

# UPPER SCHOOL COURSE CATALOG

## CANNON SCHOOL

### 2020-2021

*The Upper School stimulates the academic, ethical, interpersonal, and physical growth of students through its challenging college preparatory curriculum. Students are encouraged to take intellectual risks, make responsible decisions, and embrace leadership opportunities. They meet graduation requirements in history and social studies, English, science, mathematics, world languages, and the arts. The Upper School offers both Advanced Placement and Advanced Topics courses, which are available after the Freshman year. A strong extracurricular program, developed by faculty and students, provides sports teams, clubs, and organizations for the entire student body. A service learning program encourages students to become active and caring members of their communities. College counseling occurs throughout grades 9-12.*

### **GRADUATION REQUIREMENTS**

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Twenty total credits minimum (one year = one credit). Most students accumulate many more credits.

English	four years	
Mathematics	three years	(including a course that covers trigonometry)
Social Studies	three years	(including United States History or Advanced Topics in U.S. History)
World Languages	three years	(consecutively in same language is recommended)
Science	three years	(including Biology and Chemistry; Physics is required of ninth graders enrolled at Cannon)
Arts	two years	
Physical Education	one year	(or equivalent athletic participation)

### **Earning Credits in Upper School**

Credits a student earned while in middle school, even in Cannon Upper School courses, **do not** count among the credits required for graduation from the Upper School.

All students must be enrolled in an English course at all times. In addition, selective colleges prefer to see at least three years of the same world language; four years of a world language is encouraged.

Students may not graduate from Cannon's Upper School in less than four years.

### **University of North Carolina Requirements**

For University of North Carolina system schools: Students and parents should note that students will need Algebra I, Geometry, Algebra II, and one unit beyond Algebra II (for which Algebra II is a prerequisite) for admission.

### **NCAA Core Requirements**

Students interested in intercollegiate athletics should check with College Counseling as they plan courses in the junior and senior years in order to comply with NCAA regulations. Core course requirements for NCAA eligibility are currently English (four years), mathematics (three years – Algebra I or higher), natural/physical science (two years with one year of lab, if offered), additional English, math or natural/physical science (one year), social science (two years), additional courses (any area previously mentioned or world language – four years). A total of 16 courses is required.

## **COURSE LOAD**

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Every Cannon Upper School student is required to carry a load of six courses, five of which should come from core classes in the subjects of Social Studies, English, Science, Mathematics, and World Languages. A student may petition the Upper School head for an exemption to this policy or for an exemption from the total course load requirement. Possible reasons for an exemption include illness or an extremely time-consuming extracurricular activity in which the student is performing at a high level of recognition. Students may also petition the Upper School Head to accept arts classes in place of academic courses for the load requirement.

## **TRANSFER CREDIT**

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Students transferring to Cannon Upper School will under certain circumstances receive credit for passing work done at previous institutions. Decisions regarding transfer credit are made by the US Academic Dean, US Academic Coordinator, and College Counselors. In general, the courses taken at another school must correspond to courses offered at Cannon. Students transferring to Cannon should pay careful attention to the school's graduation requirements.

## **PHYSICAL EDUCATION REQUIREMENTS**

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Students are required to earn one full credit of physical education over the Upper School career from one of the following:

1. Interscholastic athletics may meet the physical education requirement when a student begins a sport at the starting date of practice and completes the season satisfactorily.
2. Alternative physical education credit permits a student to meet the requirement by participating in activities outside of school, such as aerobics or dance or a sport not offered at the school. A student meeting the P.E. requirement in this fashion must do so **by the end of the Junior year**. If the requirement has not been met by then, the student will be automatically enrolled in a physical education course offered by Cannon during the student's senior year.

Approval of participation for credit must be secured **in advance** from the US Academic Coordinator by submitting a proposal that describes the activity, the number of times per week it meets, and how many weeks it lasts. A minimum of 120 hours must be logged **during one academic year**. Hours may not be completed during the summer months.

3. A physical education course offered by the Upper School, such as Wellness and Long-term Athletic Development or Yoga, also earns the required one credit.

Although a student is encouraged to participate as much as possible in athletics and physical activity within and outside the auspices of the school, he or she may not receive more than one physical education credit in total in the Upper School.

## **ADVANCED TOPICS & ADVANCED PLACEMENT COURSES**

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The pace is fast and the standards high in all Cannon courses, but the standards for Advanced Topics (AT) and Advanced Placement (AP) courses are even higher and the assignments more demanding.

**Participation in AT or AP courses is contingent upon the recommendation of the teacher and department. Pre- or co-requisites are necessary for most courses.** AT and AP courses have weighted grades, which means that for grade point average calculations, one quality point is added to the student's grade in an AT or AP course. .

## **INDEPENDENT STUDY FOR SENIORS**

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Any 12<sup>th</sup> grade student who has a desire to pursue a course not offered for credit at Cannon, may, in collaboration with a Cannon faculty member, create an independent study course. Requirements for course approval are provided by the US Academic Dean and US Academic Coordinator and only occur when the independent study is done with a current Cannon faculty member or Cannon-approved teacher.

## **ONLINE COURSES**

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Online courses are increasingly available for high school students from many providers. Such courses can provide an opportunity for students to experience courses that are not currently offered at Cannon. However, any enrollment in online courses must be discussed thoroughly with a student's college counselor as well as with the US Academic Dean. Online courses are not given Cannon School credit.

## **COURSE RECOMMENDATION PETITION**

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Teacher recommendations determine which courses students are placed into each year. The course recommendation process is thorough and collaborative; it includes conversations between students' classroom teachers, advisor, college counselor, Academic Dean, and Learning Specialist. Each department outlines and shares with students its criteria for recommendations. Students may petition to overturn a teacher's course recommendation, in which case they must schedule a face-to-face meeting with their teacher, advisor, and Academic Dean to discuss enrollment in a higher-level course for which the student was not recommended. Students seeking recommendations into AT or AP courses must perform exceptionally well in the subject (or prerequisite subjects). The Academic Dean will make the final decision as to whether or not a student may overturn a teacher's recommendation.

## **WINTERM COURSE CREDIT ON TRANSCRIPT**

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Winterm courses award  $\frac{1}{4}$  credit on a student's transcript for each year for a total of 1 credit for four years of Winterm in the Upper School.

Winterm course credit will appear as "Pass" on a transcript for students who meet the criteria below to receive credit.

In order to receive credit a student **must** meet the following criteria:

- Take two  $\frac{1}{2}$  day courses, OR one full day course, OR a Winterm school-sponsored trip
- Attend every day of Winterm classes for the entire day



CANNON  
SCHOOL

# ENGLISH

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## **HONORS ENGLISH I**

**Prerequisite:** None

English I invites students to discover joy in language by selecting their own independent reading books, reading poetry and inspiring prose out loud together, and writing about topics that are personally meaningful. Course texts include classic authors as well as contemporary voices in novels, short stories, poems, and nonfiction. Frequent formal and informal writing exercises teach students how to write with clarity, precision, and power. The course also reinforces the fundamentals of standard English grammar as it develops students' vocabularies. English I begins a four-year focus on the writing process, which threads through the rest of the core English curriculum.

## **HONORS ENGLISH II**

**Prerequisite:** English I

Building on English I, English II introduces students to the genre of academic writing. Students learn to develop their own writing process, which includes drafting, revising, editing, conferencing, and self-reflection. Vocabulary development, grammar lessons, and a study of punctuation are included in the course via *The Only Grammar and Style Workbook You'll Ever Need*, and *Vocabulary Workshop Level E*.

Student-driven inquiry and discussion are at the heart of English II. Student responses to essential questions, writing prompts, and readings shape the direction of the class. Students read texts that them to explore and dig deeply into issues sparked by literary and humanistic questions. Recent texts include: *The Alchemist*, *The Bean Trees*, *A Thousand Splendid Suns*, *Brave New World*, *Frankenstein*, poetry, nonfiction selections, and essays. English II requires students to work collaboratively and independently on writing projects, class presentations, and in discussions.

## **HONORS ENGLISH III**

**Prerequisite:** English II

English III is a selected survey of American Literature. Frequent and varied reading selections invite students to explore America's literary, cultural, and social histories. Recent texts include: Selected American short stories; Arthur Miller's *The Crucible*; Shirley Jackson's *We Have Always Lived in the Castle*; Sue Monk Kidd's *The Secret Life of Bees*, and F. Scott Fitzgerald's *The Great Gatsby*. Students compose more complex writing projects across genres in English III, which ask them to consider the literature explored in the course and express original ideas about the literature. A vocabulary curriculum is a key component of writing practice in class, and vocabulary usage is a year-long area of focus. During the latter half of the junior year, students begin to shift their focus from reading and exploring literature to initiating work on the Capstone Project, which continues through the summer and into the senior year.

## **ADVANCED TOPICS: AMERICAN LANGUAGE AND LITERATURE**

**Prerequisites:** English II & teacher recommendation

Advanced Topics: American Language and Literature prepares students to read and write in college. Students will compose across a variety of genres, including the thesis-driven analytical essay, the personal narrative, and an assortment of rhetorical and textual pieces. Understanding and growing into the writing process is one of our chief goals. Themed selections of nonfiction and important literary works from varied American authors launch writing projects and class discussions. All writing projects will include substantial, frequent revision and one-on-one conferencing with teachers. The course culminates with the Portfolio Defense, a signature learning experience in which students defend their written works in front of a panel of Cannon peers, faculty members, and parents. Students enrolled in the course may - but are not required to - sit for the AP English Language and Literature exam at the end of the year.

## **HONORS ENGLISH IV**

**Prerequisites:** English III, Advanced American Language & Literature or equivalent

The goal of English IV is two-fold. The course prepares our college-bound seniors for the kind of work they will encounter in the years to come, and it introduces reading and writing relevant to their own lives. English IV offers a diverse selection of texts from various genres. Recent selections include: Altar's *Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked*; Haddon's *The Curious Incident of the Dog in the Nighttime*; Shakespeare's *Macbeth*; Marquez's *Chronicle of a Death Foretold*, and many other canonical and contemporary titles. Course readings are meant capture students' attention and ignite their interests. Students also choose their own books for our Independent Reading program. English IV includes instruction in vocabulary, grammar, composition, public speaking, and researching. Coursework in English IV culminates in the writing of the Capstone Paper, a major portion of the third trimester grade.

## **ADVANCED TOPICS: ENGLISH LITERATURE AND COMPOSITION**

**Prerequisite:** English III, Advanced American Language & Literature or equivalent

Advanced English Literature and Composition exposes students to canonical and contemporary fiction and poetry and enhances their understanding of how meaning is created in literary texts. The course develops students' close reading skills and features various writing assignments, including character and thematic analyses, poetry explications, and self-reflective pieces that connect the literary and real worlds. The course's writing trajectory reinforces the iterative process of writing and thinking developed in previous English courses. Students begin with shorter analytical essays and then extend, complicate, and refine them into longer essays. Writing conferences, frequent (and graded) discussions, and student choice define the AT: English Literature and Composition experience. The course culminates with a signature learning experience in which students reflect on and create artifacts related to their course readings.

## ENGLISH ELECTIVES

*Note: English elective courses do not fulfill English credits required for graduation.*

### **HONORS THE VOICE: POETRY AND FICTION WRITING**

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**Co-Requisite:** Sophomore: English II; Junior: English III or Advanced American Language & Literature; Senior: English IV or English Literature and Composition AP or equivalent

Students must be juniors or seniors and must be enrolled in another English course (besides a film course) in addition to The Voice. The goal of this class is for students to develop and cultivate their individual literary voices through the writing of poetry. Although there is a moderate reading component to the course, a great deal of the material students read acts as prompts for what they write. In fact, many of the students' writing tasks early in the course are imitative in nature. By reading and examining the work of various authors, students are given license to experiment in their writing with many different types of voice. The most important component of the class is the writing itself, and each student is responsible for producing a large portfolio of work. Early in the semester the course operates in a seminar format and later changes into a creative writing workshop. The class workshops the students' writing so that each student may gain from the feedback of his or her peers. The rest of the course is a combination of seminar and lecture formats.

Over the course of the year, the emphasis will transition between poetry, and fiction.

### **HONORS FILM STUDIES**

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**Prerequisite:** English I

#### **Movies and the American Experience (First Trimester)**

In this course, we will explore how movies help shape our national identity and help define what it means to be an "American." Our films will range from early cinema of 1895-1905, Buster Keaton's comedies, the films of Pre-Code Hollywood, the Marx Brothers, Classical Hollywood Cinema, post-World War II and McCarthy era films, film noir thrillers of the 1950s, the American musical, the American Western, 1950s teen films, protest films of the 1960s and 1970s, and current cinema.

#### **International Cinema (Second Trimester)**

The course in international cinema will focus not only on the variety of film styles but also the technological, economic, and political impact of the films. The lectures, screenings, and readings and discussions will explore international cinema as a political instrument and examine the impact of the global circulation of film in relation to the dominance of the American film industry.

#### **Documentary Film (Third Trimester)**

This course will introduce students to the history and to the theory of documentary film. Students will research the evolution of the documentary film genre and analyze the decision-making process of the director when making the documentary film. The documentaries viewed in class will focus on biographical, cultural, historical, political, and social subjects.

# ARTS

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## VISUAL FOUNDATIONS

**Prerequisite:** None

This one-year introductory course focuses on two- and three-dimensional art production, both in Commercial and Fine Arts based practices. Content includes the introduction to and subsequent application of the elements of art and principles of design. A variety of studio projects provide exploration in the areas of drawing, painting, printmaking, sculpture, and introduction to the Adobe Creative Suite. This course is team-taught by Studio Art and Media Arts faculty.

## MEDIA ARTS I

**Technology Integration:** Adobe Photoshop and Illustrator

**Prerequisite:** Visual Foundations

This course focuses on using the Adobe Creative Suite (Photoshop and Illustrator) to further investigate the principles of graphic design, and digital art making. Students learn to better manipulate digital images, create digital illustration, and work with typography. Projects are designed to promote complex conceptual thought and a deeper understanding of visual communication.

## MEDIA ARTS II

**Prerequisite:** Media Arts I

In Media Arts II, students will research and develop independent projects that guide them towards finding their voice as an artist and designer. They will further develop their technical skills using the Adobe Creative Suite (Photoshop, Illustrator, After Effects, Character Animator). Building on their work from Media Arts I, students will create a portfolio of pieces that focus on skills within a particular area of digital communication - be it for personal expression, or clients (both within and outside of the Cannon Community).

## MEDIA ARTS SENIOR SEMINAR

**Prerequisite:** Visual Foundations, Media Arts I & II, and permission of instructor

This course is a continuation of the Media Arts II class, the student is the artist and the lab is their studio. Students will research and develop independent projects that focus on a particular visual idea or methodology using the Adobe Creative Suite. Continuing their work from Media Arts II, students will create series of digital works based around their own artistic voices, ideas, and/or clients' needs.

## MEDIA PRODUCTIONS

**Prerequisite:** Visual Foundations, and permission of instructor

This course is designed to allow students to strengthen their multi-media technology skills; to augment visual production skills with technology likely to be encountered in the broadcast field; to provide for creative expression; to improve media skills for any career path in the information age; to gain a deeper understanding of the language of visual communication and to promote media literacy. Students will be exposed to production techniques, including non-linear editing, digital editing, standard and computer animation, presentation software, digital photography, video recording/editing, multi-track audio recording, Website design, and lighting. Working individually and in groups, students will also learn how to write scripts, prepare storyboards and conduct interviews. Productions will include commercials, interviews, skits, musical pieces and longer programs, with an opportunity to broadcast them to the Cannon Community using the Internet and radio.

## STUDIO ARTS I

**Prerequisite:** Visual Foundations

A deeper exploration of artistic behaviors and practices, this course is a further examination of how art across various media can be used to communicate ideas. Students will develop their artistic voice by pursuing themes that they develop independently. Through a choice-based classroom model – students will have the flexibility to choose to work across a variety of media: drawing, painting, printmaking, sculpture, and digital production.

## HONORS STUDIO ARTS II

**Prerequisite:** Studio Arts I

This course is an introduction to deep studio practice. Focusing on one or two particular forms of expression – be it drawing, painting, printmaking, culture, digital – students will have an introduction to creating series of work based around their own artistic voice. Students may enroll for more than one year.

## HONORS STUDIO ARTS III

**Prerequisite:** Studio Arts II

This course is a continuation of the Studio Arts II Honors class. Students will research and develop independent projects that focus on one or two forms of expression – be it drawing, painting, printmaking, sculpture, digital. Continuing their work from Studio Arts II, students will create series of artworks based around their own artistic voices. As an honors level course, students will be expected to conduct more independent research and work on projects outside of class.

## ADVANCED PLACEMENT STUDIO ART

**Prerequisite:** Visual Foundations and either Studio Arts I or Media Arts I

Studio Art Advanced Placement is designed for students who are seriously interested in the practical experience of art. The AP examination for the course is not written; instead, students submit portfolios for evaluation at the end of the school year.

The instructional goals of the class are to encourage creative as well as systematic investigation of formal and conceptual issues; to emphasize making art as an ongoing process that involves the student in informed and critical decision-making; to develop technical skills and familiarize students with the functions of the visual elements; and to encourage students to become independent thinkers who will contribute inventively and critically to their culture through the making of art. This course is designed as an intensive program requiring students to meet for a great number of contact hours. Students need to work beyond the class period, and trips to museums and galleries are required extensions of the course. (The college formula for a studio art course is two hours of outside work for every hour of class time.) Students may create a 2-D Design Portfolio (prerequisite is Studio Arts I or Media Arts I), 3-D Design or Drawing Portfolios (prerequisite Studio Arts II or completion of 2-D AP portfolio). Students may enroll for a second year to complete a different portfolio.

## STAGECRAFT I

**Prerequisite:** None

This course explores the technical elements of theater including lighting, sound, set, and stage management. Students taking this course develop technical, creative problem-solving, and collaboration skills while widening their aesthetic imaginations. Students will become conversant in the terminology and scientific concepts involved in lighting and sound, and will have opportunities to apply those concepts to the operation of lighting and sound equipment. They will also gain some basic construction skills and play a role in the management and maintenance of the theater space, learning and developing the leadership skills required for successful stage management.

## **STAGECRAFT II**

**Prerequisite:** Stagecraft I and permission of instructor

This hands-on course further explores the technical elements of theater including lighting, sound, set and costume design, and stage management. The curriculum for the course is in large part driven by the specific interests of each student within the field of theatrical design, technology, and management. Students also put their learning to immediate practical use by helping to design and assemble the technical aspects of Cannon Theater Company and student-directed productions (this does not require after-school participation.) Students in this class are given the opportunity, but are not required, to run tech for Cannon productions.

## **ACTING I**

**Prerequisite:** None.

This class develops the basic tools of the actor: voice, body and imagination. Through exercises, monologues and scene study from modern, realistic plays, students explore a variety of approaches to the craft of acting. This is a performance class with some memorization work which must be completed outside of class.

## **ACTING II**

**Prerequisite:** Acting I or permission of instructor.

Emphasis is placed on further developing skills in acting through more challenging monologue and scene study. Students will also explore new approaches to acting technique and learn the tools and techniques of directing for the stage.

## **THEATER IN PERFORMANCE**

**Prerequisite:** Audition/permission of a theater teacher

This course is for acting students who are ready and willing to commit to performing in one of the North Carolina Theater Conference (NCTC) High School Play Festival shows in the fall as well as for spring performance opportunities. Some participation beyond school hours is expected.

## **CONCERT CHORUS**

**Prerequisite:** None

Students sing a wide variety of literature that has been composed for mixed choirs. Students learn techniques related to healthful and appropriate vocal production, body position, breathing, vowel shape and modification, and singing within an ensemble. While daily activities focus on preparation for performances, the class also explores aspects of music theory, music history, listening to music, ear training, part recognition and part singing. Members are expected to perform in several concerts each year as they constitute a large portion of each singer's grade. This course may be repeated.

## **STRING ENSEMBLE**

**Prerequisite:** Prior strings experience or permission of the director.

This course accommodates the experienced instrumentalist who wants to explore performing classical music in a smaller setting. The class includes various quartets/quintets of strings, woodwinds, brass, and percussion. Students practice and perform within these smaller groups, but also work collectively as a Chamber Orchestra to explore music for larger groups. Performance opportunities for the different chamber ensembles will be required throughout the school year. This course may be repeated

## **HONORS STRING ENSEMBLE II**

**Prerequisite:** Strings Ensemble and teacher recommendation

Advanced String Methods is a fast-paced honors music course for students with previous string orchestra experience. In this class, students will play traditional orchestral repertoire while being exposed to a wide variety of musical genres. The expectation will be for students to spend time outside of class preparing music and performing in small and large groups. While during class students will investigate music history, music theory, and advanced string instrument techniques.

## **UPPER SCHOOL BAND**

**Prerequisite:** Audition and permission of instructor

This class builds on the foundation established in middle school band. Students will perform in ensemble settings ranging from Concert Band, to Big Band, to small classical Chamber Ensembles. Regular individual practice, as well as the ability to self-govern and extensively collaborate in rehearsals are essential ingredients for success in this course. Students who have not had at least two years of middle school band experience will need to audition for the directors prior to registration.

## **CANNON SCHOOL JAZZ COMBO**

**Prerequisite:** Audition and permission of instructor

This ensemble will explore modern jazz in the small combo format. We will do numerous performances throughout the year. Daily classes will focus heavily on jazz theory and improvisation. Participation in this class is granted by audition only. Students wishing to participate in this class must have had at least one year of Jazz 1 prior to registration. This course may be repeated.

## **MUSIC TECHNOLOGY**

**Prerequisite:** None

In this course, students will learn the language and mechanics of music (melody, harmony, rhythm, form) through composition utilizing some of the latest in music technology. In collaborative work with their fellow classmates, the students will learn to compose original music as well as arrange existing tunes. They will learn about many of the instruments commonly used in contemporary recording as well as the basics of multi-track recording. Interwoven will be excursions in the fundamentals of music theory and the foundation we stand on through examination of contemporary music history. The course is designed for the music novice. Prior experience in music is a benefit, but is in no way a prerequisite.

Students who wish to advance beyond Music Technology may enroll in subsequent years in Music Technology II, the content of which will be determined by the Music Technology teacher.

## **CREATIVE DESIGN AND ENGINEERING**

**Prerequisite:** None

The influence of technology continues to change how we express ourselves and interact in our ever transforming world. The Creative Design and Engineering I course, offered to all Upper School students, explores innovative emerging technologies in a hands-on creative learning environment. Students will engage in design thinking projects and be introduced to a variety of physical and digital fabrication tools in areas such as computer-aided design (CAD), woodworking, metalworking, electronics, textiles, 3D printing, coding, laser cutting, and CNC cutting. Students will accomplish learning goals while developing valuable critical thinking skills and individual creativity, and will complete the course with a portfolio of works that they have produced.

This course serves as a prerequisite for students to move to advanced programming, design, and art-tech fusion courses.

Upon completion of the course students will:

- Engage in design thinking and project based learning
- Obtain a broad understanding of digital and physical design principles.
- Demonstrate safe use of equipment available in the Cannon School Makerspace
- Have a developed and curated portfolio of digital and physical works



## **CREATIVE DESIGN AND ENGINEERING II**

**Prerequisite:** Creative Design and Engineering I

While CDE-I offers a glimpse into the tools and technologies available for students to utilize, CDE-II provides students an opportunity to fully immerse themselves in engineering creative solutions to real world scenarios. Through individual and group projects, students will use design thinking to meet the needs of others and provide products or services that solve real-world problems, while developing physical and digital artifacts that demonstrate their full creative potential. Students will also explore their interests and passions to create projects of their own choosing. Students will finish the course with an understanding of the design and fabrication process and how it can apply to real-world production scenarios in areas such as computer-aided design (CAD), woodworking, metalworking, electronics, textiles, 3D printing, coding, laser cutting, and CNC cutting.

Upon completion of the course students will:

- Engage in design thinking and project based learning
- Obtain a more advanced understanding of digital and physical design principles.
- Demonstrate safe use of equipment available in the Cannon School Makerspace
- Have a developed and curated portfolio of digital and physical works

## **CREATIVE DESIGN AND ENGINEERING III**

**Prerequisite:** Creative Design and Engineering II

CDE-III is an opportunity for students to further deepen and practice their design and maker skills. Students, with the facilitation of an instructor, will design and carry out several large-scale projects executed over the course of the school year, by selecting, designing, executing, and reflecting on projects that allow them to learn or refine skills and tools introduced in CDE-I and CDE-II. A significant portion of their projects will be designed to service an audience outside of the class. Students will finish the course with a deeper understanding of the design and fabrication process and how it can apply to real-world production scenarios in areas such as computer-aided design (CAD), woodworking, metalworking, electronics, textiles, 3D printing, coding, laser cutting, and CNC cutting.

Upon completion of the course students will:

- Deeply engage in design thinking and project based learning
- Obtain an advanced understanding of digital and physical design principles.
- Demonstrate safe use of equipment available in the Cannon School Makerspace
- Have a developed and curated portfolio of digital and physical works

# MATHEMATICS

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## **HONORS ALGEBRA I**

**Prerequisite:** Pre-algebra, full-year course in middle school

Algebra I introduces students to basic functions, their graphs, and the rules of solving equations. Topics of the course include the real number system, polynomials, linear and quadratic equations and inequalities, factoring, exponents, and radicals. Students explore algebraic concepts using technology, statistics, and practical applications.

## **HONORS GEOMETRY**

**Prerequisite:** Algebra I, full-year course in middle or high school

This course features a team-oriented, problem-based, and direct instruction model that provides students a foundation in geometric principles and a review of algebraic concepts. Students develop their understanding through group interactions in the classroom before summarizing concepts as a full class through teacher-led discussion and activities.

When broken into its roots, Geometry literally means to “measure the earth.” The main goal of this course is to learn to apply the previously learned ideas of arithmetic, algebra, and reasoning skills to measure the world around us. Throughout the course students learn various ways to measure and describe shapes to develop a deeper understanding of traditional geometry concepts, including length, symmetry, angle measure, perimeter, area, surface area and volume. Units focus on a variety of topics including transformations, similarity, congruency, trigonometry, circles, quadrilaterals, polygons, and three-dimensional solids, and students use their knowledge to solve a variety of problems. Students are continually asked to explain and justify their reasoning. Students are constantly working to strengthen their prerequisite algebra skills.

## **HONORS ACCELERATED GEOMETRY**

**Prerequisite:** Algebra I, Recommendation of Algebra I teacher

When broken into its roots, Geometry literally means to “measure the earth.” The goal of this accelerated course is to learn to apply the previously studied ideas of arithmetic, algebra, and reasoning skills to measure the world around us. Throughout the course students learn various ways to measure and describe shapes to develop a deeper understanding of traditional geometry concepts, including length, symmetry, angle measure, perimeter, area, surface area and volume. Units focus on a variety of topics including transformations, similarity, congruency, trigonometry, circles, quadrilaterals, polygons, and three-dimensional solids, and students use their knowledge to solve a variety of problems. Students are continually asked to explain and justify their reasoning. Students are constantly working to strengthen their prerequisite algebra skills and are cultivating their ability to apply the concepts of probability.

The course employs a team-oriented, problem-based approach, where students develop their understanding through group interactions in their classwork before summarizing the takeaways as a whole class. While many math classes have homework assignments that are a repetition of the day’s lesson, homework in this course takes a “mixed, spaced practice” approach. Problem sets are designed to allow students to focus on concepts both new and old. Students develop their understanding of a new topic over several days, and in some cases weeks, before it appears on a formal assessment. The added benefit is that older material is fresh in their minds, especially leading up to a new but related topic.

## **HONORS ALGEBRA II**

**Prerequisite:** Geometry or Accelerated Geometry

Algebra II uses functions to explore algebraic concepts while making connections to the real world. Students develop solving techniques with the aid of technology. Topics include recursion; sequences and series; scatter plots; lines; parabolas; square root and absolute value functions; exponential and

logarithmic functions; and systems of equations. All students are required to have a graphing calculator. Much of the content of the course is similar to that of Accelerated Algebra II, but the material is presented at a pace that is more appropriate for the student planning to take Honors Precalculus and Honors Calculus in high school.

## **HONORS ACCELERATED ALGEBRA II**

**Prerequisite:** Geometry or Accelerated Geometry

This course uses functions to explore algebraic concepts in depth while making connections to the real world. Students develop sophisticated solving techniques with the aid of technology. Topics include recursion; sequences and series; lines; parabolas; square root and absolute value functions; exponential and logarithmic functions; systems of equations; right triangle trigonometry; and trigonometric functions, identities, and equations. All students are required to have a graphing calculator. One of the primary goals of the course is to prepare students for Accelerated Precalculus and subsequently AP Calculus.

## **HONORS PRECALCULUS**

**Prerequisite:** Algebra II or Accelerated Algebra II

This course provides further development of advanced algebraic concepts and trigonometry. Topics include coordinate geometry, equations and inequalities, functions, trigonometry, graphs, exponents and logarithms, polynomials. Much of the content is similar to that of Accelerated Precalculus, but the material is presented at a pace that is more appropriate for the student not planning to take AP Calculus in high school, but rather Honors Calculus.

## **HONORS ACCELERATED PRECALCULUS**

**Prerequisite:** Accelerated Algebra II

This course begins with a review of polynomial equations. Students will then study higher order equations, inequalities, logarithms, the concept of  $e$ , conic sections and trigonometry. Complex numbers, sequences and series, and polar coordinates are also some of the other topics that will be covered. Calculus concepts, such as limits and derivatives, will be approached as well. An emphasis will be placed on viewing all problems from algebraic, graphical, and numerical perspectives. The goal of the course is to prepare students for AP, or college-level, Calculus.

## **HONORS CALCULUS**

**Prerequisite:** Precalculus or Accelerated Precalculus

This is a senior-level course designed to provide students with an introduction to the topics in a semester of college calculus. The course begins with a brief review of essential Precalculus concepts. The topics covered are developed in the study of the concept of a Limit, Evaluating Limits, Differential Calculus, Integral Calculus, and applications of Differential and Integral Calculus.

## **HONORS DISCRETE, PROBABILITY AND FINANCE (DPF)**

**Prerequisite:** Accelerated Algebra II or Algebra II. Senior level course only.

This course explores mathematics as it relates to the social sciences. Students examine different voting methods and how they can sometimes lead to vastly different, even paradoxical results. They study fair division of indivisible objects, such as a house, and use matrices to forecast population growth. Using graph theory, students resolve scheduling conflicts and design efficient routes.

Probability will include topics in combinatorial analysis and their application to computing probabilities. We will cover everything from basic probability and odds to compound (independence and mutual exclusivity), conditional, binomial and geometric events. We will also explore the applications of probability in such areas as gaming, statistics and actuarial computations.

This course examines the mathematics behind money in everyday life. Students learn to evaluate credit card offers and scrutinize the complexities, formulas, and history behind various tax returns. They compare different investment options and how long-term growth is affected by yields, dollar-cost averaging, and tax implications.

### ADVANCED PLACEMENT CALCULUS AB

**Prerequisite:** Accelerated Precalculus

This rigorous class covers the topics of a semester of college calculus. Students learn to analyze graphs through the lenses of limits, asymptotes, and continuity. They explore the concept of first and second derivatives and apply these concepts to curves. Second semester students are introduced to Riemann sums and integration concepts and techniques. The course emphasizes applications in physical, biological, and economic situations, and problems involving optimization and related rates. The goal of the class is to prepare students for the Advanced Placement exam in May.

### ADVANCED PLACEMENT CALCULUS BC

**Prerequisite:** Advanced Placement Calculus AB

This intense class covers two semesters of a first-year college calculus course. It is designed for the strongest of math students who also have a great interest in the subject. The pace is rigorous, and students are expected to work intensely. Students learn all the topics of Calculus AB, plus parametric equations, Power Series, Taylor Series, vectors, and polar functions. The goal of the class is to prepare students for the Advanced Placement exam in May.

### ADVANCED PLACEMENT STATISTICS

**Prerequisite:** Algebra II or Accelerated Algebra II. Open to juniors and seniors only.

This challenging class introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to the broad conceptual themes of exploring data, observing patterns and departures from patterns; planning a study, deciding what and how to measure; anticipating patterns, producing models using probability and simulation; and statistical inference. The goal of the class is to prepare students for the Advanced Placement exam.

### ADVANCED TOPICS: CALCULUS WITH APPLICATION

**Prerequisite:** Calculus BC Advanced Placement

Students will begin the year by diving deeper into the content covered in both AP Calculus AB and BC followed by an exploration into some topics of multi-variable calculus. Much of the content will be problems selected from the Mathematics 4C and Mathematics 5 curriculum from Phillips Exeter Academy in Exeter, NH. Students will find these problems to be highly integrated with concepts they have previously studied. As students work through these carefully designed problems, they will further develop the qualities of creativity, flexibility and risk-taking. An emphasis will be placed on communication as students collaborate during the problem-solving process. Students will be evaluated on their contributions to the learning process as well as their ability to clearly express and communicate the concepts that are studied.

# PHYSICAL EDUCATION

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## **WELLNESS AND LONG-TERM ATHLETIC DEVELOPMENT**

**Prerequisite:** None. Open to juniors and seniors only.

This course takes a holistic approach to student wellness and long-term athletic development, which serves the mission of Cannon School and its Athletics Department. The curriculum is informed by scientific principles of kinesiology, exercise physiology and biomechanics. This course teaches basic strength and power development, speed development, pre-habilitation exercises, flexibility and mobility techniques along with mental toughness training, performance nutrition, character and leadership development and emotional wellness. Students will progress through the program based on their individual strength and technical levels. If a student has a physical limitation, an alternative program will be given to enable the student to participate safely in the class. If a student is an athlete of an “in season” sport they will have an in season modification made to their training program, along with specific “Game Day” modifications. We will go over program design so when students leave Cannon they have the knowledge to continue to live a healthy lifestyle for the rest of their lives.

## **YOGA**

**Prerequisite:** None

Yoga is a class of self-discovery for students through the: Physical practice of yoga (asanas/poses), Self-inquiry work of readings (2-3 books) and discussions and Contemplative work of meditation and journaling. Students will explore the origins and applications of yoga in daily life such as learning to find balance and quiet in a busy world and self-care tools that will serve them throughout life. This course is an immersion requiring a physical and intellectual commitment to growth.

# SCIENCE

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## **HONORS PHYSICS**

**Prerequisite:** None

Honors Physics is an inquiry-based course designed as the entry level course for ninth grade students. Frequent laboratory investigations provide students the opportunity to collect and analyze data. Class discussion leads to the development of appropriate models for describing how the physical world behaves. Conceptual understanding is the foundation for mathematical application and problem solving. Topics include those taken from classical mechanics (motion, forces, energy, and momentum) along with electricity and electric circuits.

## **HONORS ACCELERATED PHYSICS**

**Prerequisite:** Geometry or Recommendation of 8th grade Math and Science teacher

Honors Accelerated Physics is an inquiry-based, advanced mathematical physics course designed for ninth grade students motivated by scientific study. This course investigates topics with more challenging problem-solving and topics are covered at a quicker pace than Honors Physics. Frequent laboratory investigations provide students the opportunity to collect and analyze data. Class discussion leads to the development of appropriate models for describing how the physical world behaves. Conceptual understanding is the foundation for mathematical application and problem solving. When appropriate, the treatment of mathematical concepts will incorporate the use of trigonometry. Topics include those taken from classical mechanics (motion, forces, energy, and momentum) along with electricity and electric circuits.

## **HONORS CHEMISTRY**

**Prerequisite:** Physics or Accelerated Physics

This guided-inquiry based course is designed to create an interest in and an understanding of the basic concepts of chemistry. Class discussion, based on laboratory experiences, will be used to develop the major ideas that describe the properties, composition, and structure of matter along with the role that energy plays to cause changes in matter. Topics include atomic structure, chemical formulas, chemical reactions and equations, stoichiometry, and thermochemistry. An emphasis on the development of strong problem-solving skills is a key focus of the course.

## **HONORS ACCELERATED CHEMISTRY**

**Prerequisite:** Physics or Accelerated Physics

This course uses guided inquiry, empirical evidence, and class discussion to develop the major ideas that describe the properties, composition and structure of matter and the transformations of matter resulting from absorption or emission of energy. The course covers the content of the Honors Chemistry course at a faster pace along with some additional content areas such as molecular geometry, periodicity of elements, and acid-base chemistry. Students will be required to solve more complex problems that incorporate ideas from multiple content areas as they relate to each other. Students will work in small groups leading to whole class discussion along with activities that require independent development of some ideas.

## **HONORS BIOLOGY**

**Prerequisite:** Chemistry or Accelerated Chemistry

This class is a rich introductory biology course that allows students to connect key concepts in biology through lab work, collaborative exploration, and guided research. Topics include biochemistry, cellular biology, genetics, evolution, ecology, and human biology. An essential component of the course is connecting biology to its real-world applications. To that end, students in biology will use the third trimester to design, implement, and present a biology-related research project.

## **ADVANCED PLACEMENT BIOLOGY**

**Prerequisites:** Biology and Chemistry or Accelerated Chemistry

The AP Biology course is designed as the equivalent of a college introductory course usually taken by biology majors during their first year. Students will take the Biology AP exam at the end of the year, and with an appropriate score, they may receive college credit. The course is built around a series of

student-directed, inquiry-based labs and is focused on student research, experimentation, and analysis. Topics in AP Biology include evolutionary biology, the essential processes of living things, cellular energetics, homeostasis, and the interaction of biological systems.

## **ADVANCED PLACEMENT CHEMISTRY**

**Prerequisites:** Chemistry or Accelerated Chemistry and Accelerated Algebra II

**Co-requisite:** Biology

The AP Chemistry course is designed to meet the requirements and curriculum of a year-long, two semester general chemistry course usually taken during the freshman year of college. The course begins with a review of the major ideas developed in a first-year chemistry course with an emphasis on more complex (AP level) problems. Students will experience the challenge of more complex lab work and the need to develop good technique to ensure meaningful results while maintaining a lab notebook. The year will focus on the study on the six big ideas: Structure of Matter, Properties of Matter, Chemical Reactions, Rates of Reactions, Thermodynamics, and Equilibrium. Much of the assessment is based on students' ability to be successful with practice AP problems in preparation for the AP Chemistry exam in the spring.

## **ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE**

**Prerequisites:** Chemistry or Accelerated Chemistry

**Co-requisite:** Biology

AP The Environmental Science course is designed as an introductory level college course in environmental science. The goal of the class is to provide students with the scientific principles, concepts, and methodologies required to understand the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. This interdisciplinary course embraces topics from many different areas of science and social science. Students take the Environmental Science AP exam in May.

## **ADVANCED PLACEMENT PHYSICS**

**Prerequisites:** Physics or Accelerated Physics and Precalculus, Accelerated Precalculus or Honors Calculus

**Co-requisite:** Advanced Placement Calculus

The AP Physics course is equivalent to an introductory calculus-based physics course in mechanics that would be taken by engineering or physical science majors in college. The mechanics topics from Conceptual/ Honors Physics will be developed using calculus based mathematics along with more in-depth problem solving. Basic calculus is introduced in connection with physical principles. Students take the AP Physics C Mechanics exam in May, and with an appropriate score, they may receive college credit. Laboratory work using PASCO computer probes is less guided and requires more independent evaluation of data to develop concepts. In addition, students are required to keep lab journals, write lab abstracts, and deliver presentations of lab results.

## SCIENCE ELECTIVES

### **HONORS ANATOMY AND PHYSIOLOGY**

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**Prerequisites:** Chemistry or Accelerated Chemistry and Biology

Anatomy and Physiology will provide a foundation for college Anatomy and Physiology courses. Topics covered are nervous system, musculoskeletal, cardiac, immune, endocrine, and digestive system. For each unit there will be one project, one anatomy test, one physiology test, and one lab. The fourth quarter will have a cumulative project where each student devises a health-care plan for either themselves or other individuals. A popular focus for this final project is nutrition and its effect on the body. By the end of the course, students will demonstrate an understanding of the anatomical and physiological basis behind the functions and conditions of the human body.

### **HONORS MARINE SCIENCE**

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**Prerequisites:** Chemistry Honors or Accelerated Chemistry with Biology as a pre or co-requisite

Marine Science is a laboratory-based course that integrates principles of biology, chemistry, physics, and earth science as they apply to the marine and estuarine environment. Students will be involved in short and long-term laboratory investigations to support understanding of this environment and the adaptations that marine organisms need to survive.

This class will be offered as a third or fourth science or as an academic elective. Students should have an interest in marine science supported by a solid science background. The class will be interactive and revolve around inquiry based projects supported by laboratory and direct instruction.

# HISTORY

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## **HONORS WORLD HISTORY I**

**Prerequisite:** None

World History I is a survey of the major developments in ancient history commencing with the establishment of river valley civilizations through the Middle Ages as they took place in Europe, Asia, Africa, and the Americas. World History I emphasizes the skills requisite for understanding the world we know today, such as creating and interpreting maps, analyzing primary source documents, writing historically, organizing time and materials, thinking critically, and researching effectively. The course introduces students to the fundamental elements of historical research through the production of short research assignments using both the Internet and traditional sources. The study of major world religions and philosophies (Christianity, Judaism, Islam, Hinduism, Buddhism, Daoism, and Confucianism) is included throughout the curriculum. Civilizations are studied through the lens of politics, ideas and technology, geography, society, economics, arts and literature, and religion.

## **HONORS ACCELERATED WORLD HISTORY I**

**Prerequisite:** Course recommendation 8<sup>th</sup> grade teachers.

*Note: This course is intended for students with accomplished reading comprehension and writing ability, in addition to an interest in history.*

This course will emphasize the same content as World History I Honors but will study the history of the ancient world through 1450 via the lens of primary sources. Students will develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. Assessments will focus on primary source analysis, stimulus-based critical thinking, and historical writing.

## **HONORS WORLD HISTORY II**

**Prerequisite:** World History I

The principal aim of this course is to provide students with an opportunity to master and demonstrate an overall knowledge of the basic chronology, major events, and trends in World History from the Renaissance to the present and foster a deeper understanding of the political, social, economic and intellectual forces in the world today through our study of modern history. A multidisciplinary approach, including economics, geography, religion, art, literature and philosophy, will be utilized to gain a broader insight into the cultural development of the world. Through the use of primary and secondary source materials, students will learn to read with discrimination, and to analyze, synthesize, and express ideas effectively and precisely. The course continues the emphasis on writing and critical thinking stressed in World History I. Research, argumentative, and contextualization skills are developed through the completion of three trimester writing projects. Students also discuss current events that coordinate with each unit to examine connections between past and current events.

## **ADVANCED TOPICS: WORLD HISTORY II**

**Prerequisite:** World History I or Accelerated World History I

This advanced course continues the emphasis on primary source analysis as a lens for the study of history found in Accelerated World History I Honors. Students investigate the content of world history for significant events, individuals, developments, and processes from 1450 to the present. Students will develop and use the same thinking skills and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. Assessments will focus on primary source analysis, stimulus-based critical thinking, and historical writing. Students will also complete a year-long

research project based on a current event, culminating in a policy proposal which they will defend in a presentation.

Students enrolled in this course may - but are not required to - sit for the AP World History Modern exam.

## **HONORS UNITED STATES HISTORY**

**Prerequisite:** World History II, Accelerated World History II or equivalent

In US History Honors, students will examine the exciting history and story of the American nation. It is a dynamic and interactive class where students learn about the people, places, and events that have shaped America's distinctive place in a global society today. This course helps students to learn to think critically and creatively while assisting students as they work to improve and hone their writing, research, and analytical skills.

The class examines the development and evolution of the concepts of equality, liberty, democracy, rights, and opportunity in American society. A thematic and chronological approach weaves together these themes and ideals in order to provide students with a better understanding of the United States today. Students devote considerable time to the study of how these themes and ideals shaped the nation's political, economic and social systems as well as the United States' interactions with the rest of the world in war and peace.

Throughout the course students are challenged to examine their preconceptions and prejudices about the history of the nation. The course begins with a month-long review that covers colonial times, the Revolutionary period, America's early national period, and the Civil War/Reconstruction eras. The majority of the course is focused from 1865 to the present. This adventure in history allows students to discover how the past has shaped the present, leading students ultimately to analyze America's place in a global world today. The course culminates with a series of discussions about modern issues including the War on Terror, Immigration, the Economic Collapse and other pressing issues.

## **ADVANCED TOPICS: UNITED STATES HISTORY**

**Prerequisite:** World History II, Accelerated World History II, or equivalent

Advanced Topics: United States History prepares students to study history in college. The course hones students' analytical skills, helping them understand and evaluate US History from its most minute measures of experience to its most complex concepts. Throughout the course, students will continue to develop the historical thinking, research, and processing skills necessary to arrive at conclusions based upon informed judgments and to present reasons and evidence clearly and persuasively in varied historical writing formats.

The content of this course begins with three review units spanning from the initial European incursions into North America through the Civil War. The in-depth coverage of course content begins with the Gilded Age, and this chronology investigates various themes in US History, including diversity, culture, demographic change, economic transformation, the impact of American society on its environment, globalization, politics, reform, religion, the legacy of slavery, war and diplomacy, and the evolution of the American Identity. Various activities, from analyzing documents and experiencing simulations to leading class discussions, allow students to demonstrate the skills of an historian while uncovering the complexity of the enduring change that is American history.

Students begin their reading assignments over the summer. Emphasis is placed on critical thinking, historical writing and research, interpretation of original documents, and analysis of scholarly writings. Lectures, discussions, and activities - in addition to the nightly readings from the text and documents - serve as guides through the major political and social developments in the United States. Students will complete nightly assignments in order to be prepared to engage in the in-depth classroom analyses and activities. The course will culminate with a signature learning experience, such as a symposium, that invites students to demonstrate their learning. Students enrolled in this course may - but are not required to - sit for the AP United States History exam at the end of the year

## SOCIAL STUDIES ELECTIVES

*Note: Social Studies elective courses do not fulfill Social Studies credits required for graduation.*

### **HONORS ECONOMICS, LAW AND POLITICS IN AMERICA (ELP)**

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**Prerequisite or Co-requisite:** US History or equivalent

In the current landscape of world events, “infotainment,” and fast-paced news cycles, it is easy to become apathetic to democratic practices or confused by biased media. Economics, Law and Politics (ELP) is an engaging and practical course designed to combat apathy and to promote civic competence and understanding. An emphasis will be placed on real-world applications and personal participation. Through simulations, class discussions, current events, field trips and hands-on, engaging class activities, students will explore the American political, legal and economic systems. An emphasis will be placed on students understanding both their rights and responsibilities within each system.

ELP will prepare students to identify, understand, and work to solve the problems facing our diverse nation in an increasingly interdependent and globalized world. Through the development of skills such as media literacy, decision-making and analysis, public speaking and debate, and the development of critical thinking, evaluation, and synthesis, students will examine real-world scenarios, case studies and current events in order to discover their own political beliefs and understandings.

### **HONORS PSYCHOLOGY**

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**PREREQUISITE:** Open to juniors and seniors only.

How does my brain work? Can more sleep improve my memory and well-being? Why is it so hard to put my phone down or stop binge watching on Netflix? How does my unconscious play a part in my decision making? What is the science of happiness? These questions and many more are explored in Honors Psychology. The course explores the basic elements of psychological science and dives directly into content that applies to students’ everyday lives. This student and project centered course will give students the ability to learn more about human behavior and mental processes that is practical and allows students to better understand themselves and the world around them. Students will do hands on activities, meet with guest speakers, conduct research and experiments, learn how to navigate media, listen to podcasts, read from various texts and articles, and analyze human behavior through film. Major topics that will be covered include biological processes, consciousness, memory, personality, psychological disorders, and health and well-being with student interest at the heart of each unit. The ultimate goal of this course is to allow students to learn more about psychological science in order to think stronger and live longer.

### **ADVANCED PLACEMENT PSYCHOLOGY**

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**Required:** 12<sup>th</sup> grade

AP Psychology is a survey course that provides students with a working knowledge of vocabulary and research methods for the basic principles of understanding human behavior. Specific areas examined include history, research methods, human development, physiological bases of behavior, sensation and perception, learning principles, cognitive processes, motivation, emotion, personality, behavioral disorders and therapies, and social psychology. The course covers the major psychological studies of our time and asks students to reflect on themselves and the world around them. The course emphasizes the scientific method as a process of understanding animal and human behavior through the study of major research studies that have significantly impacted the study of psychology over time. Students may sit for the AP exam in May.

### **ADVANCED TOPICS: UNITED STATES GOVERNMENT / POLITICS**

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**Prerequisite:** US History or Advanced Topics In U.S. History

The Advanced Topics course in US Government and Politics provides students with an analytical perspective on government and politics in the United States. This course includes both the study of general concepts used to interpret US politics and the analysis of specific examples. The course begins with a fast-paced introduction to the various institutions, groups, beliefs, and ideas that constitute US politics. Students are then acquainted with a variety of theoretical perspectives and explanations for various behaviors and outcomes. Topics covered in the course include the constitutional underpinnings of the United States government, political beliefs and behaviors, political parties, interest groups and mass media, institutions of national government, public policy, and civil rights and liberties. The course is taught at the college level, using college textbooks and other primary sources.



# WORLD LANGUAGES

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## **HONORS SPANISH I: NOVICE**

**Prerequisite:** None

In the Novice/Novice A range Level, students learn to communicate, comprehend, and present, in oral and written form, on very familiar topics, using isolated words and high-frequency phrases in the context of culture, connections, and comparisons. Assessments are proficiency-based. Students are assessed on the communication standard in three modes: interpretive (reading, listening), interpersonal (spontaneous listening/speaking or reading/writing), and presentational (formal speaking/writing). When applicable, culture, connections, and comparisons are embedded in assessments of the communication standard.

This course is taught with the goal of 90% target language use in the classroom.

## **HONORS SPANISH II: INTERMEDIATE LOW**

**Prerequisite:** Spanish I

In the Novice B/Intermediate Low range level, students learn to communicate, comprehend, and present, in oral and written form, in a variety of very familiar and predictable topics using isolated words, learned phrases and learned grammatical structures in the context of Culture, Connections, and Comparisons. Assessments are Proficiency-based. Students are assessed on the Communication standard in three modes: interpretive (reading, listening), interpersonal (spontaneous listening/speaking or reading/writing), and presentational (formal speaking and writing).

This course is taught with the goal of 90% target language use in the classroom.

## **HONORS SPANISH III: INTERMEDIATE MID A**

**Prerequisite:** Spanish II

In the Intermediate Mid A/Intermediate A range level, students learn, in oral and written form, to participate in exchanges, and present on a variety of topics using familiar vocabulary and learned grammatical structures in the context of culture, connections, and comparisons. Assessments are Proficiency-based. Students are assessed on the Communication standard in three modes: interpretive (reading, listening), interpersonal (spontaneous listening/speaking or reading/writing), and presentational (formal speaking and writing).

This course is taught with the goal of 90% target language use in the classroom.

This course counts towards the Global Education certificate.

## **HONORS SPANISH IV: INTERMEDIATE MID B**

**Prerequisite:** Spanish III

For the Intermediate Mid B/ Intermediate B range level, students learn to initiate, sustain, and conclude conversations; comprehend spoken or written language; and present on a variety of familiar topics in the context of Culture, Connections, and Comparisons. Assessments are Proficiency-based. Students are assessed on the Communication standard in three modes: interpretive (reading, listening), interpersonal (spontaneous listening/speaking) or reading/writing, and presentational (formal speaking and writing).

This course is taught with the goal of 90% target language use in the classroom.

This course counts towards the Global Education certificate.

## **HONORS SPANISH V: INTERMEDIATE HIGH**

**Prerequisite:** Spanish IV

For the Intermediate High/ Intermediate C range level, students learn to develop appropriate verbs, structures, vocabulary, idioms and cultural understanding necessary to perform communicative functions at higher levels. Emphasis is placed on refining and integrating advanced grammar into daily communication, and comprehension as it is spoken and written by native speakers.

This course is taught with the goal of 90% target language use in the classroom.

This course counts towards the Global Education certificate.

## **ADVANCED PLACEMENT SPANISH LANGUAGE: ADVANCED**

**Prerequisite:** Spanish IV

AP Spanish Language is intended for students who wish to develop proficiency and integrate their language skills using authentic materials and sources. Students should already have attained a reasonable proficiency in speaking, reading, and writing the language. AP Spanish will help prepare students to demonstrate their level of Spanish proficiency across three communicative modes: interpersonal, interpretive, and presentational. The course is comparable to a 4<sup>th</sup> semester college course that focuses on speaking and writing in the target language at an advanced level.

## **HONORS PRACTICUM IN SPANISH: ADVANCED**

**Prerequisite:** AP Spanish

Practicum in Spanish is a class that gives students the opportunity to explore the language from a more practical perspective. Students are asked to use what they have learned in previous Spanish courses to communicate ideas in various forms. The class provides opportunities to discuss current events, learn about cultures in the Hispanic world, explore trends and interact actively with one another while working on activities that develop speaking, reading, listening and writing skills. The class is divided in thematic units that range from politics, economy and arts, to other topics derived from students' interests. It is a very active class where daily interaction in Spanish is expected and required. During the class, students continue to build on their knowledge of Spanish grammar, as they gain more fluency and confidence in using the language. This class is taught solely in Spanish.

## **HONORS FRENCH I: NOVICE**

**Prerequisite:** None

Students in French I work on acquiring vocabulary and skills to start communicating in French. They are presented with scenarios that allow them to perform simple communicative tasks such as making requests in class, greeting someone, asking for and giving personal information, describing someone's personality, talking about their classes and talking about their daily activities. Our focus performance wise is centered on interpersonal communication –talking to someone one on one- and on interpretive communication –listening to someone and responding/reacting according to what is understood. In addition, the course introduces the major countries of the French-speaking world, the major cities and geographical regions of France, areas in the United States influenced by French language and culture, and the ways of French life. The course is conducted mainly in French, but English is used when clarification is required.

## **HONORS FRENCH II: INTERMEDIATE LOW**

**Prerequisite:** French I

Students in French II work on building upon the language skills developed in French I. Topics are presented in different scenarios that allow students to communicate in French while keeping their focus on advancing their performance at the interpersonal, interpretive and presentational levels. Students work on activities such as talking about daily activities and routines, describing what they did at a specific time in the past and talking about their plans for the future. Although we work on all three modes of communication mentioned above, we focus a lot of our time and attention on the interpersonal level –speaking to someone one on one- and the interpretive level –listening to someone and answering/reacting based on what is understood. Students continue to work on building their confidence to use the language in different situations. In addition, the course introduces cultures, traditions and current events of the francophone world. The course is conducted mainly in French, but English is used when clarification is required.

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**HONORS FRENCH III: INTERMEDIATE MID**

**Prerequisite:** French II

Students in French III work to master the vocabulary and grammatical structures they encountered in French II. They continue the study of verb tenses, such as the future and the conditional, and develop their understanding of the subjunctive mood as they advance through the *D'Accord 2* textbook. Following that book, the cultural focus is on contemporary French history and French art, particularly Impressionism, post-Impressionism, and surrealism. The use of easy-reader novels complements the reading activities. Cultural study includes outstanding French films. The class is conducted in French.

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**HONORS FRENCH IV: INTERMEDIATE B**

**Prerequisite:** French III

Students begin a journey of exploration starting with several short readings from French and Francophone authors. Students learn vocabulary represented in those readings as well as useful for discussing and dialoguing about material. We explore art, fables, film scripts, poetry and plays. They will continue their learning of advanced grammar and vocabulary through the *D'Accord 3* textbook. Students also partake in the oral proficiency interview.

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**HONORS FRENCH V: INTERMEDIATE HIGH**

**Prerequisite:** French IV

This course is an intensive language class that prepares students for advanced language communication skills. It is designed for students, who wish to develop in all four language skills: listening, speaking, reading, and writing. Equivalent to a fourth semester college course, it includes aural and oral skills, reading comprehension, grammar, and written or visual projects. Emphasis is placed on active communication, acquisition of vocabulary, development of expository passages, and ability to express ideas orally and in written form.

Field trips, lectures, magazines, films, and educational activities are part of the course instruction. The textbook is *AP French Language and Culture*.

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**ADVANCED PLACEMENT FRENCH LANGUAGE**

**Prerequisite:** French IV

This course is an intensive language class that prepares students for the Advanced Placement French language examination in the spring. It is designed for students who wish to develop all four language skills: listening, speaking, reading, and writing. The course is comparable to a 4<sup>th</sup> semester college course that focuses on speaking and writing in the target language at an advanced level. French AP emphasizes active communication, acquisition of vocabulary, and the development of expository passages. Field trips, lectures, magazines, films, and educational activities are part of the course instruction.

The textbooks are *AP French language and Culture* and *Barron's AP French Language and Culture book*.

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**CHINESE I HONORS**

**Prerequisite:** None

Chinese I is an introductory course in Mandarin Chinese, a tonal language. The goal of this course is to help students gain functional communication in speaking, writing, reading, and listening. The curriculum is designed to assist students in gaining social and cultural knowledge of the Chinese language and contemporary China. *Chinese I* will cover numerous themes that are related to useful real-life Chinese language such as: greeting, family, date & time, hobbies and etc. Students will develop various strategies and study habits to strengthen speaking and writing skills. Pinyin (Chinese Romanization) and Chinese characters are taught. Students learn to communicate about daily life and other topics of interest.

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**CHINESE II HONORS**

**Prerequisite:** Chinese I

Chinese Level II is designed for students who have a fundamental foundation of the target language. Students will be taught the skills to discern language patterns and forms. As time progresses, students are expected to start to understand the intricacies of the language and to be creative with the language. From this knowledge, students can create complete sentences or clusters of sentences and carry on short spontaneous conversations. To improve comprehension skills, the teacher will speak Chinese as much as possible to students during class.

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**CHINESE III HONORS**

**Prerequisite:** Chinese II

In Chinese III, students are expected to learn additional characters (words and vocabulary), their pronunciations, meanings, ways of writing them and more importantly, the compound usages of these words. Students will expand their ability to write Chinese. In Chinese III the emphasis will be given to verbal usages of the language and the relevant topics that students have expressed an interest in, such as styles of living in China, the weather, seasons, food, color, clothing, friends and useful communication and dialogue (making phone calls and directions) that take place in daily life. Most of the language used by the teacher in presentations and speaking to students will be in Chinese to improve comprehension and speaking skills.

By the end of Level III, students are expected to be functionally fluent enough to handle almost all typical situations in dealing with everyday tasks and some abstract topics. Level III also focuses on polishing students' accuracy and fluency in pronunciation. In both speech and writing, students are expected to produce clusters of sentences and even short paragraphs. Level III students are tasked with the goal of circumlocution such that when student may not know a particular word, they are expected to talk around it to allow the listener to achieve a general understanding of the overall content.

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**CHINESE IV HONORS**

**Prerequisite:** Chinese III

In Chinese IV, students build upon their Chinese foundation and learn more complex language structures. Students will become more proficient in discussing current events, short stories, and cultural differences. Chinese IV emphasizes the use of linking words and phrases in order to coherently express a series of campus themes that relate to students' school or home life in the Chinese language. Assessment will be based upon student achievement in reading, writing, speaking, and listening comprehension. The class will be conducted in the target language where the teacher will speak almost entirely in Chinese to the students during class.

Level IV is designed to prepare students for the upcoming AP language class by giving them AP-like tasks and teaching strategies to succeed with those tasks. Students are expected to continue to increase their fluency in handling everyday tasks and in many abstract topics.

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**CHINESE V HONORS**

**Prerequisite:** Chinese IV

In Chinese V, students will become more proficient in discussing current events, short stories, and cultural differences. Chinese V provides an opportunity for the student to acquire better speaking skills in Chinese with the emphasis on natural, colloquial usage. New vocabulary and idiomatic phrases will be emphasized so that the student can hold more detailed conversations in Mandarin during each class. Level V students will review grammar and key sentence patterns of Chinese and develop complete sentence structure, provide practice in the appropriate use of idiomatic expressions, and further develop skills in reading and writing Hanzi (Chinese characters) and essay writing. The course will also build vocabulary, expand reading comprehension, and encourage extensive conversation in Chinese. It will cover additional aspects about Chinese culture, history and geography.

## **ADVANCED PLACEMENT CHINESE LANGUAGE AND CULTURE**

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**Prerequisite:** Chinese IV

The AP Chinese Language and Culture course is designed to be comparable to fourth semester (or equivalent) college/university courses in Mandarin Chinese. This college level course deepens students' immersion into the language and culture of the Chinese-speaking world and typically represents the point at which students complete approximately 250 hours of college-level classroom instruction. Coursework provides students with opportunities to perform Intermediate- to Advanced-level tasks, and students are expected to achieve proficiencies throughout, and sometimes beyond, the Intermediate range, as described in the American Council on the Teaching of Foreign Languages (ACTFL) *Proficiency Guidelines*.

The AP course prepares students to demonstrate their level of Chinese proficiency across the three communicative modes (Interpersonal, Interpretive, and Presentational) and the five goal areas (Communication, Cultures, Connections, Comparisons, and Communities). Its aim is to provide students with ongoing and varied opportunities to further develop their proficiencies across the full range of language skills within a cultural frame of reference reflective of the richness of Chinese language and culture. AP Chinese Language and Culture teachers plan and implement a course that focuses on language proficiency while interweaving level- and age appropriate cultural content throughout the course and providing for frequent formative assessment of students' developing proficiencies within the context of their learning. Instructional materials and activities are carefully and strategically adapted from authentic sources to support the linguistic and cultural goals of the course.

## GENERAL ELECTIVES

*Note: Electives in this category do not fall under the umbrella of one department and are therefore not listed under a specific department. general electives may be taught by faculty from a different department from year to year*

### HONORS CODING & COMPUTER SCIENCE

**Prerequisite:** None

Surrounded as we are by computing devices, and faced with an exciting future of artificial intelligence, automation, and the potential for robotic applications in virtually all aspects of industry, it's critical for students to not only be good users of technology, but to also have an excellent command of its potential. The course will introduce learners to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. Learners 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 engages learners in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will explore the JavaScript and Python programming languages, as well as HTML and CSS web design.

Upon completion of the course, students will be able to demonstrate intermediate competency in:

- Variables and Data Structures
- Computational Thinking, including Decomposition, Logic, Patterns, Abstraction, Algorithms
- Core Programming concepts such as Sequencing, Loops, Conditionals, Functions, Variables and Parameters
- Documentation and testing
- Applications of computer science

Additionally, students will have a portfolio of works, including multiple programs, apps, and/or websites that demonstrate these skills.

### GLOBAL EDUCATION

**Prerequisite:** Open to seniors only. This course does not fulfill the World Language requirement. This course is required for completion of the Global Education Certificate.

During the first trimester, the Global Education course would engage students in conversations around the following questions: What is global education? What constitutes a global issue? What are the components of global education? What is the PISA?

Secondly, students will learn about several important global issues around the world in areas such as education, pollution, war and peace, gender roles, poverty, water, immigration etc. Students will review, create, and present case-studies in these and other areas.

Thirdly, students will learn world geography and its impact on global issues.

During the second trimester, students will work on their Capstone with a particular focus on a global issue. They compose their Capstone essay in consultation with the teacher.

During the third semester, students will present their Capstone prior to the Cannon capstone presentation day. Throughout the course, students will watch, discuss, and analyze global education documentaries and films.

### ADVANCED TOPICS: CODING & COMPUTER SCIENCE

**Prerequisite:** Honors Coding & Computer Science or recommendation of teacher based on a work portfolio and written entrance exam

Advanced Topics: Coding & Computer Science will build upon coding and computer science foundations, and allow students to explore a deeper dive into coding and computer science topics such as 3D game and simulation design, front- and back-end web development, and mobile app creation. Students will develop several projects reflective of their interests which may include, but are not limited to, a mobile application; a standalone 2D or 3D game; an interactive Virtual Reality experience; or a published website that features elements representative of current day web development practices and techniques. Students will publish their products to be experienced by others in the class, the school, and the world. Students will be presented with a series of coding challenges in a variety of programming languages. Their general coding techniques (e.g. troubleshooting and debugging, searching out existing resources for answers, and finding resources for self-development and expansion of existing knowledge) will be the primary focus of assessment, followed by application of appropriate syntax, best practices, and design choice. Students will provide and receive feedback from each other, as well as from the instructor. Skill assessments will take place on a weekly basis, with milestone skill check-ins being submitted by students as they complete projects within a flexible timeline.

The content, coding languages, and complexity of the final curriculum will be developed with input and feedback from instructors from colleges and other independent schools.

Upon completion of the course, students will be able to demonstrate advanced competency in:

- Variables, Data Structures, and Object-Oriented Programming techniques
- Computational Thinking and • Core Programming concepts
- Documentation and testing
- Applications of coding and computer science

Additionally, students will have a portfolio of works, including multiple programs, apps, and/or websites that demonstrate these skills

### YEARBOOK

**Prerequisite:** Yearbook, or permission of instructor

This course enrolls grade 9-12 students. Students may repeat this course for credit.

The course emphasizes both theoretical and practical matters, from aesthetic issues of graphic design to meeting publication deadlines and communicating with business partners. The class produces Cannon School's yearbook, *The Flashback*. To succeed in this course, students must be self-motivated and inquisitive. All students participate in a wide range of activities related to producing the yearbook: designing themes and layouts; writing copy; taking, selecting, and modifying photographs; proofreading; and design. Students are also introduced to the business aspects of publications, including financing, advertising, and deadline-contingent publication costs. Students will be expected to complete their layouts and photography assignments outside of class, if necessary.

This is a hands-on, collaborative, team-oriented course with regular writing assignments and design projects which allow students to apply acquired knowledge.

**SENIOR SEMINAR: LEADERSHIP**

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**Prerequisite:** Open to Seniors only. Application required with approval on the instructor.

This course offers students leadership training for school and beyond. Students who take this course should have a passion for leadership. Students will read and respond to a range of leadership literature, navigate their own leadership challenges with help from the instructor, and collaborate to chart the curriculum. Seniors who are interested in taking this seminar course must apply and receive permission from the instructor.

**SENIOR SEMINAR: EDUCATION**

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**Prerequisite:** Open to Seniors only. Application required with approval on the instructor.

This course is designed for students who have a passion and interest in pursuing a degree in education. Students will read and respond to a range of educational literature, observe and assist in classrooms and collaborate to chart the curriculum. Seniors who are interested in taking this seminar course must apply and receive permission from the instructor.



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