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International Baccalaureate Courses

IB Literature 1 (105)	HH	Full Year – 1 credit
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The Literature course aims at developing an understanding of the creativity of writers and readers, the nature of their interaction with their respective contexts and with literary tradition, and the ways in which language can give rise to meaning and/or effect. Through close analysis of a range of literary texts in a number of literary forms and from different times and places, students will consider their own interpretations as well as the critical perspectives of others, to explore how such positions are shaped by cultural belief systems and to negotiate meanings for texts.

IB Math: Analysis & Approach (205)	HH	Full Year – 1 credit
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The Mathematics: Analysis and Approaches (SL) course recognizes the need for analytical expertise in a world where innovation is increasingly dependent on a deep understanding of mathematics. This course includes topics that are both traditionally part of a pre-university mathematics course (for example, functions, trigonometry, calculus) as well as topics that are amenable to investigation, conjecture and proof. The course has a strong emphasis on the ability to construct, communicate and justify correct mathematical arguments."

IB Environmental Systems & Science (305)	HH	Full Year – 1 credit
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Environmental systems and societies (ESS) is an interdisciplinary course, encompassing both the sciences and individuals and societies. ESS is both a complex and contemporary course that engages students in the challenges of 21st century environmental issues. Students develop a scientific approach through explorations of environmental systems. It also emphasizes the ability to perform research and investigations and to participate in philosophical, ethical, and pragmatic discussions of the issues involved from the local through to the global level.

IB Spanish Language & Culture (Ab Initio) (405)	HH	Full Year – 1 credit
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Spanish Ab Initio is an Introductory language course designed for students with no previous experience in—or very little exposure to—the target language. The program is intended to offer a variety of learning experiences to facilitate the acquisition and mastery of Spanish as another language and culture. The French Ab Initio program seeks to further develop the student’s proficiency in the basic skills of language learning: listening, speaking, reading, and writing. The purpose of the course is to further expose the student to sociolinguistic differences. The course develops strategies to incorporate communication, culture, connections, comparisons, and communities.

IB French (Ab Initio) (407)	HH	Full Year – 1 credit
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French Ab Initio is an introductory language course designed for students with no previous experience in—or very little exposure to—the target language. The program is intended to offer a variety of learning experiences to facilitate the acquisition and mastery of Spanish as another language and culture. The Spanish IB/ AB Initio program seeks to further develop the student’s proficiency in the basic skills of language learning: listening, speaking, reading, and writing. The purpose of the course is to further expose the student to sociolinguistic differences. The course develops strategies to incorporate communication, culture, connections, comparisons, and communities.

IB History of the Americas 1 (505)	HH	Full Year – 1 credit
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History of the Americas is part one of a two-year higher-level International Baccalaureate course. This course is a systematic and critical study of the human experience, including social, economic, political and cultural events-- providing historical explanations from an international perspective. Students will study the histories of a selection of countries and themes within the chosen region. For example: we will analyze colonial governments in the Americas.

Theory of Knowledge (071)	HH	½ Year – ½ credit
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Theory of Knowledge is a cross-curricular course designed to give learners the opportunity to ask and answer the question “How Do We Know?” and to explore the relationship between knowledge and ourselves as the knowers. Students will learn to think critically about knowledge paying specific attention to the scope, perspectives, methods, tools and ethics of the acquisition and use of knowledge.

Extended Essay (075#)	HH	½ Year – ½ credit
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The extended essay is an opportunity to do independent research into a topic chosen by the student and presented as a formal piece of academic writing. The extended essay is intended to promote high-level research and writing skills, intellectual discovery and creativity while engaging students in personal research. This leads to a major piece of formally presented, structured writing of up to 4,000 words. Students are guided through the process of research and writing by a teacher-mentor in the school. This functions as an independent study that begins in the second semester of junior year.

Creativity, Activity, Service (081)	HH	½ Year – ½ credit
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The CAS project is an experiential learning opportunity that continues your education outside the classroom through the experiences of creativity, activity, and service. It is an opportunity for you to develop your own skills and interests and contribute what you have to offer to various communities by short-term or long-term experiences over 18 months. During this process, you will reflect on your strengths and areas to work on, and you will reflect on the experiences as you carry them out. During and after an experience, you will have to reflect on what you are doing, how you are doing it, and what thoughts or feelings it creates for you. You will demonstrate your learning and growth through a portfolio.

2024-25 Course Description Supplement

Traditional Elective Courses (Full & Half Year)

English IV-UConn (142)	Honors (UConn credit available)	Full Year – 1 credit
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This course fulfills the Freshman English requirement at the University of Connecticut and is a prerequisite for upper-level “W” courses at the University. The course is designed to introduce students to university-level work; the skills students learn in this course should transfer to academic writing in any discipline: interpretation, argumentation, and reflection. Strength in writing not only comes from learning how to analyze and interpret assigned literary texts but also how to edit and properly revise formal writing assignments. Students will be required to complete writing assignments; distributed across three to five papers, though there will also be other, shorter writing assignments. The courses also emphasize revision: there are separate, formal due dates for drafts, and all drafts are workshopped in small group tutorials with groups of peers and/or individual conferences with the instructors.

Financial Literacy (258)	CP1	Full Year – 1 credit
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This class will cover the following topics:

- **Banking Services:** checking accounts, savings accounts, debit cards, reconciling a bank statement, compound interest
- **Consumer Credit:** loans, loan calculations, credit cards, credit card statements
- **Automobile Ownership:** buying and selling a car, insurance, depreciation, safety data, accident investigation data
- **Employment Basics** how to look for employment, pay period and hourly rates, commissions, royalties, employee benefits, social security and Medicare
- **Income Taxes:** tax table, income statements, different forms, federal tax, state tax)
- **Independent Living:** finding a place to live, rent or own, floor plans, mortgage, types of homes
- **Prepare a Budget:** expenses from utilities, living expenses, cash flow
- **Modeling a business:** supply and demand, expenses and revenue, profit equation
- **Stock Market:** data, stock transactions, stock splits, dividend income
- **Planning for Retirement:** retirement income, social security, pensions, life insurance

In all topics, there are many mathematical skills needed such as percentages, reading of graphs, predicting future amounts and many more concepts. This course will give practical applications to concepts learned in earlier classes.

Chemistry (323)	CP1	Full Year – 1 credit
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This course will provide an introduction to the principles that govern chemical changes. Included will be an examination of matter, energy, atomic structure, chemical periodicity, bonding, molecular structure, chemical reactions, stoichiometry, solutions, equilibrium, thermochemistry, electrochemistry, nuclear reactions and organic chemistry. The lab component will provide hands-on experience with the concepts and principles studied.

Introduction to Forensic Science (333)	CP1	Full Year – 1 credit
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The student will be introduced to the science of forensics. The course will integrate scientific concepts and methodology with crime scenarios. Scientific and technological methods used by criminologists will be incorporated into lab exercises. Lab will also illustrate the collection, identification and analysis of physical and scientific evidence.

AP Environmental Science (345)	High Honors	Full Year – 1 credit
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This advanced placement course is designed to provide students with the scientific principles, methodologies, and concepts necessary to understand the processes and interrelationships of Earth’s natural systems. Environmental Science, an interdisciplinary course, will draw on and expand understanding of concepts studied in Biology and Chemistry. Topics of study include; the process of science, energy flow through natural systems, Earth as an interconnected system, changes over time caused by natural and man-made events, and human impact related to population and technological advancements. Students will investigate the role of social, economic, and cultural factors in developing solutions and practices necessary for solving/preventing environmental problems and creating sustainability. In addition, students will participate in laboratory and field investigations.

AP Psychology (346)	High Honors	Full Year – 1 credit
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AP Psychology is an introductory college-level psychology course. While considering the psychologists and studies that have shaped the field, students explore and apply psychological theories, key concepts, and phenomena associated with such topics as the biological bases of behavior, sensation and perception, learning and cognition, motivation, developmental psychology, testing and individual differences, treatments of psychological disorders, and social psychology. Throughout the course, students employ psychological research methods, including ethical considerations, as they use the scientific method, evaluate claims and evidence, and effectively communicate ideas.

2024-25 Course Description Supplement

Human Anatomy & Physiology (347)	H	Full Year – 1 credit
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Prerequisite: Biology with a B+/80 final year average in Honors or High Honors Biology.

Focus: Students seeking a future career in the medical field, veterinary, and physical fitness.

Course Description: This course will serve as an introduction to the systems of the human body. Students will learn the terminology, anatomy and physiology, and pathology of each body system and how they interrelate to maintain homeostasis (this is a blended description from the course I adjunct and a high school model).

AP Spanish 4 (441)	High Honors	Full Year – 1 credit
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This course is designed to prepare the student for the Advanced Placement Exam in the Spanish language. The primary objective of this course is to emphasize active communication via written compositions and oral presentation. Appreciation of Spanish and Hispanic culture and civilization is enhanced through key literary works. This course is designed to move at a challenging pace.

AP French 4 (481)	High Honors	Full Year – 1 credit
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This course is designed to prepare the student for the Advanced Placement Exam in the French language. The primary objective of this course is to emphasize active communication via written compositions and oral presentation. Appreciation of French and Francophone culture and civilization is enhanced through key literary works. This course is designed to move at a challenging pace.

Trending Topics (555)	CP1	½ Year – ½ credit
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The goal of this course is to help students be able to form opinions on matters, sustained with logic and evidence, which in turn leads them to becoming citizens that are more educated. This course will make students more aware and have a better understanding of the current events going on around them in our country and in the world. Topics will include geopolitical matters, issues related to prominent leaders and individuals, major societal/criminal events, and other pertinent matters in the news. Students will be asked to take information and apply it to their lives and the world in which they live. They may be tasked with doing additional background research if there is more to a story (ex. To understand better the Syrian refugee debate, they may need to research the civil war in Syria and the Arab Spring). Students will be asked to analyze various news outlets as part of the learning process.

Music Appreciation (621)	CP1	Full Year – 1 credit
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In this course students will listen to and identify major musical works from famous composers like Bach all the way up to famous 21st century performers such as Adele or Bruno Mars. Students will learn about famous pieces, songs, composers, and performers throughout music history and what made each song/musician so important in the landscape of music history. Specific units will include subjects like Beethoven, 1920s swing jazz, The Beatles, 80s rock, 90s pop, and other subjects of varying musical genres. In other words, the students will listen to and learn about as many different styles and genres of music as possible in a given school year.

Band (623)	CP2	Full Year – 1 credit
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This course is designed to help students further their musical skills. Students will rehearse and perform with others. As we prepare for performances, students will be taught music reading skills, musicality, music terminology, music history, and music theory. This is a program designed to teach students the value of performing music, working as a unit for a common goal, and giving students a lifelong interest in instrumental music. Members of the band will be required to participate in concerts and any other band performances. Students should have prior instrument-playing experience.

Chorus (624)	CP2	Full Year – 1 credit
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Chorus is open to all interested students of varied vocal talents and abilities. Everyone will learn how to sing well and improve. Students must be willing to sing actively each day and will be expected to learn music chosen by the director, as well as do assigned music-related tasks during class. In addition to learning how to read music and sing a variety of songs, students will prepare for public performances, assemblies, and masses. It is important to note that one does not have to be a "good singer" to enroll in this course.

Dance (631)	CP2	Full Year – 1 credit
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This course is designed to study various dance styles including ballet, jazz, musical theatre, tap, and hip hop. The academic component will address dance terminology, choreographers, and styles. The performing component will include a Winter Arts Concert, a Spring Arts Concert, and community service appearances. A typical class warm-up might involve a ballet barre, center jazz, Pilates Mat exercises, or Zumba. Students will learn self-discipline, confidence, collaboration, cooperation, concentration, spatial awareness, and have some fun in the process. The course is open to students of all skill levels.

Dance Repertory (632)	CP2	Full Year – 1 credit
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Students must be placed in this course via an Evaluation. Students must be able to identify and perform basic dance steps in various dance styles and demonstrate ability to pick up choreography. Dance forms covered in the year include ballet, jazz, musical theatre, contemporary, hip hop, and tap. Classes may include a conditioning warm-up such as ballet barre, jazz warm-up, Pilates Mat, or Zumba. We will be working on dance technique by focusing on balance, turns, jumps, core strength, and flexibility while developing emotional expression for our performances in the Winter Arts Concert, Spring Arts Concert, and various community appearances. Students will also be taught original Broadway choreography. Tap shoes and knee pads will be mandatory.

2024-25 Course Description Supplement

Foundations 1 – Art Studies (663)	CP2	½ Year – ½ credit
<p>This introductory studio course will help prepare students for further high school art experiences. The emphasis is placed on understanding the Elements of Art and Principles of Design as a basis for composition. Students will explore a variety of artists, art processes and materials such as drawing, painting, printmaking, collage and design. Willingness to get involved in the creative process is a more important requirement than the student's talent or previous experience. All students are required to have a sketchbook for in-class assignments. No Prerequisite required</p>		
Foundations 2 – Art Studies (664)	CP2	½ Year – ½ credit
<p>The students will continue to learn how to incorporate the Elements of Art and Principles of Design into their pieces. We will focus on famous artist's works, art styles and movements. We will also be creating projects that are inspired by nature. Again, the student's involvement in the creative process is a more important requirement than the student's talent or previous experience. All students are required to have a sketchbook for in-class assignments. No Prerequisite required</p>		
3-D Art / Sculpture (651)	CP2	Full Year – 1 credit
<p>In this studio, students will learn how to sculpt and create three-dimensional objects. Students will explore the element of form using a variety of materials including paper, wire, clay, paper mâché, wood, cardboard, aluminum and found objects. They will utilize their creativity and dexterity skills to generate pieces that are unique and carefully crafted. Students will also gain knowledge about various inspirational artists. All students are required to have a sketchbook for in-class assignments.</p> <p><i>This is a second level art course and having taken an art course at ND is a prerequisite for the course.</i></p>		
Advanced Drawing & Painting Studio (652)	CP2	Full Year – 1 credit
<p>This studio course is designed for students who wish to continue to develop their drawing and painting skills. They will use different drawing materials, and utilize and experiment with a variety of painting mediums. The students will also learn new techniques and how to apply interesting effects on their pieces. A large range of subject matter will be explored including, still life, landscape, portraiture, and non-objective. All students are required to have a sketchbook for in-class assignments.</p> <p><i>This is a second level art course and having taken an art course at ND is a prerequisite for the course.</i></p>		
Art Portfolio (653)	CP1	Full Year – 1 credit
<p>This course is designed for highly motivated students who want to continue their artistic efforts at a more advanced level and / or intend to further their art education after high school. Students will be given the opportunity to concentrate on a particular medium, art style, and/or subject matter. Information will be provided on art careers and schools. Students in this class are required to prepare a portfolio of their best work. All students are required to have a sketchbook for in-class assignments.</p> <p><i>This is a second level art course and having taken an art course at ND is a prerequisite for the course.</i></p>		
Graphic Design in Photoshop (726)	CP2	½ Year – ½ credit
<p>This course is designed for students with an interest in graphic design and digital art. Students will familiarize themselves with Adobe Photoshop's industry standard editing software and its expansive set of features. Image resolution, toolbars, layers, elements of digital art, color correction and typography will all be explored.</p>		
Introduction to Adobe Illustrator (727)	CP2	½ Year – ½ credit
<p>This course is designed for students with an interest in digital art and illustration. Don't know how to illustrate? Not a problem. Illustrator's vector based tools make it easy for anyone to become a digital illustrator. Units include: logo design, web illustration, retro art posters, cinematic movie posters, vector landscapes and icon design. Create powerful digital graphics for print or web and get a taste of one of the most popular pieces of design software in the world.</p>		
Photoshop for Photographers (728)	CP2	½ Year – ½ credit
<p>This course will focus on digital photography, the impact Adobe Photoshop can have on it and its application to publications. Different styles of photography will be explored including still life, action, candid, nature and more. Throughout the course students will be building an online photography portfolio.</p>		
Video Editing in iMovie (729)	CP2	½ Year – ½ credit
<p>Learn the basic skills necessary to develop, produce, and edit student-created videos. Create commercials, movie trailers, fan videos and music videos. Utilize the green screen for special effects. iMovie skills will include importing/exporting various video resolutions, movie clips, titles, transitions, extracting/implementing audio tracks and syncing sound with video.</p>		

2024-25 Course Description Supplement

Advanced Graphic Design (731)

CP2

Full Year – 1 credit

Students will explore the world of graphic arts as it relates to advertising and marketing in the real world. All aspects of Photoshop and scanning will be covered. Photographic retouching, collage creations, mock publications and advertisements will also be covered in Photoshop.

Students will explore advanced Photoshop features working with layers, adjustment layers, masking, texturizing and more. Fully interactive websites will be created. Students will use Adobe Dreamweaver to create attractive web pages and organize them into professional quality. All work will be posted to the internet.

The world of web animation will be explored through the use of Adobe Flash. Students will create original animations which will be posted on our website. Students will use Adobe InDesign to create advanced print projects including booklets, calendars and novelty print items. Students will also experiment and explore movie making utilizing iMovie and HD video cameras found in our lab. Students must have completed the Intro course in order to take AGD.

Yearbook Publishing (732)

CP2

Full Year – 1 credit

This class will focus on production skills using Adobe InDesign for page layout and creation of the entire ND yearbook. Students will design, proof, correct and submit pages to Herff-Jones. Adobe Photoshop will also be utilized in the creation of unique graphical elements.

This course is limited to 16 students (first come, first serve)

Online Elective Courses (Full Year)

Students enrolled in Advanced Placement VHS courses are required to take the AP exam, and are required to report their AP examination scores to VHS (note: students who are failing their AP class are not required to take the exam). Upon receipt of the student's exam score, each score will be recorded by VHS and assigned an anonymous tracking number to ensure student anonymity and confidentiality. By enrolling in an AP VHS class, the student authorizes their school site coordinator and school administration to report AP examination scores to VHS. Exam results will not affect the student's VHS grade or future enrollment in VHS courses.

AP Language & Composition (185)

On-Line – High Honors

Full Year – 1 credit

This Advanced Placement English Language and Composition course is equivalent to a first semester, introductory writing and rhetoric college-level course. The rigor of this course is consistent with colleges and universities and will prepare students for the Advanced Placement exam in May. Upon successful completion of the exam, students may receive college credit and will be well-prepared for advanced writing and rhetoric coursework. Additional details on this course from College Board can be found here: AP English Language and Composition.

In this course, students will explore four big ideas:

- (1) Rhetorical Situation: Individuals write within a particular situation and make strategic writing choices based on that situation
- (2) Claims and Evidence: Writers make claims about subjects, rely on evidence that supports the reasoning that justifies the claim, and often acknowledge or respond to other, possibly opposing, arguments.
- (3) Reasoning and Organization: Writers guide understanding of a text's lines of reasoning and claims through that text's organization and integration of evidence.
- (4) Style: The rhetorical situation informs the strategic stylistic choices that writers make.

Students will investigate topics such as understanding the rhetorical situation, writing strategically, developing an argument, writing with purpose, creating cohesion, acknowledging viewpoints, and adding sophistication and style. Throughout the course, students will spiral through the four big ideas, deepening their understanding of how individuals write within rhetorical situations and make strategic writing choices based on that situation. Specific topics include the rhetorical situation, claims, evidence, qualification, organization, lines of reasoning, methods of development, style, word choice, comparisons, syntax, grammar, and mechanics.

This course incorporates a variety of textbook and multimedia resources including an adaptive platform that provides feedback on student assessments. Students will read and analyze texts and apply modeled concepts and writing strategies to writing tasks for various audiences and purposes. Students will also engage in collaborative activities, such as shared writing and discussions, and connect concepts in rhetoric and writing to real-world issues and current events, in order to develop a deeper understanding of rhetoric in the world.

Students will be expected to enroll in My AP Classroom through their VHS Learning AP course and will be guided to complete review work in My AP Classroom throughout the year. My AP Classroom resources include AP Daily Videos and unit-based Personal Progress Checks, which include AP-style multiple-choice and free-response questions. Students enrolled in VHS Learning Advanced Placement courses with a passing grade are expected to take the AP Exam.

Students register for AP exams through their local school or testing site as "Exam Only" students. AP exam scores will be reported to VHS Learning through My AP Classroom; exam results will not affect the student's VHS Learning grade or future enrollment in VHS Learning courses.

This AP course has a required summer assignment. The summer assignment is a review of prerequisite content and critical concepts students must be comfortable with before beginning the course. Students are expected to complete their summer assignment before the course begins and submit their work by the end of Week 1. Students who register on or after September 1 will receive an extension to complete the summer assignment by the end of Week 3.

2024-25 Course Description Supplement

AP Seminar (187)

On-Line – High Honors

Full Year – 1 credit

This Advanced Placement AP[®] Seminar course is an interdisciplinary course that encourages students to demonstrate critical thinking, collaboration, and academic research skills on topics of the student's choosing. To accommodate the wide range of student topics, typical college course equivalents include interdisciplinary or general elective courses. The rigor of this course is consistent with colleges and universities and will prepare students for the Advanced Placement exam in May. Upon successful completion of the exam, students may receive college credit and will be well-prepared for advanced coursework. Additional details on this course from the College Board can be found here: AP Seminar.

AP[®] Seminar is an Advanced Placement course that focuses on skills, such as research and collaboration, that are used in all academic disciplines. AP[®] Seminar is a foundational Advanced Placement[®] course that engages students in academic and real-world topics. Students will write research-based essays, deliver dynamic presentations, and study a variety of topics and subject-areas. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational literary and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts. Students learn to synthesize information from multiple sources, develop their own perspectives in research-based written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments. (College Board)

The course is centered around five big ideas, embodied in the QUEST framework:

- Question and Explore: Challenge and explore the boundaries of your current knowledge.
- Understand and Analyze: Contextualize arguments and comprehend authors' claims.
- Evaluate Multiple Perspectives: Consider individual perspectives and the larger conversation of varied points of view.
- Synthesize Ideas: Combine knowledge, ideas and your perspective into an argument.
- Team, Transform and Transmit: Collaborate, reflect, and communicate your argument in a method suited to your audience.

Students use this Quest framework to conduct both individual and team research projects in this course. The AP[®] Seminar course requires students to demonstrate research skills through two Performance Tasks, completed during the course, as well as on a more traditional AP exam in May. The AP[®] Score is calculated as a combination of these three elements:

Performance Task 1: Team Project and Presentation (20% of AP exam score). Students form teams of three to five people. The team identifies, investigates and analyzes a real-world or academic problem or issue. This task consists of an Individual Research Report and a Team Multimedia Presentation and Defense.

Performance Task 2: Individual Research-Based Essay and Presentation (35% of AP exam score). Students work individually to address a research question associated with the theme that the College Board provides each year. Students analyze and identify connections among the provided texts to develop an area of inquiry. Students then pose a question, conduct research, analyze, evaluate, and select evidence to write a paper in which they develop an argument and form a conclusion. Students will then present their findings in an Individual Written Argument and an Individual Multimedia Presentation and Oral Defense.

End-of-Course Exam: 3 short-answer questions and 1 long essay (45% of AP exam score). In the fall semester, students practice all elements of both the team and individual research projects. They apply the QUEST framework, line of reasoning and argumentation as they learn how to do proper academic research, work together in teams, create and present information through presentations, and think on their feet by answering oral defense questions. In the spring semester students are guided to complete their performance tasks to submit to the College Board.

Students are required to meet synchronously with one another for planning, practice and peer review meetings, and with their teacher for check-ins, practice and formal presentations, using an online meeting tool provided through the course. These meetings will be one to three times a week for most weeks throughout the course, though students may choose to meet more at times.

Students will be expected to enroll in My AP Classroom through their VHS Learning AP course and will be guided to complete review work in My AP Classroom throughout the year. My AP Classroom resources include AP Daily Videos and unit-based Personal Progress Checks, which include AP-style multiple choice and free response questions.

Students enrolled in VHS Learning Advanced Placement courses with a passing grade are expected to take the AP Exam. Students register for AP exams through their local school or testing site as "Exam Only" students. AP exam scores will be reported to VHS Learning through My AP Classroom; exam results will not affect the student's VHS Learning grade or future enrollment in VHS Learning courses.

This AP course has a required summer assignment. The summer assignment is a review of prerequisite content and critical concepts students must be comfortable with before beginning the course. Students are expected to complete their summer assignment before the course begins and submit their work by the end of Week 1. Students who register on or after September 1 will receive an extension to complete the summer assignment by the end of Week 3.

In this AP-level course, students are expected to invest approximately 10 hours per week on their course work.

Prerequisites

This course requires an extensive number of synchronous meetings between student teams and between students and teachers. Meeting times will generally be scheduled between 7 AM and 8 PM ET, Monday - Friday. Student groups that wish to meet outside this timeframe must have unanimous agreement between the group.

2024-25 Course Description Supplement

AP Calculus BC (291)

On-line – High Honors

Full Year – 1 credit

The VHS AP Calculus BC course is a full academic-year course. It is a challenging course designed for high school students who have completed four years of secondary mathematics courses such as Algebra, Geometry, Advanced Algebra, Trigonometry/Pre-Calculus (which includes some Analytic Geometry and elementary functions). Work is comparable to that required in most college and university Calculus courses. Students should plan on taking the AP Calculus BC exam offered in May. Successful completion of the AP Exam may provide students with the opportunity to receive college credit. The AP Calculus BC course covers all topics in the AP Calculus AB course plus the following additional topics: Parametric, polar and vector functions; Slope Fields; Euler's method; L'Hopital's Rule; Improper Integrals; Logistic differential equations; Polynomial approximations and Series; Taylor Series

Emphasis is on conceptual understanding. However, facility with manipulation and computational skills are important outcomes. Students should expect the course as well as the AP Exam to truly push the depth of their understanding of mathematics generally and calculus specifically. Areas of emphasis from the College Board's online resource for AP Calculus at

http://apcentral.collegeboard.com/repository/ap03_cd_calculus_0405_4313.pdf

- Students should be able to work with functions represented in a variety of ways: graphical, numerical, analytical, or verbal. They should understand the connections among these representations.
- Students should understand the meaning of the derivative in terms of a rate of change and local linear approximation and should be able to use derivatives to solve a variety of problems.
- Students should understand the meaning of the definite integral both as a limit of Riemann sums and as the net accumulation of change and should be able to use integrals to solve a variety of problems.
- Students should understand the relationship between the derivative and the definite integral as expressed in both parts of the Fundamental Theorem of Calculus.

Students will be expected to complete daily/weekly assignments and regular quizzes and exams. Each student will need a graphing calculator such as the TI-83 or equivalent and knowledge on how to work with their calculator. As in most online courses the student will be required to do a significant amount of independent learning. Individual responsibility, good work habits, discipline and organization will be important attributes for success.

AP Statistics (292)

On-Line – High Honors

Full Year – 1 credit

The Advanced Placement® Statistics course is equivalent to a one-semester, introductory, non-calculus-based college course in statistics. The rigor and pace of this course is consistent with non-calculus-based statistics offerings at many colleges and universities and will prepare students for the Advanced Placement® Exam. Upon successful completion of the exam, students may receive college credit and will be well-prepared for additional advanced coursework.

AP® Statistics introduces students to major concepts that consist of collecting, analyzing and drawing conclusions from data. This course is organized into four major themes: (1) exploring data, (2) sampling and experimentation, (3) anticipating patterns, and (4) statistical inference. This course allows students to gain conceptual understanding through discussions, data collection activities, investigations and a final project in which they will conduct a statistical study. In order to prepare for the exam, students will complete weekly AP® practice quizzes and unit exams that will conform to the constraints of the AP® exam.

Students enrolled in VHS Learning Advanced Placement® courses are expected to take the exam and to report their AP® exam scores to VHS Learning. By enrolling in an AP® VHS Learning class, the students authorize their school administration to report AP® exam scores to VHS Learning. Exam results will not affect the student's VHS Learning grade or future enrollment in VHS Learning courses.

This AP® course has a required summer assignment. Students must have successfully completed Algebra II to take this course.

2024-25 Course Description Supplement

AP Precalculus (299)

On-Line – High Honors

Full Year – 1 credit

The Advanced Placement Precalculus course is meant to prepare for college-level calculus as well as provide a foundation to other mathematics courses. In this course, students will explore a variety of function types used to model real-life applications in mathematics and science fields. Students will investigate functions such as polynomial, rational, exponential, logarithmic, trigonometric and polar as well as explore vectors and matrices. Additional details on this course and exam can be found here: AP[®] Precalculus.

In this course, students will explore function analysis and trigonometry. Students will investigate functions such as polynomial, rational, exponential, logarithmic, trigonometric, and polar and explore vectors and matrices.

This course incorporates a variety of textbook and multimedia resources including an adaptive problem set platform that provides various feedback on student assessments. Students will also engage in collaborative activities, including discussions, and connect precalculus concepts to real-world applications to develop a deeper understanding of mathematics in today's world.

Students will be expected to enroll in AP Classroom through their VHS Learning AP course and will be guided to complete review work in AP Classroom throughout the year. AP Classroom resources include AP Daily Videos and unit-based personal Progress Checks, which include AP-style multiple choice and free response questions.

Students enrolled in VHS Learning Advanced Placement courses with a passing grade are expected to take the AP Exam. Students register for AP exams through their local school or testing site as "Exam Only" students. AP exam scores will be reported to VHS Learning through AP Classroom; exam results will not affect the student's VHS Learning grade or future enrollment in VHS Learning courses.

The AP course has a required summer assignment. The summer assignment is a review of prerequisite content and critical concepts students must be comfortable with before beginning the course. Students are expected to complete their summer assignment before the course begins and submit their work by the end of Week 1. Students who register on or after September 1 will receive an extension to complete the summer assignment by the end of Week 3.

In this AP-level course, students are expected to invest approximately 10 hours per week on their coursework.

Prerequisites: Successful completion of Algebra 2 and Geometry

AP Physics 1 (381)

On-Line – High Honors

Full Year – 1 credit

This Advanced Placement[®] Physics 1 Course is equivalent to a first semester, algebra-based, Introductory Physics college-level course. The rigor and pace of this course is consistent with that of many major colleges and universities, and will prepare you for the Advanced Placement[®] Examination in May. Upon successful completion of the exam, you may receive college credit and you will be well-prepared for additional advanced physics coursework.

Students will investigate topics such as Newtonian mechanics (including rotational dynamics and angular momentum), work, energy, power, mechanical waves and sound. Students will also be introduced to electric circuits. This course incorporates a variety of textbook and multimedia resources and will require students to perform hands on and virtual experiments to develop a deeper understanding of physics.

Students will engage in collaborative activities such as class discussions, contribute to class data and attend regular "lab meetings" throughout the course. AP[®] practice quizzes and unit exams will help prepare students for the AP[®] examination. Due to the rigor and pace of the content, this course is designed to challenge extremely motivated students who have a strong interest in Physics.

This AP[®] course has a required summer assignment. Students must have successfully completed Algebra II to take this course.

Earth & Space System Science (386)

On-line –Honors

Full Year – 1 credit

Starting from the farthest reaches of space and time, and journeying toward Earth, students will investigate Earth and space science, develop a deep appreciation of Earth as a system, and then consider human impact on this system.

The course is organized into three-week, theme-based modules that explore Earth's place in the universe and solar system, examine the five spheres of the Earth (atmosphere, hydrosphere, geosphere, cryosphere, and biosphere), and consider the impact of human activity on Earth.

Students engage in a series of inquiry-based and investigative activities designed to have them become participants in Earth science instead of passive observers. As they learn Earth science, they incorporate the same methods that scientists employ in their work, and use the same technology tools scientists use to "do science".

Through the use of science datasets, visualizations, animations, interactives, and modeling activities, students study important science concepts from multiple perspectives and contexts. In many modules, students can join citizen science projects and add data to ongoing science research efforts, giving them the opportunity to both experience the science process first hand, and to apply NGSS Science and Engineering Principles in an authentic research project.

In place of a textbook, this course incorporates a variety of multimedia resources. Students will perform hands-on and virtual investigations to develop a deeper understanding of earth science, incorporating the same online data sets and rich technology tools that scientists use, including Google Earth, ImageJ and GIS (Geographic Information System).

Students will engage in collaborative activities to generate and evaluate class data, and discuss observations, trends and questions. In each module, students complete a "Challenge," a summative performance assessment project where they have the opportunity to demonstrate how to apply the knowledge they have acquired in a variety of ways.

2024-25 Course Description Supplement

AP Chemistry (390)

On-line – High Honors

Full Year – 1 credit

This Advanced Placement Chemistry Course is equivalent to a full-year Introductory Chemistry college-level course. The rigor and pace of this course is consistent with that of many major colleges and universities, and will prepare students for the AP exam. Upon successful completion of the exam, students may receive college credit and will be well-prepared for additional advanced chemistry coursework. AP Chemistry builds upon prior knowledge of Chemistry. Students will investigate topics such as chemical reactions, stoichiometry, atomic theory, periodicity, bonding, states of matter, thermodynamics, kinetics and equilibrium. This course incorporates a variety of textbook and multimedia resources and will require students to perform hands on and virtual experiments to develop a deeper understanding of chemistry. Students will engage in collaborative activities such as class discussions, contribute to class data and attend regular “lab meetings” throughout the course. AP practice quizzes and unit exams will help prepare students for the AP examination. Due to the rigor and pace of the content, this course is designed to challenge extremely motivated students who have a strong interest in Chemistry. This course has recommended summer reading. Students are encouraged to complete and submit the summer assignment for extra credit. The summer assignments will help students prepare for the course as well as the AP® exam. Students are required to take the AP Chemistry exam. *Prerequisites: full year of Chemistry and full year of Algebra II.*

AP Biology (391)

On-line – High Honors

Full Year – 1 credit

Prerequisites: Biology and Chemistry

Are you a highly motivated student who is interested in taking a college-level course in Biology? Have you already successfully completed an introductory Biology class and you want to learn more? The Advanced Placement course in Biology is equivalent to a full-year Freshman Biology course taught at any major University. You will be reading the same text that is used at many major colleges and universities, and we will be working at a rigorous pace to cover the material and prepare you for the Advanced Placement Examination in May. Upon successful completion of the exam, you may receive college credit and you will certainly be well-prepared for any Biology course in your future.

This class will build upon your prior knowledge of Biology. We will discuss topics such as molecular genetics, biochemistry, human anatomy and physiology, cell biology, plant biology and ecology. Using your text, the Internet, class discussions, and projects, we will cover a tremendous amount of material in order to give you a complete understanding of the study of biology. Biweekly examinations will test your knowledge of the material as well as prepare you for the AP examination. Due to the volume and level of the material, this course is designed to challenge extremely motivated students who have a strong interest in the Biological Sciences. *This course has recommended summer reading.*

Portuguese 1 (490)

On-line – CP1

Full Year – 1 credit

The primary goal of this course is to engage students in getting acquainted with the Portuguese language and culture and, therefore, to develop the abilities to communicate and to think in Portuguese. The practice with the Portuguese language will mainly involve skills of listening and speaking, but also reading and writing. Introductory knowledge of the Portuguese people, language and culture will certainly be a focal point in this course. The class will also explore Portuguese language and cultural influence throughout the world, while instilling attitudes such as those of curiosity and respect for the convictions of others.

Each week of this course is organized around a major theme, which is reflected in the week's title. Students will write a weekly journal, participate in weekly discussions, listen to online music, complete online grammar activities and engage in some group and individual projects. Group projects will include debates, webquests, and student led discussions.

American Sign Language 1 (494)

On-line – CP1

Full Year – 1 credit

In this introductory course, you will embark on an exciting journey that will provide you with not only a basic level of proficiency in the most widely used sign language, American Sign Language (ASL); this course will also open a profound window of understanding into the world of Deaf culture and history. Regardless of whether you are already in some way connected to that culture, or whether you have had little-to-no contact with Deaf people, you will deepen your appreciation for this rich and dynamic community.

Through selected readings, visual recordings, and interactive activities online, students will receive instruction in production, comprehension, vocabulary, and grammar to build skills in ASL. In order to demonstrate ability in signing skills, students will sometimes be asked to record videos of themselves signing to submit to their instructors. Students will also build their knowledge and understanding about Deaf culture and history. This course adheres to the World Readiness Standards for Language Learning to ensure that students develop competence to communicate effectively and interact with cultural understanding of the Deaf community.

*Due to the nature of an online ASL course, for assessment purposes, students must have access to a device that will enable them to record and upload videos of themselves demonstrating their ability to sign.

2024-25 Course Description Supplement

American Sign Language 2 (495)

On-line – CP1

Full Year – 1 credit

Prerequisite (must have taken ASL 1)

American Sign Language 2 builds upon skills developed in American Sign Language 1, extending students' ability to understand and express themselves in American Sign Language and increasing their vocabulary and speed. Students learn how to engage in discourse for informative or social purposes and to comprehend the language when signed slowly. This course focuses on everyday communication in ASL by introducing students to the basic signs, techniques and culture. To help develop receptive skills without relying on lip movements of the signers, the signing videos will be all "voice off." To develop expressive skills, students will continue to express their thoughts in signs within the given context in the lessons.

Through the introduction to some of the higher ASL techniques such as classifiers and indexing, this second-year course is designed to help students to develop an understanding that ASL is a visual language that delivers one's ideas and thoughts using more than the individual signs. Students will use various media tools including online resources, online dictionaries, a web cam and the knowledge of VHS Learning video tool. This course targets Novice-High Level of World Language Standards and Benchmarks and will address the five goal areas targeted in the World-Readiness Standards for Learning Languages: communication, cultures, connections, comparisons, communities.

Chinese 1 (496)

On-Line – High Honors

Full Year – 1 credit

A tonal language spoken by approximately one-fifth of the entire world population, Mandarin Chinese is the official language in the People's Republic of China. Chinese, with its unique writing system, has also influenced many vernacular languages in East Asia. In this introductory course, you will begin to explore one of the oldest written languages in the world, as well as the richness and profound cultural history of China and the Chinese people. Learning about a completely different culture and language from your own will help you gain new perspectives and enrich your global understanding.

The course is designed for students to learn the Pinyin pronunciation system for listening and speaking, and Chinese characters in simplified form, for reading and writing. The course presents the basic grammatical structures and patterns of Chinese, as well as vocabulary presented in a cultural context on such topics as greetings, food, colors, hobbies, and many more.

Emphasis will be placed on students developing the basic skills to begin having conversations in Chinese, along with a solid foundation in the keyboard writing system, in order to prepare students for the next level of learning. The course adheres to ACTFL's World-readiness Standards for Learning Languages (communication, connections, comparisons, culture, and community) through interpersonal, interpretative, and presentational modes. The curriculum is blended with cutting-edge web-based interactive activities to promote more personalized learning and carry the interactive learning experience beyond the virtual classroom setting itself. To provide context and make students' learning more relevant, Chinese culture topics will be introduced throughout the course, including the arts, literature, customs, and the history of Chinese-speaking people.

AP Human Geography (582)

On-line – High Honors

Full Year – 1 credit

The AP[®] Human Geography course, designed to meet the needs of highly motivated students, is organized around the major themes of human interactions within a shared world that considers the questions, where and why. Where do people live and why or how do cultures influence human behavior? Students will study the elements of sociology, anthropology, religion, politics, economics, and psychology that help students understand how to make sense of others and themselves in a locality, region and the world. The course is offered at a college level class and will require rigorous work and effort. Students should expect to complete a variety of readings, writings, and practice exams as well as to participate in many discussions and activities. It is expected that students will take the Advanced Placement[®] Human Geography exam in May, as preparation for this exam is one of the major goals of the course.

The course will introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students will employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They will also learn about the methods and tools geographers use in their science and practice. The seven topics include Geography: Its Nature and Perspectives, Population, Cultural Patterns and Processes, Political Organization of Space, Agriculture and Rural Land Use, Industrialization and Economic Development and Cities and Urban Land Use. A significant outcome of the course is students' awareness of the relevance of academic geography to everyday life and decision making. This combination of the academic and the applied gives students a sophisticated view of the world and an understanding of the manifold applications of what they have learned in the course. This AP[®] course has a required summer assignment. Students are expected to complete their summer assignment before the course begins and submit their work by the end of Week 1.

2024-25 Course Description Supplement

AP World History (586)

On-line – High Honors

Full Year – 1 credit

This is a college level history course designed to meet the needs of highly motivated students who have a strong interest and ability in history. The program prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. The student is expected to read and analyze both primary and secondary source materials and to demonstrate ability to interpret and evaluate these sources in essay form. Students will take the Advanced Placement World History exam in May, as preparation for this exam is a major goal of this course. Therefore, the course is content driven with heavy emphasis on written critical analysis. Extensive reading writing and class discussions are integral components of the program. Students should expect 40-50 pages of reading weekly. The AP program in World History is designed develop a greater understanding of human societies. The course covers world history from approximately 8,000 B.C.E. to the present.

The following themes will be highlighted throughout the course:

- Patterns and impacts of interaction among major societies: trade, war, diplomacy, and international organizations.
- The relationship of change and continuity across the world history periods covered in this course.
- The impact of technology and demography on people and the environment (population growth and decline, disease, manufacturing, migrations, agriculture, weaponry).
- Systems of social structure and gender structure (comparing major features within and among societies and assessing change).
- Cultural and intellectual developments and interactions among and within societies.
- Changes in functions and structures of states and changes in attitudes toward states and political identities (political culture), including the emergence of the nation-state (types of political organization).
- The following habits of mind will be practiced throughout the course:
- Constructing and evaluating arguments, using evidence to make plausible arguments.
- Using documents and other primary data: developing the skills necessary to analyze point of view, context and bias, and to understand and interpret information.
- Developing the ability to assess issues of change and continuity over time.
- Enhancing the capacity to handle diversity of interpretations through analysis of context, bias, and frame of reference.
- Seeing global patterns over time and space, while acquiring the ability to connect local developments to global ones and to move through levels of generalizations from the global to the particular.
- Developing the ability to compare within and among societies, including comparing societies' reactions to global processes.
- Developing the ability to assess claims of universal standards, yet remaining aware of human commonalities and differences;
- Putting culturally diverse ideas and values in historical context, not by suspending judgment, but by developing understanding.

Prerequisites:

Summer work required for this course.

AP Economics: Micro and Macro (591)

On-line – High Honors

Full Year – 1 credit

Prerequisites: Good reading ability is a must. We will be reading a minimum of one chapter per week in an AP textbook. If you are unfamiliar with AP materials, these are college textbooks. Basic mathematics and graphing skills required. Active participation is a big part of this course; your active participation, especially. Being self-motivated and able to work in small groups is also a plus.

Economics is a social science which addresses how society allocates (distributes) limited resources (e.g. - goods and services). It is a “science” because it is governed by quantifiable laws designed to predict likely outcomes. It is a “social” science, as opposed to a natural science, because its laws are based upon social, as opposed to natural occurrences. This course will prepare the student for both the AP Micro and Macroeconomics exams. Each exam consists of 60 multiple choice questions and three free-response essay questions.

AP European History (592)

On-line – High Honors

Full Year – 1 credit

Prerequisites: This course requires audio collaboration and interaction and therefore students are required to have a computer microphone.

AP European History is a rigorous academic course that furnishes a basic narrative of events and movements in European History from 1450 to the present. It prepares students for the demands of a college education by providing experience in college level reading, writing and responsibility for learning. AP European History is challenging and stimulating, yet requires much more time than other high school courses. Solid reading and writing skills, along with a willingness to devote considerable time to homework and study, are necessary to succeed. This course promotes just the type of effective time management skills and organization that are necessary for success in higher education. Students will investigate the broad themes of intellectual, cultural and political history and will appreciate how those ideas are reflected in trends of philosophy, popular literature and the arts. As events in history can only be understood in terms of their social context, this course will examine demographics and the influences of social classes and gender roles on history. The course will also focus on economic history and the role of industrialization by reviewing the development of commercial practices and changing economic structures to recognize Europe's influence on the world.

Throughout the course, AP European History students can expect to: watch or listen to traditional history lectures produced by the teacher or offered by colleges and universities online; participate in class discussions of primary documents and events in threaded discussions; debate key issues or role-play historic figures through student audio recordings; exercise essay writing skills designed to meet the requirements outlined by the College Board for Advanced Placement exams; collaborate with other students in research groups using Web 2.0 information tools; supplement traditional textbook reading with historical journals and primary documents.

2024-25 Course Description Supplement

AP Music Theory (641)

On-line – High Honors

Full Year – 1 credit

Prerequisites: Required: Proficiency in playing major and minor scales, reading basic tonal melodies, and using proper technique on one or more musical instruments (vocal, orchestral, band). Strongly recommended: At least one semester of practice writing traditional music notation with proper technique. At least one semester of keyboard instruction, including scales and triad formation.

This course is designed to give the student an understanding of music theory, sight reading, and aural skills that is equivalent to that of a first-year college music student. It is also designed with the explicit purpose of preparing the student for the AP Exam in Music Theory. The course content and presentation will adhere to the guidelines set forth by the College Board in the Music Theory Course Description.

The course will cover: the fundamentals of traditional melodic and harmonic composition through the early twentieth century; multiple techniques for melodic, harmonic, and formal analysis; an introduction to two- and four-voice counterpoint; an introduction to jazz, blues, and non-Western techniques; and the basics of orchestration. In addition, students will be trained to sight-read melodies in major and minor keys, with limited chromatic alteration. They will also perform listening exercises for the purposes of memorizing and notating specific intervals, scales, chords, rhythms, melodies, and progressions.

AP Art History (671)

On-line – High Honors

Full Year – 1 credit

Students will acquire a comprehensive knowledge of historically significant artists, movements, aesthetic theories and practices, ranging from the prehistoric times to the significant contributions in the 21st Century. Art production of all cultures will be studied in relative proportion to their representation on the Art History Advanced Placement Exam. Students will see the development of trends, movements and events in art, how they reflected and affected the times in which they occurred, gaining insight into typically misunderstood topics pertaining to the visual arts. Students will research and write knowledgeably on a number of art history topics, reflecting and synthesizing their own theories on the many works they will see in virtual museums and collections. They will be expected through carefully structured assignments, to exhibit an extensive scholarship in conjunction with these experiences.

2024-25 Course Description Supplement

AP Computer Science A (786)

On-line – High Honors

Full Year – 1 credit

The Advanced Placement Computer Science A course is equivalent to a first semester college computer science course focused on object-oriented program and design using the Java programming language. The rigor of this course is consistent with colleges and universities and will prepare students for the Advanced Placement exam in May. Upon successful completion of the exam, students may receive college credit and will be well-prepared for advanced statistics coursework. Additional details on this course from College Board can be found here: AP[®] Computer Science A.

In this course AP[®] Computer Science A, students will explore four big ideas:

- (1) **Modularity:** Incorporating elements of abstraction, by breaking problems down into interacting pieces, each with their own purpose, makes writing complex programs easier. Abstracting simplifies concepts and processes by looking at the big picture rather than being overwhelmed by the details. Modularity in object-oriented programming allows us to use abstraction to break complex programs down into individual classes and methods.
- (2) **Variables:** Information used as a basis for reasoning, discussion, or calculation is referred to as data. Programs rely on variables to store data, on data structures to organize multiple values when program complexity increases, and on algorithms to sort, access, and manipulate this data. Variables create data abstractions, as they can represent a set of possible values or a group of related values.
- (3) **Control:** Doing things in order, making decisions, and doing the same process multiple times are represented in code by using control structures and specifying the order in which instructions are executed. Programmers need to think algorithmically in order to define and interpret processes that are used in a program.
- (4) **Impact of Computing:** Computers and computing have revolutionized our lives. To use computing safely and responsibly, we need to be aware of privacy, security, and ethical issues. As programmers, we need to understand how our programs will be used and be responsible for the consequences.

AP[®] Computer Science A is a course designed to awaken and support students' problem solving skills. The course will introduce the Java programming language while emphasizing universal language techniques like syntax, semantics and readability. While Java is the official AP[®] CS A language, the concepts taught are applicable to any industry standard language such as Python, C++, C#, and JavaScript. Students will gain mastery in programming concepts by using a subset of Java features that are covered when needed throughout the course content. This allows the student to understand and master important concepts that will apply to programming problems in many additional languages.

VHS Learning students will learn complex algorithms using industry standard tools for software development such as the Eclipse Integrated Development Environment and JUnit Java testing framework. These tools make learning easier by providing students multiple opportunities to complete tasks with instant feedback on functionality of their code. Programming assignments are carefully scaffolded to move students progressively toward better understanding and greater independence as programmers.

Students will be expected to enroll in My AP Classroom through their VHS Learning AP course and will be guided to complete review work in My AP Classroom throughout the year. My AP Classroom resources include AP Daily Videos and unit-based Personal Progress Checks, which include AP-style multiple choice and free response questions.

Students enrolled in VHS Learning Advanced Placement courses with a passing grade are expected to take the AP Exam. Students register for AP exams through their local school or testing site as "Exam Only" students. AP exam scores will be reported to VHS Learning through My AP Classroom; exam results will not affect the student's VHS Learning grade or future enrollment in VHS Learning courses.

This AP course has a required summer assignment. The summer assignment is a review of prerequisite content and critical concepts students must be comfortable with before beginning the course. Students are expected to complete their summer assignment before the course begins and submit their work by the end of Week 1. Students who register on or after September 1 will receive an extension to complete the summer assignment by the end of Week 3.

Prerequisites

- Students must have successfully completed a first-year high school algebra (Algebra 1) course with a strong foundation of basic linear functions, composition of functions, and problem-solving strategies that require multiple approaches and collaborative efforts. In addition, students should be able to use a Cartesian (x, y) coordinate system to represent points on a plane.
- There are no specific programming language prerequisites for AP[®] Computer Science; a prior course that supports computational thinking is helpful.

2024-25 Course Description Supplement

AP Computer Science Principles (796)

On-line – High Honors

Full Year – 1 credit

According to the College Board, the AP Computer Science Principles course (AP CSP) is designed to be equivalent to a first semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course is unique in its focus on fostering student creativity. Students are encouraged to apply creative processes when developing computational artifacts and to think creatively while using computer software and other technology to explore questions that interest them. They will also develop effective communication and collaboration skills, working individually and collaboratively to solve problems, and discussing and writing about the importance of these problems and the impacts to their community, society, and the world. Additional information from College Board can be found here: [AP Computer Science Principles Course Overview](#).

The course is designed to engage students from diverse backgrounds and those who are new to computing. The course engages all students in authentic, project-based learning to develop computational thinking through:

- Collaborative problem solving
- Creative design of unique solutions
- Data representation through modeling and simulations
- Algorithmic reasoning
- In addition, the course prepares students to successfully complete both the AP CSP Performance Tasks and the AP CSP exam.

Students enrolled in VHS Advanced Placement courses are expected to take the AP[®] exam and to report their AP[®] exam scores to VHS. By enrolling in an AP[®] VHS class, the students authorize their school administration to report AP[®] exam scores to VHS. Exam results will not affect the student's VHS grade or future enrollment in VHS courses.

Online Elective Courses (Half Year)

Graphic Novels (186)

On-Line –Honors

½ Year - ½ Credit

Throughout history, humans have used images to communicate ideas, emotions, and stories. Recently, graphic novels have risen to prominence, winning awards and illuminating the value of storytelling through images and words. In this course, students will explore how literary techniques combine with artistic techniques in the medium of comics and how graphic novel creators use those techniques to tell complex, compelling stories.

This first unit covers the history of graphic novels, beginning with early American comics. At the same time, students will learn about, identify, and practice artistic techniques of the comics medium. They will compare a graphic adaptation of Poe's stories and poems, focusing on the short story "The Casks of Amontillado," with the text-only version of the story. The second unit explores two graphic novels: *March: Book One*, about the early life and activism of John Lewis, and *Nimona*, a sci-fi/fantasy story about friendship and good and evil. Students will focus on interpretation and analysis, paying special attention to how readers make inferences when reading graphic novels. In the third and final unit, students will choose a final graphic novel to read and analyze independently. They will apply their learning from the course and use the creative process to create an original short graphic story.

Throughout the course, students will engage in discussions with their peers. Students will write in a variety of genres, both creatively and analytically. Students will develop their artistic skills by creating comics to convey their learning, interpretations, and original story.

In this standard-level course, students are expected to invest approximately 6 hours per week on their course work.

Prerequisites: Mature Themes: Some texts contain adult language, drug use and abuse, racism, sexuality and sexual orientation, suicide and mental health challenges, or violence and/or abuse.

2024-25 Course Description Supplement

Women in Literature & Media (188)

On-Line – High Honors

½ Year - ½ Credit

What do we gain by studying writing by and about women? Have the roles and representations of women in literature and media changed over time, or are there still societal norms that impact the way we view women in the world? In this course, students will examine these questions, and the roles, representations, and issues of women in written, auditory, and visual texts.

The course begins with a focus on the interplay between society and the written word. Students will read and analyze the play, *A Doll's House*, as well as written and visual texts from the early 20th-century to today. Students will consider how texts both reflect societal norms and break them and how women's roles and representations have shifted over time. Students will research and reflect on representations of women in the world around them today.

The course then broadens to consider how race, culture, and class impact women's issues and how diverse women's voices have brought new issues to light. In addition to reading a variety of shorter texts, students will select and read a novel from a diverse list of female authors and examine how culture, race, and class affect not only the message but the reader's interpretation of the text.

The final part of the course examines how women have used their voices to shape the world around them. Students will analyze a variety of texts such as podcasts, speeches, articles, and poetry, considering how authors craft their message to influence others. Taking inspiration from women writers, students will create their own message for change.

Throughout the course, students will consider the relationship between power, society, and the written word as they examine ways that power is used to shape texts as well as how female authors have harnessed the power of media and the written word.

This course incorporates a variety of literary and nonfiction texts such as plays, short stories, poetry, novels, graphic novel excerpts, advertisements, podcasts, songs, speeches, images, videos, articles, and essays. In this honors-level course, students are expected to invest 8-10 hours per week on their course work.

Horror Writers (189)

On-Line – Honors

½ Year - ½ Credit

Why do some of us love reading scary novels or watching scary movies? What is it about the horror genre that can be exciting, disgusting, captivating, and terrifying all at the same time? And just how did the horror genre develop in the first place and who are some of the masters of that craft? In this course, students will explore the roots of horror literature, beginning with the Gothic tradition in the 19th century and continuing through to modern examples of horror in both literature and film. The course begins by building a definition of the genre and exploring the nature of fear and how it is used in horror literature. With these shared understandings, we will explore some of the seminal works of the genre and its most iconic characters: the monsters made famous in Mary Shelley's *Frankenstein* and Bram Stoker's *Dracula*. Students will then read and analyze stories from such masters as Washington Irving and Edgar Allan Poe, again seeking to understand both the psychology and literary techniques employed to terrify the reader. We will then switch our focus to an entirely different brand of horror, that of H. P. Lovecraft. Students will try their hand at writing a creative piece in the style of one of the authors we have studied. As the course moves into the 20th-century, we will delve into the world of perhaps the greatest contemporary horror writer, Stephen King. And in the final weeks of the course, students will explore a 20th-century horror novel, choosing to read either Stephen King's *Carrie* or Robert Bloch's *Psycho*, and then watch and evaluate the film adaptation of the novel.

Prerequisites: Please Note: This course contains an end-of-course proctored exam. Instructions for students to identify an appropriate adult proctor are included in the course lessons. **Required Texts:** This course requires students to obtain copies of certain texts. Details provided in the Additional Requirements field of this course description. **Mature Themes:** It is not possible to study the horror genre without content that is sometimes graphic and upsetting. Some stories include scenes of violence, sex, other mature content, and plots that may be disturbing and frightening.

101 Ways to Write a Short Story (191)

On-Line – High Honors

½ Year - ½ Credit

The purpose of this course is to provide a study of the short story form and to serve as an outlet for student writers to engage in a dialogue about their work in a safe environment. By reading various short stories in a variety of literary genres, the student will develop a basic understanding of the short story form. Using this knowledge, the student will craft two short stories. Students will also visit sites that cater to short story publishing, editing and reviewing, as well as sites that provide creative resources for short story writing.

Creative Writing (192)

On-Line – Honors

½ Year - ½ Credit

The semester will begin with thought, reading, on-line discussion and writing about WHY people write, why bother to do imaginative writing when we can just turn on our TVs or access the Internet. Along the way, we'll try to decide: What is the fundamental impulse behind poems and stories? How are they constructed, and what techniques do particular writers use effectively? What kinds of work do we most admire and why? How can a poem or pieces of fiction speak to us across, years, genders, and cultures?

Fantasy and Science Fiction Short Stories (193)

On-Line – Honors

½ Year - ½ Credit

The course will begin with a discussion of the fantasy and science fiction genres. We will try to figure out what elements determine the genre, that is, what key, essential ingredients are necessary for prose to be classified "fantasy and/or science fiction". We will go on to investigate the question, "What makes a story great?" Throughout the course we will read short stories and discuss them in detail. We will examine the icons of these genres including CS Lewis, JRR Tolkien, and Phillip K. Dick. Finally, you will write three short stories, including a very short one (a single page), a longer one (5-8 double-spaced pages) and a very long one (10-12 double spaced pages). These stories will be peer-reviewed and I will cast my own opinions into the ring. Ultimately stories are meant to please an audience and some of the best feedback you will get will come from your readers. The writing you do will grow and change as we continue to read more and different styles of SF. By the end of the course, you should have gained a solid understanding of the conventions of the genre and its historical developments.

2024-25 Course Description Supplement

Poetry Writing (194)

On-Line – High Honors

½ Year – ½ Credit

If you enjoy writing about your life, then this is the course for you! We'll spend the semester creating numerous poems, three short stories, and one essay - all based on your opinions, experiences, and viewpoints. You will have the opportunity to improve writing skills in a setting that welcomes everyone. Writing assignments will be inspired by selections from contemporary American authors such as Maya Angelou, O'Henry, Gary Soto, Sherman Alexie, Sandra Cisneros, Martin Luther King Jr., Barbara Kingsolver, and Ralph Waldo Emerson, as well as poetry written by other high school students. To enhance and inspire the writing process, students will complete weekly journal writing, and participate in a readers' forum where we will share writing and opinions in a friendly atmosphere. Together we will build a reference section where students can develop skills in the mechanics, usage, and grammar of the English language. You will have the opportunity to seek publication for your work. The purpose of this class is to learn core English skills based on Washington State's Essential Academic Learning Requirements. Its theme is the celebration of diversity. Students at all levels will have the opportunity to improve their skills while writing about a topic that they know best: themselves.

Journalism (195)

On-Line – High Honors

½ Year - ½ Credit

"Our liberty depends on the freedom of the press, and that cannot be limited without being lost." - Thomas Jefferson. The belief in a free press is one of the essential pillars of a democratic society and makes the study of journalism so important. We are witnessing a transformational moment in the history of journalism when the entire media industry is being challenged by rapidly emerging technologies, and the blurring of lines between legitimate news and "fake news" is more pronounced than ever. In this course, you will develop a deeper understanding of and ability to be part of a free press in this era of rapid change and great controversy. You will study journalistic styles for presenting news, features, opinion, entertainment, and sports – each of which has its own set of rules. In developing original stories, you will explore issues and personalities in your school and community, study and practice interviewing techniques, and learn how to identify, verify and fact check sources. You will consider the difference between "real news" versus "fake news," the role of investigative reporters and whistle-blowers. And you will practice techniques that help you more effectively present news stories through text, images, and other media. If you are thinking about a career in journalism, or if you are simply a "news hound" who is fascinated by how news is created and disseminated in society, this course will provide a fascinating perspective and solid foundation for your exploration.

Ghosts & Haunting in Literature (197)

On-Line – Honors

½ Year - ½ Credit

What happens after we die? This age-old question has fascinated and perplexed human beings throughout history. Cultures and religions through the centuries have created their own answers. This course will explore some of the ways in which literature has addressed this multi-faceted question. We will begin by looking at understandings of the afterlife from different cultures and time periods, reading myths and legends to help us see how humans have transferred their beliefs into literature. Students will look at the early roots of ghost stories in England, starting with a poem by Poe and a short story by Sir Walter Scott. We will then move into the "Golden Age of the Ghost Story," a period between 1830 and the 1910s. Students will read and analyze Charles Dickens' "The Signal-Man" and several other short ghost stories from the 19th and 20th centuries. We will investigate one of the greatest tropes of ghost stories – the haunted house. Students will read real-life accounts of haunted spaces, as well as read and analyze Shirley Jackson's essential work of ghost fiction: *The Haunting of Hill House*. This course will not only offer a study of the euro-centric representation of ghosts--we will also look closely at Latin American culture and the Day of the Dead. Students will read the graphic novel *Ghosts* by Raina Telgemeier and will watch the Disney-Pixar film *Coco* to compare and contrast the representation of ghosts in these works and ones read earlier in the course. Finally, we will end the course by revisiting the question of why humans tell ghost stories.?

Prerequisites: Please Note: This course contains an end-of-course proctored exam. Instructions for students to identify an appropriate adult proctor are included in the course lessons. Required Texts: This course requires students to obtain copies of certain texts. Details provided in the Additional Requirements field of this course description. Mature Themes: In this course students will read stories that many find scary or frightening.

Shakespeare in Film (198)

On-Line – High Honors

½ Year - ½ Credit

Attention all movie buffs! Are you the kind of person who likes to talk about movies you've seen? Do you like to discuss why actors have performed scenes in certain ways? Do you get frustrated—or amazed—at the changes that are made when a story or play goes on the silver screen? If you've answered "yes" to any of these questions, then this is the class for you. We will read four Shakespearean plays—*Romeo and Juliet*, *Much Ado About Nothing*, *Henry V*, and *Hamlet*. We will then view a variety of scenes from these plays performed by many popular actors and actresses (Leonardo DiCaprio, Mel Gibson, Emma Thompson, Kenneth Branagh, are just some of them). The focus of our assignments will be discussions and compositions on choices the actors and directors have made and how those different choices lend different meanings to the plays.

Some of the topics include: family relationships; love (of course); imagery; life decisions; tragedy vs. comedy; visual and aural aspects of a film death; and many other common literary themes as well as film technology

2024-25 Course Description Supplement

Essay Writing (199)

On-Line – Honors

½ Year - ½ Credit

The Essay Writing course is designed for students who need to improve their writing skills to succeed in high school, college, in their careers, and in their daily lives. Lessons will lead students through the writing process from brainstorming to prewriting to drafting and then publishing. Students will learn language and syntax techniques to write effectively to achieve a specific purpose for a specific audience. Students will examine five different essay patterns and how to adapt them when answering essay exam questions. Students will write five essays over the course of fifteen weeks. Since the writing process lends itself to collaboration, this course uses small peer writing groups where students collaboratively brainstorm, test their rough drafts, and help with editing.

Essential Questions:

How can we write effectively to achieve a specific purpose for a specific audience?

How does organization and diction help us to achieve that specific purpose in our expository writing?

How do language usage and syntactical techniques help us to achieve that specific purpose?

Statistics Honors (293)

On-Line – High Honors

½ Year - ½ Credit

This honors course covers concepts in statistics and probability. Students cover topics such as one-variable and two-variable data, methods of data collection, data analysis, probability theory, and random variables. In this course, there is a strong emphasis on real world applications. Students will examine how data analysis and the likelihood of events can be applied to our lives every day. This course will also strengthen critical thinking skills and ability to be a successful problem solver. Students will see a variety of real-life applications through individual and group activities as well as in weekly discussions. This writing-enhanced course serves as an introduction to the AP® Statistics course.

Prerequisites - Algebra 2.

Statistics (297)

On-Line – Honors

½ Year - ½ Credit

This standard-level course covers introductory concepts in statistics and probability. Students cover topics such as one-variable and two-variable data, an introduction to data collection, data analysis, probability theory, and normal distributions. In this course, there is a strong emphasis on real world applications. Students will examine how data analysis and the likelihood of events can be applied to our lives every day. This course will also strengthen critical thinking skills and ability to be a successful problem solver. Students will see a variety of real-life applications through group activities as well as in weekly discussions.

Prerequisites: Algebra 2.

Business Math (298)

On-Line – Honors

½ Year - ½ Credit

In Business Math, students will explore real world examples of how math applies in almost every decision a business makes. Topics explored include use of key data to inform business decisions, evaluation of the health of a business, as well as planning for and starting a business.

Algebra, geometry, statistics, and probability appear in careers across industries and trades. This course will provide students with the opportunity to review and apply key mathematical concepts used in a business setting. Major topics include determining profit and loss, compiling business data, interpreting graphs, and applying math concepts to key areas of business including finance, marketing, and management. These topics will provide students with the foundational knowledge needed to evaluate the health of a business and the viability of business ideas.

Through a series of math application practice, case studies, and business simulations, students will be able to hone their math skills and apply them to the business world. Throughout the course, students will engage with classmates through discussions, blog posts, and video note assignments sharing what they have learned. This course will include a personalized case study where students research the viability of starting their own business and pitch their idea to classmates.

In this Standard-level course, students are expected to invest approximately 6 hours per week on their course work.

Prerequisites: Successful completion of Algebra 1.

2024-25 Course Description Supplement

Science from Space (380)

On-Line – Honors

½ Year - ½ Credit

Imagine training to be an astronaut: blasting off in a Soyuz rocket, floating in micro-gravity, exploring space and Earth from the International Space Station, and contributing to the collective knowledge base of our planet. The International Space Station (ISS) is one of humanity's most remarkable accomplishments. It is a sophisticated laboratory in space, pushing the boundaries of research in biology, materials science, medicine, chemistry and Earth observation. The ISS provides a fabulous context for students to explore topics in life science, physical science, earth science and engineering.

Space Station Academy is a semester-long science course that sends classes of students, or “cadets”, on a simulated mission to space. During their pre-flight training, cadets explore the physics and engineering of space travel, space suits and the ISS. Upon arrive on the ISS, cadets consider the effects of micro-gravity on the body, including skeletal structure and sensory systems. Cadets then turn their attention to Earth Science, as they explore Earth as a system, major geological processes and the impact of human activity on the planet, all while observing Earth from space. Before cadets return to Earth, they are faced with the problem of fixing a solar panel on the ISS, requiring them to investigate key concepts in energy including thermodynamics, waves and electromagnetic radiation, before completing their virtual spacewalk. Once cadets make the brief, but dramatic trip back to Earth, they are asked to debrief, as all astronauts do. Their mission is complete once they submit a Science Mission Report, detailing how the important research done on the ISS across all areas of science is critical to our understanding of life back on Earth.

The immersive storyline of this 15-week science course was developed with support from the Center for the Advancement of Science in Space (CASIS). Students engage in interesting discussions each week, consider what living and working on the ISS would entail through various activities, and complete hands-on activities and design challenges throughout the course. Looking back at Earth from space provides a powerful new perspective, and the innovations that make it all happen naturally spark interest in Science, Technology, Engineering and Math (STEM). The countdown has started. Join us for lift off!

Genes and Disease (382)

On-Line – High Honors

½ Year - ½ Credit

Buried in the cells of each newborn is a unique set of genetic instructions. These molecular blueprints not only shape how the child will grow and develop and whether it will have brown eyes or blue, but what sorts of medical problems it might encounter. Errors in our genes, our genetic material, are responsible for an estimated 3,000-4,000 hereditary diseases, including Huntington disease, cystic fibrosis, and Duchenne muscular dystrophy. What's more, altered genes are now known to play a part in cancer, heart disease, diabetes and many other common diseases. Genetic flaws increase a person's risk of developing these more common and complex disorders. The diseases themselves stem from interactions of genetic predispositions and environmental factors, including diet and lifestyle.

Human Genetics has many areas of expertise. This course will focus on four areas, (1) classical or Mendelian genetics, diseases where major effects are from a single gene, (2) multifactorial inheritance, continuous traits and discontinuous traits where several genes plus environmental factors are involved, (3) cytogenetics, diseases involving chromosomal abnormalities, and (4) mathematical genetics, including population genetics, linkage, and mapping.

Meteorology (383)

On-Line – Honors

½ Year – ½ credit

This is an introduction to the world of Meteorology. Students will look at the origins of meteorology as a science and examine the newest weather satellites. Students will collect and analyze personal weather data, create weather maps, build instruments, fact-check myths, and interview a meteorologist. "What weather conditions form hurricanes and tornadoes?", "how can I use types of clouds to predict incoming weather?", and "how might humans react to and cause changes in weather?" are all questions students will explore.

Students will work both independently and cooperatively using text, graphic, and video sources. Students will investigate weather patterns by analyzing simulation and real-time weather data. There will be an opportunity for students to complete hands-on laboratory activities with common materials as they explore weather phenomenon. By the end of the course, students will better understand the strengths and limitations of weather forecasts and be able to explain the weather systems that affect their daily lives.

2024-25 Course Description Supplement

Epidemics (384)

On-Line – High Honors

½ Year - ½ Credit

One of the most fascinating and frightening aspects of disease, epidemics are known to have affected civilizations, medicine, and human interactions since the beginning of written history. If you were born even a century ago, your chances of dying or becoming disabled by an infectious disease as a child would have been very high. Thanks to modern medicine like antibiotics and vaccines, many of those childhood illnesses are all but eradicated in our world.

Unfortunately, our battle against epidemic diseases continues, despite medical successes and our improved understanding of the causes and process of disease. New diseases are emerging, and those considered controlled are re-emerging in more virulent, resistant forms. News reports are documenting outbreaks of strange diseases in both underdeveloped regions and those with the highest levels of medical care.

This dynamic course is designed to enable students to understand why new diseases are appearing and why those we thought conquered are reappearing. This is done in the context of basic concepts upon which our understanding of biology is built; the interdependence of life and the interconnectedness of our world. Epidemic diseases will be analyzed using a holistic approach to controlling and eradicating disease called One Health. This framework will help us see how our past and present actions will affect the future course of disease.

After we've covered the basics, students will utilize the One Health approach throughout the course building a solid foundation of the need for global collaboration in the fight against disease. With this foundation, students will tackle dilemmas such as the vaccination debate, antibiotic resistance, the human animal interface, food distribution, and travel quarantines. We'll also discuss breakthroughs in technology including how smart phones and social media are revolutionizing disease surveillance!

Current information on infectious diseases and their treatment and control are available through many on-line resources. Students will explore these resources to understand the biology of pathogens and the diseases they cause. Students will complete lab exercises, examine case histories, and perform simulations to better understand the impact of infectious diseases on populations. A final student-created project will allow students to demonstrate their understanding of the need for collaboration between scientists, biostatisticians, farmers, veterinarians, doctors, and public officials in developing and implementing plans to control and eradicate outbreaks.

Prerequisites: Successful completion of a full year of high school biology or equivalent

Health (385)

On-Line – Honors

½ Year – ½ credit

In this course students will: Examine the connections between physical health, mental health, and social health, and their impact on society and the individual, investigate what factors contribute to and influence our physical, mental and social health as well as our decision making, and focus on current health topics by looking at news articles on related topics from media across the country for a national perspective as well as local media to provide local perspective.

Biochemistry (387)

On-Line – High Honors

½ Year - ½ Credit

Biochemistry explores the structure and role of essential biological molecules focusing on carbohydrate, lipid, nucleic acid and protein chemistry. Biochemistry is a survey course designed to review general principles of chemistry and biochemistry while relating them back to the physiological conditions of an organism, understanding the chemical and molecular events involved in biological processes. Topics designed in this course include the structure and function of biomolecules, relationship of biochemistry to the physiology of an organism, relationship of bioenergetics to the physiological state of an organism, description of the chemistry underlying metabolic reactions, regulation of metabolic pathways, nutrition and metabolism, enzyme structure and catalysis, DNA, RNA and protein synthesis, and the role of DNA in inheritance.

This course provides the linkage between the inanimate world of chemistry and the living world of biology.

Prerequisites: Successful completion of a full year of high school biology or equivalent.

Oceanography (388)

On-Line – High Honors

½ Year - ½ Credit

Students will board the USS Cyber, a virtual oceanographic research vessel modeled after the flagship of NOAA's fleet for a sail that begins in Woods Hole, Massachusetts, and ends in San Diego, California. As the crew of the ship, students will perform scientific experiments and collect data that will teach them about the geology, chemistry, and physics of the ocean. From the Bay of Fundy in Nova Scotia to the Caribbean and Antarctica, from the coral reefs to the hydrothermal vent communities deep in the ocean, students will make observations about the sea's ecosystems and the sometimes-unexpected life within them. There are no traditional tests. Students are expected to participate fully as members of the expedition. If you've ever wondered what it might be like to go to sea, pack your bags, and join us.

This is a survey course covering the basics of physical oceanography and marine biology presented in a fun and engaging format. There are no traditional tests. Students will be graded on their weekly assignments, which will include both individual and group projects. In lieu of a midterm or final exam, students will be expected to complete a major individual project each term. Prospective students need to be self-motivated and willing to work in a team environment. There will be a strong multimedia component to the course, and students will have the opportunity to choose from reading assignments that meet their comfort level. The course is fast-paced and rigorous. No prior knowledge of oceanography is expected.

2024-25 Course Description Supplement

Nuclear Science (389)

On-Line – Honors

½ Year - ½ Credit

The focuses of this course are the scientific, technological, and societal implications arising from nuclear physics. Students have an opportunity to explore, in-depth, a topic that has played a major role in the science, technology, politics, philosophy, and everyday life of the past century. The student's primary goal during the course is to answer the question: "What should an informed citizen know about nuclear issues?" The student has some flexibility choosing the areas they wish to concentrate on. The science topics in the course include the history of discovery, types of nuclear reactions, interactions between radiation and matter, the standard model of subatomic matter and current research. Although some math is used to provide better understanding of the concepts covered, math problems are not the primary focus of the course. The technology portion includes the design and function of particle detectors, particle accelerators, nuclear reactors, nuclear bombs and nuclear waste facilities. Current and future uses of radiation in industry and medicine are also investigated. The society portion of the course is the one where many students concentrate their efforts. The weekly discussions on controversial nuclear topics are always interesting. They provide opportunities to look back at the politics behind weapons development and use, the Cold War, nuclear proliferation, and the atomic energy industry. Discussions during the course will include topics that have made recent headlines; such as food irradiation, nuclear reactors in space, Radon mitigation, the demise of the Super-Conducting Super-Collider, the theft of nuclear secrets, and nuclear test ban treaties.

The Human Body (392)

On-Line – Honors

½ Year – ½ credit

Prerequisites: PowerPoint software and Word Processor, and familiar enough with software to create a PowerPoint presentation.

Did you ever wonder how your body works? Take a journey through the major systems of the human body with us! This class provides a comprehensive overview of the workings of the human body. We use many online readings and animations, as well as field trips to selected web sites in our exploration. You will join your fellow classmates as you investigate how the human body functions. Your critical reading and organizational skills, ability to communicate, and most of all, your curiosity will help you succeed in this course. You will never watch CSI with the same eyes again! The Human Body is a course designed to familiarize you with the key systems of the human body and how they function. The course studies the structures and basic functions of organs involved in the body systems.

Anatomy & Physiology (393)

On-Line – High Honors

½ Year - ½ Credit

This is an honors level course that is designed to investigate the anatomy and physiology of the 11 major body systems. This course begins with a quick review of biological levels of organization and microscopy and then focuses on both structure and function of the following systems: skeletal system, muscular, respiratory, circulatory, digestive, urinary, reproductive, immune, endocrine and nervous. The course culminates with a look at how the systems work together to ensure homeostasis for the body and what happens when one or more of these systems don't function correctly. Students play anatomy games, complete online quizzes, analyze histology data (using NIH imaging software) and communicate results in lab reports, complete shorter writing assignments, conduct "hands on" labs and activities, and research specific topics such as hormones, viruses and the senses. Students regularly engage in virtual "lab meetings" and discussions about the latest topics associated with each system. During the first term, students work individually on a project that looks at the structure and function of a particular type of cell. Students collaborate with classmates in a team project to identify the anatomy and physiology associated with a particular disease during the second term.

Animal Behavior and Zoology (394)

On-Line – High Honors

½ Year - ½ Credit

Have you always been interested in animals and their behavior? Do you love to spend time at zoos and aquariums, and find animals (and their interactions) fascinating? This course explores the tremendous diversity of animal life and the interconnectedness of different animal species with each other and with humans. The first part of the course explores the classification and characteristics of all the animal phyla, with an emphasis on the evolution of animals and the adaptations that have allowed such diversity to flourish. The second part of the course focuses on many different animal behaviors (including human behavior). We will learn about different types of behaviors – from innate (genetic) behaviors to learned behaviors. The social interactions between animals will be covered in depth as we study courtship, aggression, altruism, and parental behaviors in animals. We will also discuss different careers in the animal sciences as a culminating activity, which should be of great interest to students who wish to pursue their love of animals as their professions. The course will utilize a number of interesting articles, discussions, virtual field trips, activities, videos, and projects to give a wider perspective of the animal kingdom and animal behavior.

2024-25 Course Description Supplement

Veterinary Medicine (395)

On-Line – High Honors

½ Year - ½ Credit

Prerequisites: *Successful completion of a full year of high school biology.*

Using a case study approach, this veterinary medicine honors course is intended to introduce students to veterinary medicine, and to prepare them for further study in the field.

The course begins with an introduction to veterinary terminology and veterinary diagnostic techniques. Students will review the anatomy and physiology of healthy vertebrate animals as they explore each of the organ systems in depth. They will study all of the animal systems and make comparisons between different groups of animals. “How do animal organ systems function to maintain homeostasis?” And “What is the importance of food choice?”, are just a sample of questions students will investigate.

Students will walk in the shoes of a veterinarian as they enter the animal focused weeks of the course where their learning is guided by case studies of sick or injured animals. Each week, students will dive deeper into learning about one group of animals, from small animals (dogs, cats, bunnies), to large animals (pigs, sheep, cattle, horses), to wild animals (wildlife and zoo animals). Students will explore the unique behaviors of each of these groups as they answer common questions pet owners may have. Students will use S.O.A.P notes to document their understanding of the weekly content and their process in diagnosing and treating a sick or injured animal. In addition to using the case studies to guide learning each week, students will analyze common dilemmas that veterinarians may face throughout their careers, and discuss with their classmates how they might handle the situation in a professional manner as they draw upon evidence gained using scientific news, journal articles or other credible sources. “What are the most common diseases and disorders of canines?” “What are the important preventative steps pet owners can take?” “How are diseases and disorders diagnosed and treated?” “What are the unique challenges to treating exotic animals?” are a sample of questions students will be able to answer by the end of the course.

Students will get the opportunity to examine holistic and natural approaches to veterinary care, and make comparisons about the different approaches. Students will also look into the steps required to have a career in veterinary medicine; they will explore the educational path and options, and the variety of professionals involved in caring for animals in different settings.

This semester-long veterinary medicine course will engage students through hands-on, student centered, case studies, videos, group activities and virtual simulations. Students will use their scientific investigation and research skills to collect, organize, and analyze the signs and symptoms of diseases and disorders to identify and provide treatment plans for sick or injured animals.

Psychology of Crime (396)

On-Line – High Honors

½ Year - ½ Credit

Students will learn how psychology applies to questions and issues relating to law and the legal system. The course will include all aspects of the legal system including police, the trial and corrections. Topics will include: recovered memories, children as victims and offenders, violence and murder, strategies for interviewing witnesses, expert testimony, and factors influencing the credibility of witnesses, victims and offenders and insanity. Students will also examine the relationship of psychology and law in the educational and work settings.

Astronomy Principles (397)

On-Line – High Honors

½ Year - ½ Credit

This course is an introduction to astronomy. Student will learn how to observe the sky we see and how it appears to change over time. Then they will learn more about the planets of our solar system and the structure and life of stars. Lastly students will study the Milky Way galaxy as well as those beyond and end by looking to the future. Students will be evaluated on weekly contributions to: discussions; reading assignments; regular, outside, nighttime observation assignments in their Sky Watch journal; and other activities and assignments. Activities will involve hands-on and virtual labs, web inquiries, and using planetarium software. There will be a mid-term and final project.

Bioethics (399)

On-Line – High Honors

½ Year - ½ Credit

Are you prepared for a brave new world? Some say that the age that will come after the information age will be known as the age of biology. Already, we hear about euthanasia, stem cells, genes, genomes, and health care in the news almost nightly. The ethical issues that accompany these new technologies force us to reexamine what words like “humanity”, “person”, “respect”, “fair”, “justice”, and “benefit” mean.

This is a survey course covering various contemporary topics in bioethics, focusing on issues encountered in biomedicine, genetics and research. Areas to be studied include assisted reproductive technology, end-of-life decision making, gene therapy, genetically modified organism, stem cells and animal and human research. We will examine these issues from many sides, weighing the reasons people have for believing them with a mind towards forming a well-supported position and creating a brave new world in which we can all live in the age of biology.

2024-25 Course Description Supplement

American Culture & Sign Language (497)

On-Line – Honors

½ Year - ½ Credit

Many Deaf people view themselves as a unique cultural and linguistic minority and use sign language as their primary language. The characteristics of Deaf culture are formed out of many shared life experiences rooted in a visual world designed for communication ease. This American Sign Language and Culture course is designed to provide insight into this unique population; their values, traditions, and cultural norms. Students will gain a broad perspective of American Sign Language and Culture in a course guided by the American Council on the Teaching of Foreign Language World-Readiness Standards. Students will be expected to develop vocabulary skills to express feelings, likes, and dislikes, and exchange ideas on familiar and everyday topics through brief discussions and basic signing. Students will engage in activities and discussions that promote ASL and Culture awareness through five thematic units:

- (1) American Sign Language at a Glance
- (2) Talking About Myself
- (3) Everyday Life
- (4) School and Extracurricular Activities
- (5) Contemporary Life

Each week, students will engage in practices and assignments that enrich their linguistic, cultural, and historical knowledge. Activities include interpreting text and audio from authentic resources such as YouTube videos, podcasts, and articles. There will be a combination of practices, assignments, presentations, student (self) made videos, formative and summative assessments, and group projects.

In this honors-level course, students are expected to invest approximately 6 hours per week on their coursework.

Chinese Language & Culture (492)

On-Line – Honors

½ Year - ½ Credit

Discover a new language and culture and how it enriches the lives of those around us.

This semester-long course is designed to introduce students to the Chinese language and culture. Students will explore practices and perspectives of Chinese culture including familiar topics such as celebrations, family and school life, and foods in order to develop an introductory level of cultural awareness and an appreciation of cultural differences. Students will develop vocabulary skills to express feelings, likes, and dislikes, and exchange ideas on familiar topics through brief discussions in the target language.

The weekly lessons are presented within thematic units. These units are

- Unit 1: Introduction to Chinese Language and Culture
- Unit 2: Ancient Chinese History
- Unit 3: Everyday Life
- Unit 4: Culture
- Unit 5: Experiences and Connections

Each week, students will engage in practices and assignments that enrich their linguistic and cultural knowledge of the Chinese people. Activities include interpreting text and audio from authentic resources such as YouTube videos, podcasts, and articles.

In this standard-level course, students are expected to invest approximately 6 hours per week on their course work.

Peacemaking (583)

On-Line – Honors

½ Year - ½ Credit

In Peacemaking, students explore the hard work of making peace. Each week includes a case study that students use to examine the week's conceptual focus. During this first unit, students consider the moral dilemmas faced by victims of violence, such as Holocaust survivor Simon Wiesenthal and civilians on both sides of the Israeli-Palestinian conflict, and the concepts of reconciliation and restorative justice that arise in the aftermath of violence. Discussions of those case studies also emphasize terminology: how and why does "peace" mean different things in different contexts? Why is there often tension between justice and peace? What is the difference between peacekeeping and peacemaking? Once the class establishes a shared language, students move on to the second unit, focused on the philosophies and actions of individuals and organizations who have made progress in promoting peace in their communities and the world. These case studies highlight the work of Nobel Peace Prize recipients, such as Mahatma Gandhi, Martin Luther King, Jr. and Malala Yousafzai, diplomatic organizations, such as the United Nations and the U.S. Department of State, and non-government organizations, such as Doctors Without Borders. In the third unit, students will select a current issue of interest to them, such as gun violence, child enslavement, or poverty, and apply the peacemaking concepts, philosophies, and techniques they have studied to develop a specific strategy that would advance their cause and promote peace.

Mythology (585)

On-Line – Honors

½ Year - ½ Credit

This course is designed to enhance understanding of mythology and its continuing influence on our modern world. Students will study mythology from various cultures, including Greco-Roman, Norse, and American Indian. Participants examine how some themes and character types occur over and over in myths of different cultures. Reading, individual projects/activities, and group work will be part of this class.

2024-25 Course Description Supplement

Psychology 1 (588)	On-Line – Honors	½ Year - ½ Credit
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In Psychology I, students will look at various aspects of the human psyche and see what makes us tick. Each student will be required to complete weekly journal entries and participate in daily class discussions.

Special attention will be given to operant and classical conditioning, psychological disorders and their treatments as well as human behavior and debunking myths about the paranormal and psychology in general. This introductory class is designed to very interactive with students sharing their reflections and personal thoughts with the rest of the class on a weekly basis.

Psychology Honors (588)	On-Line – High Honors	½ Year - ½ Credit
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Note: This course is intended to teach and reinforce crucial academic skills to help students strengthen their background in the subject area prior to taking an advanced level course.

Psychology Honors is a course designed to prepare students for the study of psychology at the college level. The focus of the course will be on mastering necessary academic skills that will assist the student in furthering his/her study of the subject. Such skills include reading for understanding and note taking, critical thinking and problem solving, researching and writing, thesis statement writing and essay structure, etc. Basic psychology vocabulary terms are introduced, and content emphasis is placed on building the students' background in the subject area so that he/she is prepared for an advanced course.

Modern Middle East (590)	On-Line – Honors	½ Year - ½ Credit
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This course explores the history of the Middle East (focusing primarily on the last century), and examines the relationships within the region and beyond. Topics of study include the development of Islam, the impact of imperialism, the rise of nationalism, the effects of British and French rule, Arab-Israeli relations, and the political and economic impact of oil. Since 9/11, interest in the Middle East and Islamic studies has increased dramatically. In response, media, schools, politics, and pop culture, have all expanded their coverage of the region and its culture. As a student in this course, you are part of a larger movement seeking to better understand the people, ideas, and events of this area. Moreover, you will form your own generalized and nuanced understanding of the Middle East.

Business and Personal Law (593)	On-Line – Honors	½ Year - ½ Credit
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Business/Personal Law is designed for students who have a desire to learn more about legal issues that will affect them in the present and in the future. It will acquaint students with basic legal principles common to business and personal issues. Ethics, the origin of law, our court system structure, contracting, buying and selling, employment, organizing a business, real estate, wills, trusts, and marriage and divorce will be explored. Students will leave the course with an understanding of legal issues impacting their lives in today's world. They will leave the course with an understanding and preparedness to face future legal issues.

Constitutional Law (594)	On-Line – High Honors	½ Year - ½ Credit
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This course is a study of the United States Constitution and how provisions within it have been interpreted by the Federal Courts (Supreme Court and the lower courts). The course aims to provide students with the opportunity to explore the US Constitution from a variety of different perspectives. Aside from the judicial system, constitutional law is influenced by a variety of factors, such as lawyers, politicians, the media, and citizens. Constitutional Law is divided into two sections. In the first section, students explore how the three branches of the federal government share powers as well as how the federal government shares power with state governments. In the second section, students focus on the origin and continuous interpretation of the civil rights and liberties guaranteed by the US Constitution.

Prerequisites: Completion of U.S. History and American Government

Sociology (596)	On-Line – Honors	½ Year – ½ credit
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Sociology students examine the influence of society, the groups we belong to, and institutions like government, family, education, religion, media, etc. on human behavior. We use popular movies and contemporary events, plus research, as the foundations for class discussions of issues such as crime and who defines criminal behavior and the legal response to it; gender inequality in the workplace; and the impact of media on violence and sexual behavior. Poverty and minority groups are discussed with a focus on how being a person of color shapes one's opportunities and life chances. Learners are exposed to the possibility of community-wide responses to social problems, instead of the "fix the individual" approach. Learners will also experience the scientific method of studying society, through design and execution of a survey and interpretation of results.

Sports and Society (597)	On-Line – Honors	½ Year – ½ credit (Not NCAA approved)
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This course will focus on the evolving role of Sports in American Society. Students will examine the history of sports and its relationship with race, gender, economics & politics in the United States. Additional topics will include: pressures of sports from adolescence through college, supplement & drug abuse, violence in sports, and exploring sport-related careers. Students will also develop skills in historical research, analysis, and interpretation. Students will be expected to participate in a variety of activities including: weekly discussions about required reading and current events, online field trips, research projects, and group activities.

2024-25 Course Description Supplement

Criminology (598)

On-Line – High Honors

½ Year - ½ Credit

Have you ever been fascinated by a crime story and wondered: How could somebody commit such an unspeakable act or how could someone who seemingly has everything throw it all away doing something illegal? Does a person's environment increase the likelihood of becoming a criminal or is criminality an inherited trait? Criminology will explore the reasons why people commit crimes. First, we'll examine why laws were created and how they evolve over time in response to society's needs. Then, we'll focus on the theoretical perspectives of criminal behavior, including biological, psychological and sociological theories. We will delve into the minds of serial killers, thieves, drug dealers, and even corporate criminals as we examine notable and notorious criminals. Finally, we will explore the treatment of criminals by the correctional system. Ultimately, you will be asked to design a policy statement for crime prevention and treatment programs for criminals based on the theoretical assumptions that you support. Some of the issues we'll discuss are: 3 main types of crime, Prevalence of crime, Connection between drugs and crime, Indicators of dangerousness, Predicting criminal behavior, Competency standards.

Law & the U.S. Legal System (578)

On-Line –Honors

½ Year - ½ Credit

Does the United States Legal system truly embody democratic values? Does the country's court system effectively settle disputes? What happens when a person gets arrested, anyway? In this course, students will examine these questions as they closely study the structure and role of the American legal system in society.

This course seeks to provide a comprehensive overview that encompasses the diverse perspectives, critiques, and realities of the American legal system, while also studying the foundation, classification, and organization of law with a particular emphasis on criminal law and civil law. Students will also explore the steps of a trial including pre-trial procedures, opening and closing statements, cross-examination, jury deliberation, and verdicts. The course will end with an examination of student and juvenile rights and laws. This will provide students with an overview of their rights as minors and how their rights change when they are in a school building.

Law and the US Legal System will use a variety of sources, so students will get a full, nuanced, and balanced view of the law and legal system. Students will be invited to think critically about the systems we have in place, and what crime and justice really mean.

Music Listening & Critique (642)

On-Line – Honors

½ Year - ½ Credit

This course takes students into the world of a music as a listener and a writer. Students will explore how to listen to music, how to write about what they are hearing, and how to analyze and appreciate different styles of music.

Students will be given the opportunity to listen to a wide variety of music from four stylistic areas: World Music, Jazz, Classical, and Popular Music. They will listen to many examples each week, to compare and contrast the different styles they hear. Critique will take place in formal essays, and in class discussions with the support of peers.

Resources will include interviews with various musical artists, reviews by music critics, and advice from famous composers on the "technique" of listening to music. These resources will help students to develop a common vocabulary to use when discussing and comparing each piece of music.

This course will help students understand the nature of music through listening. It is not required that students read music in order to participate in this course. Literate musicians will find it enjoyable to take the time to sit back and listen actively to a wide variety of musicians. Garage band enthusiasts and students that are looking to explore new styles will find a great opportunity to explore some new musical territory.

Music Production (643)

On-Line – Honors

½ Year - ½ Credit

Every time we hear recorded sound, we hear music production at work. Music production skills allow creators to record live sound, create new digital sounds, manipulate sounds, and share them with the world. In the VHS Learning Music Production course, students work with the tools and practice the skills that will empower them to imagine sounds and music and bring it to life through digital audio.

Students will use BandLab to create audio as they apply what they learn about music production. Students will have the opportunity to create digital audio, record live audio, emulate music they love, and share new musical ideas. Students do not need to read music or have prior music experience to succeed in this course, though experienced musicians will also thrive in this creative class. The course is aligned to the National Core Arts Standards for music theory and composition.

Each week, students will analyze music they love to understand how music production creates the engaging sounds of pop, rock, rap, country, electronic, and other modern musical genres. They will apply what they learn to create new works of their own, experimenting with diverse music production techniques. In an extended project, students will collaborate to develop complex works leading to a releasable single.

In this Standard-level course, students are expected to invest approximately 6 hours per week on their course work.

2024-25 Course Description Supplement

Music Composition & Songwriting (644)

On-Line – High Honors

½ Year - ½ Credit

Prerequisites: Proficiency in reading basic tonal melodies in treble and bass clefs. At least one semester of applied musical instruction is recommended. Students must be 13 years of age or older to participate in this course, due to the terms of service of Noteflight.

In this course, students explore the elements of music and foundational principles of music theory through composition and songwriting. Students will analyze diverse music to find inspiration in the genres and artists they personally enjoy. They will use music notation technology to write music for a variety of instruments and collaborate with classmates as they listen to peers' creations. Throughout the course, students will develop and refine several original musical works as they understand more about how memorable music is imagined, created, and presented.

In accordance with the National Core Arts Standards for composition, students will engage with music through creating, performing, and responding to diverse music. They will use notation to represent sound, manipulate the elements of music, and sustain the creative process through planning, refining, and presenting a musical work.

Students will practice applying their knowledge and exploring new creative possibilities through a variety of interactive online resources. They will share inspiring recorded music with classmates in weekly discussions, and they will analyze how compositional techniques add to a song's success and uncover their own aesthetic preferences. Students will use Noteflight notation software to write and hear their compositions and share their work with classmates.

Screenwriting (673)

On-Line – Honors

½ Year - ½ Credit

This course is designed to equip students with the theory and structure of screenwriting so that they may mold their ideas into a professional product designed for the screen. Emphasis is upon the literary conventions of the form -- character, conflict, plot, dialogue -- as well as the technical elements which make scripts and screenwriting unique. Upon completion of the course, students should be able to conceive, develop, and craft their own original idea into a professional screenplay.

Art History (679)

On-Line – Honors

½ Year - ½ Credit

Why do Impressionists seem so mundane now but were so shocking in their day? Why did Pollock toss and drip all that paint around and get paid a lot of money for it? What was all the hoopla at the Brooklyn Museum a few years ago?

This Art History course will answer these questions and raise a few more. It begins in the Renaissance in Western Europe, because 1500 was an important moment for Western culture, and finishes off the second half of the millennium. Students will visit virtual museums all over the world, and look at the connections among various types of art that have been created for the past 500 years. This course aims to expand the student's understanding and love of history and visual art.

As in any art history course, images of the nude human figure will be viewed and discussed. Some controversial topics will be raised during the course, particularly when discussing censorship and contemporary art.

Personal Finance (689)

On-Line – Honors

½ Year - ½ Credit

Think about where you would like to be 20 years from now, 30 years from now, or even 40 years from now. Where will you live? What kind of car will you drive? Preparing and planning today will help you achieve your financial goals in the future. Throughout this course, you will learn skills that will help you make educated decisions that will influence your financial future and help you reach your financial goals.

This course is designed to introduce students how money works as well as manage their own personal finances in an efficient manner. Students will develop practical skills to manage their personal finances while applying them to real-life applications. Topics such as managing credit, knowing one's credit score, taking measures to protect oneself from identity theft, as well as how to shop for college loans, the basics of investing, and the importance of saving for retirement are included in this well-informed course. These skills will provide students a solid foundation that will guide them in making informed decisions, promote financial independence, ensure personal security, and work towards maintaining a stable financial future.

Using web resources and videos, students will work with Next Generation Personal Finance worksheets, develop fun and engaging infographics and assignments while meeting Massachusetts Personal Financial Literacy Curriculum Frameworks.

In this standard-level course, students are expected to invest approximately 6 hours per week on their course work.

Entrepreneurship (690)

On-Line – Honors

½ Year - ½ Credit

Entrepreneurship starts to prepare future small business owners to run their own businesses according to the principles of business. It also allows students to experience the entrepreneurial spirit. Students learn how to develop a business idea and write a business plan to promote that idea. Future business people must understand economics, financial statements, marketing and selling techniques, investing, business structures, legal issues, banking, technology and taxation. Entrepreneurship teaches students how to use all of these business principles in order to develop a successful business and kindle an entrepreneurial spirit that will help students follow their dreams and reach their goals.

American Popular Music (691)

On-Line – Honors

½ Year - ½ Credit

This course will examine the relationship between 20th Century History (current events, at the time) and the popular forms of music and the messages that music displayed. The course begins with a look at how popular culture (be it art, theatre, literature, or music) has been "historical" in the past, and will then pick up with the blues singers at the beginning of the 20th century. The course will proceed through each decade of the 20th century, examining music such as blues, jazz, rock, reggae, pop, metal, folk, country and rap. Students will examine lyrics and historical events, and analyze how lyrical content changed over time.

2024-25 Course Description Supplement

Accounting (692)

On-Line – Honors

½ Year - ½ Credit

Accounting has been called the “Language of Business” since it is the world’s most widely used constructed international language. Considered to be the standard means of communication throughout the world, accounting tells the story of any form of business. So much so, from bookkeepers to forensic accountants, work in the accounting field is akin to a detective as the use of accounting and financial information uncovers data that will be used by all stakeholders. Whether you are entering the workforce directly from high school or considering a career in business or finance, this Accounting course is designed for students who have a variety of career objectives and want exposure to the many facets of accounting.

The accounting curriculum is designed to provide students with the knowledge and skills necessary to gain a solid understanding of accounting principles that can be applied to all fields and industries. Students will be introduced to various careers in the accounting profession and will identify Generally Accepted Accounting Principles (GAAP). Using traditional accounting methods in addition to using QuickBooks Online, students will analyze transactions and complete the accounting cycle all while creating and analyzing financial statements. Accounting systems for all business structures will be compared. Students will gain exposure to multistep procedures needed for calculating depreciation, payroll taxes, and financial ratios, as well as gaining the ability to read an annual report. This course will align with the National Business Education Association’s (NBEA) Accounting standards.

Students will learn the eight areas of the accounting cycle, the importance of financial statements, and the calculation of payroll taxes. Through simulations, assignments, spreadsheets, and QuickBooks Online, this course will prepare learners with the knowledge and training necessary to succeed in future business careers. Each unit will contain a section that connects information acquired to an actual financial statement from a Fortune 500 company. Students will have the opportunity to explore the various career avenues that the accounting profession offers. Throughout the course, students will engage with classmates through blog posts and video note assignments sharing what they have learned.

In this Standard-level course, students are expected to invest approximately 6 hours per week on their coursework.

Prerequisites: Successful completion of Algebra 1.

Business Law (693)

On-Line – Honors

½ Year - ½ Credit

This Business Law course sets the foundation for taking a first level college business law class. It is designed to introduce students to legal problems encountered in doing business to include the current legal environment, online commerce, business ethics, and intentional issues. Students experience case studies that engage them in contracts, criminal and civil law, consumer protection, corporate taxes, property law, employment contracts, unions, credit obligations, and more based on the National Business Education standards.

Business Law is designed to provide an appreciation of the underlying legal concepts that business law is based on in order to understand the overall importance of the judicial system. Throughout this course students will see how ethics play an important part in drafting laws. Areas of study will include how laws are formed, civil and criminal cases, making and terminating contracts, employment laws, as well as consumer, and intellectual property rights. Current topics such as ‘e law’ and space law will be investigated. This course incorporates case studies and mock trials to further understanding of how business law functions in the US.

In this course, students will explore:

- (1) Structure of the court system in the United States
- (2) Ethics and the law of contracts
- (3) Commercial and consumer law

Students will investigate topics such as criminal, tort, contract, employer relations, intellectual property, and e-law. Students who are interested in being an entrepreneur will gain an appreciation of how the law will protect their business, ideas and inventions.

In this standard-level course, students are expected to invest approximately 6 hours per week on their course work.

Prerequisites

- This course requires strong reading comprehension and writing skills.
- Students will need to interview an attorney or paralegal during the term.
- Students will need to visit a courtroom in person or via virtual visit and report back on experience per lesson instructions.

Investing in the Stock Market (694)

On-Line – Honors

½ Year - ½ Credit

"Buy low, sell high!" is probably the best piece of investment advice ever given! Learn how to make sense (and dollars!) out of everything Wall Street has to offer!

This course will analyze the stock market's history, current trends, and future possibilities. Students will participate in a realistic stock market simulation in which each student has \$1 million to invest. The game will continue throughout the duration of the course during which the following topics will be addressed: reading and understanding stock quotes, the Dow and other indexes, online investing and company research, bull and bear markets, factors affecting stock price, risk management, P/E ratios, dividends, earnings per share, stock splits, trading, investment plans, and annual reports (balance sheets, income statements, cash flow statements). Students will be graded on weekly stock reports showing their profit/loss on their investment portfolio using a spreadsheet that includes graphs, a time-line showing the history of the stock market, a PowerPoint presentation outlining their investment decisions and company research during the stock market game, weekly discussions/essays focusing on the current weekly happenings in the stock market, a monthly newsletter highlighting current company news of companies invested in, and various tests and quizzes.

2024-25 Course Description Supplement

Economics (696)

On-Line – High Honors

½ Year - ½ Credit

Economics is the study of how individuals, groups, and countries deal with the problem of limited resources and unlimited wants and needs. This course helps students gain a deeper understanding of important concepts such as tradeoffs, opportunity cost, supply and demand, saving and investing, production and consumption, fiscal and monetary policy, inflation and unemployment, and trade policy. Upon successful completion of the course, students should be better able to assess the economic policy decisions that affect them, their community and their country.

Early Childhood Education (697)

On-Line – Honors

½ Year - ½ Credit

Early Childhood Education is designed to introduce students to stages of child development, age-appropriate activities for children, careers in early childcare, and rules and regulations around the childcare industry.

Each week, students will explore topics related to early childhood education and will be evaluated on weekly contributions to discussions, reflections to reading prompts, and responses to potential scenarios faced in an early childhood education setting. This course requires a minimum of 2 visits in a pre-approved early childhood setting arranged by the student.

In this course, students will explore five big ideas:

- (1) Identify characteristics of various developmental stages in young children;
- (2) Create developmentally appropriate experiences for young children;
- (3) Explain and apply basic protocols, laws, and procedures in the early childhood education setting;
- (4) Identify the various types of early childhood education programs and their purposes; and
- (5) Justify responses to complex hypothetical dilemmas in the early childhood education setting.

Students will investigate topics such as stages of development from infancy through kindergarten, learn about appropriate communications strategies with young children, evaluate various classroom management techniques and safety protocols, identify the impact that culture, race, religion, ability and gender play in caregiving, and explore strategies for building relationships with families, communities, and other early childhood professionals.

This course incorporates a variety of multimedia resources from various sites providing a comprehensive review of course objectives. Students will create lesson plans using materials from home, share lesson plan ideas and participate in “faculty meeting” discussions with their peers. Students will also engage in collaborative activities, including discussions, that develop early childhood education literacy and connect these principles to real-world applications and current practices in today’s educational settings.

Students are required to arrange a visit with a local early childhood education setting (pre-school, Kindergarten, childcare center, home childcare, etc...). Two in person observations at this location are required.

Prerequisites: Students are required to arrange a visit with a local early childhood education setting (pre-school, Kindergarten, childcare center, home childcare, etc...). Two in person observations at this location are required.

Marketing (698)

On-Line – Honors

½ Year - ½ Credit

Marketing and the Internet is a business course that covers marketing, sales, mass media, research, business planning, and more. The class will investigate business on the Internet, study how e-business compares to traditional business, and find out more about the marketing strategies involved in promoting a business, and the laws affecting Internet businesses. In addition to traditional businesses and their use of the Internet, students will learn about the structure of the Internet and basic design strategies to develop “sticky” sites.

Data Science (785)

On-Line – Honors

½ Year - ½ Credit

Embark on an exhilarating journey into the world of data science! This engaging course explores the vast realm of mathematics, computing, and data science, revealing the wide range of professionals involved in this field. Through hands-on activities, students will confront messy questions using data, explore sample datasets, and grasp the fundamental relationship between probability and statistics. Essential programming and statistical concepts will be mastered, enabling effective visualization of data using various charts, plots, and graphs, setting the foundation for a comprehensive data science adventure.

Throughout the course, four dynamic units progressively build upon one another. The first unit uncovers the role of data scientists and their significance in various industries. Students will be introduced to the Pyret programming platform and learn about the data Analysis Cycle. The second unit involves gathering, analyzing, and visualizing authentic datasets, empowering students to derive valuable insights and interpretations using pie charts, bar charts, and histograms. In the third unit, programming abilities will be enhanced, allowing custom visualization and analysis of the distribution of data. Students will model data using scatter plots and measure the relationship strength between two variables. Finally, in the fourth unit, the ethical dimensions of data science will be explored, with students addressing an original research question, identifying and analyzing data to address that question, and discussing the responsible use of data and analytics. Students are invited to join this journey of learning and discovery, unlocking the true power of data.

Prerequisites: Completion of Algebra 1.

This course contains an end-of-course proctored exam. Instructions for students to identify an appropriate adult proctor are included in the course lessons.

2024-25 Course Description Supplement

Web Design (788)

On-Line – Honors

½ Year - ½ Credit

Web Design introduces students to the raw materials of web content and the design techniques that create effective web communication and interaction. The three primary web languages, HTML, CSS, and Javascript, form the raw materials; web standards from the W3C help shape design techniques for media creation, navigation, and interactivity.

Students will create single-page and multi-page web artifacts that meet the standards of the industry. Each week, students will be introduced to a new set of language, computation, and design skills. Students will create one new web project per week to solve a particular problem using their acquired skills. They will also work in teams to create a multi-page site for a real-world client over the course of the semester. Class participation and collaboration will be emphasized so that an authentic design and development community can emerge from the class.

Among other helpful tools and curricular resources, students will use Glitch, a respected training-level, browser-based web development platform.

In this Honors-level course, students are expected to invest approximately 6 hours per week on their coursework.

Python Programming (789)

On-Line – Honors

½ Year - ½ Credit

Python is one of the fastest growing computer programming languages. Python software engineers are in demand in data science, engineering, graphic design, network development and entertainment industries. It is one of the most popular programming languages for artificial intelligence and big data applications. The Python language is designed to be more user friendly than other languages like Java and C++.

This course is designed to introduce Python as a beginning computer science course. It provides an opportunity for students to learn and practice coding in an online environment with engaging, creative, and fun activities. This course includes video content, discussion, practice labs, games, digital products, and projects. Students learn to talk to computers using the Python programming language in Replit and EarSketch IDE. During the course, students write code, design programs, and have fun along the way.

In the first term, students will explore the essential features of Replit, an online Python program IDE, and create the first Python program “Hello World!” They will explore the basic features of EarSketch IDE and create music using Python code. They will learn about Python’s history, and its impact on the industries. Students will then learn the basics of programming concepts by exploring EarSketch and learn to code in the Python programming language using Turtle. Students will learn to use Python Tkinter to design graphical user interfaces which will prepare them for the final Pythonia Championship Project.

In the second term, students will focus specifically on fundamental Python programming concepts and skills. Students will learn conditionals, looping, functions, Strings. Students will apply the skills they acquired in this course to develop a custom application in an area of interest for their final Pythonia Championship Project.

Over the course of the semester, students will be engaging in discussions around computer science and programming, and its impact on economy, society, and culture. There will be a strong focus on learning fundamental computing concepts, principles, and programming skills with engaging, creative and fun activities. This course will require students to maintain Replit learning folders, a developer’s journal, and an EarSketch account.

Mobile App Development (790)

On-Line – Honors

½ Year - ½ Credit

Students will design and code apps for the iPhone and Android platforms using the MIT App Inventor platform. Students will review and design interactive applications for a variety of uses including education, sports, entertainment, health or medicine, and social networking. Students will utilize graphical user interface elements (including buttons, dropdowns, touchscreen gestures, and motion controls) to generate output that includes visual graphics, music and sound effects.

IT Fundamentals (791)

On-Line – Honors

½ Year - ½ Credit

Technology is an essential part of our daily lives. From controlling our vehicles to securing our financial transactions, computers play a crucial role in our world. Have you ever wondered about the inner workings of these machines and if you have what it takes to succeed in the Information Technology (IT) industry?

This IT Fundamentals course is designed to provide students with a comprehensive understanding of computer systems. Students will learn about IT infrastructure, software development, and database use, and gain an understanding of how computers think, communicate, and perform their tasks. We will explore the peripherals necessary for computers to function and delve into hardware and software, applications, security, storage, and networking.

We will also explore programming languages such as Python and Java to allow students to engage with the topics in a more meaningful way. Students will learn to produce code that can convert hexadecimal or binary numbers to decimals, create a database to query information, and explore encryption techniques.

This course is an excellent foundation for anyone interested in a career in technology or looking to develop their IT skills further. By the end of the course, students will have a comprehensive understanding of IT concepts and a strong foundation in programming languages.

This course prepares students to pass the CompTIA IT Fundamentals (ITF+) Exam FC0-U61.

In this standard-level course, students are expected to invest approximately 6 hours per week on their coursework.

2024-25 Course Description Supplement

JAVA Programming (792)

On-Line – High Honors

½ Year - ½ Credit

This course is an introduction to computational science, an interdisciplinary method of scientific inquiry. Students will develop a working knowledge of Java, the most important new computer language to arise in the last decade. Students will also gain experience with the fundamental ideas of calculus and its application in science and engineering. The emphasis of the course is scientific programming, and not simply learning Java. The Java language is used as a tool in building mathematical models that are of interest to scientists and engineers. Each student will receive evaluative grade scores on the basis of the completion of the assigned programs, the completion and quality of a few writing assignments, the completion of an experimental design project (group activity), and the completion of a final modeling project that includes an online presentation (group project).

Engineering Principles (794)

On-Line – Honors

½ Year - ½ Credit

Question: Why don't buildings and bridges fall down more often? Answer: Because there are people who have the skills to put together the right materials in the right shape to make them stay up –sometimes even during large earthquakes, tornadoes, and hurricanes.

Have you ever looked at impressive structures like large bridges, skyscrapers, or even private homes, and wondered why they don't fall down more often? Perhaps you are the kind of person who never gives a second thought to such matters – assuming that structures are all pretty safe. But even a quick look at the history of buildings will show you that they don't always work. What made the Tacoma Narrows Bridge fall apart in a tame wind in 1940? Why do buildings in Los Angeles survive large earthquakes, while others in other parts of the world (such as in Bam, Iran, 2003) are flattened? This course will introduce students to the engineering world that helps to understand these questions, and to lead some people into the professions related to structural engineering.

Video Game Design (795)

On-Line – Honors

½ Year - ½ Credit

This course will provide an opportunity for students to immerse themselves in the world of video game design and development. Participants will learn key programming constructs using Game Maker software (a robust, yet easy-to-use game creation tool). In addition, students will learn to use software to create original graphics and sound engineering software to create and edit sounds for their games. By the end of the course, students will have created a wide variety of video games. Each class will celebrate their accomplishments regularly, by sharing games with your peers for feedback and enjoyment. The video game creation process has something for everyone. Students will have the opportunity to work independently and in development teams, where everyone will contribute based on their interest and expertise.

Principles of Computer Science (798)

On-Line – Honors

½ Year - ½ Credit

Principles of Computer Science is an introductory course that exposes students to fundamental concepts of computer science. Students will have the opportunity to use computer science as an avenue to engage in fun, meaningful, and creative activities, problem-solve, and communicate with others. They will embark on a discovery of a series of introductory topics including coding to solve problems, investigating AI and machine learning, exploring the role the web plays in creative expression, and gaining an understanding of how the design process can be used to create computational artifacts.

This course is comprised of five units beginning with exploring the Problem Solving and Design processes. Students will then apply these processes across the rest of the units as they take an introductory look at Web Design, Interactive Animations and Games, and AI and Machine Learning. In the final unit, students will apply all of the skills they have acquired to create a project to present to their peers and teacher.

Throughout this course, students will use the design process to create their own digital artifacts, incorporating problem-solving and self-expression strategies using the following code.org tools:

- web page in Web Lab using basic HTML
- basic game using Game Lab
- AI and Machine Learning using AppLab

In this standard-level course, students are expected to invest approximately 6 hours per week on their coursework. There are no prerequisites for this course; students do not need any prior programming experience.

Cybersecurity (799)

On-Line – Honors

½ Year - ½ Credit

Computers and the invention of the internet have, and will continue, to revolutionize our world. Cyberspace offers endless opportunities to connect, share, create and collaborate- for the youngest to the most elderly people, for the smallest of business to the largest of corporations, and for the tiniest of towns to the most powerful countries. This digitally connected environment also affords many opportunities for cybercrime, the fastest growing area of crimes involving computer networks. How can we continue to share information, collect data, communicate effectively and foster collaboration through technology, while still ensuring that the we know who we are communicating with, and that the information that we store or share online is protected?

This semester course will provide an interesting and engaging look at the concept of cybersecurity. During the initial Introduction to Cybersecurity unit, students will begin by exploring the latest threats that exist in our digital world and then investigate the cyber laws that have emerged as a result. In Unit 2, Internet Fundamentals, students will explore digital communication and the internet, and investigate why and how protective measures are necessary across networks. During the third unit on Coding for Security, students will develop fundamental programming skills in HTML, CSS and JavaScript that enable them to identify and remove potential security issues. In the final unit on Cyber protection, students will reflect on what behaviors and actions are consistent with good cyber hygiene, as well as the many types of careers associated with cybersecurity, and discuss efforts to predict and prevent future threats.

2024-25 Course Description Supplement

World Religions (858)

On-Line – Honors

½ Year - ½ Credit

Since the beginning of human civilization, religions have played a major role in influencing how cultures and societies have developed, and how human beings interact with one another. From its impact on art and music, to government and the law, religion touches so many aspects of our contemporary world. The study of some of the world's religions offers us an opportunity to examine how people across the globe and over time have struggled to find deeper meaning and purpose in life. Developing literacy about other religions helps to foster tolerance and understanding in our increasingly diverse world.

This class seeks to enhance our studies of religions not only practiced in the West, but also in places like Africa and Asia. Religions we will study throughout the semester include Buddhism, Christianity, Confucianism, Hinduism, Islam, Jainism, Judaism, Sikhism, and Taoism, as well as some traditional African religions. The goal of this class is not to judge as superior or inferior any particular religion but rather to increase our understanding about numerous belief systems practiced in cultures around the globe. Our studies will focus on evaluating similarities and differences between world religions as we look to enhance our general knowledge about religion and its role in society. The course will also provide context to help you better analyze and understand both past and contemporary events related to religion that occur throughout the world.

Philosophy (859)

On-Line – Honors

½ Year - ½ Credit

In this course, students are invited to participate in an activity that is over 2500 years old and expected to develop their own ideas about philosophical problems, theories and arguments. Students will be challenged to think critically, while taking into consideration what the others had and have to say about those matters.

Philosophy enhances the improvement of the analysis of personal convictions, the understanding of the diversity of arguments of others and the awareness of the limited character of our knowledge. In this sense, philosophy is a basic and important part of education and an instrument for making democratic life deeper.

Participants in this philosophy course will be challenged to think critically and learn to think with the ideas and points of view of past and contemporary philosophers. Students will write, read and debate extensively, always by means of an argumentative discourse and weekly assignments.