



Upper School Course Offerings 2021-2022

The Mission of Thayer Academy is to inspire a diverse community of students to moral, intellectual, aesthetic, and physical excellence so that each may rise to honorable achievement and contribute to the common good.

April 2021

Dear Thayer Families,

Planning for school year 2021-22 is well underway, and we do look forward to a more “normal” year than the one we are finishing. We do expect that students will return next year to a schedule that includes five or six major classes (yearlong, one credit, plus electives). Most of the information in this 2021-22 Course Offerings manual should be in place for next year, but there may be some slight modifications between now and the fall as we come out of the pandemic and know more about the exact restrictions (if any) that we may need to follow.

This curriculum guide contains all the information about Thayer Academy’s Upper School academic program. Selecting courses is perhaps the most important aspect of designing the high school student experience. Be sure to pay close attention to Thayer Academy’s graduation requirements (and NCAA Eligibility requirements for aspiring Division I/II athletes); select courses that offer the appropriate level of challenge to ensure positive intellectual and personal growth; balance the core academic courses with interesting and meaningful electives, while also considering the extra-curricular commitments students have. There is a wide variety of courses available, so students should think carefully with input from parents and advisors – about what they choose.

For planning purposes, this year’s manual contains the following five sections:

Section 1: The Academic Program and Graduation Requirements

This section describes the different levels of courses we offer, the course load required each semester, the credits awarded for courses, and the graduation requirements. All students must meet the requirements listed in this section in order to receive a Thayer Academy Diploma unless they have received prior approval from the Upper School Director and the Director of Studies. (page 3)

Section 2: Description of the Global Scholars Program and the Anti-Racism and Social Justice Courses

Some students may elect to participate in the Global Scholars Program, which fosters greater awareness of and engagement in global issues. While our anti-racism and social justice courses are required for freshman, sophomore and juniors. (page 4)

Section 3: What’s New in 2021-2022?

This is a quick reference to anything different or new that we are offering in 2021-2022. These items include new or re-introduced courses and an explanation. (page 5, 6)

Section 4: Course Descriptions and Course Offerings List

The listing and description of every course we are offering in the Upper School in 2021-2022 can be found in this section. Courses are listed by department and generally organized from ninth grade/introductory level courses to twelfth grade/more advanced courses. At the end of this section, you can find a list of all of our course offerings. (pages 7-27)

Section 5: Upper School Academic Planning Guide

The Upper School Academic Planning Guide can be used to map out a multi-year academic plan. While students only select courses one year at a time, this chart will help students see “the big picture” of their entire Upper School academic experience. It might be helpful for students to work with their advisors, parents, grade deans, and/or college counselor as they use the guide. (page 28)

If students or parents have questions, please feel free to contact me directly.

Lynette Sumpter
Upper School Director of Studies
lsumpter@thayer.org

THE ACADEMIC PROGRAM

The Upper School academic program emphasizes the skills and concepts necessary for successful college work. Many courses are offered at various levels: an AP designation indicates an Advanced Placement college level course related to specific curricula developed by the College Board; Honors indicates an accelerated or advanced class; no designation indicates a competitive college preparatory class; and Fundamentals indicates a regularly paced college preparatory class. Students are scheduled in courses that best suit their background and ability, and it is not unusual for students to have an academic schedule that includes courses from different levels.

Credit values for courses depend upon the number of times a course meets per cycle and how many semesters a course runs.

For example:

Courses that meet every scheduled block meeting in a cycle for two semesters: 1 credit

Courses that meet every scheduled block meeting in a cycle for one semester: 0.5 credit

Courses that meet two or three times during each cycle for a full year: 0.5 credit

Thayer Academy does not award credits less than 0.5

Credits earned at other institutions may be approved on an individual basis.

GRADUATION REQUIREMENTS

In order to graduate from Thayer Academy, all students must successfully meet the requirements stated in each of the six areas cited below:

Earned Credits Requirement: To receive a diploma, a student must accumulate a minimum of 20 credits.

Credit Distribution Requirement: The following credit distribution is required:

4 credits of English, with a minimum of one credit in English each year

3 credits of History, including one year of World History and one year of United States History

3 credits of Mathematics (Algebra I, Algebra II, and Geometry are required)

3 credits of Science

3 credits of World Language (students are required to complete the third level of a language and should take 3 years of the same language in the Upper School)

3 credits of Electives

1 credit of Arts (1/2 of which is the Freshman requirement, Freshman Arts)

1 Semester of Anti-Racism and Social Justice in Grades 9-11

Health & Wellness:

Freshman requirement - Freshman Health & Wellness and Fitness Concepts

Sophomore requirement - Sophomore Health & Wellness

Junior requirement - Decisions

Senior requirement - Senior CPR Certification/Certificate of Completion

Course Load Requirement: Students must carry five core courses each semester (English, mathematics, science, history, language). No more than two may be in the same discipline. If a student would like to take a sixth core course, they will need prior approval from the appropriate Department Head, the Director of Studies, and the Upper School Director.


Physical Activity Requirement: Students must participate in school-sponsored physical activities for two seasons each year. Freshmen and sophomores must participate in two interscholastic sports; juniors must compete for at least one interscholastic team but can substitute one school-approved activity for a team sport; and seniors must participate in two seasons of either interscholastic team sports or school-approved activities.

Senior Year Requirements: Students are required to be enrolled at Thayer Academy for their entire senior year. Seniors are required to successfully complete an approved independent project during the last four weeks of the spring semester. Projects must have an academic, career, or community service orientation, and all projects include a research component. Each student's project is monitored and supported by a Thayer faculty member.

The Upper School Director and the Director of Studies must approve any deviation from these requirements.

GLOBAL SCHOLARS PROGRAM

The Global Scholars Program aims to develop a deeper understanding and greater awareness, interest, and engagement in global issues. Students will combine the following curricular and co-curricular elements in order to be recognized as Global Scholars:

Enrollment and high achievement in certain Thayer courses with a global perspective: language, literature, history, and environmental science. These courses are denoted with: 

An international immersion experience and/or a service project that requires direct encounters with individuals from other countries or cultures

Active participation in a globally or culturally focused club

Attending global speakers, film events, exhibits, concerts, and lectures

Completion of a Global Scholars Capstone course incorporating research, development and completion of an independent project, and a community presentation

Students would make a commitment to the program by the end of their junior year, so some members of the Class of 2022 may already qualify. The various curricular and extra-curricular requirements of the program would be met over the course of a student's sophomore, junior, and senior years. Seniors in the Global Scholars Program will be enrolled in Global Scholars I course first semester and Global Scholars II course in the second semester. Students who complete the program would earn a Global Scholars certificate and be recognized at graduation. If interested in this program, students should see the Upper School Director of Studies.

ANTI-RACISM AND SOCIAL JUSTICE PROGRAM

Anti-Racism: An Introduction: This one semester course will provide an introduction to the ways racism has contributed to American society, how and why it persists, and how anti-racism can empower each of us to take steps to end racism in ourselves, in our school, in our communities, and in our country. We will examine how racism affects all of us in a multitude of ways, and we will consider how anti-racism can create a more welcoming, positive, and supportive environment for all. The experience will include the development of a project that promotes anti-racism at Thayer. *This course is required for freshmen.*

The Common Good: An Introduction to Social Justice: This one semester course helps students develop a strong vision of the "common good," including ideals such as equality, opportunity, environmental sustainability, and social justice. It also introduces students to challenges we face as a school, a community, a region, a nation, and a world in achieving those ideals. During the course, we will identify and examine problems, acknowledge those who promote solutions, and engage in problem-solving activities in our school and our communities. Students will consider the many ways Thayer contributes to the "common good" and will develop ways Thayer can do more and do better. The course will conclude with a service-learning project with a focus on ethical leadership and community engagement. *This course is required for sophomores and juniors.*

WHAT'S NEW IN 2021-2022?

ARTS

Media Production: This course provides opportunities for students to develop audio/video recording, editing and processing skills. Students will become facile with GarageBand and Adobe Premiere Pro software; will track audio signal flow from microphone to P.A, monitor systems and recording software; will become familiar with audio and video equipment use and basic care; and will apply skills to projects including but not limited to: live recording, music videos, soundtracks and editing for documentaries.

Musical Theatre: This course will explore the genre of musical theatre from its origins through the modern age. In this class, we will create duet, small group and ensemble pieces incorporating singing, acting, and dance. We will also dive into the history of musical theatre and its influence on contemporary theatre productions. We welcome all students from first timers just looking to become part of the CFA community, as well as experienced performers at all levels. We will shape each unit of study to include all members of the class, and solo singing is not required. This class will include field trips to see professional productions, as well as guest speakers and artists from the world of musical theatre. This class can be taken for all four years. Team taught by Ms. Hines, Mr. Alosa, and Mr. Crampton.

Integrated Theatre Arts: This course will explore a wide range of topics in theatre, beginning with the expressive performance of the actor and delving into all aspects of theatre arts, from lighting and costume design, stage management and set construction, to advanced acting techniques. Students will be hands-on in creating multiple integrated theatre pieces throughout the year, building and designing scenery for our main-stage productions and deepening their in all aspects of theatre arts. This course is for both actors AND any student interested in technical theatre at all levels, and can be taken for all four years. Students will also meet a variety of professional guest speakers from the theatre industry, and attend several outside theatre productions. No experience is required. Team taught by Ms. Hines & Mr. Donnelly.

ENGLISH

Women's Work: Female Storytelling in Fiction & Film: Oftentimes, literature and film that center women characters are considered specific subcategories of interest. However, literature and film have been shaped in large part by the innovative contributions of women storytellers throughout time, whose work has influenced authors of all genders. In this course, we will examine the work of women authors and filmmakers who have broken ground in the world of storytelling. We will discuss the unique ways in which these creators give voice to previously underrepresented perspectives, including those of women and people of color. We will discuss the lasting influences of masterful storytellers such as Toni Morrison, Jean Rhys, Octavia Butler, and Julie Dash, and ponder the work of contemporary storytellers such as Brit Bennet, Madeleine Miller, and Cathy Yan, who have followed in their footsteps. **Authors and filmmakers are subject to change.*

HISTORY

Beginning with the class of 2024, the following course will replace Modern European History as the standard sophomore history course:

World History II and World History II - Honors: In the first half of this course, students will trace the major political, economic, social, and cultural developments from World War I through the present in order to understand how our current world came to be. In the second half, students will apply what they've learned to a deep-dive study of one particular region: Asia, Latin America, Africa, the Middle East, or Eastern Europe and Russia. Students will engage with a variety of media sources in order to make sense of current events in their region. As a capstone to the Thayer Academy World History program, students will research, write, and present an original thesis paper on a significant topic related to the region they study.

AP Microeconomics: Relying on the textbook *Principles of Microeconomics* by Libby Rittenberg and Timothy Tregarthen, Professor John Gruber's MIT OpenCourseware lectures, and in-class discussion sessions, problem sets, and supplementary work, this course will provide a true college-level introduction to the field of microeconomics. We will explore the fundamentals of supply and demand in a market economy by focusing on the factors influencing the decisions of consumers and producers, and we will consider how those decisions play out under the conditions of perfect competition, oligopoly, and monopoly. Prerequisites: successful completion of U.S. History and strong math skills. *See Mr. Dunne for permission to enroll.*


MATHMETICS

Probability & Statistics: This semester-long course provides a substantial, stand-alone introduction to statistical analysis and applications as well as an introduction to AP Statistics or a college-level statistics class. This course covers the concepts of data summary, descriptions, and proper displays of both univariate and bivariate data as well as use of the normal model for data summary. Students explore probability theory, including the probability of single and multiple events, mutual exclusivity, independence, and continuous and discrete probability models. The course culminates with a study of sampling and statistical inference in order to make data-driven decisions. Students will show mastery of the topics of this course through a mixture of problem sets, projects, and traditional tests. A graphing calculator will be used extensively as will Google Sheets and/or Microsoft Excel. This course does not prepare students for the AP Statistics Exam. *Prerequisites: Successful completion (B or better) of Algebra II or Algebra II - Honors.*

SCIENCE

Some science electives for 2021-22 are now semester-based. Students can take one or both semester offerings in: Astronomy, Earth Science and Marine Science. Systems & Structures, a one semester course, will be offered both in the Semester 1 and Semester 2 (students may only take one semester).

WORLD LANGUAGES

Ancient Roman History & Culture I and II: The purpose of these courses is to develop an understanding of the history, culture, and mythology of the people who lived in the ancient Roman world. Topics examined will include geography, literature, politics, slavery, race, gender, religion, values, art, entertainment, family, social classes, holidays, and warfare. This course will be offered in two parts, one during each semester. You may sign up for both semesters or take only one or the other. Semester 1 will begin with the Trojan War and the founding of Rome and cover the historical periods of the Roman Monarchy and Republic. Semester 2 will cover the fall of the Roman Republic, the Augustan Age, and the Roman Empire. *This course is open to juniors and seniors. This course may satisfy the third-year language requirement, with the permission of the department head. This course satisfies the requirements for the Global Scholars Program if the student has already completed Level III of a world language.* 

SPECIAL INTEREST

Anti-Racism: An Introduction: This one semester course will provide an introduction to the ways racism has contributed to American society, how and why it persists, and how anti-racism can empower each of us to take steps to end racism in ourselves, in our school, in our communities, and in our country. We will examine how racism affects all of us in a multitude of ways, and we will consider how anti-racism can create a more welcoming, positive, and supportive environment for all. The experience will include the development of a project that promotes anti-racism at Thayer. *This course is required for freshmen.*

The Common Good: An Introduction to Social Justice: This one semester course helps students develop a strong vision of the “common good,” including ideals such as equality, opportunity, environmental sustainability, and social justice. It also introduces students to challenges we face as a school, a community, a region, a nation, and a world in achieving those ideals. During the course, we will identify and examine problems, acknowledge those who promote solutions, and engage in problem-solving activities in our school and our communities. Students will consider the many ways Thayer contributes to the “common good” and will develop ways Thayer can do more and do better. The course will conclude with a service-learning project with a focus on ethical leadership and community engagement. *This course is required for sophomores and juniors.*

COURSE DESCRIPTIONS

VISUAL AND PERFORMING ARTS

Students must earn one full credit in the arts. However, most students take advantage of the department's wide range of electives by studying music, fine arts, dance, or theater at advanced levels.

Freshman Arts: This year-long creative course forms the substructure of the arts curriculum. In each trimester, students explore one aspect of the arts: music, theater or visual arts. In music class, students use an ears-and-minds-open approach as they learn to analyze the construction of all modern forms of music. In theater class, students begin to train as actors through exploration of public speaking, voice, movement, sensory awareness, and improvisation. In visual art class, students develop basic drawing and painting skills, compositional basics of line, form, value, color, texture, and spatial relationships; while using various painting and drawing tools and materials. Students also enjoy a brief introduction of the history of art from prehistory to the present. *Freshman requirement. Full-year, 1/2 credit.*

VISUAL ARTS ELECTIVES

Graphic Design I: Using the Mac laptop computer as a design tool, students will use a variety of apps, including: Adobe Ideas, to create a digital sketchbook that will be used in the classroom and home; Wasabi Paint, a digital painting app that looks and feels like real paint; Colourize, to recolor digital photos; and Photo Wall, to create photo collages. In addition, students will learn how to use Adobe Creative Cloud applications: Photoshop, Illustrator, InDesign, and Corel Painter 12, used by professional graphic and web designers worldwide. Design assignments include Optical Illusions, Kaleidoscopes, Poster Design, Color Theory, Logo Design, Chinese Symbols, Illuminated Letters, Print Advertisements, and The Wacom Drawing and Painting Tablet. Craft projects include Mouse Pads, Magnets, Fabric Design of tote bags and aprons, and t-shirts. Emerging trends and styles of design are studied utilizing online databases from the National Cooper Hewitt Design Museum and the American Institute of Graphic Arts in New York City. Students will learn critiquing skills that will help them improve their work; this includes both for technical and aesthetic aspects of their designs. Student print designs are displayed in the annual student art show in Thayer's Gallery and on Thayer's website. *This course is open to sophomores, juniors, and seniors. Full-year, 1/2 credit.*

Graphic Design II and III: Using the Mac laptop computer as a design tool, students will use a variety of apps, including: Adobe Ideas, to create a digital sketchbook that will be used in the classroom and home; Wasabi Paint, a digital painting app that looks and feels like real paint; Colourize, to recolor digital photos; and Photo Wall, to create photo collages. Students will learn more in-depth skills about essential graphic design tools used for print and multimedia artwork. More advanced skills are taught to create design portfolios. Design assignments include: Designers at Work, International Design, 3Dimensional Packaging Design, Fabric Design, Digital Painting using the Wacom Drawing and Painting Tablet, Commercial Printing Techniques and Paper for Fine Art Digital Printing. Craft projects include Mouse Pads, Magnets, Fabric Design of tote bags and aprons, and t-shirts. *This course is open to sophomores, juniors, and seniors. Prerequisite: Graphic Design I or permission of the instructor. Full-year, 1/2 credit.*

Media Production: This course provides opportunities for students to develop audio/video recording, editing and processing skills. Students will become facile with GarageBand and Adobe Premiere Pro software; will track audio signal flow from microphone to P.A, monitor systems and recording software; will become familiar with audio and video equipment use and basic care; and will apply skills to projects including but not limited to: live recording, music videos, soundtracks and editing for documentaries. **Full-year, 1/2 credit.**

Web Design: In this introductory class to web design, students begin by learning web design basics including color, formatting, and page layout for web pages. Students will build and publish webpages using WordPress and iWeb '11 for a variety of industries. Students will learn how businesses use websites to establish credibility as part of their advertising campaign and how web 2.0 technology is utilized for internet marketing. Web design is more than just creating functional, eye-pleasing web pages; it's using technical and design skills to create complete digital experiences that drive so many industries. The internet isn't just on our desktop computers; it's always with us on our various mobile devices. Understanding how to create media for the ever-changing internet means you can make your ideas reach more people, anywhere in the world - just what today's companies need. *This course is open to sophomores, juniors, and seniors. Full-year, 1/2 credit.*

Painting & Drawing I, II and III: This full-year course includes a wide exploration of both drawing and painting methods and materials using real and imaginary subject matter. Students are introduced to varied techniques and processes of drawing and painting including composition, the elements and principles of design, the use of color, and pertinent aspects of art history and self-expression. As students progress, they are free to explore a more independent voice in both their choice of materials and subject matter. Media options include graphite, ink, charcoal, conte crayon, pastel, watercolor, and acrylics as well as a more in-depth exploration of mixed media. Our advanced mixed media studies offer in-depth exploration of techniques and new ways to see, use, and interpret found objects. Students will create multi-directional compositions with a variety of materials, paint, images, found objects, and ink painting. Techniques will include collage, drawing, painting, mixing, assemblage, cutting, and pasting. As students advance they will create a cohesive body of work that provides option for advanced visual art portfolio development. *This course is open to sophomores, juniors, and seniors.* **Full-year, 1/2 credit.**

Photography I: In this course students will learn fundamental photographic techniques, including use of 35mm digital SLR cameras in manual mode, downloading, organizing, and editing of images. All assignments will be done using Adobe Photoshop or Adobe Lightroom. Students will learn basics of composition and become proficient in Adobe Lightroom by the end of the year. *This course is open to sophomores, juniors, and seniors.* **Full-year, 1/2 credit.**

Photography II: This course is a review of the technical aspects of photography as well as development of students' ability to communicate an idea effectively. Use of Adobe Photoshop and Adobe Lightroom to manipulate images is a major component of this course. Students will learn basic retouching techniques as well as advanced montaging skills. All assignments will make use of digital cameras and Photoshop. *This course is open to juniors and seniors. Prerequisite: Photography I or permission of the instructor.* **Full-year, 1/2 credit.**

Photography III: Third-year students are expected to have a working knowledge of digital SLR cameras, Adobe Photoshop and Adobe Lightroom. The emphasis of this class will be on the student's ability to develop a personal vision. Advanced Photoshop and Lightroom techniques will be explored in order for students to create a cohesive body of work. *This course is open to seniors. Prerequisite: Photography II or permission of the instructor. Limited enrollment - students with prior photography experience will be scheduled first.* **Full-year, 1/2 credit.**

Pottery I: An introduction to basic clay working: hand-building and wheel-throwing, decoration, glazing and firing techniques, introduction to basic glaze preparation. Stoneware, raku, and smoke firing are explored. Emphasis is on obtaining comfort and confidence with these techniques through the production of a body of work. Students experiment with functional, non-functional, and sculptural concepts. Pottery history and culture is presented through examples and discussion. *This course is open to sophomores, juniors, and seniors.* **Full-year, 1/2 credit.**

Pottery II and III: This course is a continuation of Pottery I: advanced techniques in clay working, introduction to basic glaze calculation and formulation. Alternative firing methods and experimental projects are introduced. Students may explore areas of their own choosing. A variety of clays and firing processes including raku, smoke firing, porcelain, and cone 10 reduction are available. Independent exploration is encouraged. Pottery history and culture is presented through examples and discussion. *This course is open to sophomores, juniors and seniors. Prerequisite: Pottery I or permission of the instructor.* **Full-year, 1/2 credit.**

THEATRE ELECTIVES

Musical Theatre: This course will explore the genre of musical theatre from its origins through the modern age. In this class, we will create duet, small group and ensemble pieces incorporating singing, acting, and dance. We will also dive into the history of musical theatre and its influence on contemporary theatre productions. We welcome all students from first timers just looking to become part of the CFA community, as well as experienced performers at all levels. We will shape each unit of study to include all members of the class, and solo singing is not required. This class will include field trips to see professional productions, as well as guest speakers and artists from the world of musical theatre. This class can be taken for all four years. Team taught by Ms. Hines, Mr. Alosa, and Mr. Crampton. **Full-year, 1/2 credit.**

Integrated Theatre Arts: This course will explore a wide range of topics in theatre, beginning with the expressive performance of the actor and delving into all aspects of theatre arts, from lighting and costume design, stage management and set construction, to advanced acting techniques. Students will be hands-on in creating multiple integrated theatre pieces throughout the year, building and designing scenery for our main-stage productions and deepening their in all aspects of theatre arts. This course is for both actors AND any student interested in technical theatre at all levels, and can be taken for all four years. Students will also meet a variety of professional guest speakers from the theatre industry, and attend several outside theatre productions. No experience is required. Team taught by Ms. Hines & Mr. Donnelly. **Full-year, 1/2 credit.**

DANCE/MOVEMENT ELECTIVES

Dance Styles/Movement: This course will focus on learning the techniques of a variety of different styles of dance. Classes will cover dance styles such as American hip hop, contemporary and lyrical dance, Broadway jazz, tap, modern, Latin dance, swing dance, and a variety of ethnic dance styles. Students will work on stretching, flexibility, technique, and “stage presence” as well as learning and performing complete dance numbers to be performed at the winter and spring dance concerts. *This course is open to all students.* **Full-year, 1/2 credit.**

MUSIC ELECTIVES

Instrumental Ensemble: This course offers a wide range of playing and performance experiences. This group showcases brass, woodwinds, strings, percussion, keyboard, guitar and bass. The students will play a variety of modern literature including, but not limited to: pop/rock, jazz, contemporary classical, electronic music and movie soundtracks. The students have input into the music they study. No audition is necessary. *This course is open to all students.* **Full-year, 1/2 credit.**

Jazz Combos: These instrumental/vocal groups will play and perform jazz, fusion, and rock-influenced styles of music. Students have input into the music that is learned and performed. Basic chord theory, form arranging, improvised solos, and chord structure will be taught. *This course is open to all students.* **Full-year, 1/2 credit.**

Private Lessons: Lessons in voice and most instruments, depending on the sign-up, can be arranged for individual students during their free time or after school. It is strongly recommended that private lesson students are also members of one of the Thayer Academy music groups.

COMPUTER SCIENCE

The computer science courses at Thayer focus on the study of computer programming and the theory and algorithmic approaches that form the core of programming. Three full-year computer programming classes are offered.

Programming I: Students with interest, motivation, and strong intellectual ability may be admitted to this full-year C++ course, which covers data types, logic development, loops, arrays, functions, and strings. Students learn how to write, comment, and debug code by creating programs of increasing complexity and length. Students also demonstrate their understanding and mastery of the material by taking quizzes and tests on paper. There are no midyear or final exams but the course culminates with each student doing an individual final project.

AP Computer Science: The focus of this full-year Java course is the curriculum set forth by the Advanced Placement (AP) Committee in Computer Science. In the first semester, the main concepts taught in *Programming I* are extended using object-oriented programming (OOP) principles. The second semester of this course entails a deeper study of non-primitive data types and recursion along with particular attention to OOP design, ArrayLists, inheritance, and polymorphic behavior. In addition to regular course work, students are required to participate in American Computer Science League competitions. This course prepares students to take the AP Computer Science A exam. *Prerequisites: Programming I and permission of the instructor.*

Data Structures - Honors: This full-year advanced Java course begins with a very intense review geared to the topics taught in the AP Computer Science course. The focus of this course is on advanced data structures: linked lists, stacks, queues, and binary trees. The course also explores data files, the major algorithms of sorting and searching, and culminates with an extensive study of command line programming using Perl. In addition to regular course work, students are required to participate in all contests of the American Computer Science League. *Prerequisites: Programming I, AP Computer Science, and permission of the instructor.*

ENGLISH

In an era of instant communication, we help students read critically, listen actively, speak confidently, and write fluently. We believe in language's power to effect real change, and we encourage students to take words— their own and others'— seriously.

Through reading and analyzing literature, students ponder the human condition and examine their place in the vast history of storytelling. Through guided instruction, consistent practice, and thoughtful revision, they hone their writing skills. Additionally, students engage in research and public speaking at every grade level.

Honors sections (English I - Honors, II - Honors, Senior Seminar Honors) are offered to freshmen, sophomores, and first semester seniors with outstanding verbal abilities as evidenced by past performance and standardized test scores. Advanced placement sections – AP: Literature & Composition and AP: Language & Composition – are offered in the junior year to qualified students. A number of the senior courses meet the requirements for the Global Scholars Program.

Graduation requirement: Four years of study, one credit each year.

GRADES 9 and 10

English I and English I - Honors: During their freshman year, students examine novels, plays, and poetry through the lens of the hero's journey. Moving from ancient epics to modern novels, they identify common threads and explore a range of diverse voices. In an English I classroom, students might act out scenes from *A Midsummer Night's Dream*, take an interactive Kahoot quiz on commas, record podcasts on *All American Boys*, or even design a board game for *Dr. Jekyll & Mr. Hyde*. Freshmen spend significant time honing their analytical and creative writing skills, practicing public speaking, studying the rules of grammar and punctuation, and developing their vocabulary.

English I Workshop: This course, scheduled with extra class periods each week, is designed for freshmen who need to develop their reading, writing, and study skills to gain the proficiency necessary for success in their next three years of English. The extra periods provide students with additional guided reading and writing opportunities. English I Workshop follows the same curriculum as English I, and students move on to English II the following year. The course teacher is also a Hale Learning Center instructor.

English II and English II - Honors: Storytelling drives the English II curriculum. Sophomores spend the first semester reading and writing short fiction. Following the guiding premise that nothing in fiction is an accident, students study authorial techniques and employ them in their own writing. Students write original pieces incorporating the elements of storytelling; some may be featured in *Voice* or included in the sophomore short story competition. In the second semester, the focus shifts from creating fiction to analyzing novels, plays and poetry. Sophomores also continue to practice public speaking, build vocabulary, master grammar, and refine sentence structure.

GRADE 11

American Masters I: Story & Style: In this first semester course, students focus on the creative and controlled uses of language in poetry and prose through the close analysis of short, diverse excerpts from great American writers. Writing assignments are, for the most part, imitative rather than analytical. The aim is for students to develop more flexibility, precision, and control in writing as well as to acquire an appreciation of the elements of style and the rhetorical strategies authors use to achieve different effects.

American Masters II: Story & Style: In this second semester course, eleventh graders read longer representative works of the best American writing. They explore an array of authors, genres, and periods to consider the full range of the American experience, from the beautiful to the brutal. As they encounter texts through a dynamic mix of class discussions, close-reading activities, and individual presentations, they gain a richer understanding of their national and individual identities. The course also emphasizes analytical writing, including nuanced thesis statements, quotation integration, and thoughtful application of grammar and mechanics. *NOTE:* With additional outside study, some students who take American Masters I and II will be prepared to take the Advanced Placement Exam in Language & Composition.

AP English: Literature & Composition: This full-year course is designed for a select group of juniors who have already demonstrated a mature commitment to reading literature as well as a sophisticated mastery of grammar and composition. Through intense study of the elements of fiction, poetry, and drama, these students will prepare for the Advanced Placement Exam in Literature and Composition. They will examine a broad spectrum of readings drawn from American and world literature – from the classics to the avant-garde – and will sharpen their skills of critical evaluation and deepen their appreciation of the persuasive and artistic power of the written word.

AP English: Language & Composition: This full-year course prepares a select group of juniors for the Advanced Placement Exam in Language and Composition. Students read a variety of fiction and nonfiction to develop their understanding and appreciation of how writers use style, literary devices, and rhetorical strategies to write persuasively. Assignments are energetic and varied. Students craft creative imitations of excerpts from diverse writers, analyze the Aristotelian appeals of television and print advertisements, and ponder Joan Didion’s definition of “self-respect” as they write personal essays and evaluate the complex characters of *The Scarlet Letter*. They prepare for the May AP exam with many in-class, AP-style reading quizzes and timed essays. Students build research skills as they craft their own AP synthesis essay prompts, finding and vetting appropriate sources, and sharing their final products with classmates in oral presentations. After the AP exam, students continue their public speaking work, performing original poetry and entertaining each other with oral stories delivered in the style of the acclaimed Moth Story slam.

GRADE 12

FIRST SEMESTER

Senior Seminar and Senior Seminar - Honors: In this seminar-style course, seniors examine diverse masterpieces of drama, fiction, and poetry to gain an enhanced appreciation for the role of great storytelling in humankind's search for meaning. In order to prepare for the rigors of college, students participate in collaborative debates, perform dramatic readings, engage in interdisciplinary research, and lead their class in literary discussions. *All seniors, except for those enrolled in Advanced Composition, take this course.*


Advanced Composition: Student writers learn best by writing for real audiences, and students in this honors course will both write and handle a variety of editing responsibilities for *Voice*, a news, lifestyle, and literary magazine serving the entire Thayer community. Selected students automatically have a staff position on the publication and continue to edit the magazine second semester after the course ends. Students are selected on the basis of their demonstrated writing skill, ability to handle the responsibility and pressures of publication time constraints, and their commitment to excellence in their work. They will need to proofread accurately, write creatively, take constructive criticism in stride and offer it with tact, and be ready and willing to work some evenings when production deadlines loom. Student selection is based on a thorough application process, which includes a longform, magazine-specific application as well as the submission of both literary and artistic portfolios.

SECOND SEMESTER

These electives are offered to seniors in their spring semester and are subject to change based on availability and interest.

Crossing Borders: Journeys & Transformations: Where is our place in the world? How long must we search for it? Is “arrival” the goal or a pit-stop along some greater way? Is the danger *here* in what we know, or out *there* in what we don’t? As technology and globalization shrink the world, our challenge more than ever is to nurture “unity in diversity,” without sacrificing one for the other. Writers, poets, and documentary filmmakers are well placed to show us: how do we cross the borders of age, gender, class, race, and culture along the way? Examining their own experience in light of the experience of others, students will broaden their perspectives and deepen their awareness. 🍷

Rag & Bone Shop: A Reading and Writing Workshop in Poetry: This course will explore and illuminate the poetic process and the poetic tradition. The writing of poetry in the workshop will emerge from its twin activity: namely, the study of a wide range of schools and forms of poetry. As students begin to appreciate poetry as an alternative, but visceral, form of expression, they will apply this understanding both to their own compositions and to their critiquing of the poetry presented in the workshop.

Scene to Screen: Like literature, film is an artistic medium with its own conventions, aesthetic values, and techniques. Its perspectives on and insight into the human condition are as varied as the films and directors themselves. In this class, we will examine the techniques used by contemporary directors to manage the complexity of adapting the written word to film and study how this medium explores the depths of our emotions and the motivations for and consequences of our actions. Students will use concepts of cinematic analysis such as genre, narrative structure, and point of view as an entryway into discussions of intent, impact, and audience response. Students will be encouraged to formulate their own critical responses to the works and reflect on what these interpretations reveal, both personally and socially. The inclusion of international films and texts will also reveal a perspective that transcends immediate culture and examines those global responsibilities and universal experiences we all share. 

Sliver of Truth: The Art of the Short Story: British author Will Self described the short story as “a shard, a sliver, a vignette...a biopsy on the human condition.” In this course, we will place short stories under the microscope to discover how and why these brief tales move us so deeply. We’ll view adaptations of short stories in film and television, discussing how well (or poorly) they translate off the page. In addition to reading and analyzing masterpieces of the genre, we’ll study formal narrative techniques in order to craft original short stories. Students will share their writing in workshop and peer review formats.

Visual Literature: The Graphic Novel: The graphic novel has become an increasingly well-respected artistic medium whose influence drips colorfully across all aspects of American culture. With its trademark interplay between words and visual art, this genre provides a unique set of storytelling tools, and the most gifted comic book writers have proven that, with these tools at their disposal, they are able to craft dense narratives as complex as any other highbrow pieces of entertainment. In this course we will develop an understanding of the literary components specific to the genre and study significant examples of the form. As students become more familiar with the genre, they will compose comparative and critical responses to reading texts, draft their own pieces of sequential art, and determine for themselves whether or not graphic novels deserve a place within the literary canon.

Women’s Work: Female Storytelling in Fiction & Film: Oftentimes, literature and film that center women characters are considered specific subcategories of interest. However, literature and film have been shaped in large part by the innovative contributions of women storytellers throughout time, whose work has influenced authors of all genders. In this course, we will examine the work of women authors and filmmakers who have broken ground in the world of storytelling. We will discuss the unique ways in which these creators give voice to previously underrepresented perspectives, including those of women and people of color. We will discuss the lasting influences of masterful storytellers such as Toni Morrison, Jean Rhys, Octavia Butler, and Julie Dash, and ponder the work of contemporary storytellers such as Brit Bennet, Madeleine Miller, and Cathy Yan, who have followed in their footsteps. **Authors and filmmakers are subject to change.*

HISTORY

The graduation requirement for the study of history is three years, which must include at least one year of World History and one year of United States History. During the freshman and sophomore years, students take a two-part World History sequence. These courses are designed to challenge students to uncover big ideas about the past and apply them to the present, allowing them to develop the knowledge, skills, and attitudes required for empowered global citizenship in the 21st century. In the junior year, students generally take United States History. Electives for seniors explore particular historical subjects in depth, promote global understanding, and introduce social science concepts. With rare exceptions, students are not eligible to take these electives until they have completed United States History. World History courses offer honors sections, and United States History students can take AP history to prepare for the Advanced Placement Exam. Honors and AP sections of senior electives are also available. Students are placed in these sections on the basis of past performance, standardized test scores, teacher recommendations, and, when necessary, department-designed applications.

World History I and World History I - Honors: In this course, students investigate developments from the fall of classical empires through World War I. We begin the year by constructing a picture of the world prior to 1750, tracing the rise and fall of empires across the globe and gaining an appreciation for the complexities of each society. Then, we consider the impacts of increased trade and cultural interaction that mark the first global age. Finally, we explore the economic, political, social, and intellectual revolutions that ushered in the modern world and ultimately led to crisis in 1914. To end the year, students research the legacy of World War I in order to better understand the complexities of the world today. Along the way, students cultivate the reading, writing, and research skills necessary for success at the secondary level.

World History II and World History II - Honors: In the first half of this course, students will trace the major political, economic, social, and cultural developments from World War I through the present in order to understand how our current world came to be. In the second half, students will apply what they've learned to a deep-dive study of one particular region: Asia, Latin America, Africa, the Middle East, or Eastern Europe and Russia. Students will engage with a variety of media sources in order to make sense of current events in their region. As a capstone to the Thayer World History program, students will research, write, and present an original thesis paper on a significant topic related to the region they study.


United States History and AP United States History: The major focus of this course is the development of the American nation as its population has diversified, its economy has matured, and its responsibilities have multiplied. The course emphasizes the analysis and interpretation of historical information. Students read primary documents as well as a basic textbook. Class discussions, lectures, and films help students integrate and appreciate what they are reading; additionally, they learn to synthesize ideas and facts by writing a major research paper. The Advanced Placement curriculum stresses various interpretations of American history and requires students to complete a substantial amount of college-level reading and writing. *Prerequisite for AP United States History: World History II.*

Law & Society: The purpose of this class is twofold: first, to use historical and literary resources to explore the role of law in American society and second, to prepare for participation in the annual statewide Mock Trial Competition sponsored by the Mass Bar Association. Readings, discussions, films, and other resources will support the study of specific court cases in history and literature and will provide an introduction to legal issues prominent at different times in American history. Additionally, the mock trial portion of the class will offer a hands-on opportunity to learn about legal methods and the legal process. *This course is open to all students. This course does not count toward the graduation requirement for history.* **Full-year, 1/2 credit**

YEARLONG SENIOR ELECTIVE

AP United States Government & Politics: This course is a college-level introduction to politics and government in the United States and seeks to prepare students for active, informed participation in civic life. We will examine the historical and philosophical origins of the U.S. Constitution and trace the ways that government institutions, laws, and political culture have changed over time as we grapple with modern political dilemmas. Students can expect to read and discuss a wide variety of "texts," from the Federalist Papers and Supreme Court decisions to public opinion polling data and cable news clips. We will also learn to account for bias as we interpret data and develop evidence-based arguments about political issues of personal importance to each of us. *Prerequisite: Successful completion of United States History.*

FIRST SEMESTER SENIOR ELECTIVES

Global Scholars Capstone I: This course is required for students interested in gaining recognition as a Thayer Academy Global Scholar. The course will encourage students to consider the meaning of "global citizenship" as we explore the role of national, multinational, and non-governmental organizations and assess their efforts in the areas of global health, education, human rights, and economic development. Together we will examine the United Nations Declaration of Human Rights and evaluate the status of those rights in the world today; we will connect with Thayer graduates and discuss their experiences as "global citizens"; we will consider the limitations and the promise of NGOs as they set goals and try to improve our world; and with the support of the course teacher or another faculty mentor, students will develop an independent project to be completed in the second semester and presented to the community in the spring. *Application required.* 


Economics: By introducing basic economic theory and examining both micro and macro concepts, this course provides students with an understanding of the many ways economics affects people's lives. These theories are examined under the critical eye of the main economic ideologies, an approach designed to give students a perspective on the differences of opinion that dominate current economic discussions regarding inflation, unemployment, military spending, and consumer protection.

AP Microeconomics: Relying on the textbook *Principles of Microeconomics* by Libby Rittenberg and Timothy Tregarthen, Professor John Gruber's MIT OpenCourseware lectures, and in-class discussion sessions, problem sets, and supplementary work, this course will provide a true college-level introduction to the field of microeconomics. We will explore the fundamentals of supply and demand in a market economy by focusing on the factors influencing the decisions of consumers and producers, and we will consider how those decisions play out under the conditions of perfect competition, oligopoly, and monopoly. Prerequisites: successful completion of U.S. History and strong math skills. *See Mr. Dunne for permission to enroll.*

Introduction to Psychology: In this psychology course, we will learn about some of the major areas of psychology (scientific research in psychology, learning and cognition, cognitive and social development over the lifespan, sleep and hypnosis, memory, motivation, personality, the treatment of psychological disorders) and topics in social psychology (attitudes, prejudice, conformity, obedience, attraction, antisocial behavior, prosocial behavior, etc.). Our exploration of the field will rely on nightly reading assignments, discussion, and review of both current and classic research in the field. Students will learn to be critical consumers of research studies and to understand the components involved in designing a good research study. If you are interested in gaining a more scientific and objective understanding of why we humans act the way we do, particularly in relationship to one another and in groups (the social context), this course will interest you.

Modern American Culture: This course is designed to study American Pop Culture (music, television, advertising, fashion, etc.) since 1950. Students will use a specific form of analysis called semiotics to look at various signs and symbols of American culture, with particular emphasis on race, class, and gender issues, to gain a greater understanding of each era and of cultural trends across the decades. Students will use a mixture of research, analysis, reasoning, and thoughtfulness to learn about American Pop Culture and to complete a variety of individual and group projects and papers.

SECOND SEMESTER SENIOR ELECTIVES

Global Scholars Capstone II: This course is required for students interested in gaining recognition as a Thayer Academy Global Scholar. Building upon the work undertaken in the fall component of the course, and with the support of the course teacher or another faculty mentor, students will develop an independent project to be completed in the second semester and presented to the community in the spring. *Application required.* 

African History and the Afro-American Experience: This course emphasizes the social, economic, and cultural history of Africa from ancient to modern time. The study of representative events and issues from selected areas of Africa enables students to develop an understanding of the complexities of African history and provides the background to study effectively the Afro-American experience. The latter portion of the course concentrates on nineteenth- and twentieth-century figures, events, and issues. Use is made of novels, biographies, monographs, and films.

Introduction to Psychology: In this psychology course, we will learn about some of the major areas of psychology (scientific research in psychology, learning and cognition, cognitive and social development over the lifespan, sleep and hypnosis, memory, motivation, personality, the treatment of psychological disorders) and topics in social psychology (attitudes, prejudice, conformity, obedience, attraction, antisocial behavior, prosocial behavior, etc.). Our exploration of the field will rely on nightly reading assignments, discussion, and review of both current and classic research in the field. Students will learn to be critical consumers of research studies and to understand the components involved in designing a good research study. If you are interested in gaining a more scientific and objective understanding of why we humans act the way we do, particularly in relationship to one another and in groups (the social context), this course will interest you.

Sports & Society: In this course, students will explore the relationship between sports and society in the United States. Students will consider the importance of sports to local, regional, and national identity; the concepts of the hero, antihero, and role model; issues of racial and gender equality; positive and negative values promoted through sports; and connections between sports, religion, and politics. The course will depend upon a wide range of sources, including excerpts, articles, feature films, documentaries, and works of fiction.

History & Film: This second semester senior course delves into the questions of how movies explore and reflect the ideas, values, and conflicts of their era. Students will examine the intersection of film history and major historical moments, treating film as a resource that helps us understand culture and society. Topics may include: the Great Depression; the Nazi regime's use of film propaganda and the U.S. film industry's own cinematic propaganda during World War II; the House on Anti-American Activities and the Hollywood Blacklist; Civil Rights and the black power movement; women's rights and the Me Too movement. Students will be exposed to a variety of film genres from a wide span of film history, including comedy, drama, documentary, science fiction, and the western.

MATHEMATICS

In order to graduate from Thayer Academy, all students must take a minimum of three years of mathematics in the Upper School, although over 99% of students take mathematics all four years. While there are many different paths a student can take in the Upper School, the two most common are as follows:

- Algebra I, Algebra II, Geometry, PreCalculus
- Algebra II, Geometry, PreCalculus, Calculus

Note: For those students who are enrolled in Algebra I as ninth graders, there are multiple avenues, if appropriate, to accelerate their math program in order to reach Calculus by senior year.

The Mathematics Department offers courses at different levels of rigor, including Advanced Placement, so that each student receives a course of study suited to their background, interest, and ability. There are significant differences in the presentation, pace, content, and amount of independent work required in the different levels of each course. Therefore, it is important that students (with the advice and recommendation of the Math Department) carefully select the proper level of each course. The use of graphing calculators is integrated into the curriculum, particularly in the PreCalculus and Calculus courses.

CORE COURSES

Algebra I and Algebra I Fundamentals: Algebra I emphasizes the solving of equations in the context of the real number line. The properties and the basic operations of rational numbers are introduced early in the curriculum, with an emphasis on simplifying expressions and solving linear equations. The graphing of linear equations and the solution of rational equations and systems of equations are also studied. If time permits, the solution of quadratic and radical equations is included.

Algebra II - Honors: Algebra II - Honors includes the study of linear equations in two and three variables, an introduction to functions, linear inequalities in two variables, polynomial operations, factoring of higher order polynomials, laws of exponents, radicals, solving quadratic equations and quadratic systems, complex numbers, exponential and logarithmic functions and an introduction to sequences and series. *Prerequisite: Algebra I.*

Algebra II: Algebra II includes the study of linear equations in two and three variables, an introduction to functions, linear and quadratic functions, linear inequalities in two variables, polynomial operations, rational expressions and functions, factoring of higher order polynomials, laws of exponents, radicals, solving quadratic equations and quadratic systems, complex numbers, exponential and logarithmic functions, matrices, and an introduction to sequences and series. *Prerequisite: Algebra I.*

Algebra II Fundamentals: Algebra II Fundamentals includes the study of linear equations in two and three variables, systems of equations, matrices, an introduction to functions, quadratic functions, linear inequalities in one and two variables, absolute value equations and inequalities, laws of exponents, polynomial operations, factoring of higher order polynomials, rational expressions and equations, radical expressions and equations, solving quadratic equations, logarithms, and sequences and series. *This course is not recommended for those students who wish to take the "PreCalculus Advanced" course during their junior or senior years. Prerequisite: Algebra I or Algebra I Fundamentals.*

Geometry - Honors, Geometry, and Geometry Fundamentals: These courses provide a thorough study of the main topics of plane and solid Euclidean geometry. Three-dimensional concepts are included in the curriculum. These courses also emphasize the meaning and use of deductive reasoning and the formal requirements of writing a logical geometric proof. In addition, numerical application problems from such topics as areas and volumes, measurement of angles and arcs, and proportions are studied. *Prerequisites: Algebra I, Algebra II recommended.*

FURTHER COURSES

PreCalculus - Honors: This full-year course is intended for students who have demonstrated high aptitude and interest in mathematics and who are likely to study *AP Calculus BC* following this course. Since the concept of a function is crucial to the further study of mathematics, functions and their properties form the core curriculum. Polynomial, exponential, logarithmic and trigonometric functions are examined with applications. Other topics include sequences and series, complex numbers and polar coordinates, vectors and matrices, combinatorics and probability, and an introduction to differential Calculus. Students are challenged with math competition level. *Prerequisites: Algebra II Honors, Geometry Honors, and/or permission of the department.*

PreCalculus Advanced: This full-year course is intended for juniors who wish to enroll as a senior in either *AP Calculus AB* or *Calculus*. This course is also appropriate for seniors who plan to enroll in a demanding Calculus course in college. Polynomial, rational, exponential, and logarithmic functions form the core of this course. The curriculum also includes a comprehensive study of trigonometry and further work with sequences and series. *Prerequisites: Algebra II Honors or Algebra II ("B" or better if coming from Algebra II), Geometry, and permission of the department.*

PreCalculus: This full-year course is intended for students who may study introductory Calculus during their senior year or in college. The curriculum includes: linear, quadratic, polynomial, rational, exponential, and logarithmic functions, a thorough introduction to right triangle and circle trigonometry, trigonometric equations, fundamental trigonometric identities, and operations on complex numbers. *Prerequisites: Algebra II or Algebra II Fundamentals, Geometry or Geometry Fundamentals.*

Statistics & Quantitative Analysis: This full-year course develops the core functions of PreCalculus using the main principles of Statistics and personal finance. Linear, quadratic, polynomial, and exponential functions are utilized to build a consequential understanding of good vs. bad debt, credit scores, simple and compound interest, short- and long-term investing strategies, and retirement planning. Interspersed with the development of these functions will be an introduction to the major concepts and tools of Statistics, elements which can be used for collecting, analyzing and drawing conclusions from data. This course will provide a head start to students who may be required to take a Statistics course in college. *Prerequisites: Algebra II or Algebra II Fundamentals, Geometry or Geometry Fundamentals.*

Probability & Statistics: This semester-long course provides a substantial, stand-alone introduction to statistical analysis and applications as well as an introduction to AP Statistics or a college-level statistics class. This course covers the concepts of data summary, descriptions, and proper displays of both univariate and bivariate data as well as use of the normal model for data summary. Students explore probability theory, including the probability of single and multiple events, mutual exclusivity, independence, and continuous and discrete probability models. The course culminates with a study of sampling and statistical inference in order to make data-driven decisions. Students will show mastery of the topics of this course through a mixture of problem sets, projects, and traditional tests. A graphing calculator will be used extensively as will Google Sheets and/or Microsoft Excel. This course does not prepare students for the AP Statistics Exam. *Prerequisites: Successful completion (B or better) of Algebra II or Algebra II - Honors.*

AP Statistics: This full-year course follows the recommendations of the Committee on Mathematics of the Advanced Placement Program. It introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. First semester topics include interpreting, summarizing, comparing, and exploring distributions of data, and methods of data collection such as surveys, experiments, and observational study. Second semester topics explore statistical inference through confidence intervals and tests of significance. Course supplements include newspaper and magazine articles. Students are challenged to think beyond the equations to justify, explain, interpret, and infer from data and subsequently communicate an appropriate and complete conclusion. This course prepares students to take the AP Statistics exam. *This course is open to seniors. Prerequisites: Must have completed any level of PreCalculus or be concurrently enrolled in PreCalculus Advanced or higher. Must have strong reading/writing skills and permission of the department.*

Topics in Calculus: This full-year course is intended for students who have successfully completed Thayer's *PreCalculus* course. It does not prepare students for either of the Calculus AP exams. It is appropriate for those who plan to continue the study of Calculus in college and/or who may need this background for courses in applied sciences. This course starts with a focused review of the major functions and concepts of PreCalculus before branching into a standard Calculus curriculum. The amount of Calculus covered by this course in a given year will depend on the strength of the class in that year. *Prerequisites: Algebra II, Geometry, PreCalculus, and permission of the department.*

Calculus: This full-year course is intended for students who have successfully completed the *PreCalculus Advanced* course. It does not prepare students for either of the Calculus AP exams. It is appropriate for those who plan to continue the study of Calculus in college and/or who may need this background for courses in applied sciences. The curriculum explores the fundamental concepts of Calculus, including functions, limits and continuity, differentiation, and integration. Applications such as curve sketching, optimization and related rates are introduced, along with theoretical results such as the Mean Value Theorem and the Fundamental Theorem of Calculus. *Prerequisites: Algebra II, Geometry, PreCalculus Advanced, and permission of the department.*

AP Calculus AB: This course follows the recommendations of the Committee on Mathematics of the Advanced Placement Program. The ideas of intervals, neighborhoods, functions, and limits are carefully explored leading to rigorous development of the standard differentiation formulas. Through applications of derivatives to problems in maxima and minima, the student gains experience in the power of Calculus. This course prepares students to take the AP Calculus AB exam. *Prerequisites: Algebra II, Geometry, PreCalculus Honors or PreCalculus Advanced, and permission of the department.*

AP Calculus BC: This course follows the recommendations of the Committee on Mathematics of the Advanced Placement Program. This course covers all of the topics taught in the *AP Calculus AB* course as well as the following additional topics: parametric, polar and vector functions (and their derivatives), slope fields, Euler's method, convergence of improper integrals and series, applications of integrals, and Taylor and Maclaurin series. This course prepares students to take the AP Calculus BC exam. *Prerequisites: PreCalculus Honors and permission of the department.*

Multivariable Calculus: This course is intended for students who have successfully completed *AP Calculus BC*. Taught at an undergraduate college level, this full-year course provides a thorough study of the calculus of functions of several variables. Topics include lines, planes and surfaces in \mathbf{R}^3 , vector-valued functions and TNB frame, partial differentiation, Clairaut's Theorem, gradients, Lagrange multipliers, cylindrical and spherical coordinates, double and triple integrals and applications. The course continues with vector fields, line integrals, surface integrals, Green's Theorem, Stokes' Theorem, and the Divergence Theorem. An introduction to Linear Algebra may also be included as time permits. *Prerequisite: Successful completion of AP Calculus BC and permission of the department.*

SCIENCE

All students are required to take three years of science. The program of studies is designed to offer an organized sequence of experiences that will help students develop an understanding and appreciation of the physical world of which they are a part. Full-year courses are offered in Integrated Science, Biology, and Chemistry at different levels of difficulty so that each student receives a course of study that is commensurate with his or her background, ability, and interest. Advanced Placement courses in Biology, Chemistry, Environmental Science and Physics are offered for students with a strong interest and ability in science, and electives are offered in interdisciplinary areas.

Integrated Science I: This full-year course introduces ninth grade students to concepts in science with an emphasis on hands-on projects and data analysis through a theme-based approach. Topics covered are in biology, physics and chemistry. It is a skill-building course that is the introduction to the laboratory sciences.

Integrated Science I - Quantitative: This full-year course introduces ninth grade students to concepts in science with an emphasis on hands-on projects and data analysis through a theme-based approach. Topics covered are in biology, physics and chemistry. It is a skill-building course that is the introduction to the laboratory sciences. It is more mathematically rigorous and goes at a faster pace than the Integrated Science I course. *Students are accepted into the honors course based on placement in Algebra II.*

Integrated Science II: This full-year course is a continuation of Integrated Science I. Students will work with scientific concepts through a theme-based approach. Emphasis will be on modeling and data analysis. It is an application of the skills of scientific inquiry.

Integrated Science II - Honors: This full-year course is a continuation of Integrated Science I. Students will work with scientific concepts through a theme-based approach. Emphasis will be on modeling and data analysis. It is an application of the skills of scientific inquiry. It is more mathematically rigorous and goes at a faster pace than the Integrated Science II course. *Students are accepted into the honors course based on previous performance in science courses and teacher recommendation.*

Biology: This full-year course is designed to meet the needs of college preparatory work in biology and acquaint students with the diverse world of living organisms and their interrelation. The course combines lectures, demonstrations, and weekly laboratory work. *It is open to juniors and seniors Prerequisite: successful completion of Algebra II.*

Quantitative Chemistry: This full-year course offers a rigorous college preparatory background in chemistry. The emphasis is on a thorough introduction to inorganic chemistry with a mathematical description. Lectures and discussion sessions are supplemented with laboratory exercises and demonstrations. *It is open to juniors and seniors. Prerequisite: successful completion of Algebra II.*

Physics: This full-year course introduces students to the basic concepts in physics. Although introduced conceptually, this course is mathematically intensive. Students will study simple harmonic motion, waves, sound, light, geometric optics, electricity and magnetism, and mechanics. The course consists of lectures, class demonstrations, and weekly laboratory exercises. *It is open to juniors and seniors. Prerequisite: successful completion of Algebra II.*

ELECTIVE COURSES

GRADES 10-12

Robotics I: This full-year course introduces students to basic concepts of robotics. Students will focus on the specific programming skill sets required to engineer a working robot: project management, mechanical design and programming. Students will also develop skills in problem solving, novel idea generation, and communications. *This course does not fulfill the science requirement for graduation. This is a graded course. Full-year, 1/2 credit*

Robotics II and III: This full-year course continues with the themes of Robotics I while incorporating more engineering design ideas with robotics. Students will expand on the programming and design required for a variety of robotic tasks. Students will meet as an entire class one period each week with also spending two other periods/week working independently in the robotics lab. *Prerequisite: Students must have completed Robotics I/II. This course does not fulfill the science requirement for graduation. This is a graded course. Full-year, 1/2 credit*

Collaborative Design Lab: This one semester course introduces students to group work in problem-solving and independent thinking. Small teams of students will be assigned a variety of tasks where they will have to determine the best course of action to accomplish their goal. Using a variety of tools and materials, teams will strategize, create, design, invent, and learn. *This course does not fulfill the science requirement for graduation. This is a pass/fail course. Students may take the course for the entire year.*

Independent Summer Research: This class introduces students to actual research in scientific laboratories in the Boston area with the goal of working in a lab for six to eight weeks during the summer. Students will meet two times per week to review and present current research from periodicals, and work on research projects at school. Eight times throughout the year students will visit labs in and around Boston. By May, they will apply to work as an intern with one of the labs for the summer. The summer component is an essential part of the course. *Elective for Grade 11. Prerequisite: Successful completion of Integrated Science I and Integrated Science II, and/or permission from the department head. This course does not fulfill your science requirement for graduation. This is a pass/fail course.*

GRADES 11-12

Anatomy & Physiology: Most of us have a natural curiosity about our bodies. This full-year course strives to answer some of these questions using readings, discussions, and activities. The emphasis will be on the structure and function of body systems and their relationships to one another. *It is open to juniors and seniors, but seniors take precedence over junior applicants.*

Astronomy I and Astronomy II: These semester-long courses will help students gain a greater appreciation for the night sky and the evolution of planets, stars and galaxies. Students will be introduced to ancient methods of observation and also utilize some of the most modern techniques. A weekly lab held at the Cahall Observatory provides a practical appreciation for observing and studying the Cosmos. Topics include comparative planetology, the sun, star formation, supernovae, black holes and the origin of the universe. *It is open to juniors and seniors, but seniors take precedence over junior applicants. Students may take either Astronomy I or Astronomy II or both.*

Astrophotography: This class will help students explore astronomy, science, and the art of photography. Students will learn the process that goes into astrophotography including planning, taking, and the post-processing of images through software. Subjects will be based on seasonal conditions and student interest. These may include, for example, landscape Milky Way photography, creating star-trails, planetary and lunar imaging, sunspots, and deep sky objects such as galaxies or nebulae through the use of Cahall Observatory's telescopes. Students should be prepared to spend some class time at night both at the observatory, and other off-campus locations. *This course does not fulfill your science requirement for graduation.*

Earth Science I and Earth Science II: The Physics of Natural Phenomena. The purpose of this full-year course is to help students develop an appreciation and understanding of how Earth works. Students will study major topics in Geology and Meteorology including mapping, minerals, rocks, plate tectonics, mountain building, erosion, weather, and climate. We'll explore, in depth, the cause and effect of natural hazards including earthquakes, tsunamis, volcanoes, floods, landslides, hurricanes, tornadoes, and climate change. The teacher also hopes to introduce students to enough beautiful places (e.g., National Parks and Forests) that they can't wait to go out and visit some of them! This course is designed to be very "visual" (extensive use of media) and features plenty of hands-on projects and activities. *It is open to juniors and seniors, but seniors take precedence over junior applicants. Students may take either Earth Science I or Earth Science II or both.*

Marine Science - Oceanography: This first semester course explores the world of water through a variety of lectures, labs, papers, and numerous other activities. We look at the biological, chemical, physical, and geological interactions of every aspect of life on our planet, from tide pools to the deep abyss. Units of study include geology, current events, navigation, exploration and more. *It is open to juniors and seniors, but seniors take precedence over junior applicants.*


Marine Science - Marine Biology: This second semester course explores the world of water through a variety of lectures, labs, papers, and numerous other activities. We look at the biological, chemical, physical, and geological interactions of every aspect of life on our planet, from tide pools to the deep abyss. Units of study include biology, chemistry, current events, deep sea, aquaculture and more. *It is open to juniors and seniors, but seniors take precedence over junior applicants. You do not have to take Oceanography in the first semester to take Marine Biology in the second.*

Organic Chemistry: This course is a unique opportunity for students to be introduced to the basics of organic chemistry. Organic substances include biochemical molecules that make up all living things, materials such as wood, plastics, Styrofoam and rubber, gasoline, oil, tires, natural and synthetic fibers, and medicines. The topics covered in this course will focus on the classification, structure, and function of organic compounds. Students will learn to use organic nomenclature, analyze structures for isomers, observe different physical and chemical properties, and study chemical reactions and mechanisms. Substantial time will be spent working in the laboratory, building models and running experiments.

Systems & Structures: This semester-long course is designed to delve more deeply into a variety of physical and human systems through inquiry and the Engineering Design Process. Two key aspects of this course will be designing and building large-scale projects, and the leadership and management involved in a team environment. Students interested in this course should possess strong quantitative skills, a creative bent, the desire and ability to solve problems in groups, and a keen interest in the physical sciences. Many of the class activities are team-based projects, therefore good attendance is essential and will constitute a significant portion of the student's grade. *You may take this class either the first or second semester, but not both.*

AP Biology: This full-year course covers the topics in the AP curriculum and includes advanced studies of biochemistry, cell structure and function, cellular energy, genetics with a strong emphasis on the molecular biology of the gene, evolution, and taxonomic classification. This class will prepare students for the AP Exam in Biology in May. Students are expected to take this exam as the culmination of the course. *Students must fill out an application for acceptance into AP Biology. Some summer preparation is expected as well.*

AP Chemistry: This full-year course covers the topics in the AP curriculum and prepares students for the AP Exam in May. Topics include basic atomic structure with quantum theory of the atom, chemical reactions, thermochemistry molecular geometry, reaction types - acid/base, oxidation/reduction, precipitations - stoichiometry and equilibrium, kinetics and thermodynamics. Students are expected to take the Chemistry AP Exam as the culmination of the course. *Students must fill out an application for acceptance into Chemistry AP. Some summer preparation is expected as well.*

AP Environmental Science: Serious environmental problems face the next generation of decision makers and will probably force us to make drastic changes in the decades to come. The goal of this full-year course is to use the students' knowledge of biology, chemistry and physics to deepen their understanding of current environmental issues. The course will also develop the critical thinking and analytical skills that are necessary to weigh the socioeconomic costs and benefits of this type of decision-making. Research and data collection will be a large part of the class and students' own interests will be explored. This class prepares students for the AP Exam in Environmental Science in May. Students are expected to take this exam as the culmination of the course. *Students must fill out an application for acceptance into AP Environmental Science. Some summer preparation is expected as well.* 

AP Physics C - Mechanics: This course is a rigorous, lab and calculus based physics course that covers the Mechanics portion for the AP Exam. Topics include: kinematics, Newton's laws, energy, momentum, rotational motion, simple harmonic motion, and gravity. Students are expected to take the AP Exam as the culmination of the course. *Some summer preparation is expected as well.*

WORLD LANGUAGES

Students must take three years of the same world language and complete level III in order to meet the World Languages graduation requirement. Students are placed in a course according to interest, ability, preparation, and prior language background. It is expected that all students enrolled in AP Language courses will register for the Advanced Placement Examination.

The World Languages Department offers Latin, French, Spanish, and Mandarin Chinese. In Latin, classes prepare students to read and translate classic works, explore the verbal and rhetorical connection to English, and appreciate the history and culture of the Ancient World. In French, Spanish, and Chinese the goals range from students being able to have basic conversations to being able to read and discuss major works in the target language. Reading, writing, and conversational skills are all stressed and developed throughout the course of study.


The department also strongly urges students to travel to a country where the target language is spoken, or to somehow use the language outside the classroom in order to broaden their experience and ability in the language. To that end, the department organizes trips to China, Dominican Republic, France, Greece, Peru and Spain.

CHINESE

Mandarin Chinese I: This course is for students who have no previous or limited experience with Mandarin Chinese. Students will learn the basic communication skills: speaking, listening, reading, and writing. In addition to the Pinyin Romanization system, the traditional Mandarin Phonetic Symbols are introduced with the four tones. Students will learn to write the basic characters from 214 radicals in correct stroke-order, and learn to use a traditional Chinese dictionary. Students will learn songs and lessons. Basic grammar and sentence structure are introduced. The curriculum addresses cultural topics via movies, projects, and other activities, including Chinese food, calligraphy, and field trips. Materials include: *Let's Learn the Mandarin Alphabet*, *Let's Learn Chinese Characters through 214 Radicals* and *Far East Chinese-English Dictionary*, as well as a character-practice workbook.

Mandarin Chinese II: The course is designed to provide students with skills for more practical and complex situations, to expand vocabulary, and to improve listening and speaking skills through online and language lab activities. Basic grammar is reviewed, and more complicated structures are introduced. Through extensive practice in speaking and writing, students will improve their ability to express themselves in the language. Basic writing skills are developed and practiced. Students are able to write a short essay using Chinese word processing. The curriculum focuses on aspects of Chinese culture that are different from life in the United States. Materials include: *Conversational Mandarin Chinese I* and *Learn Mandarin through Chinese Children's Songs*.

Mandarin Chinese III: In Chinese III, students build upon the skills developed in Chinese I and II. Students continue to expand their vocabulary and comprehension skills by reading short articles and singing songs. The course will focus on oral proficiency and writing. The students are engaged in more spontaneous conversations, and in addressing various aspects of Chinese culture. Students will be able to use a traditional dictionary to translate readings into English. They will learn to write a note, a letter, and a short story. Research projects and presentations increase students' control of Chinese grammatical structures. Materials include *Conversational Mandarin Chinese I* and *Life and Death in Shanghai*.


Mandarin Chinese IV and Mandarin Chinese V: The course includes frequent oral presentations and written assignments. Students continue to hone their speaking and listening skills and improve their reading and writing abilities. Through the reading and discussion of Chinese newspaper and magazine articles, students solidify previously learned grammatical structures and expression. Extensive readings provide the basis for vocabulary-building and class discussion. Selective movies and clips are to be viewed to deepen students' knowledge and understanding of Chinese culture and traditions. Materials include *Conversational Mandarin Chinese I*. 


FRENCH


French I: French I is the initial course of study for students of French language, literature, and culture. A thorough preparation in the basics of French grammar, vocabulary, and pronunciation is provided, and emphasis is placed on equipping the student with the skills for continued language study. To this end, the class is conducted, as much as is viable, in the French language.


French II and II - Honors: In French II, the skills and activities of French I are reinforced and broadened, enabling students to become more sophisticated and proficient in expression. Reading abridged works of fiction and writing short reports and detailed narratives are integral parts of the course. The primary goal of the second-year curriculum is to enhance students' proficiency in the four basic language skills of speaking, listening, reading, and writing in order to prepare them for advanced study in French. French II - Honors is an accelerated class.


French III and III - Honors: In the third year of study, the emphasis is on the understanding of advanced grammar and vocabulary and its application in written and oral reports. Reports are longer and more sophisticated, and involve both narrative and expository situations; students are expected both to become relatively fluent in the language and to keep a journal in French. Unabridged listening and written material from the Francophone world are used to enhance comprehension and appreciation of culture. Readings in French literature consist of excerpts of poetry and the novel genre chosen to enhance and improve the student's reading comprehension. French III - Honors is an accelerated class.

French IV: A focus of this course is to enable students to become proficient in the French world and to expand their reading and listening comprehension skills via authentic materials. Students engage in refining a variety of study skills and techniques that seek to elicit creative and imaginative responses in the target language. Reading selections vary according to the ability and interest level of the class. Class discussions are conducted in French. 

French IV - Honors: This is a course for advanced students who are highly proficient in all aspects of the French language. Widening the lens to explore Francophone culture, history, and current events, a wide variety of written and spoken sources are used to hone all language skills. Written expression focuses on the ability to synthesize sources, develop thoughtful ideas, and write with a command of grammar and idiomatic expression. There is increased potential for intellectual and creative pursuits, independent study, cooperative learning, and more student involvement in preparation of class materials. While most grammar is studied "en contexte," students review all aspects of advanced grammar, idioms, and vocabulary. 

French V: This class is for students wishing to continue their French studies, typically in their senior year. The emphasis is on the honing of all skills, with a view to keeping them active in preparation for continued study in college. Students explore French culture and literature, both in France and in Francophone countries throughout the world. The sweep is wide, with everything from cinema, music, and cuisine to politics and current events fair game for study here. 

French AP Language & Culture: This course prepares advanced students for the AP Examination in French Language and Culture using a wide variety of text and audio sources. A holistic approach is taken that more than ever accents communicative and cultural proficiency, while developing interpretive, interpersonal, and presentational skills. Students explore global, cultural issues in both contemporary and historical contexts. They develop the ability to make comparisons between cultures, with particular emphasis on the Francophone world, and their exploration is thematically structured. Written and oral expression focuses on the ability to synthesize sources, develop thoughtful ideas, and communicate with a command of grammar and idiomatic expression. 


Advanced French Language & Culture: This class is for students who have already taken the AP course in French Language and Culture. Drawing on a wide range of authentic sources from the Francophone world that delve into global and cultural issues, students will extend all four language skills. A high degree of proficiency and critical acumen will be required, and class will be conducted entirely in French. 


LATIN


Latin I: Using the *Latina Lingua: Familia Romana* and *Ecce Romani I* texts, students learn to read, write, and comprehend Latin. Instruction is given primarily in Latin and stresses both fluent reading and detailed syntax analysis. The course addresses both English and Latin grammatical structure. Students examine the history and culture of the Roman Monarchy, Republic, and Empire. Various handouts are used and projects assigned throughout the year to complement grammar with myth, culture, and history.

Latin II and Latin II - Honors: After reviewing the concepts of the *Ecce Romani I* text, students delve into an investigation of *Ecce Romani II* (Chapters 28 through 54 in the series). This intensive study virtually completes the textual study of grammar, leaving the succeeding years for literature and grammar study through reading and composition. Further study of key elements of the history and culture during both the Republic and Empire are explored. Various handouts are used and projects assigned throughout the year to reinforce student knowledge in preparation for the National Latin Exam in the spring. While both Latin II and Latin II - Honors operate from a similar syllabus, students in Latin II - Honors move at a more rigorous pace as they continue a path leading toward study in advanced literature courses in the coming years.

Latin III and III - Honors: This course embarks upon the study of *Ecce Romani III* and introduces students to the works of the Roman historian Eutropius. After foundational work in historical readings, students translate, analyze, and discuss prose selections from Julius Caesar, Cicero, Asconius, and Augustus. Students are further introduced to the poetry of Catullus, Horace, Ovid, and Vergil, as time permits. Latin III - Honors is an accelerated class and is considered to be the first in a two-year language cycle that prepares students for study in the Advanced Placement Latin course. Students must show a sound understanding of Latin grammar and syntax and must display a high proficiency in vocabulary in order to proceed to Latin IV - Honors. Various resources are used throughout the year to complement grammar and literature with myth, culture, and history.

Latin IV - Honors: Students read and discuss selections such as Suetonius' *Vita Augusti*, Ovid's *Amores*, *Metamorphoses*, *Heroides*, *Ars Amatoria*, Pliny's *Epistulae*. Emphasis is placed on greater depth of understanding and greater sophistication in literary analysis. Students complement their reading Latin with projects to learn about ancient Rome and the context of what they are reading -- the history, culture, religion, and politics. In the spring, students begin some study of Vergil's *Aeneid* and dactylic hexameter and may read parts of *The Aeneid* in English in order to get an introduction for AP Latin. Latin IV Honors moves at a pace appropriate for preparing students for the work of AP Latin -- Vergil and Caesar in the following year. 

Latin IV and Latin V: This class focuses on Latin literature and on connecting contemporary life, literature, and media to Classical Greece and Rome. Students read the literature of Caesar, Cicero, Vergil, Ovid, Pliny, depending on the year. (Each year teacher alternates syllabus to accommodate students who are in Latin V.) To heighten understanding of this literature, history, and culture, students read novels in English, complete research projects, and do creative projects. 


AP Latin (Vergil, Caesar): The required syllabus includes readings in Latin and English from Vergil's *Aeneid* and Caesar's *Commentaries of the Gallic War*. Students complement their reading with attention to syntax; cultural, political, religious, and social customs of the first century B.C. in ancient Rome; research projects; essays and articles. Students explore significant context, themes, central characters, and key ideas in the Latin passages. To develop students' ability to read Latin at sight, students will read authors outside the required syllabus, such as prose writers Nepos, Cicero, Livy, Pliny the Younger, and Seneca the Younger and verse authors such as Ovid, Martial, Tibullus, and Catullus. 


SPANISH


Spanish I: In the first year of Spanish, students are encouraged to speak the language from the first day of class. Throughout the year, emphasis is placed on the acquisition of oral and aural proficiency, as well as the development of writing skills. Students will learn and review grammar that is appropriate for a first-year language course.


Spanish II and II - Honors: After a complete review of grammar from Spanish I, students progress through the structure of the language, including some uses of the subjunctive. The concentration on aural-oral skills continues with focus on oral proficiency. Written work becomes longer and more sophisticated, and reading assignments are used to introduce students to cultural topics, as well as more complex language. The focus is both Spain and Latin America. The inherent goal of the second-year language program is preparation for more advanced study in the language, where classes are conducted solely in Spanish.

Spanish III and III - Honors: This course focuses on improving students' speaking and writing, and includes a comprehensive review of grammar and structure. By the end of third year Spanish students, have seen and practiced most elements of the Spanish language, including all of the indicative tenses, grammatical concepts, and many topics within the subjunctive. Students work on expanding their vocabulary and using idiomatic language in "authentic" classroom situations. Students in Spanish III - Honors read a variety of articles on topics including science and technology, the environment, history, politics, education, sports, and the arts. Essay writing includes cultural analysis, compare and contrast, and argumentative essays. Speaking activities are done daily.

Spanish IV: The focus of this course is to enable students to become more proficient in using the target language and to expand their auditory comprehension via authentic materials. In this course, students refine their writing and reading skills through a survey of Spanish and Latin American literature, music, and media. 


Spanish IV - Honors: Students in this course undertake a comprehensive review of Spanish grammar, addition, students begin to focus specifically on the topics and skills required by the AP course which students will take the following year. The focus of this course is to enable students to not only become more proficient in using the target language but to also broaden their knowledge of the social and political landscape of the Hispanic world. In addition, students expand their auditory comprehension via authentic materials and use of the language laboratory. 


Spanish V: This course is for students wishing to continue their Spanish studies, typically in their senior year. The emphasis is on the honing of skills, with a view to keeping them active in preparation for continued study in college. Students explore Hispanic culture and literature. The course content breath is wide, with everything from cinema, music, and cuisine to politics and current events fair game for study. 

AP Spanish Language & Culture: This course develops advanced Spanish language skills as we focus on Latin American and Spanish culture, history, and current events. A wide variety of written and spoken sources are used to develop the speaking, listening, reading, and writing skills necessary to meet success on the AP Examination. Grammar study flows naturally from work on writing and speaking. Essay writing focuses on the ability to synthesize sources, create a thesis statement, and write cleanly. The goal of speaking activities is to express ideas clearly in idiomatic Spanish, both in a conversation and presentation format. AP Examination practice is ongoing throughout the year as students work to master the exam requirements. 

ELECTIVE COURSES

Prerequisite: second year of any language

Ancient Roman History & Culture I and II: The purpose of these courses is to develop an understanding of the history, culture, and mythology of the people who lived in the ancient Roman world. Topics examined will include geography, literature, politics, slavery, race, gender, religion, values, art, entertainment, family, social classes, holidays, and warfare. This course will be offered in two parts, one during each semester. You may sign up for both semesters or take only one or the other. Semester 1 will begin with the Trojan War and the founding of Rome and cover the historical periods of the Roman Monarchy and Republic. Semester 2 will cover the fall of the Roman Republic, the Augustan Age, and the Roman Empire. *This course is open to juniors and seniors. This course may satisfy the third-year language requirement, with the permission of the department head. This course satisfies the requirements for the Global Scholars Program if the student has already completed Level III of a world language.* 

Hispanic History & Culture I and II: The purpose of these courses is to develop an understanding and appreciation of Hispanic people, history, culture, and literature. Sources will include books, internet sources, newspapers, guest speakers, and movies. Many topics will be examined including literature, politics, race, foods, religion, values, music, art, family, social classes, sports, and holidays. This course will be offered in two parts, one during each semester. You may sign up for both semesters or take only one or the other. Semester 1 will begin with Spain's prehistory and go through the age of exploration and conquest. Semester 2 will cover the colonization and later independence movements in Latin America, as well as modern art movements. *This course is open to juniors and seniors. This course may satisfy the third-year language requirement, with permission of the department head. This course satisfies the requirements for the Global Scholars Program if the student has already completed Level III of a world language.* 

HEALTH & WELLNESS

The Health and Wellness curriculum is an integral part of the total Thayer experience. The program is designed to provide students the informational background they need to make responsible decisions when it comes to living a safe, active and healthy lifestyle. The Health and Wellness Department provides each student with an opportunity to be exposed to and experience an array of health and fitness related courses.

Health and Wellness Courses Required for Graduation:

Freshman: Freshman Health & Wellness, Fitness Concepts (both required, full-year)

Sophomore: Sophomore Health & Wellness (required, full-year)

Junior: Decisions (required, first or second semester)

Senior: Senior CPR Certification/Certificate of Completion (required, first semester)

HEALTH & WELLNESS COURSE DESCRIPTIONS

Freshman Health & Wellness: This course is designed to provide updated health-related information, which will help guide students in making positive and informed decisions regarding their present and future well-being. A variety of topics are presented and typically fall under three components: Unhealthy and Risky Behaviors, Human Sexuality and Healthy Relationships, and Mental and Emotional Health. The class format is discussion-based with media presentations, outside speakers, group presentations, and activities. *Freshman requirement.*

Freshman Fitness Concepts: Students learn how one's body responds to various types of exercise by participating in fitness circuits that focus on muscular fitness, cardiovascular capacity, and flexibility. Students discuss the importance of proper technique and following basic principles in order to achieve maximum benefits. Throughout the year, students will work together and participate in various team-building activities and team games. These activities provide students with an opportunity to work on communication skills, decision-making, cooperation, problem-solving, patience, and learning to support and encourage. *Freshman requirement.*

Sophomore Health & Wellness: Lifetime Skills and Activities: This course introduces students to a variety of topics and experiences that will demonstrate how to live a sustainable, balanced lifestyle. Topics include, but are not limited to: nutrition basics: evaluating individual dietary needs, making informed decisions, and hands-on cooking; moral and physical decision making: discussing complicated issues that teens are faced with – consent, underage drinking, vaping, social media, etc.; and physical lifetime activities; archery, racquet sports, golf, yard games, and volleyball, among others. *Sophomore requirement.*

Junior Decisions: The objective of this course is twofold: first, it is to provide juniors with critical information so they can better anticipate consequences, evaluate risk, and make informed decisions. At the end of the junior year, students will hopefully have a better understanding of themselves – on both a personal level and within the constructs of our society. We will explore and discuss topics that include mindfulness, morality, consent, sexual assault, relationships, constructions of gender and sexual identity, sexual health, mental health, alcohol, and drugs. Second, it is to prepare juniors for the college process. They will meet with their college counselors in the spring during scheduled class time. *Junior requirement.*

Senior CPR: Seniors will complete an **online** American Red Cross Blended Learning course in Adult and Pediatric CPR/AED and Basic First Aid. In order to satisfy certification requirements, students will need to physically demonstrate proper skills and knowledge during a practical session with a Thayer instructor. Upon completion of both components, students will receive certification which is good for two years. Students holding a current certification of the above will be exempt from the course, as long as the expiration date does not precede graduation. *Senior requirement.*

ELECTIVE COURSES

Grades 11 and 12

Sports Medicine: The course will include classwork and hands-on application in the areas of prevention, evaluation, treatment, and rehabilitation of sports injuries. Students learn the essential components of an effective sports medicine program and the different career options available. Students will utilize video analysis and simulation in order to learn event preparation and emergency management of common injuries. Students will have an overview of anatomy, physiology, and kinetics as they apply to the science of sports medicine.

Lifestyle Nutrition: You “use” nutrition all day long when you make decisions about what to eat for breakfast, lunch, dinner, and snacks. You just don’t realize those are actual decisions because you may not have been taught to think of eating in that way. Proper nutrition is such a mystery in our society, and there is so much misinformation out there. How are you supposed to know what is true and what isn’t? In this class, you will learn what kinds of food to eat, when to eat them and more importantly how to prepare them for yourself!

This course is hands-on and will cover a variety of topics, the main idea being that you learn the right tools to take care of your body in a healthy and sustainable way.

Other topics will include food choices in today’s world, our food industry - from farm-to-table - and how to prepare and cook for your own individual needs. You will evaluate recipes, with the hope of creating a cookbook for other students to use and for easy to make go-to meal ideas you can use for the rest of your life. *Open to juniors and seniors. Limited to 12 students.*

SPECIAL INTEREST

Anti-Racism: An Introduction: This one semester course will provide an introduction to the ways racism has contributed to American society, how and why it persists, and how anti-racism can empower each of us to take steps to end racism in ourselves, in our school, in our communities, and in our country. We will examine how racism affects all of us in a multitude of ways, and we will consider how anti-racism can create a more welcoming, positive, and supportive environment for all. The experience will include the development of a project that promotes anti-racism at Thayer. *This course is required for freshmen.*

The Common Good: An Introduction to Social Justice: This one semester course helps students develop a strong vision of the “common good,” including ideals such as equality, opportunity, environmental sustainability, and social justice. It also introduces students to challenges we face as a school, a community, a region, a nation, and a world in achieving those ideals. During the course, we will identify and examine problems, acknowledge those who promote solutions, and engage in problem-solving activities in our school and our communities. Students will consider the many ways Thayer contributes to the “common good” and will develop ways Thayer can do more and do better. The course will conclude with a service-learning project with a focus on ethical leadership and community engagement. *This course is required for sophomores and juniors.*

Foundations of Learning: This first-semester course is required for all freshmen and newly accepted sophomores. These classes provide students with the foundations for learning online. Topics include the acceptable use of Thayer Academy’s One-to-One student laptop program, the use and application of various academic software applications (Gmail and Google Apps for Education, Microsoft suite, and Thayer Academy’s Learning Management System “onCampus”), the proper use of digital media to create positive experiences as digital citizens, and Digital Safety and Identity. Additionally, students will be introduced to our Robotics Lab as well as the Collaborative Design Lab where they will explore how trends in technology have impacted our daily lives, and how they may impact future generations. *Freshman and transfer sophomore requirement, Semester I.*

Yearbook Publication, Journalism and Design: In this full year class, students plan, design, create, and publish the *Black & Orange*, Thayer Academy’s yearbook. Students are assigned various tasks, such as designing page layouts using a software program similar to Adobe InDesign; writing stories and captions for photos; selecting photos; and interviewing students, teachers, coaches, staff, and administrators. Yearbook staff photographers attend school events and take photos specifically for the book. In this class, students will gain journalistic experience and have a chance to delve into their creative side. Students also will learn how to make editorial decisions and selections based on the book’s theme -- always seeking to report the life of the school as accurately as possible. The end product, which is essentially a record of a year in the life of our school, is placed in the archives as a permanent record in Thayer’s history. *This course is an Elective, open to sophomores, juniors, and seniors.*

Thayer Academy Upper School Course Offerings 2021-2022

Arts

Freshman Arts
Graphic Design I, II, III
Media Production
Web Design
Painting & Drawing I, II, III
Photography I, II, III
Pottery I, II, III
Musical Theatre
Integrated Theatre Arts
Dance Styles/Movement
Instrumental Ensemble
Jazz Combos
Private Lessons

Computer Science

Programming I
AP Computer Science
Data Structures - Honors

English

English I, I - Honors
English I Workshop
English II, II - Honors
American Masters I: Story & Style
American Masters II: Story & Style
AP English: Literature & Composition
AP English: Language & Composition
Senior Seminar and Senior Seminar - Honors
Advanced Composition: *Voice Magazine*
Crossing Borders: Journeys & Transformations*
Rag & Bone Shop: Poetry
Scene to Screen*
Sliver of Truth
Visual Literature: The Graphic Novel
Women's Work: Female Storytelling in Fiction & Film


History

World History I, World History I - Honors
World History II, World History II - Honors
United States History
AP United States History
Law & Society
AP United States Government & Politics
Global Scholars Capstone I*
Economics
AP Microeconomics
Introduction to Psychology
Modern American Culture
Global Scholars Capstone II*
African History & the Afro-American Experience
Sports & Society
History & Film

Mathematics

Algebra I
Algebra I Fundamentals
Algebra II - Honors
Algebra II
Algebra II Fundamentals
Geometry - Honors
Geometry
Geometry Fundamentals
PreCalculus - Honors
PreCalculus Advanced
PreCalculus
Statistics & Quantitative Analysis
Probability & Statistics
AP Statistics
Topics in Calculus
Calculus
AP Calculus AB
AP Calculus BC
Multivariable Calculus

*Course satisfies the Global Scholars Program requirement. 

** Course satisfies the Global Scholars Program requirement if student has completed Level III of a Language. 

Science

Integrated Science I
Integrated Science - Quantitative
Integrated Science II, II - Honors
Biology
Quantitative Chemistry
Physics
Organic Chemistry
Robotics I, II, III
Collaborative Design Lab
Independent Summer Research
Anatomy & Physiology
Astronomy I
Astronomy II
Astrophotography
Earth Science
Marine Science - Marine Biology
Marine Science - Oceanography
Systems & Structures
AP Biology
AP Chemistry
AP Environmental Science*
AP Physics C - Mechanics

World Languages

Mandarin Chinese I
Mandarin Chinese II
Mandarin Chinese III
Mandarin Chinese IV*
Mandarin Chinese V*
French I
French II, II - Honors
French III, III - Honors
French IV, IV - Honors*
French V*
AP French Language & Culture*
Advanced French Language & Culture*
Latin I
Latin II, II - Honors
Latin III, III - Honors
Latin IV, IV - Honors*
Latin V*
AP Latin (Vergil, Caesar)*
Spanish I
Spanish II, II - Honors
Spanish III, III - Honors
Spanish IV, IV - Honors*
Spanish V*
AP Spanish Language & Culture*
Ancient Roman History & Culture I**
Ancient Roman History & Culture II**
Hispanic History & Culture I**
Hispanic History & Culture II**


Health & Wellness

Freshman Health & Wellness
Freshman Fitness Concepts
Sophomore Health & Wellness
Junior Decisions
Senior CPR
Sports Medicine
Lifestyle Nutrition

Special Interest

Anti-Racism: An Introduction
The Common Good: An Introduction to Social Justice
Foundations of Learning
Yearbook Publication, Journalism and Design

*Course satisfies the Global Scholars Program requirement. 

** Course satisfies the Global Scholars Program requirement if student has completed Level III of a Language. 

NAME: _____ ADVISOR: _____

UPPER SCHOOL PLANNING GUIDE

20 Credits Req. for Grad. Credits Req.	ENG.	LANG.	HIST.	MATH	SCI.	ARTS	ELEC.	H&W	TOTAL
	4	3	3	3	3	1	3	5 courses	
	Courses	Cr.	Courses	Courses	Courses	Courses	Courses		
9								Health ____ PE ____	
10								Nutr./CI/LA ____	
11								Decisions ____	
12								CPR ____	
Total Credits									