**Course description:** Expand a strong interest in horticulture. In addition to getting the school garden prepared and planted, the focus during spring horticulture will be floriculture. Topics that will be covered are growing techniques, production, floral design, floral business, supplies, and safety.

### **Business**

#### **Introduction to Business**

**Grade level(s) offered to:** 9th & 10th graders

**Course length:** Semester

**Who should take this class:** Anyone who wants to find out if the business field is an area of interest for them.

**Course description:** An introduction to business and how it impacts our daily life as well as the interdependence of the world economy. Students are introduced to international trade, business careers, basic economic and finance principles.

### **Microsoft Mastery**

**Grade level(s) offered to:** 11th-12th graders

**Course length:** 1 Semester

**Who should take this class:** Anyone who is going to college, or wants to work in an office setting.

**Course description:** This class teaches students how to use the Microsoft Office software efficiently and effectively. Students have the opportunity to get Microsoft Certified in Word, Excel, PowerPoint, and Access. Excellent class for anyone planning on attending college, as Microsoft Office is the required format for most college work.

### **Human Relations**

NIACC/dual credit course

**Grade Level(s) offered to:** 11<sup>th</sup> & 12<sup>th</sup>

**Course length:** 1 Semester (offered fall semester)

**Who should take this class:** Anyone interested in working in the business field or who wants to own their own business someday.

**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*

### **Marketing**

**Grade level(s) offered to:** 11th-12th grade

**Course length:** 1 Semester

**Who should take this class:** Anyone interested in working in the business field or who wants to own their own business someday.

**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.

### **Introduction to Entrepreneurship**

NIACC/dual credit course

**Grade level(s) offered to:** 11th-12th

**Course length:** Semester

**Who should take this class:** Anyone interested in working in the business field or who wants to own their own business someday.

**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)

## **Personal Finance**

### **Required for Graduation**

**Grade level(s) offered to:** 11th-12th

**Course length:** Semester

**Who should take this class:** EVERYONE! -Required for graduation.

**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.

## **Accounting I/II**

**Grade level(s) offered to:** 11th-12th grade

**Course length:** Semester

**Who should take this class:** Anyone going into business related field or who wants to be their own boss.

**Course description:** Introduction to double entry accounting system; Teaches how to record most types of typical business transactions, and create and read financial statements. Accounting II- Continuation of Accounting I with more advanced concepts and transactions; Intro to computerized accounting system.

## **Work-Based Learning**

**Grade level(s) offered to:** 12th grade

**Course length:** Year long

**Who should take this class:** Students who want a hands-on work experience.

**Course description:** This class changes yearly based on the needs of the students. It usually includes class work on what employers expect, how to apply for a job, creating resumes, filling out forms when you first start a job, workplace safety and legal matters, as well as workplace ethics. The most significant part of the class is work experience. Students get part of the school day to go and work on the job. Students are responsible for finding their own jobs. Employers will need to work with the teacher of the class, follow all federal employment laws, and complete evaluations of the student employees.

## **Consumer to Law I**

**Grade level(s) offered to:** 11th & 12th grade

**Course length:** Semester

**Who should take this class:** A good class for any U.S. citizen. Highly recommended for anyone wanting to be a police officer, study politics or law.

**Course description:** An introduction to laws, constitutional rights, how our court system works, the difference between civil and criminal law and agency law.

## **Consumer to Law II**

**Grade level(s) offered to:** 11th & 12th grade

**Course length:** Semester

**Prerequisite:** Consumer Law I

**Who should take this class:** Anyone interested in business, law or politics.

**Course description:** We will look at legal aspects of contracts, employment, and property law (ownership, leasing and renting of property).

## **Micro-Economics**

**Grade level(s) offered to:** 11<sup>th</sup> & 12<sup>th</sup>

**Course length:** 1 Semester

**Who should take this class:** Anyone looking to study in the areas of business, agriculture, and politics, or who want to be their own boss.

**Course description:** Economics is the study of how people make decisions on how to use their limited resources. We look at the roles of individuals, government and business organizations in our United States' economy. The fundamental concepts of supply, demand, price setting, and decision-making are emphasized.

## **English**

### **English 9**

**Required for graduation**

**Course Description:** English I is a blend of literature, language, and writing. Students will read a variety of fiction, informative, and classic selections geared to help reinforce and develop the skills needed to be a good reader and assess the literary value of a written piece. Students will, also, strengthen their writing skills through further study of grammar and

sentence structure and create several written pieces including: descriptive, narrative, argumentative, and research pieces.

Expectations: To meet or exceed the Iowa Common Core Standards for 9<sup>th</sup> grade writing, speaking and listening, and reading informational and literary text.

Career Pathways related to content: This class is required for graduation and prepares students for English 10.

## **English 10**

### **Required for graduation**

**Course description:** English 10 emphasizes learning the fundamentals of literary types: short story; novel; poetry; drama; and nonfiction. Also included are basic units in medieval tales, mass media, and various writing forms.

Required prerequisite: English 9

## **Speech**

### **Required for graduation**

**Course description:** Speech is a one semester course designed to help students in any curriculum develop skills in informal and formal speaking. Emphasis is on the organizing and delivery of various types of public speaking. Informative speaking, persuasive speaking, radio and TV, discussion groups and interpretation are included. This is basically a performance class.

Recommendation: English 9

## **English 11**

### **Required for graduation**

**Course description:** This course's content will include a combination of American literature and composition. Our literature will focus on the American Dream. A chronological approach will be used for literature study, and the time periods/movements examined include Colonial and American Revolution; Romanticism and Transcendentalism; Naturalism; and Modernism. Modes of writing will also be a course focus, and these modes include expository, narrative, and argumentative.

Required Prerequisites: English 9 & English 10

## **Applied English Workshop**

**Grade:** 12th- Limited availability with permission

**Course Length:** One Quarter

**Course description:**

This course will focus on reading and writing nonfiction. Assignments will include tasks such as reading nonfiction texts, writing responses, and studying independent topics of interest. Work will be completed in a workshop environment.

### **Creative Writing**

**Grade:** 11th-12th

**Course Length:** One Semester

**Course description:** Creative Writing will explore the basic elements of fiction writing, including narration, setting, character, plot, and dialogue, as well as the habits necessary to grow as a writer. Students will read a wide variety of prose and poetry to analyze other authors' work and apply successful traits of writing to their own work. Frequent writing exercises, often inspired by the readings, will underscore specific craft problems and perhaps generate longer stories. In the second quarter, students will complete two short stories and offer them to the class for critique in a workshop setting. Students will also write and participate in a poetry jam.

### **Film & Text**

**Grade:** 10th-12th

**Course Length:** One Semester

**Course Description:** This is a study of how literature is portrayed in the media. Students will read about the history of film and the reflection or influence of film on modern culture. Students will examine the visual interpretation of literary techniques. Also, students will examine how films portray the human condition and the roles of men and women and the various ethnic and cultural minorities in the past and present. Different genres of film will be explored.

### **Dramatic Literature**

**Grade:** 11th-12th

**Course Length:** One Semester

**Course Description:** A survey of drama from the earliest plays to the end of the 20th century, with emphasis on dramatic structure and style. The readings will include national and international writers such as Shakespeare, Ibsen, O'Neill, and Miller. We will analyze plays using appropriate terminologies. Discuss aspects of the relationship between dramatic literature and plays-in-performance. Interpret plays in the context of the historical period of their writing and/or production. Describe the common conventions of the genre. Apply appropriate formal conventions when writing about literature.

### **Composition I - NIACC**

Must have an 16 on the ACT English test or a 10 on the Accuplacer writing test.

**Course description: ENG-105 Composition I (3 s.h.)** Improvement of skills in reading, writing, and listening with an emphasis on expository methods of development and personal experience as supporting material. Students may be requested to use word processors and the Writer's Workbench analyses programs, the Writer's Workbench STEPS programs, and the

structuring sentences video series. Students must meet minimum competency requirements in writing to receive a grade of C or higher. (45-0) *Equivalent to ENGL-104, ENGL-101, 30-101, ENG-102.*

### **Composition II - NIACC**

**Course description: ENG-106 Composition II (3 s.h.)** Prerequisite: ENG-105, Composition I, or ENG-102, Composition & Speech I. Students must have earned a C or higher grade in Composition I or Composition & Speech I before enrolling in Composition II. A continuation of ENG-105 Composition I, with an emphasis on argumentative and persuasive writing, on research methods, and on language. Students may be requested to use word processors, Writer's Workbench analyses, Writer's Workbench STEPS, and sentence structuring videos. (45-0) *Equivalent to ENGL-102, ENGL-105, 30-102, ENG-103.*

### **Publications**

**Grade:** 11th-12th

**Course Length:** One Semester/Year

**Course description:** This class is an English elective and works on the designing and creating of the yearbook. You will work with a teacher and a team of students to make the yearbook.

### **Family and Consumer Science**

#### **Exploring Early Childhood and Parenting-**

**Grade:** 10, 11, 12

**Course Length:** 1 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.

#### **Introduction to Culinary Arts -(Prerequisite)**

**Grade:** 9, 10, 11, 12

**Course Length:** 1 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:** 10, 11, 12

**Course Length:** 1 semester

**Course description:**

A short introduction to the history of the restaurant and foodservice industry starts the course. Students will learn about food safety and sanitation requirements necessary in the lab. Kitchen equipment and preparation techniques will be explored in the lab to produce a variety of foods. The course includes preparation of soups and sauces, fruits and vegetables and baked products.

Ch. 1 Welcome to the Restaurant and Foodservice Industry

Ch. 2 Keeping Food Safe

Ch. 3 Workplace Safety

Ch. 4 Kitchen Essentials 1: Professionalism and Understanding Standard Recipes

Ch. 5 Kitchen Essentials 2: Equipment and Techniques

Ch. 6 Stocks, Sauces, and Soups

Ch. 9 Fruits and Vegetables

**ProStart 1.2**

**Grade:** 10, 11, 12

**Course Length:** 1 semester

**Course description:**

Learn about the importance of customer service by practicing serving skills. Students will learn how to prepare potatoes, grains, baked products and additional side dishes. Students in this course will apply what they have learned to prepare foods in larger quantities for the purpose of serving special groups. Restaurant management, recipe testing, cost control and marketing will be covered.

Ch. 9 Fruits and Vegetables

Ch. 11 Potatoes and Grains

Ch. 12 Building a Successful Career in the Industry

Ch. 7 Communication

Ch. 8 Management Essentials

Ch. 10 Serving Your Guests

**ProStart 2.1**

**Grade:** 10 (if taken Prostart 1.1 & 1.2) 11, 12

**Course description:** 1 semester

Learn basic garnishing and plating techniques while preparing breakfast foods including The preparation of protein foods will be studied in order to produce industry standard main courses. Applications of skills and techniques learned in earlier courses will be used to prepare foods from around the globe. Explore the food and preparation techniques of foods from the Americas, Europe, the Mediterranean, the Middle East, and Asia.

Ch. 1 Breakfast Food and Sandwiches

Ch. 2 Nutrition

Ch. 4 Salads and Garnishes

Ch. 6 Meat, Poultry, and Seafood

Ch. 9 Sustainability in the Restaurant and Foodservice Industry

Ch. 10 Global Cuisine 1: The Americas

Ch. 11 Global Cuisine 2: Europe, the Mediterranean, the Middle East, and Asia

## **ProStart 2.2**

**Grade:** 10 (if taken Prostart 1.1 &1.2) 11, 12

**Course description:** 1 semester

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. Students in this course will apply what they have learned to provide baked goods for special events.

Ch. 8 Desserts and Baked Goods

Ch. 3 Cost Control

Ch. 5 Purchasing and Inventory

Ch. 7 Marketing

## **Foreign Language**

### **Spanish 1**

**Grade level(s) offered to:** 9th-12th grade

**Course length (semester, year long):** Year (Fall/Spring)

**Course description:** Spanish 1 is a year long course offered to any high school student, the majority of students are freshmen. Spanish 1 goals are to inspire students to speak, write, read, and understand beginning Spanish, and to develop an appreciation for Spanish culture. First semester topics introduce students to the Spanish language and culture, and basic phrases and useful vocabulary. Second semester focuses more on grammar, writing, reading, and conversation. Students need a C or higher in English to begin the course as well as at least a C in the class to continue on with the foreign language program.

### **Spanish 2**

**Grade level(s) offered to:** 10th, 11th, and 12th grade

**Course length (semester, year long):** Year long

**Course description:** Spanish 2 aims to build upon the basics that you learned in Spanish 1. Throughout the year, you will learn key grammatical structures that are vital to the Spanish language. You will also be given helpful vocabulary that is used with frequency and in everyday life. As the year progresses, your reading, writing, speaking, and comprehension will improve in Spanish.

### **Spanish 3**

**Grade level(s) offered to:** 11th and 12th grade

**Course length (semester, year long):** Year long

**Course description:** Spanish 3 continues to expand the student's' grammar but also expands their vocabulary greatly. Students will dive deeper into reading, writing, and speaking with a stronger focus on culture throughout the year. Spanish 3 second semester enhances the student's speaking skills in Spanish. Students are expected to study regularly for the course.

#### **Spanish 4 (Possibly AP Spanish)**

**Grade level(s) offered to:** 12th grade

**Course length (semester, year long):** year long

**Course description:** Spanish 4 is an in depth course studying the Spanish language. Students will work with authentic texts and every unit is deeply tied to Spanish culture. This rigorous course prepares students for college level work and moves at a fast pace. The students improve in all areas of Spanish and are expected to study regularly for the course.

### **Industrial Technology**

#### **Ag and Industry Welding**

NIACC/dual credit course

**Grade level(s) offered to:** 9-12

**Course length:** 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)

#### **Basic Mechanics**

**Grade level(s) offered to:** 9-12

**Course length:** Semester

**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.

#### **Pre-Construction 1**

**Grade level(s) offered to:** 9-12

**Course length:** Semester

**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**

**Grade level(s) offered to:** 9-12

**Course length:** Semester

**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 & Pre-Construction 4**

### **Technology in Manufacturing**

**Grade level(s) offered to:** 10-12

**Course length:** Semester

**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) offered to:** 11th, 12th

**Course length (semester):** Blocked 2 periods long

**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.

## **Mathematics**

### **Algebra A and B**

**Grade level(s) offered to:** 9th, 10th

**Course length:** Two years (one year in Algebra A; one year in Algebra B)

**Course description:** This is course covers the traditional Algebra 1 material over the course of two years: a study of solving equations and inequalities, graphing, writing equations of lines, systems of linear equations, factoring polynomials, and application of algebra topics. This course is designed for students that need the content and would benefit from a slower pace with more practice on each topic.

### **Algebra B**

**Grade level(s) offered to:** 10th, 11th, or 12th

**Course length:** 1 year (2 semesters)

**Course description:** Algebra B takes an entire year to cover the second semester of an Algebra course. It allows us to understand some concepts more in depth. It starts off with a review of Systems of Equations from Algebra A. After that it goes into a Unit of Exponents and Quadratics. Then we go into advanced functions like Radical and Rational Equations. Then we will end on a Unit over Statistics and Probability.

## **Algebra II**

**Grade level(s) offered to:** 10th, 11th, or 12th

**Course length :** 1 year (2 semesters)

**Course description:** In the first semester of Algebra II, we will focus on first degree equations & inequalities, and also polynomial and radical equations & inequalities. More specifically, we will look at solving equations & inequalities, linear relations & functions, systems of equations & inequalities and matrices. Then we will move into polynomials, quadratic functions & inequalities and polynomial functions.

In the second semester, we will start looking at more advanced functions & relations, discrete mathematics, and some trigonometry. More specifically, we will see conic sections, rational expressions and equations, and exponential & logarithmic relations. Next we will move to sequences & series and some probability & statistics. We will finish out the year with some trigonometric functions and trigonometric graphs & inequalities.

## **Algebra 1**

**Grade level(s) offered to:** any (mostly 9th grade)

**Course length:** Year long

**Course description:** This is a traditional Algebra 1 course. Students need a good grasp on the basic facts. Calculators will be used but not until several weeks into the course. This course is recommended for students who had difficulty with Algebra 1 in 8<sup>th</sup> grade or who did well in Basic 8<sup>th</sup> grade math or General Math. Algebra I is a study of solving equations and inequalities, graphing, writing equations of lines, systems of linear equations, factoring polynomials, and application of algebra topics.

## **AP Statistics/Statistics**

**Grade level(s) offered to:** 11th, 12th (recommend completing Algebra 2)

**Course length:** Year long

**Course description:** This Advanced Placement Statistics course has been designed to be the high school equivalent of a one semester, introductory college statistics course. Topics studied include exploring data, probability, sampling and experimentation, anticipating patterns, and statistical inference. Recent data claims that for every one college major that requires calculus, two require statistics. In May, students will have the opportunity to take the AP Exam and earn college credit.

## **Geometry**

**Grade level(s) offered to:** 9th - 12th

**Course length:** Year Long

**Course description:** This course analyzes two and three dimensional figures (area, perimeter, circumference, arc length, area of a sector, surface area, lateral area, and volume), congruent and similar figures, types of angles and lines, as well as other geometric topics. Logic and reasoning, basic trigonometry, and transformations, such as reflections, translations, and rotations, are also covered.

## **Pre-Calculus**

**Grade level(s) offered to:** 11th-12th

**Course length:** Year long

**Course description:** Advanced algebraic and trigonometric topics are reviewed and expanded in preparation for Calculus. Domain and range, maximum and minimum values, increasing and decreasing intervals, asymptotes, and points of discontinuity will be reviewed.

## **Calculus**

**Grade level(s) offered to:** 12th

**Course length:** Year Long

**Course description:** This course will try to follow a traditional college Calculus course as closely as possible.

Different types of limits, limit properties, different ways to solve limits, differentiation, finding slopes and equation of tangent lines, applications of differentiation, and integration will be covered.

## **Applied Math (A, B, C & D)**

**Grade level offered to:** 12th - NIACC Class

**Course length:** Quarters

**Course description:**

**A-**This course covers essential topics in algebra, including ratio and proportion, as well as unit conversions, and order of operations.

**B-**This course covers essential topics in algebra, including solving equations and word problems, and basic statistics.

**C-**This course covers the essentials in plane and solid geometry.

**D-**This course covers essential topics in trigonometry.

## **Music**

### **Band**

**Grade level(s) offered to:** Any

**Course length:** Year

**Course description:** The core of the high school instrumental music program is the Concert Band. It performs three major concerts annually, as well as at Commencement, state contest and other ceremonial functions. It concentrates on the finest available high school wind literature, both original and transcribed. All band students participate in this organization. This band takes a major trip every fourth year.

## **Chorus**

**Grade level(s) offered to:** Any

**Course length:** Year

**Course description:** The core of the high School chorus program is the choir. It performs three major concerts annually, the high school musical and show choir, as well as state contest and other ceremonial functions. All chorus students participate in this organization. This chorus takes a major trip every fourth year.

## **Introduction to Music Theory**

**Grade level(s) offered to:** 11th and 12th

**Course length:** Semester - 1st Semester (offered every other year)

**Course description:** This class is designed for students who are not necessarily planning to make music a career, but who wish to understand how the music they hear every day in the mass media works. We will be using the piano keyboard as a starting point for developing notational and analytic skills. The class will cover the materials essential for the understanding of any kind of music, and applies those materials to the development of creative and analytical skills.

Topics studied include, but not limited to:

- Major/Minor Scales
- Scale Degrees, Key Signatures, Note Values, and Simple Meter
- Melodic Intervals
- Melody
- Triads, Compound Meter, Principles of Notation
- Seventh Chords, Chord Symbols
- Harmony and Melody

Students enrolling in this course should have a basic knowledge of music notation.

## **STEM**

### **Intro to Computer Science 1**

**Grade level(s) offered to:** 9

**Course length:** Semester, required for freshman starting with the Class of 2022

**Course description:** (where we learn the basics of computers/internet and how to do some basic coding.....includes lots of mini projects and is very much student driven where most of

the work is done in pairs or independently. Class finishes with creating your own Favicon image and a digital scene in which you can create whatever images you want)

**\*\*This course is Required for graduation starting with the class of 2022.**

**Intro to Computer Science 2** ---Limit at 12 students/per robot.

**Grade level(s) offered to:** 9-12

**Course length:** Semester

**Course description:** (where students can expand on their knowledge of ICS 1 and use it to create apps/games. This class will also expand on web design and some of the units discussed in the Discoveries classes taken in MS.....also if time will dabble in Robotics)

\*\*Only offered 2nd Semester

**AP CSP/Java**

**Grade level(s) offered to:** 9-12

**Course length:** Year-long

**Course description:** The course introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. Computer Science Principles covers many topics including the Internet, Big Data and Privacy, and Programming and Algorithms. This is a year long class that can be taken for college credit (if pass the AP Exam). You will create your own app, explore and examine lots of data creating innovations and learn lots of code/collaboration techniques.

**Computer Science Independent Study**

**Grade level(s) offered to:** 11-12

**Course length:** Semester

**Course description:** This course provides an opportunity for upper-level students to pursue a topic of special interest at an advanced level. Topics could include but are not limited to: app development, various languages, robotics, or topics of special interest. Students must have taken at least one computer science courses before and/or meet the approval of the instructor. (NEW CLASS!!)

**Game Design 1 and 2**

**Grade level(s) offered to:** 9-12

**Course length:** Year-long

**Course description:** (both one semester classes): This is a two part course where students will get the opportunity to play various games (both board/video games) and dive into them and learn the theory behind what makes a good game. In Game Design 1, the focus will be on playing games, learning the theory and parts to a good game, and starting a storyboard of your own game (characters, plot, levels, etc.). In Game Design 2, students will also get to play some

other types of games but the larger focus of the course is to take the storyboarding done in GD1 and actually create your own game whether this is a board game, app that can be created/played, or a physical computer game. The course will implement some coding (depth of coding depends on the type of project you choose) but no previous experience is required. Course will incorporate the following texts as well: Ender's Game, Ready Player One, and Game Design Theory & Practice. (BOTH NEW CLASSES)

### **Introduction to Engineering and Design**

**Grade level(s) offered to:** 9-12

**Course length:** Year-long

**Course description:** Introduction to Engineering Design (IED) is a high school level foundation course in the PLTW Engineering Program. In IED students are introduced to the engineering profession and a common approach to the solution of engineering problems, an engineering design process. Utilizing the activity-project-problem-based (APB) teaching and learning pedagogy, students will progress from completing structured activities to solving open ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Through both individual and collaborative team activities, projects, and problems, 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. Ethical issues related to professional practice and product development are also presented.

### **Principles of Engineering**

**Grade level(s) offered to:** 10-12

**Course length:** Year-long

**Course description:** This course exposes students to some of the major concepts that they will encounter in post-secondary engineering courses. Students will explore a broad range of engineering topics including mechanisms, the strength of materials and structures, automation, and kinematics. Students will develop skills and understanding of the course concepts through activities, projects, and problem based learning. It is recommended that students have taken geometry and physical science.

### **Civil Engineering and Architecture**

**Grade level(s) offered to:** 10-12

**Course length:** Year-long

**Course description:** Civil Engineering and Architecture (CEA) is a high school level 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. Utilizing the activity-project-problem-based (APB) teaching and learning pedagogy, students will progress from completing structured activities to solving open ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Through both individual and collaborative team activities, projects, and problems, students will solve problems as they practice common design and development protocols such as project management and peer review. 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) offered to:** 10-12

**Course length:** Year-long

**Course description:** Digital electronics is the study of electronic circuits that are used to process and control digital signals. In contrast to analog electronics, where information is represented by a continuously varying voltage, digital signals are represented by two discrete voltages or logic levels. This distinction allows for greater signal speed and storage capabilities and has revolutionized the world of electronics. The major focus of the DE 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.

### **Science**

#### **Advanced Biology**

**Grade level(s) offered to:** 11th and 12th grade (elective)

**Course length:** Semester Class

**Course description:** Advanced Biology will focus on the skills and topics necessary to be successful as a life sciences major in college. Topics and Labs will be more technical and challenging as those covered in freshman Biology. A semester research project of your own design will be part of the curriculum. Topics covered will be: biological molecules, DNA, and Genetic Engineering.

#### **Anatomy and Physiology**

**Grade level(s) offered to:** 12th grade (elective)

**Course length:** Year long

**Course description:** Anatomy is the study of the human body. We will cover the structure and function of various body systems as well as the diseases that affect them. Lab components

will involve studying various tissues with microscopes, dissection of a cat, and various other organs to aid the understanding of the physiology of the human body.

## **Biology**

**Grade level(s) offered to:** 9<sup>th</sup> grade (*required for graduation*)

**Course length:** Year long

**Course description:** Biology is the study of life and the interdependence of life and their environment. The course is divided up into the following topics: Homeostasis, cell replication, cellular respiration, photosynthesis, DNA/chromosomes, genetics, evolution/adaptations, ecology, biodiversity and human impacts. There will be cumulative semester tests given that will constitute 10% of each semester's grade.

## **Chemistry 1**

**Grade level(s) offered to:** 11th and 12th grade (elective)

**Course length:** Year

**Course description:** Chemistry 11 is a year-long course in the Chemistry sequence. The first semester of Chemistry 11 focuses on introductory lab skills and content as required in the High School Physical Science portion of the Next Generation Science Standards (NGSS). These standards include structure and properties of matter, forces and interactions at the atomic level, energy, and chemical reactions. All first semester Chemistry topics are taught based on the particle-model viewpoint. The second semester of the course focuses on continuing to develop lab skills and building the knowledge base necessary for introductory college or university science. Topics in the second semester of chemistry include advanced views of first semester topics, acids/bases, stoichiometry, and organic chemistry.

## **Chemistry 2**

**Grade level(s) offered to:** 12th grade (elective)

**Course length:** Semester

**Course description:** Chemistry 12 is a semester-long senior course in the Chemistry sequence. This course is primarily oriented toward students who will encounter a 2-4 semester sequence of chemistry courses at the university level. Topics covered in Chemistry 12 include gases and gas laws, thermodynamics, kinetics and equilibrium, redox and electrochemistry, and nuclear chemistry. University-level science skills such as content reading, test-taking, questioning, and research are stressed throughout the course.

## **Environmental Science**

**Grade level(s) offered to:** 11th and 12th grade (elective)

**Course length:** Semester

**Course description:** Environmental Science will investigate the interrelationships that exist in nature and the role humans play in their environment. Topics such as: water quality, soil,

pollution, and renewable resources will be covered. We will monitor water quality in parts of the Cedar River according to the IOWATER standards.

### **Physical Science**

**Grade level(s) offered to:** 10th grade (*required for graduation*)

**Course length:** Year Long

**Course description:** This course covers introductory physics and Earth science topics as required by the Physical and Earth Science Standards of the Iowa Science Core Curriculum. These topics include, but are not limited to, Newton's laws, conservation of energy, energy conversions, electricity, waves, EM radiation, and kinetic theory.

### **Physics**

**Grade level(s) offered to:** 12th grade (elective)

**Course length:** Year

**Course description:** Physics is a year-long elective course for seniors. The first semester of Physics focuses on the main topics of motion, forces, energy, and momentum. In addition, secondary topics such as statics, work, and power are also addressed. The second semester of Physics covers the traditional "second semester" physics topics of electricity, magnetism, fluids, and waves. University-level science skills such as content reading, test-taking, questioning, and research are stressed throughout the course.

### **Applied Science**

**Grade level(s) offered to:** 11-12th grade (elective)

**Course length:** Semester

**Course description:** Applied Science is a project-based course focusing on the science related to nutrition, food consumption, and food as a global resource. The course is based on content from the World Food Prize, a global food initiative started by Dr. Norman Borlaug. Activities in the course include basic research and presentation of data, science lab work, and kitchen lab work. (*Course roster may be capped at 10-12 students based on the simultaneous availability of science and kitchen labs.*)

### **Vocational Science**

**Grade level(s) offered to:** 11-12th grade (elective)

**Course length:** Semester

**Course description:** The purpose of IVAST Science is to provide an appropriate, integrated mix of biology, chemistry, and physics necessary for students interested in vocational training in a skilled trade. IVAST Science is offered as an alternative to the typical third-year required science course (Chemistry 11).

### **Social Studies**

#### **American Government**

**Grade level(s) offered to:** 12th grade

**Course length:** Semester (Fall and Spring)

**Course description:** To cover all aspects of United States Government. Including things such as the election process, different Government branches and their powers, important people and events that have had a major impact on our Government and other issues pertaining to Government. We will also have a unit on Iowa Government covering its history, size, and breakdown of powers. This unit will also cover school boards, city council, and county governments' powers.

### **Character Development and Leadership I**

**Grade level(s) offered to:** 9th-12th grade

**Course length:** Semester (Fall)

**Course description:** The focus of the class is to improve character, as well as leadership. Each unit has a different topic(word), but the format remains the same. The format utilizes ethical dilemmas, lectures, character movies, core readings from the role model textbook, basic skills, leadership principles, writing and speaking assignments to provide a framework for consistent learning. The words for CDL I are attitude, preparation, perseverance, respect, honesty, integrity, courage and appreciation.

### **Character Development and Leadership II**

**Grade level(s) offered to:** 9th-12th grade

**Course length:** Semester (Spring)

**Course description:** The focus of the class is to improve character, as well as leadership. Each unit has a different topic(word), but the format remains the same. The format utilizes ethical dilemmas, lectures, character movies, core readings from the role model textbook, basic skills, leadership principles, writing and speaking assignments to provide a framework for consistent learning. The words for CDL II are composure, empathy, gratitude, tolerance, sacrifice, loyalty, responsibility, compassion, leadership, and character.

### **Current Events**

**Grade level(s) offered to:** 10th-12th grade

**Course length:** Semester

**Course description:** A project based course in which students perform interviews, write news stories, video record, edit and produce a newscast.

### **Behavioral Sciences**

**Grade level(s) offered to:** 12th

**Course length:** Semester (Fall and Spring)

**Course description:** Seniors only unless Admin approved.

This course is a combination of Psychology and Sociology. Students will address methods of research, consciousness, perception/sensation, abnormal behaviors, perspectives on society, culture, socialization and gender. Additionally there will be a brief history of the social sciences, and how social forces impact individuals and groups behavior in society. Topics may include serial killers, dream analysis, drug abuse, optical illusions, anxiety etc...

### **U.S. History**

**Grade level(s) offered to:** 10th grade

**Course length:** Year Long

**Course description:** To cover all aspects of United States history from the Civil War to the present. It will cover such things as important people, places, and events that have shaped United States history.

### **World Studies**

**Grade level(s) offered to:** 11th grade

**Course length:** Year (Fall/Spring)

**Course description:** Units covered include: Western Europe, Eastern Europe, Africa, Russia, Ancient Greece/Rome, Middle Ages, Renaissance/Reformation, French Revolution, Industrial Revolution, and the Holocaust. Some of the projects include: a tour guide presentation over a place to visit in Europe, planning a trip through Russia, the creation of an infomercial for a book about Ancient Greece/Rome, and a formal presentation to community members promoting a charity in Africa.

### **Visual Arts**

#### **Intro to Art (Prerequisite)**

**Grade level(s) offered to:** 9th-12th grade

**Course length:** Semester

**Course description:** This is a semester long class. It is a prerequisite class to take any of the other art classes offered. Intro to Art students will be working to explore the art elements in a variety of art projects and mediums. Drawing, painting, watercolor, still life, clay, mixed media etc. Students will be expected to have a sketchbook for weekly sketchbook assignments.

#### **Drawing and Printmaking**

**Grade level(s) offered to:** 10-12th grade

**Course length:** Semester

**Course description:** Intro to Art prerequisite. This is semester long class. One quarter devoted to Drawing, the other quarter devoted to printmaking. Drawing Students will be introduced to a variety of drawing techniques ( still life, gesture, perspective, surreal) as well as

a variety of drawing mediums. Printmaking will introduce students to Lino cut, wood cut, intaglio etching, and screen print.

### **Mixed Media Design**

**Grade level(s) offered to:** 10-12th grade

**Course length:** Semester

**Course description:** Intro to Art prerequisite. This is a semester long class devoted to working with graphic design, photography techniques, as well as flash animation and stop life animation. Students will work with the Adobe programs (photoshop, illustrator, flash) as well as iMovie.

### **Pottery**

**Grade level(s) offered to:** 11-12th grade

**Course length:** Semester

**Course description:** Intro to Art prerequisite. This is a semester long class. Students of pottery or advance pottery will be working exclusively with clay and clay making techniques. Students will learn coil building techniques, slab building techniques, Pinch pot and wheel throwing. Students will also gain a thorough understanding of the entire ceramic process from greenware, bisque ware to glaze ware.

### **Sculpture**

**Grade level(s) offered to:** 11-12th grade

**Course length:** Semester

**Course description:** Intro to Art prerequisite. This is a semester long class. Students will be working with wire, plaster, paper mâché, clay, wood and found objects to create unique 3D pieces.

### **Independent Studio Art**

**Grade level(s) offered to:** 11-12th grade

**Course length:** Semester

**Course description:** Intro to Art prerequisite. Students must have taken four or more previously art classes or have approval from the teacher. Students of Independent Studio Art are independently driven to create art. They will work within sketchbooks to develop ideas that will lead to more conceptually created art pieces. Students will be expected to show their work and develop artist statements.

### **AP Studio Art**

**Grade level(s) offered to:** 11-12th grade

**Course length:** Semester

**Course description:** Intro to Art prerequisite. Students interested in taking AP Studio Art must commit to a year long art class where they will be challenged to work at an advanced level of art making. AP Studio Art students will be expected to submit a portfolio at the conclusion of

the course in-order to qualify for the AP credit. Students interested in the AP Studio ART class should talk with Mr. McInroy before signing up.

### **Identify Yourself Through Art**

**Grade level(s) offered to:** 10th - 12th graders

**Course length:** Semester (Fall)

**Course description:** In this course students will have the opportunity to explore a wide variety of mediums as they create art pertaining to their own identity. Students will be asked to take a look at themselves through various lenses while they work to create artwork containing personal and significant meaning.

### **LEAD- Speech**

**Grade level(s) offered to:** 11th - 12th graders

**Course length:** Quarter

**Course description:** Lead is a project based learning opportunity allowing students to receive credit in areas such as business, speech, entrepreneurship, universal constructs or various STEAM disciplines. Students must identify what curriculum standards they will be working towards as they develop a project plan. Through the process, students are able to identify passion projects to benefit those around them while working with a business partner. If they are struggling to determine a project, they could choose to complete projects pitched to them by business/community members. This course will allow students to design their own learning path while engaging in dialogue with community businesses and experts in various fields.

## **OHS Approved NIACC Courses**

AGA-114 Principles of Agronomy

AGS-109 Animal Science I

BCA-119 Computer Orientation

BIO-151 Nutrition

BUS-102 Intro to Business

BUS- 130 Intro to Entrepreneurship

BUS-161 Human Relations

BUS-269 Insurance & Risk Management

CRJ-100 Intro to Criminal Justice

ECN-130 Principles of Microeconomics

EDU-216 Introduction to Teaching

EDU-219 Field Experience & Seminar

EDU-250 Educational Technology and Design

ENG-105 Composition I

ENG-106 Composition II

EMS-201 Emergency Medical Technician

HIS-151 US History to 1877

HIS-152 US History since 1877

HSC-120 Medical Terminology I

HSC-121 Medical Terminology II

HSC-171 Nurse Aide Theory

HSC-174 Nurse Aide Clinical

IND-190 Skills and Safety in Industry

MAT-121 College Algebra

MAT-134 Trigonometry and Analytics

MAT-156 Introduction to Statistics

MAT-210 Calculus I

MAT-216 Calculus II

MAT- 801 Applied Math A

MAT- 802 Applied Math B  
MAT-803 Applied Math C  
MAT-804 Applied Math D  
MFG-302 CNC Fundamentals  
MGT-101 Principles of Management  
MUS-100 Music Appreciation  
PEC-100 Coaching Ethic Tech & Theory  
PEC-110 Intro to Athletic Training  
PEC-115 Athletic Development and Human Growth  
PEC-122 Intro to A&P for Coaching  
PEC-127 Care/Prevention Athletic Injury  
PEC-161 Sport Officiating  
PHI-105 Introduction to Ethics  
PSY-111 Intro to Psychology  
PSY-121 Developmental Psychology  
SOC-120 Marriage and Family  
SPC-112 Public Speaking  
WEL-335 Ag and Industry Welding

### **Automotive (Program)**

AUT-105 Intro to Automotive Technology  
AUT-115 Automotive Shop Safety  
AUT-405 Auto Suspension and Steering  
AUT-505 Automotive Brake Systems  
AUT-627 Automotive Electrical Systems

### **Diesel (Program)**

DSL-101 Diesel Shop Safety  
DSL-142 Electrical Systems  
DSL-356 Diesel Engines I  
DSL-636 Air Systems and Brakes  
DSL-644 Steering & Suspension

## **Heating and Air Conditioning (HVAC Program)**

HCR-115 Residential Heating Systems  
HCR-155 Troubleshooting Heating Systems  
HCR-210 Residential Air Conditioning Systems  
HCR-240 Troubleshooting Air Conditioning Systems  
IND-190 Skills and Safety  
ELT-745 Maintenance Shop Operations

## **Welding (Program)**

WEL-274 SMAWI: SENSE1  
WEL-280 FCAW – Self-Shielded  
WEL-244 GMAW Sh Cir Transfer  
WEL-110 Welding Blueprint Reading  
WEL-281 FCAW – Gas-Shielded  
WEL-245 GMAW Spray Transfer  
WEL-251 GTAW Carbon Steel  
WEL-252 GTAW Aluminum  
WEL-253 GTAW Stainless Steel  
WEL-275 SMAW II: SENSE1  
WEL-240 Welding Fabrication

## **Tool & Die (Program)**

MFG-245 Machine Theory & Operations I  
MFG-120 Machine Trade Print Reading I  
BCA-119 Computer Orientation  
MFG-137 Machinist Math  
MFG-302 CNC Fundamentals  
MFG-248 Machine Theory & Operations II  
MFG-130 Machine Trade Print Reading II