



CARDINAL
GIBBONS
HIGH SCHOOL

Cardinal Gibbons Catholic Virtual Course Offerings

*Increased cost for course. **Course will NOT have live sessions. †Lightweight devices such as Apple iPads, Google Chromebooks, and tablets have limited support for Java and programming-based content. Therefore, these devices are not recommended for this course. ††See Career Exploration Listing on the past page of this catalog. ‡Customer provided materials required.

Information about Catholic Virtual

Catholic Virtual Schools is an Accredited High School that offers our student access to dozens of elective courses. As a fully accredited online private school, Catholic Virtual provides our students with more than 50 Catholic-appropriate courses, online activities, labs, projects, and more.

Typically, the school will enroll students according to the Gibbons academic calendar. Fall Semester 8/15-12/31 and Spring Semester 1/1-6/1.

Cost Non-AP Electives \$450 per semester
American Sign Language: \$800 per semester
AP Courses: \$500 per semester

Class format

- Courses are 100% asynchronous. There is no daily or live instruction – students work independently at their own pace.
- Students can expect four lessons per week for 18 weeks. Lessons average about 30-45 minutes.
- Instructors work with students to address questions about course content, grades, and course expectations.
- Instruction is delivered using various methods, including videos, presentations, and course readings.

Course credit

Upon completion of a course, students receive a transcript from Catholic Virtual which, as an accredited institution, can be submitted along with the Cardinal Gibbons transcript when applying to college. Students earn .5 credit for each semester class.

Registration

- *Electives*: Register for the high school electives (non-AP) using the online form found on the Virtual Elective page on our website
- *AP Courses*: Students interested in registering for these courses should fill out the special request form on the course registration page.

AP Course Testing

Student interested in taking the AP test for the AP course will have the option to register for the AP test in the fall for the May testing. AP Test Registration information can be found on the College Counseling: Standardized Testing Page. The College Board charges a fee to register for each test.

Orientation

Upon enrollment, Catholic Virtual will contact students to schedule an orientation session to learn how to access and use their online system.

Catholic Virtual Instruction and Teaching Model Information

Catholic Virtual Teachers: Our Instructional Advantage

Teacher Best Practices – All Instruction Models	
Welcome Contact	<ul style="list-style-type: none"> • Within 24-hours* of student start
Messaging and Communication	<ul style="list-style-type: none"> • Weekly communication with student/parent/school partner • 24-hour* email response
Grading and Feedback	<ul style="list-style-type: none"> • Grading within 24-hours* of student submission • Targeted, timely, and specific/actionable feedback on student work
Progress Monitoring	<ul style="list-style-type: none"> • Weekly monitoring of student performance and pace with accompanying communication and action/results-oriented planning

* Indicates a school day



Teaching Models



TEACHER FACILITATION Independent Study

Teacher of Record
CV Teachers

Course Length
18 Weeks Per Semester Course

Course Scheduling
Independent study - No class schedule

Teacher/Student Ratio
1:1-30

Availability
Always Available – Rolling Enrollment



Learning Management System

The systems and tools needed to create the ideal learning experience for your students.



Online Self-Paced Curriculum

Curriculum designed specifically for online learning and to meet the academic needs of students.



Grading, Monitoring & Communication

Teachers conduct weekly progress/pacing monitoring and provide weekly student feedback via email—teachers complete assignment grading within 24 hours.



Asynchronous Instruction

Students are empowered to work at their own pace. Offers the flexibility of independent study but with the support of our teachers - without the constraints of group pacing and schedules.



Teacher & Technical Support

Teachers are accessible at any time via email for student Q&A. Technical support and how-to videos are also available.

AP Courses on Catholic Virtual

The following courses may be taken independently through Catholic Virtual Schools during the school year and/or summer. These courses require an extra fee and do not replace a course taken on campus. Grades earned in these courses will not contribute to the student's Cardinal Gibbons GPA, but students may obtain a separate transcript from Catholic Virtual. Please visit the Course Registration page on the Cardinal Gibbons website for additional details and use the Special Request Form (see page 7) to express interest in these courses.

The cost for each AP course is \$1000 (2 semesters).

Students interested in registering for these courses should fill out the special request form on the course registration page.

Students will have the option to register for the AP tests for these courses in the fall for the May testing.

AP Human Geography

Grade Level(s): 10, 11, 12

Prerequisite: None

Credit: No credit is awarded from Cardinal Gibbons for this course.

In AP Human Geography, students will explore how humans have understood, used, and changed the surface of the Earth. Students will use the tools and thinking processes of geographers to examine patterns of human population, migration, and land use. The focus of the course will be on connections between geographic concepts and processes to real-life scenarios and seeing patterns and trends in data and in visual sources such as maps and drawing conclusions from them. In addition, students will explore spatial relationships using geographic scales.

AP Macroeconomics

Grade Level(s): 11, 12*

Prerequisite: None

Credit: 0.5

**After the 2023-2024 school year, this course will only be available to students in grade 11. Rising seniors for 2023-2024 will need to complete the class by the end of Semester 1.*

In AP Macroeconomics, students will explore the principles of economics that apply to an economic system as a whole. To accomplish this, students will use graphs, charts, and data to analyze, describe, and explain economic concepts. The primary focus of the course will be on defining economic principles and models, explaining given economic outcomes, determining outcomes of specific economic situations, and modeling economic situations using graphs or visual representations.

Note: While the grade earned in this class will not contribute to the Cardinal Gibbons GPA, this class does fulfill the graduation requirement for Economics and will be listed on the Cardinal Gibbons transcript with a designation of "pass."

Course Descriptions

HIGH SCHOOL ELECTIVES

Accounting (0.5 credit)^{††}

In this semester course, students explore accounting and accounting careers. They learn basic accounting skills and procedures both with and without a computer for general journals, general ledgers, cash payments journals, cash receipts journals, sales journals, accounts payable ledgers, and accounts receivable ledgers. Students also learn how to reconcile a bank statement and to prepare payroll records.

Advanced Drawing (0.5 credit)^{** † ††}

In Advanced Drawing, students review basic drawing skills and the elements and principles of design. They explore how each of these are used in art, expand their knowledge of art history, and explore, in depth, several different types of media and artistic styles in order to begin to define their personal aesthetic. All projects in this course will be original compositions by the student. At the end of the last four modules, students will participate in either a self- or peer-critique to help them learn to analyze their work and grow as an artist from the input of others. At the end of the course, students will compile and organize their artwork into a digital portfolio and write an artist statement that can be used as a record of personal accomplishment or as an application to a secondary art program or job.

Customer-Provided Required Physical Materials:

- drawing pencil set 2H, HB, 2B, 4B, 6B, 8B (preferably woodless)
- 9×12 multimedia sketch book – 60 sheets
- 18×24 pastel paper, assorted colors (gray, tan, black, and burnt umber) – 10 sheets
- oil pastels – at least 24-piece set
- high quality colored pencils – 36-piece set (recommend Prismacolor brand or similar quality)
- chalk pastels – 24-piece set
- high-quality art markers (tombow, Prismacolor, or similar brand) water based or alcohol based – primary colors and flesh tones
- 1 black fine point Sharpie
- 1 black ultra-fine point Sharpie
- 1 kneaded eraser
- 1 white eraser
- 1 hand-held pencil sharpener

Optional Materials:

- Finishing spray for pastels
- Assorted blending stumps and tortillions
- 18×24 portfolio to keep artwork
- toolbox to keep supplies

Aeronautics and Space Travel (0.5 credit)^{††}

This course introduces students to the history and near future of space travel. Students will explore the possibilities of moon bases, Mars colonies, and visiting the outer planets in our solar system and their moons. Students will also discuss important ethical and legal issues around space exploration, such as asteroid mining and war in space. The course gives an expansive view of the technologies, science, and theories that will make far-fetched dreams into realities during the student's lifetime.

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Art Appreciation (0.5 credit)^{††}

Art Appreciation investigates how quality is determined and created by artists, in order to evaluate and appreciate art on a deeper level. Students are introduced to the elements and principles of art and the importance of artists' context and perspective. The course covers different periods in art history, different techniques in art, and how to research and evaluate art, emphasizing why each contributes to valuing a piece of art and provides the necessary knowledge to do so.

Art History (0.5 Credit)^{††}

This Art History course integrates the four components of art study: art production, historical and cultural context, critical process and aesthetic process. Students identify and describe art from prehistoric times to modern time. Throughout this course, students discuss various artworks, research artists, and create documents and presentations demonstrating concepts learned.

Augmented and Virtual Reality Applications (0.5 credit)^{††}

Recent advances in technology have allowed augmented and virtual reality (AR/VR) systems to become extremely sophisticated and realistic. This course introduces students to the technologies that underpin AR/VR systems. The course walks through five applications of AR/VR and how they will change and impact numerous aspects of our lives and the economy. Students also learn about and discuss the risks and side effects of these systems on health, privacy, and ethical implications.

Basic Drawing (0.5 credit)^{** ‡ ††}

In Basic Drawing, students experiment with several different art materials and tools to see what each tool can do best. Students explore ordinary things around them to become more observant of the structures and meanings of things which can be seen in their home and community. Each lesson provides room for expressing the technical skill learned in a unique, creative way.

Customer-Provided Required Physical Materials:

- 1 drawing pencil, 2B
- 1 round hair brush #10
- 1 bottle India Ink, black
- 1 Pilot Varsity Pen, self-contained black ink
- 2 conté crayons: white, black
- 1 Art gum eraser
- 1 white, wax Crayola crayon
- 40 sheets white drawing paper, 9×12
- 5 sheets construction paper, 9×12, black
- 15 sheets grey construction paper, 9×12
- 14 large envelopes, 10 x 13
- 2 sheets white watercolor paper (rough, heavy, stiff)
- 2 sheets rice paper 9 1/2 x12 (soft, translucent)
- 25 sheets newsprint, 9×1
- 1 bottle white glue (obtain locally)

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Basic Web Design (0.5 credit)^{† ††}

In this course, students learn how to design a beautiful and functional website, and how to take their design and translate it into a live website using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS) programming languages. Students learn about the use of color, layout, and when to use different techniques, typography rules, and the importance of imagery. Upon completion of this course, each student will have hands-on experience creating a fully functioning website. Students do not need to have a previous technical background with HTML or CSS prior to taking this course.

Customer-Provided Required Physical Materials:

- HTML Text Editor (choose one):
 - TextEdit – For use on Mac – comes with OS
 - Notepad – For use on Windows – comes with OS
 - Text – For use on Chromebook – free app download from the Google Store
- image editing software (choose one):
 - Pixlr – <https://pixlr.com/editor/> (in-browser)
 - GIMP – <http://www.gimp.org/downloads/> (downloadable program)
- webhosting and basic in-browser FTP:
 - Neocities – <https://www.neocities.org>

Beginning Painting (0.5 credit)^{† ††}

This course introduces students to classical and contemporary painting, techniques and concepts, with emphasis on the understanding of its formal language and the fundamentals of artistic expression. Acrylic and watercolors are the mediums used in this class.

Customer-Provided Required Physical Materials:

- chromacryl tube of acrylic paints
- round brush
- flat brush
- watercolor paints (includes brush)
- set of markers
- painting paper (The pad of paper may be labeled watercolor paper. Please use for all paintings, including acrylic.)
- newsprint paper (This paper is for sketches and testing paints. Do not use for painting projects.)
- 1–4b pencil
- 7 project cardstock pages

Building Maintenance Technology I (0.5 credit)^{*††}

The Building Maintenance Technology course will focus on all aspects of the construction industry from health and safety to the tools that every construction professional needs in their collection. Students will learn about the various roles in the industry as well as job outlooks, educational and experiential requirements, and salary information. Some activities will focus on career exploration to discover career options that best align with interests and talents. Students will learn basic construction math and how it is applied during design and building phases of projects. They will learn specifics about carpentry, construction drawings, framing floor systems, framing walls, and framing roofs. Throughout, they will establish a foundation for what opportunities exist for them in the industry.

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Building Maintenance Technology II (0.5 credit)^{*††}

The Building Maintenance Technology II course will focus on construction components, masonry skills, and OSHA. Students will learn about the various masonry and concrete skills as well as safety measures. Some activities will focus on the real-world application of learned skills with hands-on components. Students will learn about erecting, plumbing, and bracing in relation to concrete as well as laying masonry units. Finally, students will learn important science skills for the construction industry and prepare for OSHA 30-hour Construction certification exam.

Business Law (0.5 credit)^{††}

In this course, students will learn about the American legal system as they examine ethics, court systems, criminal law, and torts. They will explore how the court systems work together, and which types of misconduct result in going to court. As they progress through the course, students will also gain an understanding of what is right and wrong in business actions and employment law. Study will focus on the formation of a business and the basic legal issues associated with each type of business.

Career Exploration in Finance (0.5 credit)^{††}

This course introduces students to the challenging and lucrative world of finance through a review of key financial terms and various groups, positions, and roles within financial institutions. Students learn about resumes, interviews, and networking, and discuss ethics on Wall Street and the role of finance within society.

Career Exploration in Healthcare (0.5 credit)

This course introduces students to the exciting and varied career opportunities in the healthcare industry by introducing roles and tasks, identifying education and skills needed, determining responsibilities of roles which support or supervise positions, and analyze legal and ethical responsibilities, limitations, and implications for each of these professions.

Career Planning (0.5 credit)

The Career Planning course guides students through the essential elements of the career planning process and the development of a defined career plan. Students consider the many factors that impact career success and satisfaction. Using a process of investigation, research, and self-discovery, students acquire the understandings critical to the career planning process, and upon completion, students will have a practical and comprehensive college or career transition portfolio that reflects their skills and abilities, as well as their interests, values, and goals.

Character Education (0.5 Credit)

This course teaches students practical skills for understanding and managing their emotions, setting goals and getting organized, understanding and getting along with others in our diverse world, and making good decisions. Research shows that people who practice these skills have greater academic achievement as students and experience more success and satisfaction as adults.

Child Development (0.5 credit)^{††}

This course is designed to help prepare students for their responsibilities as parents and caregivers of children. Topics include prenatal care, growth and development through age six, teen pregnancy, maternal health, parenting skills, and child guidance.

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Cloud Technologies and the Internet of Things (0.5 credit)^{††}

This course examines the technologies, hardware, and software that underpin the Internet of Things. Students examine a variety of end-market applications in homes, businesses, and cities, as well as the many career opportunities that the Internet of Things enables.

Computer and Network Security Fundamentals (1.0 credit)^{* †† ‡§}

This inspiring course covers the fundamentals of computer safety, network security, and prevention of digital attacks. Students experience a hands-on approach to security strategies, expand their computer and networking security techniques, and improve their problem-solving skills. Students will also explore numerous employment opportunities in one of the fastest-growing industries – Cybersecurity.

Construction: Fundamentals and Careers (0.5 credit)^{*††}

This course introduces students to the evolving industry of construction! In addition to building on standard concepts such as technical skills, project planning, and regulations, students will learn about the variety of career possibilities within construction. They will also explore the entrepreneurial side of construction and discover what it takes to start and run your own business in this field. Finally, the course will look towards the future and analyze trends in green materials, energy efficiency, and technology to determine how these will impact the homes we build and live in.

Consumer Math (1.0 credit)

This course focuses on the mathematics involved in making wise consumer decisions. Course topics may include paychecks and wages, taxes, comparison shopping, budgets, interest calculations and more.

Contemporary Novels (0.5 credit)[‡]

For this course, students will read a set of novels and novellas that were written during the twentieth century and reflect themes common to contemporary literature, such as the ability of the human spirit to rise above seemingly-impossible circumstances. Through creative projects and writing assignments, students will identify and analyze each novel's themes and also compare and contrast the novels' treatment of common themes. Please note that, like most contemporary literature, the novels assigned for this course contain realistic situations and language. In addition to the novels listed, each student will read another contemporary novel of his or her choosing that the instructor must approve. MLA (Modern Language Association) documentation is required on all papers submitted.

Customer-Provided Required Physical Materials:

- *Picture Bride* by Yoshiko Uchida; ISBN-10: 9780295976167; ISBN-13: 978-0295976167[§]
- *Night* by Elie Weisel; ISBN-10: 9780374500016; ISBN-13: 978-0374500016[§]
- *To Kill a Mockingbird* by Harper Lee; ISBN-10: 0060935464; ISBN-13: 978-0060935467[§]
- *Fallen Angels* by Walter Dean Myers; ISBN-10: 0545055768; ISBN-13: 978-0545055765[§]
- *The Old Man and The Sea* by Ernest Hemingway; ISBN-10: 0684801221; ISBN-13: 978-0684801223[§]
- *Different Seasons* by Stephen King; ISBN-10: 1501143484, ISBN-13: 978-1501143489

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Cybersecurity (0.5 credit)^{††}

In the Cybersecurity course, students will learn about the practice of protecting networks, systems, and programs from digital attacks. They will better understand the aim of these attacks, such as destroying information, extorting money and resources, or disrupting business operations. They will learn about the challenges and opportunities that implementing cybersecurity measures can present. As attackers become more innovative, it is more important than ever to have effective cybersecurity channels in place to counter them. Students will learn about countermeasures and role recovery and their integral function in the cybersecurity realm. Additionally, students will learn what makes certain networks and systems more vulnerable to attacks. They will become adept at identifying potential viruses, worms, threats, and malware. The Cybersecurity course acts as a foundation on which to build extensive knowledge about threats to digital security.

Cybersecurity Essentials (1.0 credit)^{* †† ‡‡}

Have you or someone you know ever had personal information compromised? This inspiring course covers defensive strategies for computer, mobile device, and network security. You'll experience a hands-on approach to security strategies, expand your computer and networking security techniques, and improve your problem-solving skills. You will also explore numerous employment opportunities and prepare for one of the fastest-growing industries: cybersecurity.

Digital Information Technology (1.0 credit)^{* †† ‡‡}

Dive into an exciting course that will provide you with the foundational skills needed for exciting careers like game development, military defense, web design, and software engineering! You will explore Microsoft Office online applications, web design, emerging technologies, operating systems, project management, communication methods, Information Technology careers, and much more in this course. Learn about your strengths and how they relate to different career paths.

Early Childhood Education I (0.5 credit)^{††}

The Early Childhood Education course is designed to provide an overview of the expectations and roles of the early childhood educator. The course provides details about childhood development, health, nutrition, and guidance strategies to help students understand the exciting and unique opportunities that a career in early childhood education can offer. The course is intended to prepare students for challenges they may face, but to emphasize the rewards of being able to influence the life of a young child. The ability to offer support to children as they learn, and grow is a point that is highlighted throughout each lesson.

Early Childhood Education II (0.5 credit)^{††}

The Early Childhood Education II Course is designed to provide an overview of the professional expectations of being an early childhood educator. Throughout the course, students will learn about what it means to be a professional, including the significance of professional development in any educational role. They will review observational methods and the history of education in the United States, with a focus on early childhood and school-age programs. They will spend a significant portion of the course learning about the importance of Developmentally Appropriate Practice (DAP) and how to implement these strategies. Designing physical, social, and temporal environments will also be a major focus of the course, as will developing relationships with families and communities to strengthen their position and knowledge. Additionally, this course will prepare students for the Child Development Associate (CDA) certification exam.

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Engineering and Product Development (0.5 credit)^{** †}

This semester-long course provides an overview of the concepts of product engineering and development. Students analyze the life cycle of a product to prepare a product for distribution and for target markets. The course begins with building an understanding of the product life cycle, from the initial idea to drafting requirements to using 3-D modeling tools and other design tools. The final unit focuses on assembling the pieces within a project plan to achieve a product and evaluating the plans for a successful product launch. In addition, the course provides information about the different careers available to students interested in engineering, product development, and project management.

Customer-Provided Required Physical Materials: Students will need a computer or laptop for this course; tablets are not sufficient.

Financial Literacy (0.5 credit)^{††}

This personal finance course is designed to help students budget, keep a checkbook and filing system, deal with debt and credit, and become wiser consumers. Students will learn how money and the dynamics surrounding it affect their relationships, their lifestyles, and their retirement.

First Aid and Safety (0.5 credit)

In this course, students learn and practice first aid procedures for a variety of common conditions, including muscular, skeletal, and soft tissue injuries. In addition, students learn how to appropriately respond to a variety of emergency situations. They also learn the procedures for choking and CPR for infants, children, and adults. In addition to emergency response, students will explore personal, household, and outdoor safety, and disaster preparedness.

Foundations of Programming (1.0 credit)^{* †† ††}

Foundations of Programming will teach students the fundamentals of programming using the computer language Python. The course provides students with the concepts, techniques, and processes associated with computer programming and software development. Students will also explore the many programming career opportunities available in this high-demand field.

Fundamentals of Bitcoin and Cryptocurrency (0.5 credit)^{** ††}

Upon completion of this course, students will understand bitcoin, including its history, development, and context within the modern global economy. Students will learn the basic cryptographic principles that underlie bitcoin, and gain confidence by demonstrating strong security principles in storing and transaction bitcoin. Key principles such as mining, wallets, and hashing will be introduced. And finally they will be familiarized with the nascent industry of digital currencies and how they function.

Fundamentals of Blockchain and Cryptography (0.5 credit)^{** ††}

Blockchain seems to be the latest buzzword that the business world is talking about. But what is it? And why should a high school student care? This course will seek to answer those questions. It will strip away the layers of complexity and sophistication to help students understand the key concepts of the blockchain. The course will introduce and discuss areas where blockchain has the greatest potential.

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Graphic Design (0.5 credit)^{‡ † † †}

This Graphic Design course is an introduction to elements of design, spatial relationships, typography, and imagery as they apply to practical visual solutions for self-promotion, resumes, logo design, web design, and sequential systems. In this course, students will explore the principles and elements of design through visual projects. Students will work with both analog and digital media as they explore two-dimensional and three-dimensional design and color theory. This course will improve students' ability to communicate visually. Students are given the room to express new technical skills in their own creative ways.

Customer-Provided Required Physical Materials: one of the following software programs: Adobe® Illustrator (cost associated), Adobe® Photoshop (cost associated), GIMP (free download), or Pixlr (free browser-based program). Additional required materials include the following: triangle, Exacto knife, markers, pencil, paper note pad, colored pencils, dotted line paper, glue stick, ruler, scanner or camera for submitting finished work. Students will need a computer or laptop for this course; tablets are not sufficient.

Health Careers (0.5 credit)

In this course students explore a variety of career options related to the health care field, including medicine, nursing, physical therapy, pharmacy, dental careers, child care, sports medicine, personal training, social work, psychology, and more. Students will learn about various options within each field, what each of these jobs entails, and the education and knowledge required to be successful. In addition, they will focus on basic job skills and information that would aid them in health care and other career paths.

Health Science Concepts (1.0 credit)

This year-long course introduces high school students to the fundamental concepts of anatomy and physiology—including the organization of the body, cellular functions, and the chemistry of life. As they progress through each unit, students learn about the major body systems, common diseases and disorders, and the career specialties associated with each system. Students investigate basic medical terminology as well as human reproduction and development. Students are introduced to these fundamental health science concepts through direct instruction, interactive tasks, and practice assignments. This course is intended to provide students with a strong base of core knowledge and skills that can be used in a variety of health science career pathways.

Individual and Team Sports (0.5 credit)

To improve and maintain optimum health, it is necessary for people of all ages to participate in physical exercise. Physical education is much more than just fitness and exercise. Emphasis in this course is placed on the value of sports as possible lifetime activities and on creating a clear explanation of the rules and basic principles of a variety of sports.

Introduction to Agriculture, Food, and Natural Resources (0.5 credit)

This semester-length high school course introduces students to the basic scientific principles of agriculture and natural resources. Students recognize and research plant systems, animal systems, government policy, “green” technologies, agribusiness principles, and sustainability systems. In this course, students apply understanding of ecosystems and systems thinking to the management of natural resources to maximize the health and productivity of the environment, agriculture, and communities. Students also analyze community practice or policy development related to sustainability in agriculture, food, and natural resources. Finally, students apply adaptive ecosystem management to a common pool resource problem in a manner that addresses ecological, socioeconomic, and institutional contexts.

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Introduction to Artificial Intelligence (0.5 credit)^{††}

This course teaches what every student should know about Artificial Intelligence. AI is a fast-moving technology with impacts and implications for both our individual lives and society as a whole. In this course, students will get a basic introduction to the building blocks and components of artificial intelligence, learning about concepts like algorithms, machine learning, and neural networks. Students will also explore how AI is already being used, and evaluate problem areas of AI, such as bias. The course also contains a balanced look at AI's impact on existing jobs, as well as its potential to create new and exciting career fields in the future. Students will leave the course with a solid understanding of what AI is, how it works, areas of caution, and what they can do with the technology.

Introduction to Business (0.5 credit)^{††}

This course introduces students to basic business concepts that will help them understand how a business survives in today's economy and the role that consumers play in the same economy. Students will learn how to balance a checkbook, save for the future, and use credit wisely. Students will also learn how to create a resume and how to participate in a job interview.

Introduction to Education and Teaching (0.5 credit)^{††}

This course is designed to prepare future educators for the classroom they will inherit! It starts with a history of education and how blended, adaptive, and personalized learning are coming to the forefront in learning. It then explores new and emerging technologies, along with their current and future impact on education. Throughout the course, students will explore a wide range of career possibilities in the education field and evaluate both the promises and pitfalls of technology in education.

Introduction to Information Technology (0.5 credit)

This course introduces students to the essential technical and professional skills required in the field of Information Technology (IT). Through hands-on projects and written assignments, students gain an understanding of the operation of computers, computer networks, Internet fundamentals, programming, and computer support. Students also learn about the social impact of technological change and the ethical issues related to technology. Throughout the course, instructional activities emphasize safety, professionalism, accountability, and efficiency for workers within the field of IT.

Introduction to JAVA Programming (0.5 credit)^{‡ † ††}

JAVA is one of the most widely used computer languages in the world. This course teaches students Java by having them complete multiple projects, including games such as mad libs, player vs. computer games, battleship, tic-tac-toe, picture shuffler, and many more. This course assumes no Java coding experience and includes self-graded quizzes and tests.

Customer-Provided Required Physical Materials:

- HTML Text Editor (TextEdit, Notepad, or Text) and Eclipse
- Students will need a computer or laptop for this course; tablets are not sufficient.

Introduction to Network Systems (0.5 credit)

This semester-long course introduces students to the fundamental technology and concepts that make networking systems possible. The most important concept introduced is that of the OSI reference model and its bottom four layers, which are most directly concerned with networking instead of computing. The course explores the software and hardware supporting LANs, WANs, and Wi-Fi networks. Students are introduced to the protocols in the TCP/IP stack that are used to communicate across a network, and to networking hardware, including hubs, switches, bridges, routers, and transmission media. Students explore questions of security, network management, and network operating systems.

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JavaScript (0.5 credit)^{† † † †}

In this course, students learn how to start programming with JavaScript. Students learn the basics of JavaScript including testing, functions, objects, arrays, loops, conditional code, operators and syntax basics. Students learn timing and animations, and how to debug. The class will conclude with a robust project that incorporates everything they learned in the semester. **Note:** Some YouTube videos are embedded within course.

Prerequisite: Students should have a working knowledge of HTML and CSS prior to taking this course.

Required materials:

- HTML Text Editor (choose one):
 - TextEdit – for use on Mac – comes with OS
 - Notepad – for use on Windows – comes with OS
 - Text – for use on Chromebook – free app download from the Google Store
- Image Editing Software (choose one):
 - Pixlr – <https://pixlr.com/editor/> (in-browser)
 - GIMP – <http://www.gimp.org/downloads/> (downloadable program)
- Webhosting and basic in-browser FTP: Neocities – <https://www.neocities.org>
- Students will need a Windows PC or Mac for this course; Chromebooks and tablets are not sufficient.

Journalism (0.5 credit)

This course is designed to prepare you to become a student of journalism and media. The work we do here will equip you with the critical skills you must have to succeed in high school media, college media, and beyond. We will read a variety of journalistic material and do a great deal of news writing. We will also look at journalism from legal, ethical, and historic vantage points. Expect to complete numerous writing activities in a variety of styles including editorial, hard news, feature, review, and more. If you participate actively, you will gain tremendous skills that will serve you for the rest of your life. Individual and group project will also be a part of this class. This course is a project-based course and does not include traditional tests, unit level understanding is assessed through unit projects.

Leadership Skills Development I (1.0 credit)^{* † † † †}

In Leadership Skills Development, students build skills to succeed in high school, college, and life. Students learn to act by pressing their "Turbo Button", manage their time by staying in the "Lasting Zone", chart their goals by creating a "North Star", and many other proven leadership techniques developed by the leadership training institute Mawi Learning. Whether students are struggling or already at the top of their game, Leadership Skills Development will give them new skills for a successful life.

Leadership Skills Development II (0.5 credit)^{† †}

Increase your confidence and build your social skills as you learn how to overcome many of the toughest challenges teens face. Discover how your "super-charged" teen brain really works, so you can make better decisions, have more fun, and achieve more. Learn how to conquer peer pressure, social anxiety, and the unnecessary risks that can derail your future. By the end of your training, you will have new power to direct your own life and lead your classmates. Throughout the course, you will be coached by Mawi Asgedom, a Harvard graduate and student success expert who has written eight books and trained over 1,000,000 students.

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LEED Green Associate (0.5 credit)^{*††}

This course introduces students to the LEED process. LEED, or Leadership in Energy and Environmental Design, is the global standard for green building certification. Throughout the course, students will gain an understanding of the various components of green building. The theme of sustainability and sustainable construction is woven throughout each module both in terms of physical environment and as it pertains to LEED certification.

Marine Science (0.5 credit)

About 70% of the Earth is covered by water. Even today, much of the world's oceans remain unexplored. Marine scientists make exciting new discoveries about marine life every day. In this course, students will discover the vast network of life that exists beneath the ocean's surface and study the impact that humans have on the oceans.

Media and Communication (0.5 credit)

From banner ads to billboards, newspaper articles, and Facebook feeds, people are constantly sharing ideas. This course looks at the many facets of mass media. Students will learn how the media shapes every aspect of our lives. We examine the role of newspapers, books, magazines, radio, movies, television, and the growing influence of Facebook, YouTube, and Twitter.

Medicine (0.5 credit)

This course provides students with an introduction to healthcare, with emphasis on modern, clinical medicine. Students will review basic human anatomy and physiology and study major health concerns affecting people in the U.S. and the world. Topics include infectious diseases, cancer, traumatic injuries, and healthcare career opportunities.

Nutrition (0.5 credit)

This course takes students through a comprehensive study of nutritional principles and guidelines. Students will learn about world-wide views of nutrition, nutrient requirements, physiological processes, food labeling, healthy weight management, diet related diseases, food handling, nutrition for different populations, and more. Students will gain important knowledge and skills to aid them in attaining and maintaining a healthy and nutritious lifestyle.

Paleontology (0.5 credit)^{††}

In this course, students will learn about the creatures both large and small that roamed the earth before modern man. Students will watch videos from experts at the Royal Tyrrell Museum, a leading paleontology research facility, and discover how the field of paleontology continues to provide insight into early life on earth.

Personal Finance (0.5 credit)^{††}

The Personal Finance course prepares students to be successful financial citizens as they learn about the role and responsibilities as a responsible financial planner and saver as well as learn about the services, functions, and products of the financial industry.

Personal Fitness (0.5 credit)

This course helps students understand what it is to live a healthy life, maintain fitness, and gain an understanding of the body and how it influences personal fitness. Students are introduced to exercise and how it relates to well being, the work of the body's bones and joints, muscles, cardio, respiratory, and energy systems, and healthy habits including eating and drinking as it relates to exercise.

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Principles of Architecture (0.5 credit)^{* † † †}

In Principles of Architecture, students review various concepts used in the design and architecture field to learn about basic drafting equipment and how to use and maintain it. They analyze challenges and solutions within the development of design and learn how to prepare drawings manually and using AutoCAD software. A substantial portion of the course will be spent on sequential processes so that students develop an understanding of creating and annotating drawings as well as how to apply standard rules regarding line types, offset objects, creating layers, and setting up a page for plotting.

Customer-Provided Required Physical Materials:

- AutoCAD software (free download - <https://www.autodesk.com/education/edu-software/overview?sorting=featured&page=1>)
- Students will need a computer or laptop for this course; tablets are not sufficient

Project Management (0.5 credit)^{††}

The Project Management course is intended to identify the key components of a career as a project manager. Students will review the basics in project management terminology, such as designating distinctions among projects, products, programs, and portfolios. They will delve into concepts like managing deliverables and creating engaging relationships with stakeholders. The primary components of project planning will be laid out and described in detail. Students will explore teams and organizational structures. They will discover project management tools and innovation being used in the industry. Overall, they will develop a greater understanding of the mechanisms that are in place to effectively carry out projects of any size through specific project management techniques.

Python Multiplayer Adventure (0.5 credit)^{* † † †}

Python is a powerful language designed to do just about anything! This course allows students to learn Python by first completing a text based console game and then turning it into a multiplayer adventure! Students will not only learn Python from going through the individual lessons and video reviews but also understand a client server relationship. They will get to code in their own python web server that allows connections through a browser. Students will gain experience using variables, classes, functions, lists, dictionaries, generators and proper Python formatting. This is a great course for anyone interested in preparing themselves for future coding classes. This course assumes no coding experience and includes self graded quizzes and tests.

Customer-Provided Required Physical Materials:

- Python Version 3 (<https://www.python.org/downloads/>).
- Students will need a Windows PC or Mac for this course; Chromebooks and tablets are not sufficient.

Renewable Energy (0.5 credit)^{††}

In this course, students will investigate sustainability and the importance of finding new, innovative ways to ensure that we can provide for global energy needs today and in the future. Students will take a balanced and evidence-based look at climate change, ways that we can harness renewable resources, sustainable societies, biodiversity, and smart growth.

Robotics: Applications and Careers (0.5 credit)^{††}

It seems like many elementary to high school robotics courses are focused on coding a simple robot to move its mechanical arm up and down. This course, in contrast, teaches students what a robot is and how it relates to other key technologies such as artificial intelligence and machine learning. Then the course examines 10 applications of robots and how they will change and impact various aspects of our lives and the economy. Will robots simply steal our jobs, or will they be a tool that will create new opportunities and even free humans to use our creativity and curiosity to their full potential? Students will grapple with this and many other questions as they explore this vital, future-focused subject.

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Smart Cities: Technology and Applications (0.5 credit)

A smart city uses Internet of Things sensors and tech to connect components across a city to ultimately improve the lives of citizens. In this course, students will learn about the history and development of smart cities. They will explore how technology are affecting a city's energy, transportation, and government. With rapidly increasing urbanization globally, this field presents a world of career opportunities for students.

Startups and Innovation (0.5 credit)^{††}

In this course, students will explore the entrepreneurial mindset of searching for opportunities, creating value, and solving pain points to create the next world-class startup. They will explore how this mindset applies not just to business, but to schools, non-profits, and many other types of organizations. They will investigate how to apply this mindset in their own experiences.

Study Skills & Strategies (0.5 credit)

The Study Skills and Strategies course equips students with skills and understandings critical to effective learning. Using a unique approach to the traditional topic of study skills, this course weaves understanding regarding the role of the brain in learning into the instruction of discrete learning skills and strategies. Moving beyond a list of good tips and ideas, the Study Skills and Strategies course will challenge students to develop intentional approaches to learning. They will be required to make connections between the strategies and skills they learn in this course and the implementation of those strategies and skills in their other coursework. Upon completion of the course, students will have learned a variety of specific learning skills and strategies, gained greater understanding of their own learning preferences, and become prepared to develop and implement specific learning and study plans for any academic course or other learning needs.

The History of Gaming and Esports (0.5 credit)^{††}

In this course, students will learn about the technologies and design principles that have been the foundation of video game technology and development over the last 50 years. Students will examine and discuss the impact of video games on culture and the economy. Students will learn about the current gaming and e-sports landscape, including strategies and techniques of top teams and individuals. This course will also discuss the risks and dangers of video games and understand how to set appropriate time and content parameters. Finally, the course will identify career paths and opportunities for those who are passionate about gaming.

Transportation Technologies (0.5 credit)

This course introduces students to the newest and most cutting edge futuristic transportation technologies out there. Students gain familiarity with the history of transportation development and understand a framework with which to evaluate new transportation modes. Then the course dives into 10 different technologies on the horizon. Students examine the technologies, the pros and cons of each mode, and explore potential career paths in these emerging fields.

Wearable Technology Innovations (0.5 credit)^{††}

From hearing aids to pedometers to smart watches, humans have made and worn devices to overcome physical deficiencies, count their steps, and communicate. With the continue miniaturization of chips and sensors, combined with increasing sophistication of artificial intelligence, wearable technology has proliferated into countless end-markets. This course will introduce students to wearable technologies and the components and software that make these technologies possible. The course will also evaluate several applications of wearable technologies in various industries. Finally, the course will examine and discuss the implications of wearable technology, including its pros and cons, and potential implications to our health, privacy, and society.

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††Career Exploration

From STEM and Education to Art and Information Technology, we offer online courses in a variety of career disciplines. Career-focused courses help students get a head start in planning for their future. Students have an opportunity to focus on one discipline or explore several, helping them find the best fit for their skills and interests. Allow your students to explore their potential.

Architecture and Construction

- Building Maintenance Technology I
- Building Maintenance Technology II
- Construction: Fundamentals and Careers
- LEED Green Associate
- Principles of Architecture

Arts, A/V Technology, and Communication

- Advanced Drawing
- Art Appreciation
- Art History
- Basic Drawing
- Beginning Painting
- Graphic Design
- Media and Communication

Business, Administration, and Finance

- Introduction to Business
- Project Management
- Startups and Innovation
- Accounting
- Financial Literacy
- Fundamentals of Bitcoin and Cryptocurrency
- Personal Finance
- Business Law
- Leadership Skills Development
- Leadership Skills Development II

Education and Training

- Child Development
- Early Childhood Education I
- Early Childhood Education II
- Introduction to Education and Teaching

Information Technology

- Basic Web Design
- Cloud Technologies and the Internet of Things
- Computer and Network Security Fundamentals
- Cybersecurity
- Cybersecurity Essentials
- Digital Information Technology
- Foundations of Programming
- Fundamentals to Blockchain & Cryptography
- Introduction to Artificial Intelligence
- Introduction to Java Programming
- JavaScript
- Python Multiplayer Adventure

STEM

- Aeronautics and Space Travel
- Augmented and Virtual Reality Applications
- Paleontology
- Renewable Energy
- Robotics: Applications and Careers
- Space Exploration
- The History of Gaming and Esports
- Wearable Technology Innovations

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