



# **Jordahl Academy**

Course Guide

2019-2020

## **Graduation Requirements**

Graduation requirements differ from course selection and personal education plans. Students should always keep in mind their interests and recognize only few specific classes are actually mandatory to receive a high school diploma in Iowa. Think in broad strokes, take risks, fail forward, and consider your options as you browse through the course catalog. There are certain classes that will help you meet the expectations of different entities, like the NCAA, and there are others that may lead you towards a career or passion. Do your research. Question. And always know you can ask for help. Classes may challenge you, and that is a great opportunity to expand your thinking. You make the choices; you change your own life.

### **Humanities (English, Social Studies, World Languages) 10.0 Total**

4.0 English (English 1-4, American Literature, Creative Writing, Speech)

3.0 Social Studies

1.0 American History (this specific course is required by the Iowa Department of Education)

0.5 Government (this specific course is required by the Iowa Department of Education)

1.5 Social Studies credits

3.0 Additional Humanities Courses

### **S.T.E.A.M. (Science, Technology, Engineering, Arts, Math) 10.0 Total**

3.0 Science (may include Biology (lab), Chemistry (lab), Physical Science (lab), Earth Science, Forensic Science, or other science courses)

3.0 Math (may include Algebra 1, Geometry, Algebra 2, Statistics, or other math courses)

1.0 Fine Arts (Art, Music, Theatre, Dance)

4.0 C.T.E. STEAM Related Course (including 0.5 Digital Literacy Requirement)

### **Wellness 4.0 Total**

2.0 Physical Education (this specific course is required by the Iowa Department of Education)

1.0 Health and CPR (this specific course is required by the Iowa Department of Education)

1.0 Food and Nutrition

### **College and Career Pathways Related Courses 2.0 Total**

2.0 Pathway Courses 1-4

1.0 credit is added to fulfill the Capstone Requirement (mastery-based diploma assessment). + 1.0 Capstone Experience

Every course taken in grades 9, 10, 11, and 12 becomes part of the student's official high school record. This record of credits and grades earned determines a student's grade point average and qualifications for promotion and graduation.

## Record of Academic Progress (Example)

Student Name		Class of 202-				
		9th	10th	11th	12th	Minimum Credits
<b>Humanities (10.0)</b>						
NCAA, RAI	English 1 (1)	1				1
NCAA, RAI	English 2 (1)		1			1
NCAA, RAI	English 3 (1)			1		1
NCAA, RAI	English 4 (1)				1	1
	Human Geography (.5)					.5
NCAA, RAI	Civics (.5)					.5
NCAA, RAI	Government (.5)					.5
	Economics (.5)					.5
NCAA, RAI	American History (1)					1
	Humanities Related Courses (.5) or (1)					3
<b>S.T.E.A.M. (10.0)</b>						
NCAA, RAI	Biology (1) lab					1
NCAA, RAI	Chemistry (1) lab					1
	Additional science course (1)					1
NCAA, RAI	Algebra I (1)					1
NCAA, RAI	Geometry (1)					1
NCAA, RAI	Algebra II (1)					1
	Fine Arts (.5 or 1)					1
	STEAM Digital Literacy* (.5)					.5
	C.T.E STEAM Related Courses (.5 or 1)					2.5
<b>Wellness (4.0)</b>						
	Physical Education (2)	.5	.5	.5	.5	2
	Health (includes CPR) (1)					1
	Food and Nutrition (1)	.25	.25	.25	.25	1
<b>Career and College Pathway (2.0)</b>						
	Pathway Course 1 (.5)	.5				.5

	Pathway Course 2 (.5)		.5			.5
	Pathway Course 3 (.5)			.5		.5
	Pathway Course 4 (.5)				.5	.5
Capstone Experience (1.0)						
	Capstone (1)	.25	.25	.25	.25	1
Minimum Credits Suggested Per Grade		8	8	7.5	7	
Total Required Credits for Promotion		7.25	14.25	21	27	27
<p>Although the total number of credits necessary for graduation does not change, the above highlights only what your program may look like. Expectations for your coursework are altered based on your personal and academic needs and goals. Always check the admission requirements for the college or university program you wish to enter. For example, there is a minimum two years of a World Language suggested for students applying to one of the Iowa Regent Universities-see <a href="https://www.iowaregents.edu/media/cms/rai-freshmen-requirements-3-2-15-pdfA6BD003F.pdf">https://www.iowaregents.edu/media/cms/rai-freshmen-requirements-3-2-15-pdfA6BD003F.pdf</a>.</p>						

\* Digital Literacy is the ability to find, evaluate, utilize, share, and create content using information technologies and the internet.

## **Capstone Experience**

All students must successfully complete a Capstone Experience, which will count as their mastery-based diploma assessment prior to graduation. Each Capstone must include the following required components:

1. Proposal
  - a. Structured exploration (grades 9 and 10)
  - b. Notification of deadline to parents/guardians (grade 11)
  - c. Essential questions/thesis (start of semester 2 in grade 11)
  - d. Honors option declaration if applicable
2. Ongoing reflection
  - a. Choices for reflection (minimum entries to be determined between 9-18)
    - i. Social media (Blog...etc.)
    - ii. Journal/Electronic (Google Keep with artifacts)
  - b. Mentor with required “check-ins”
    - i. Regularly (monthly or quarterly - process established by mentor)
    - ii. Genius Hour time utilized
3. Research
  - a. Annotated bibliography/works cited
    - i. 5-6 primary and secondary sources (Follow provided format, peer review article is honors option)
  - b. Community involvement (must do one of the following)
    - i. Field study (minimum 3 hours, 10 hours for honors option)
    - ii. Interviews with experts/professionals in area of study (minimum 2 interviews, 4 for honors option)
4. Product
  - a. Can include, but not limited to one of the following: internship with specific evidence (mentor will provide examples); film; paper, work of art (music, art); event; products evaluated by content-specific certified staff.
5. Exhibition/Presentation
  - a. Modes of presentation with scoring (Audience of peers, parent/guardian, and/or faculty)
    - i. Demonstration of awareness of that audience
  - b. Question and answer session (Exit interview with peer or faculty)
  - c. Includes portfolio containing all of the components of the Capstone Experience

### **General Overview**

• Exploration in grades 9-10: Interest survey, course selection process, seminars, research in advisory/house • Assessment: One rubric containing all 5 components with descriptors (proposal, ongoing reflection, research, product, exhibition) • Timeline: Most students will complete it in the winter of grade 12, others in the spring. Students have the option of completing it during grade 11 if they choose.

# HUMANITIES

## ENGLISH LANGUAGE ARTS

### **American Literature (.5)**

Students explore a variety of literary genres for “wide reading” opportunities. The work includes: determining specific characteristics of different genres; how different genres approach culture, power, gender, and economics; reflection on the development of characters, plot, language, and settings. Music, art, and drama will be included as essential elements in this course as they pair with readings that demonstrate the cultural impact and influence of different groups in our country. An emphasis will be placed on writers that have spurred change in the areas of equality and civil rights. This course is designed to provide a framework to interact with culture in the United States, as well as prompt students to question and explore their own roles within these communities.

### **Creative Writing (.5)**

This course consists of exploring and developing different writing techniques and styles. Writing skills will be developed through pre-writing, editing, re-writing, and critiquing. Students will also examine various styles of writing by reading well-known and not so well-known writers of poetry, songs, newspaper columns, short stories, novels, plays, monologues, dialogues, reviews, etc. Goals will be met through a variety of reading and writing activities.

### **English 1 (1)**

English 9 offers a study of literature, close reading strategies, strategies for vocabulary, composition skills, collaborative and academic discussion skills, and reinforces grammar rules as they relate to writing. We will analyze literature with a focus on organization, evidential support, and clearly articulated ideas. We will also write for various tasks, purposes, and audiences.

### **English 2 (1)**

This course emphasizes students’ understanding of themselves within their communities and the world. Through the practice of inquiry-based research, students will explore author’s purpose, language application, and style in different contexts. Students will also participate in studying rhetoric and persuasion in order to understand and interact with the world around them. Students will apply this knowledge to develop their own arguments.

### **English 3 (1)**

This course is devoted to the study of the American experience as captured in the seminal works of masters of American literature and the foundational documents of the United States. Students are exposed to a rich assortment of American thought, focusing on the major writers and themes, exploring the ideas and forces that shaped the writing. The course focuses on historical as well as literary themes through reading, writing, listening/viewing, and speaking. By the end of this course, students will have developed a familiarity with the American literary scene while also acquiring a firm grasp on the ways in which ideas can be communicated.

**English 4 (1)**

This course will focus on analytical thinking and the research process. Additionally, students will read self-selected novels throughout the school year. During the first semester, students will focus on exploring their beliefs and values and what forces shape these cornerstones of their lives. Students will also conduct a research project that will focus on all aspects of the research process, including creating a research question, conducting proper research through the use of note-taking techniques, research writing, editing, and using MLA format. During the second semester, students will explore the issues of various communities in the United States and will finish the year exploring issues of communities around the world. This exploration will be aided through the reading of non-fiction and fiction texts.

**Journalism and Mass Media (.5)**

Students will study all aspects of journalism and mass media: newspapers, magazines, radio, TV and online information sources including blogs, news sites, and more. They will learn to examine critically the role of the mass media in today's society, including persuasion and bias. Students will conduct interviews, write articles for their own blogs, and create portfolios.

**Science Fiction/Fantasy and the Dis/Utopian Society (.5)**

This course takes students into a world unlike any they have experienced before! We will discover what this genre is all about through texts such as *Ender's Game*, *The Giver*, *The Hunger Games*, and student choice texts. Whole new worlds are only a page away, and this course will guide you in your quest to find them. We will also discuss how these books and imaginations reflect our own societies and cultures, as well as try our hand at writing some science fiction/fantasy stories.

**Speech (.5)**

This course is grounded in the fundamentals of oral communication. Basic speaking skills are studied, such as vocalization, body language, handling stage fright, use of visual aids, gathering and using supporting evidence. Speeches include narrative, informative, demonstration and oral interpretation.

## **SOCIAL STUDIES**

### **African American History (.5)**

This semester-long course informs and inspires students by teaching them about the grit, strength, creativity, and intellect of African American men and women throughout history.

### **American History (1)**

American History uses an inquiry-based approach to examine important events and movements in American history from the earliest discovery of the Americas through modern times. Events such as colonization, the American Revolution, the formation of a constitutional government, slavery and the Civil War will be highlighted as anchor points that have led us to where we are today. Students will question and explore areas of personal connection to history and develop projects that uncover the salient lessons brought about by the words and actions of others.

### **Civics (.5)**

Civics provides students with the knowledge, skills, and dispositions that will equip them to participate in American democracy. This includes opportunities for students to engage in activities within the classroom that model what democratic processes look like, as well as opportunities to participate in the civic life of their communities and learn from this participation as a formal part of their coursework including:

- Classroom instruction in civics, government, history, law, economics, and geography
- Discussion of current events
- Service learning
- Extracurricular activities
- Student participation in school governance
- Simulations of democratic processes and procedures
- News media literacy
- Action civics
- Social-emotional learning (SEL)
- School climate reform

### **Economics (.5)**

Economics addresses the production, distribution, and consumption of goods and services. The concept of scarcity is understood to mean that available resources are insufficient to satisfy the wants and needs of everyone. Economics is therefore founded upon the alternative use of available resources and the study of choices.



**Government (.5)**

All phases of federal government in reference to its operation, basic organization, relationship of the individual to the government and comparison of our government to other types of government are studied. Emphasis is placed on the relationship of the legislative, executive and judicial branches of government.

**Human Geography (.5)**

Human Geography is the study of the interaction between people and their environments. Geography therefore looks at the world through the concepts of location, place, human-environmental interaction, movement, and region.

Topics are:

- Geography: Its Nature and Perspectives
- Population
- Cultural Patterns and Processes
- Political Organization of Space
- Agriculture and Rural Land Use
- Industrialization and Economic Development
- Cities and Urban Land Use

**Psychology (.5)**

Psychology is the study of the self. Students will study how people learn, grow, and process at the individual level while applying basic theories in Psychology and scientific research. Students will gain working knowledge about their own personal values, needs, goals, and developments.

**Sociology (.5)**

Sociology is the study of groups. Major social institutions and the effects of social change will be major focal points of the course with emphasis race, ethnicity, gender, socioeconomic status, and other cultural identifying factors.

**World History (.5)**

The focus of this course is the study of the historical development of people, places, and patterns of life from ancient times until the present. Students will use skills of historical and geographical analysis to explore the early history of the world.

## **WORLD LANGUAGES**

### **Heritage Spanish (1)**

This is an option for Heritage Spanish speakers to take as they enter the Jordahl Academy. They may choose to take this class, exclusively for native speakers, and focus on the particular areas that they need to address, or they may opt into the mainstream Spanish III class. After successfully completing this course, a student will be able to advance to Spanish IV.

### **Spanish I (1)**

Spanish I is an introduction to the Spanish language and the culture of Spanish-speaking countries. Speaking, reading, writing, and listening skills will be developed through varied activities. Students will gain a basic working vocabulary for communication. Language lab activities, written and oral, are required.

### **Spanish II (1)**

Spanish II emphasizes the continued development of listening, reading, speaking, and writing skills, in addition to an appreciation of the various Spanish-speaking cultures. These skills will be further developed through a wide range of activities, projects, and supplemental books and tapes. Language lab activities, written and oral, are required.

### **Spanish III (1)**

Spanish III is a course in which an in-depth involvement of all skills continues, in addition to further exploration of the cultures of Spanish-speaking countries. Students will read more challenging material, discussing it, and writing their ideas in Spanish. Reading will be emphasized choosing from a variety of materials, which could include short stories, periodicals, a mystery, and more. Whenever possible, students will meet with native speakers. Students are encouraged to develop their ideas and use their creativity through individual Spanish projects. Free conversation in Spanish among the students and teacher is an integral part of the course. The majority of instruction will be in Spanish.

### **Spanish IV (1)**

Spanish IV has a continued emphasis on speaking, listening, reading, and writing in Spanish. Students will study literature, history, painters, and music. Students will read short stories and a novel they will discuss in Spanish. Students will express themselves in Spanish through compositions and tests that may include essay questions. Upon completion, students will be prepared for upper-level college language courses. Writing and oral projects are required. The majority of instruction will be in Spanish. Free conversation in Spanish among the students and teacher is an integral part of the course.

# S.T.E.A.M.

## SCIENCES

### **Anatomy and Physiology (.5)**

Human anatomy is the study of human systems: human reproduction, integuments, skeletal, muscular, and cardiovascular. This course is highly recommended for students pursuing a career in nursing, medicine, medical technology, dentistry, pharmacy and other science-related fields.

Students will:

- become more aware of the interactions between the various parts of the body and how they are controlled, regulated and coordinated
- have a better understanding of the life processes and how the body maintains these processes
- develop concepts and knowledge important and useful in normal life activities

### **Animal Science (.5)**

This course provides instruction that focuses on the basic scientific principles and processes that are involved in animal physiology, breeding, nutrition, and care in preparation for an animal science career major. Topics include animal diseases, introduction to animal science, animal nutrition, animal science issues, career opportunities, and animal evaluation.

### **Astronomy (.5)**

This course introduces students to astronomy concepts including basic facts about the Earth, moon, and stars. Projects revolve around galaxies, cosmology, and space exploration.

### **Biology (1)**

This lab course is appropriate for students who are looking to gain a basic understanding of life science skills and content through a problem-based approach. The course will consist of laboratory work, classroom activities, computer simulations, and assessments. This course places an emphasis on the life science standards associated with Iowa Science Standards.

### **Botany (.5)**

Botany is a project-based, advanced biology course with a focus on plants. We will study plant anatomy (parts), plant physiology (function), horticulture (naming and classifying), plant ecology (interactions) and biomes, and we will also study the basics of gardening. Many different kinds of activities combine to help the student build knowledge and skills in biological concepts as they relate to plants.

### **Chemistry (1)**

This is a lab-based course, appropriate for students who are looking to gain a basic understanding of the chemical sciences content through a problem-based approach. The course will consist of laboratory work, classroom activities, computer simulations, and assessments. This course places an emphasis on the chemical science standards associated with Iowa Science Standards.

**Chemistry of Food (.5)**

Students will learn about food science, the interdisciplinary study involving microbiology, biology, chemistry, engineering, and biotechnology. Food science is the application of science and engineering to the production, processing, distribution, preparation, evaluation, and utilization of food. Food chemistry encompasses the composition and properties of food components and the chemical changes they undergo during handling, processing, and storage. A food chemist must know chemistry and biochemistry and have knowledge of physiological chemistry, botany, zoology, and molecular biology to study and modify biological substances as sources of human food.

**Entomology (.5)**

This course allows students to understand what contributes to the success of insects and appreciate the diversity of insect forms and behaviors. In addition to these objectives, students gain practical information on insects and other arthropod pests of relevance to daily life, the necessary tools to study insects in greater depth, and knowledge relating to insect issues confronting society.

**Environmental Science (.5)**

This course studies the function of the earth's systems. Emphasis is placed on the human interactions with the Earth's geologic and environmental systems, predictability of a dynamic Earth, origin and evolution of the Earth system and universe, geochemical cycles and energy in the Earth system. In addition, scientific concepts are applied to the understanding and solution of environmental problems and solutions.

**Forensic Science (.5)**

The class is designed around authentic performance assessments with students working to solve crimes using scientific knowledge and reasoning. It involves all areas of science including biology, anatomy, chemistry, physics, and earth science with an emphasis in complex reasoning and critical thinking. In addition, students must incorporate the use of technology, communication skills, language arts, art, family and consumer science, mathematics and social studies. This course studies key topics in forensic science, including:

- application of the scientific process to forensic analysis
- procedures and principles of crime scene investigation
- physical and trace evidence
- the law and courtroom procedures from the perspective of the forensic scientist

**Genetics (.5)**

Students will explore an overview of the field of genetics including:

- Cell Division and Chromosomes
- Basics of Mendelian Genetics
- Beyond Mendel
- Linkage and Linkage Mapping
- Molecular Genetics
- Recombinant DNA and Contemporary Issues
- Population Genetics

**Physical Science (1)**

This course exposes students to an in-depth, and rigorous learning environment inclusive of concepts in Physics, Electricity & Magnetism, Waves, Earth's Structure, Climate, Space Sciences, and Engineering practices.

**Physics (1)**

This course consists of the study of the following topics: optics and wave motion, motion and energy, electricity, and magnetism. The nature of the laws of physics will be covered through text reading, class activities, teacher explanation, and laboratory experiences. A working knowledge of basic geometry and trigonometry concepts is strongly suggested.

**Zoology (.5)**

Zoology students will demonstrate an understanding of: Classification to the 6-kingdom level; Study of animals; Animal anatomy, physiology, development, histology, ecology, behavior, and evolution; Comparative anatomy and physiology-form and function; Understanding all living things are interconnected; Humans are dependent on animal species for advances in medicine, ecosystem maintenance, and food supply.

## **TECHNOLOGY & ENGINEERING**

### **Aircraft Systems and Performance (.5)**

In the Aircraft Systems and Performance course, students in the pilot and UAS tracks will take an in-depth look at the systems that make manned and unmanned aircraft work. Beginning with aircraft propulsion, students will learn about the different types of engines that produce thrust to propel an aircraft or UAS. They will go on to explore other key aircraft systems, including fuel, electrical, landing gear, and environmental. In order to fly an aircraft safely, students must also learn about the flight instruments associated with each system and how to identify and troubleshoot common problems. Finally, students will learn about the factors that affect aircraft performance and how to determine critical operating data for aircraft.

### **Coding 101 (.5)**

Students will be able to start programming the first day of class. They will learn the fundamentals of computer science while creating their own animations, graphics, and games for the web.

### **Digital Citizenship and Literacy (.5)**

*Ignition: Digital Wellness and Safety™*

This digital literacy curriculum is designed to provide students with the information literacy skills they need to safely and confidently navigate the digital world. It encourages students to take practical steps to protect their own privacy and safety online, while also teaching them how to evaluate content for accuracy, perspective, and motive.

Students will acknowledge the benefits of digital communities and resources while successfully navigating potential pitfalls in their digital lives.

### **Digital Collaboration and Communication (.5)**

Through this course, students earn their professional G Suite certification from Google that signifies students' mastery of G Suite applications such as Docs, Sheets, and Slides for the workplace. This work, along with additional training in Adobe tools, will show prospective employers and colleges that students are fluent in digital collaboration tools.

### **Introduction to Aviation (.5)**

This course provides the foundation for advanced exploration in the areas of flying, aerospace engineering, and unmanned aircraft systems. Students will learn about engineering practices, problem solving, and the innovations and technological developments that have made today's aviation and aerospace industries possible. Students will also learn about the wide variety of exciting and rewarding careers available to them. This course will inspire students to consider aviation and aerospace careers while laying the foundation for continued study in high school and beyond.

**Introduction to Flight Course (.5)**

In the Introduction to Flight Course, students pursuing the pilot and UAS tracks will take a closer look at the aircraft they may one day operate. Students will begin with an exploration of the types of aircraft in use today before going on to learn how aircraft are made and how they fly. Students will understand how aircraft are categorized, be able to identify their parts, and learn about aircraft construction techniques and materials. They will gain an in-depth understanding of the forces of flight—lift, weight, thrust, and drag—including how to make key calculations. They will then touch on aircraft design, looking at stability, aircraft controls, and maneuvering flight. The course will conclude with a focus on career skills related to these topics.

## **ARTS**

### **Art I (.5)**

This course emphasizes the development of abilities to recognize visual arts content and concepts. Students will develop skills to create, discuss and understand original works of art. Students will maintain a portfolio documenting their accomplishments.

### **Art II (.5)**

Through assigned as well as self-directed projects, students will continue to explore a variety of media and subject matter intended to further develop their individual skills and creativity. Students will have more sophisticated experiences in art production, art criticism and aesthetics.

- Further development of technical skills in various artistic mediums.
- Further ability to utilize visual communication as a means of self-expression.
- Further develop rendering and compositional skills through a series of assignments.
- Incorporate research and written personal reflection into projects.
- Further the ability to analyze and speak about art using the conventions of Art Criticism.
- Begin to develop an artistic voice and more independence in the studio process.

### **Digital Art (.5)**

This course is intended to explore the possibilities of graphics as a form of visual communication. Emphasis will be on the building blocks of professional layout and design, especially through the use of computer graphics. This course has applications for students interested in areas such as computer graphics, publishing, commercial art, business, and marketing. Programs used in the class are Adobe CS6 Creative Suite Software, Photoshop, Illustrator, and Flash.

### **Drama (.5)**

This course focuses on the art of theater and the many components that work together to create a performance. Students study performance and technical elements as they develop projects of personal and social importance.

### **Drawing Fundamentals (.5)**

This is a course provides the foundation for all future advanced 2D art courses. Considerable time is spent examining the various aspects of observational drawing and shading. Students will be introduced to a variety of drawing and painting materials.

Areas of Study:

- Drawing with line
- Examining texture
- Exploring value (shading)
- Still life drawing
- Explore the use of color through different media

### **Individual Music Lessons**

Private vocal or instrumental lessons available, cost varies by instructor.



**Photography I and II (.5) and (.5)**

The semester must be taken in order but do not have to be completed in the same school year. The first half of the course will focus on introducing Adobe Photoshop to the student. The second half of the course will focus on DSLR camera basics. This course will help prepare the student for future graphic design coursework, and it will also offer real world camera experience for future photo endeavors.

**Photography for Illustration (.5)**

This class is designed to combine photography and drawing. You will photograph and then draw each assignment. This class is geared for the self-driven individual that is interested in studio courses. Your creativity and effort will drive your success. It is most important to get out and check out new places with your camera.

## **MATHEMATICS**

### **Algebra I (1)**

Algebra I provides the foundation for higher-level courses in mathematics, science, and technology. The course teaches the language and structure of algebra, algebraic expressions, solutions and application of equations and inequalities, graphing, rational expressions, and polynomials and factoring. A strong emphasis is placed on visualizing and solving word problems.

### **Algebra II (1)**

Algebra II is a course for students who have successfully completed Geometry and desire another year of mathematics. Topics that are covered include a review of algebra, complex numbers, quadratic functions, polynomial equations, exponents, logarithms, sequences, and series.

### **Calculus (1)**

Calculus is an introduction to differential and integral calculus: the study of change. The course is designed for college-bound students planning on a field of study in science, mathematics, computer science, or certain types of graduate work. The emphasis is on skills, theory, and applications. Calculus opens doors to higher mathematics, science, and technology.

### **Financial Algebra (.5)**

Financial Algebra is a comprehensive learning program aligned to the Common Core State Standards. It is an applications-rich, algebra-based, technology-oriented program that incorporates mathematical skills from Algebra 2, Pre-calculus, Calculus, plus Probability and Statistics, in real-world contexts.

### **Geometry (1)**

Geometry introduces the study of points, segments, triangles, polygons, circles, solid figures, and their associated relationships as a mathematical system. Emphasis is placed on the description and use of inductive, deductive, and intuitive reasoning skills. Powers of abstract reasoning, spatial visualization and logical reasoning patterns are improved through this course. Points, segments, triangles, polygons, circles, and solid figures are the structures studied. The focus is on comparisons between these figures concerning surface areas, volumes, congruency, similarity, transformations, and coordinate geometry.

- Understand and use basic number theory concepts, properties and operations
- Use proportional reasoning to solve mathematical and real-world problems
- Understand formulas for finding measurements and solving problems
- Understand basic properties of geometry

**General Math (.5)**

Emphasis will be placed on refreshing or mastering the basic computational skills, elementary algebra skills, and important applications before advancing to the next level of mathematics.

Students will:

- Be able to do basic mathematical operations
- Understand problem-solving techniques
- Understand the discrepancy between actual and estimated answers
- Use basic measurement skills
- Understand basic properties of geometry
- Be able to use formulas to solve real world problems
- Understand and apply concepts of ratios, proportions and percents

**Pre-Algebra (1)**

Pre-Algebra will prepare students for Algebra I with an emphasis on the mastery of basic skills needed for success. Integers and algebraic concepts are introduced early to develop students' algebraic thinking skills. Throughout the course algebraic concepts are connected to arithmetic skills to build on what students know. Geometry concepts are integrated when appropriate to foster connections.

**Pre-Calculus (1)**

After taking Trigonometry, Pre-Calculus begins with a study of mathematical systems. Students will explore various functions and their inverses. In addition, students will deal with concepts in Analytical Geometry including in-depth explorations with parametric equations, polar coordinates, and conic sections. Pre-Calculus is recommended for students who have an interest in studying business, engineering, medicine, or other math- and science-based fields.

**Statistics (.5)**

Statistics is a one-semester course with topics including data collection, graphical representation of data, percentiles, measures of central tendency, measures of dispersion, standard scores, and hypotheses testing.

**Transition Math (.5)**

This is a one-semester course is for students who have experienced difficulty in previous mathematics courses. It emphasizes upgrading and mastering basic skills and becoming familiar with concepts which involve these skills. Students who have successfully completed another high school math course should not register for this course.

**Trigonometry (.5)**

Trigonometry is a one-semester course covering trigonometry functions, inverse trig functions, graphing, trigonometry identities, applications, trigonometry equations, and polar coordinates.

# WELLNESS

## PHYSICAL EDUCATION

### **Food and Nutrition (.25)**

Food and Nutrition assists students in understanding the role of nutrition in health and wellness. Demonstrations, hands-on food labs, guided instruction and cooperative learning are used throughout the course. Students will learn the necessary skills to plan, purchase, and prepare nourishing meals and to evaluate and improve their day-to-day food choices. This course is repeated yearly through our farm-to-table school lunch program which all students participate in throughout the school year. Students may choose to enroll in additional courses in this career path such as Foods I, or Catering.

### **Health (1)**

The health course helps students to develop an understanding of total wellness –physical, mental and social. It provides skills for students to develop healthy lifestyle behaviors. CPR/AED, and certified lifeguard training is part of the curriculum in this course.

### **P.E. (.5)**

This class focuses on fitness enhancing habits that can be practiced for a lifetime. The five health-related components (cardiovascular, fitness, muscular strength, muscular endurance, flexibility and body composition) along with the concepts and principles associated with fitness and physical activity will be stressed. Students will create a personal lifetime fitness plan based on individual needs and interest and application of their understanding of the concepts and principles.

# COLLEGE AND CAREER PATHWAYS

## ELECTIVES

### **Career Development (.5)**

This course is designed to help students explore a variety of careers to consider and begin planning a career path. Skills include:

- Solving Problems And Using I Have A Plan Iowa to Identify Apprenticeship/Internship Opportunities
- Communicating Effectively, Applying Technology
- Increasing Occupational Knowledge and Skill
- Planning And Managing A Career
- Managing Resources

### **Child Development I (.5)**

Child Development benefits students regardless of gender. Students will not only understand children better, but themselves as well. The attitudes and knowledge developed will make some student better parents in the future and may lead others to rewarding careers. Important discussions reflect on the role of parents and the influence they have in the development of children. The physical, social, emotional, and intellectual needs of children and the observation of children are important parts of this course of study.

### **Child Development II (.5)**

In Child Development II, students continue learning about the physical, social/emotional and intellectual development of children by focusing on school-age children. In addition, students learn about children with special needs, influences on child development, parenting and discipline, family support systems, services, and laws.

### **Financial Literacy (.5)**

*EverFi - Financial Literacy™* and *EverFi – Marketplaces: Investing Basics™* work together to create a well-developed personal and future-thinking financial literacy course for high school students. *EverFi™* is a new-media learning platform that uses the latest technology-video, animations, 3-D gaming, avatars, and social networking-to bring complex financial concepts to life for today's digital generation. Units include: Credit Score, Insurance, Credit Cards, Taxes, Personal Investing, Savings, 401Ks, Mortgages, Financial Markets, Macroeconomics, and Company Financing.

### **Independent Living (.5)**

The course is designed to explore all aspects of independent, successful contemporary living. Topics include personality development, personal health, relationships with family and friends, handling crises, aging, death, balancing family living, managing personal finances, career interests and employability skills.

**Introduction to Business & Entrepreneurship (.5)**

We are all directly or indirectly part of the business world. As employees, we work in the business world, regardless of career.

As consumers, we all have many daily interactions with different types of businesses. Why not have a foundation of knowledge to understand business basics while becoming a smarter consumer?

This one-semester course provides that foundation with introductory information about economics, international trade, business structures, management, accounting, marketing, and investments.

**Introduction to Criminal Justice (.5)**

This course focuses on the inner workings of the three significant criminal justice functions in the United States, Law Enforcement, Courts and Corrections. The course will give the students and overview of policing in America, the historical development of policing internationally and locally and the implementation of community-based policing and criminal investigations.

**Introduction to Healthcare (.5)**

Students explore concepts in the areas of healthcare, as well as career options in each area. Students study the concepts of disease prevention, personal health management, and social work, in addition to other common health related functions. Students complete projects to develop a deeper understanding of the roles these healthcare functions play.

**Introduction to IT (.5)**

Students explore concepts in the areas of information technology, as well as career options in each area. Students study the concepts such as: networking information support, web and digital communications, and programming and software development.

**Introduction to Law (.5)**

This course provides an overview of the law and the legal system including: the Constitution, court system attorney-client relationship, administrative law, crimes, torts, contract law, family law, owning and operating motor vehicles, renters and landlords, home ownership, employee and employer rights and duties, wills, trusts and probate laws and the Declaration of Independence. The student will develop the knowledge and skills indicated by the learning outcomes for the course.

**Introduction to Sports Medicine (.5)**

This course introduces students to essential skills in sports medicine, including fitness assessment, conditioning, emergency preparedness, injury management, therapeutic modalities, nutrition, and ethical and legal considerations. Students explore careers in fitness instruction, athletic training, exercise physiology, sports management, and physical therapy.

**Introduction to Veterinary Science (.5)**

As animals play an increasingly important role in our lives, scientists have sought to learn more about their health and well-being. Taking a look at the pets that live in our homes, on our farms, and in zoos and wildlife sanctuaries, this course examines some of the common diseases and treatments for domestic animals. Toxins, parasites, and infectious diseases affect not only the animals around us, but at times, us humans as well! Through veterinary medicine and science, the prevention and treatment of diseases and health issues are studied and applied.

**Personal Development (.5)**

Personal development focuses on the reflective process and analysis of one's own words, thoughts, and deeds. How do these three things become habits, define one's character, and create one's destiny? Is change possible? Explore this and more through a variety of readings, discussions, and writings.

**Student Designed Pathway Course (.5)**

This course may be repeated. A student-designed plan needs to be submitted to the Director of Academics and will address the student's specific career or college learning pathway goals and interests for this class. In addition, the student will work with a teacher mentor, develop an inventory of pre-determined artifacts that will demonstrate what the student hopes to discover during the learning process, and, ultimately, a summative reflective project aligned with the aforementioned goals.

**Textiles and Clothing I (.5)**

In this course students learn about the various needs clothing fulfills. In addition, they study the Elements and Principles of Design and how they apply to clothing and learn the basic fibers and fabrics used in clothing and textile products and how to care for them. Following an introduction to the main equipment used in sewing students complete two beginner sewing projects.

**Textiles and Clothing II (.5)**

In this course, students study the history of fashion, explore the cultural and social impact of clothing, and learn to identify various fibers by completing burn and chemical testing. Finally, students advance their sewing skills by adding to sewing portfolios, selecting patterns, and sewing clothing items which showcases their sewing skills.

**Textiles and Clothing III (.5)**

Students explore the diverse careers available in the textiles and clothing industry, evaluate their sewing skills and sew an item of clothing or household textile product which advances those skills. The highlight of TC3 will be the design, creation and marketing of an upcycled textile product.

**Textiles and Clothing IV (.5)**

In TC4, students will explore the impact of the globalization of the textile and clothing industry and create a public service announcement to educate others. As a culminating project to all of their textiles and clothing classes, they will select a career they may be interested in pursuing in the textile and clothing industry and complete a specially-designed project centered around some of the major tasks that career involves.

## Resources for Parents and Students

Information regarding the Iowa Core Standards is accessible here:

<https://www.educateiowa.gov/iowacore>

The Iowa 21st century framework  
(2007 Iowa Legislative session):

- civic literacy
- employability skills
- financial literacy
- health literacy
- technology literacy

The Universal Constructs are:

- critical thinking
- complex communication
- creativity
- collaboration
- flexibility and adaptability
- productivity and accountability