



# Upper School Course Offerings 2023-24

*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 2023

Dear Thayer Families,

We hope all is well and send best wishes from our office. The course planning cycle has begun, and we look forward to working with you to ensure yet another successful season.

Welcome to the 2023-24 Course Offerings catalog. 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 core academic courses with interesting and meaningful electives while also considering extracurricular commitments. There is a wide variety of courses available, so students should think carefully — with input from families and advisors — before they choose.

As in years past, students need to take a minimum of five courses per semester. For most, those five courses will consist mainly of yearlong offerings.

For planning purposes, this year's catalog 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 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 Dean of Faculty 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. Our Anti-Racism and Social Justice courses are required for freshmen and sophomores. (page 4)

**Section 3: What's New in 2023-24?**

This is a quick reference to anything new or different that we are offering in 2023-24. These items include new or re-introduced courses and an explanation of that course. (pages 5-6)

**Section 4: Course Descriptions**

The listing and description of every course we are offering in the Upper School in 2023-24 can be found in this section. Courses are listed by department and generally organized from freshman introductory courses to senior more advanced courses. At the end of this section, you can find a list of all of our course offerings. (pages 7-26)

**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/guardians, grade deans, and/or college counselor as they use the guide. (page 29)

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

Sincerely,

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 backgrounds and abilities, 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 week and how many semesters a course runs. For example:

- 1 credit for courses that meet four times per week for a full year
- $\frac{1}{2}$  credit for courses that meet two or three times per week for a full year
- $\frac{1}{2}$  credit for courses that meet four times per week for one semester
- 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 five areas cited below:

1. **Earned Credits Requirement:** To receive a diploma, a student must accumulate a minimum of 20.
2. **Credit Distribution Requirement:** The following credit distribution is required:
  - a. 4 credits of English, with a minimum of one credit in English each year
  - b. 3 credits of History, including one year of World History and one year of United States History
  - c. 3 credits of Mathematics (typically Algebra I, Algebra II, and Geometry unless the student has placed out of one or more of these classes)
  - d. 3 credits of Science
  - e. 3 credits of World Languages (students are required to complete the third level of a language and should take three years of the same language in the Upper School)
  - f. 1 credit of Arts (1/2 of which is the Freshman requirement, Freshman Arts)
  - g. 3 credits of Electives
  - h. 1 Semester of Anti-Racism (9) and The Common Good (10)
  - i. Health & Wellness: Freshman Health & Wellness (9), Sophomore Health & Wellness (10), Decisions (11, fall); Senior CPR Certification (12)
  - j. College Counseling Course (11, spring)
3. **Course Load Requirement:** Students must carry five core courses each semester (English, mathematics, science, history, world languages, and computer science). No more than two may be in the same discipline. If a student would like to take a sixth core course, they need prior approval from the appropriate Department Head, the Director of Studies, and the Upper School Dean of Faculty.
4. **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.
5. **Senior Year Requirements:**
  - a. Students are required to be enrolled at Thayer Academy for their entire senior year.
  - b. Senior Independent Project: 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.
  - c. Seniors must pass all courses in their senior in order to graduate.

The Upper School Dean of Faculty 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 cocurricular 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, when possible.

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 make a commitment to the program by the end of their junior year. The various curricular and extracurricular requirements of the program are met over the course of a student's sophomore, junior, and senior years. Seniors in the Global Scholars Program are enrolled in the Global Scholars I course first semester and the Global Scholars II course in the second semester. Students who complete the program earn a Global Scholars certificate and are recognized at graduation. If interested in this program, students should see the Upper School Dean of Faculty of Studies Lynette Sumpter.

## ANTI-RACISM AND SOCIAL JUSTICE PROGRAM

**Anti-Racism: An Introduction:** This one-semester course provides 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 examine how racism affects all of us in a multitude of ways, and we consider how anti-racism can create a more welcoming, positive, and supportive environment for all. The experience includes 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 identify and examine problems, acknowledge those who promote solutions and engage in problem-solving activities in our school and our communities. Students consider the many ways Thayer contributes to the “common good” and develop ways Thayer can do more and do better. The course concludes with a service-learning project with a focus on ethical leadership and community engagement. *This course is required for sophomores.*

**Intersections: Intersectionality & Social Justice:** This one-semester elective course builds upon some of the lessons introduced in Anti-Racism and The Common Good. We will examine in more detail concepts of identity and consider how we create our own identities and how we relate to others in the world. With readings, videos, and other resources, we will engage in discussions that consider how various identities intersect in particular ways with a range of social issues, including access to education and health care, the workplace, the justice system, the environment, and the meaning of community service. Throughout, we will focus on assessing complicated intersectional problems and considering innovative, collaborative, multi-disciplinary solutions. *This graded course will meet four times a week for one semester.* 

# WHAT'S NEW IN 2023-24?

## ARTS AT THAYER

Beginning in 2023-24, the Upper School arts program will be split into two departments. The courses in each department are grouped in this way on the pages that follow:

- Performing Arts
- Visual Arts & New Media.

## PERFORMING ARTS

**A cappella:** This group is a select vocal ensemble that sings in the traditional a cappella style with music from the 1940s to present day. It is by audition only and students accepted will be expected to match pitch and harmonize. The group will perform in concerts as well as special Thayer Academy events. *This course is open to all students. Full-year, 1/2 credit*

**Chamber Orchestra:** Calling all string, woodwind, brass, piano, and percussionists! This orchestra experience is designed for students to learn and perform a variety of styles, from the traditional classical music of master composers like Bach and Beethoven to symphonic soundtracks. *No audition is necessary. This course is open to all students. Full-year, 1/2 credit*

## ANTI-RACISM AND SOCIAL JUSTICE PROGRAM

**Intersections: Intersectionality & Social Justice:** This one-semester elective course builds upon some of the lessons introduced in Anti-Racism and The Common Good. We will examine in more detail concepts of identity and consider how we create our own identities and how we relate to others in the world. With readings, videos, and other resources, we will engage in discussions that consider how various identities intersect in particular ways with a range of social issues, including access to education and health care, the workplace, the justice system, the environment, and the meaning of community service. Throughout, we will focus on assessing complicated intersectional problems and considering innovative, collaborative, multi-disciplinary solutions. *This course is open to juniors and seniors. One semester, graded course, 1/2 credit* 

## ENGLISH

**Memoir and the Spoken Word:** We all have stories that need to be told—stories that the world needs to hear. Our narratives show we matter. This class will help students unlock the stories within them through the art of spoken word and memoir writing. Students will read contemporary spoken word artists and view exemplary recorded performances in order to analyze, critique and apply specific Spoken Word techniques to their own writing and to learn about the elements of Spoken Word that have made it a popular art-form around the world. Throughout this workshop-style class, a final project will also be developed, bringing the individual student's story to life in the form of a living memoir.

**Mental Health in Literature:** How does literature portray mental illness? Drawing on information across disciplines, students will answer this question by considering what role literature plays in society's understanding of mental health, the role of the author, and the reader's perception. In addition, students will confront issues of representation, history, and the media's impact on proliferating predominant conceptions and misconceptions. Course content will include selected anchor texts, external readings on the history of medicine and abnormal psychology, and alternative media forms such as film and music. By the end of the semester, students will have considered how the portrayal of mental disorders has progressed over recent centuries and across mediums and ultimately form an understanding of literature's power to portray the human mind.

## WHAT'S NEW IN 2023-24? *continued*

### HISTORY

**AP Economics:** Relying on textbook readings, MIT OpenCourseware lectures, and in-class discussion sessions, problem sets, and supplementary work, this course provides a true college-level introduction to the fields of microeconomics and macroeconomics. In microeconomics, we 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 consider how those decisions play out under the conditions of perfect competition, oligopoly, and monopoly. In macroeconomics, we examine how principles of economics apply to an economic system as a whole. Topics in macroeconomics will include national income, economic performance measures, the financial sector, monetary policy, economic growth, economic inequality, and international economics. At the conclusion of this course, students will be prepared to take both the AP Microeconomics and AP Macroeconomics exams. Prerequisites: successful completion of U.S. History and strong math skills. *See Mr. Dunne for permission to enroll. This course is expanding from a one-semester course to a full-year course.*

### SPECIAL INTEREST

**Entrepreneurship:** Have you ever thought about making money by starting your own business or selling a product or service that you've created? Have you ever wanted to present a business on *Shark Tank*? If so, you might be an entrepreneur in the making. By definition, entrepreneurship is "*the activity of setting up a business or businesses, taking on financial risks in the hope of profit.*" But in reality, it's so much more. To be a successful entrepreneur, you have to do the research to determine what a good product is, understand what will actually sell, in some cases find financial backers to help you to build the product, and decide how to market the product so that it becomes financially viable. This full-year class will explore the fundamental elements of entrepreneurship. It will meet once per week and there will be mandatory monthly evening sessions and/or field trips as part of the course. Students will be required to regularly communicate with others on their product team, only those fully engaged in the material of the course and are able to commit to the evening sessions and field trips should consider enrolling. *Priority will be given to juniors and seniors. When there is a high demand for the course, there will be an application process. Full-year, once per week with additional meetings, pass/fail, 1/2 credit.*

**Junior College Counseling:** This comprehensive course centers on personalized attention for students, and their taking ownership of their college search with the support of the College Counseling staff. Students will gain an in-depth understanding of the college search process by learning about college applications, essay writing, and strengthening their presentation and interviewing skills. Students will be challenged to think creatively through exercises that require self-evaluation and self-study. Students' competency will culminate with a final project focused on the college application process. This course meets once a week in the spring semester. *Junior requirement.*

# COURSE DESCRIPTIONS

## ARTS

Students must earn one full credit in the arts. Beginning in 2023-24, the Upper School arts program will be split into two departments. The courses in each are grouped in this way on the pages that follow:

- Performing Arts
- Visual Arts & New Media.

**Freshman Arts:** This yearlong, four-unit creative course forms the substructure of the arts curriculum. Students rotate through each section and explore one aspect of the arts: music, theater, visual arts, and 3D mixed media design. 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 arts class, students develop basic drawing and painting skills; learn compositional basics of line, form, value, color, texture, and spatial relationships; and use various painting and drawing tools and materials. In 3D mixed media design, students explore the principles of visual perception and the meaning of form, space, function, and structure as they relate to three-dimensional design. Students learn to use 3D printers, laser cutters, and other tools in this segment of the course. *Freshman requirement. Full-year, 1/2 credit.*

### PERFORMING ARTS ELECTIVES

**Dance Styles/Movement:** This course focuses on learning the techniques of a variety of different styles of dance. Classes 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 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*

**Integrated Theatre Arts:** This course explores 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 are hands-on in creating multiple integrated theatre pieces throughout the year, building and designing scenery for our main-stage productions, and deepening their knowledge in all aspects of theatre arts. This course is for both actors AND any student interested in technical theatre at all levels, and it can be taken for all four years. Students also meet a variety of professional guest speakers from the theatre industry and attend several outside theatre productions. No experience is required. *Full-year, 1/2 credit*

**Musical Theatre:** This course explores the genre of musical theatre from its origins through the modern age. In this class, we create duet, small group, and ensemble pieces incorporating singing, acting, and dance. We 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, to experienced performers at all levels. We shape each unit of study to include all members of the class, and solo singing is not required. This class includes 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. *Full-year, 1/2 credit*

**A cappella:** This group is a select vocal ensemble that sings in the traditional a cappella style with music from the 1940s to present day. It is by audition only and students accepted will be expected to match pitch and harmonize. The group will perform in concerts as well as special Thayer Academy events. *This course is open to all students. Full-year, 1/2 credit*

**Chamber Orchestra:** Calling all string, woodwind, brass, piano, and percussionists! This orchestra experience is designed for students to learn and perform a variety of styles, from the traditional classical music of master composers like Bach and Beethoven to symphonic soundtracks. *No audition is necessary. This course is open to all students. Full-year, 1/2 credit*

**Jazz Combos:** These instrumental/vocal groups 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 are 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.

## VISUAL ARTS & NEW MEDIA ELECTIVES

**Graphic Design I:** Using the Mac laptop computer as a design tool, students utilize a variety of apps, including: Adobe Ideas, to create a digital sketchbook used in the classroom and at 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 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 Cooper Hewitt, Smithsonian Design Museum and the American Institute of Graphic Arts in New York City. Students learn critiquing skills that will help them improve their work; this includes for both the technical and aesthetic aspects of their designs. Student print designs are displayed in the annual student art show in Thayer's art 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 utilize a variety of apps, including: Adobe Ideas, to create a digital sketchbook used in the classroom and at 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 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, 3 Dimensional 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 become facile with GarageBand and Adobe Premiere Pro software; track audio signal flow from microphone to P.A., monitor systems and recording software; become familiar with audio and video equipment use and basic care; and 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 for web design, students begin by learning web design basics including color, formatting, and page layout for web pages. Students build and publish web pages using WordPress and iWeb '11 for a variety of industries. Students learn how businesses use websites to establish credibility as part of their advertising campaigns 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 create multi-directional compositions with a variety of materials, paint, images, found objects, and ink painting. Techniques include collage, drawing, painting, mixing, assemblage, cutting, and pasting. As students advance, they create a cohesive body of work that provides options 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 learn fundamental photographic techniques, including use of 35mm digital SLR cameras in manual mode and the downloading, organizing, and editing of images. All assignments utilize Adobe Photoshop or Adobe Lightroom. Students 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 a 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 learn basic retouching techniques as well as advanced montaging skills. All assignments 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 is on the student's ability to develop a personal vision. Advanced Photoshop and Lightroom techniques are 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*

**Yearbook Publication, Journalism & 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 yearbook. In this class, students gain journalistic experience and have a chance to delve into their creative side. Students also learn how to make editorial decisions and selections based on the yearbook'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.*

## 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 completing 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 fiction, drama, and memoir with a focus on complementary themes: personal identity and growing up. As they read texts both canonical and contemporary, freshmen encounter diverse characters who wrestle with enduring questions: to what extent do we control our hearts, our fates, and how others perceive us, especially as we enter adulthood? In an English I classroom, students might act out scenes from Shakespeare or discuss the impacts of implicit bias on a protagonist and on themselves. Freshmen also 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. As the semester progresses, students read full texts like *The Great Gatsby* and *Flight*. 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 continue reading 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 prepare for the Advanced Placement Exam in Literature and Composition. They examine a broad spectrum of readings drawn from American and world literature — from the classics to the avant-garde — 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 share 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 StorySLAM.

## 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 of 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 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 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.*

**Art of Communication:** This course is designed to empower students to become more honest, authentic, practiced, and brave communicators. Approximately one-third of our time together is devoted to lessons and group discussions on various aspects of communication such as how to: find your voice; use elements of rhetoric; make a persuasive argument; frame the debate; tell a powerful story; craft a clear message; write and deliver a speech; connect with diverse audiences; entertain different perspectives; express identities and values; listen deeply; deliver feedback; develop empathy; demonstrate compassion; and use humor and emotion. The other two-thirds of the course focus on practicing and receiving feedback on your communication skills. Students read selected articles and view selected videos; they then deliver prepared speeches and tell stories in person and on video, for which they receive customized and critical feedback from their peers and instructor.

**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 broaden their perspectives and deepen their awareness. 

**Memoir and the Spoken Word:** We all have stories that need to be told—stories that the world needs to hear. Our narratives show we matter. This class will help students unlock the stories within them through the art of spoken word and memoir writing. Students will read contemporary spoken word artists and view exemplary recorded performances in order to analyze, critique and apply specific Spoken Word techniques to their own writing and to learn about the elements of Spoken Word that have made it a popular art-form around the world. Throughout this workshop-style class, a final project will also be developed, bringing the individual student’s story to life in the form of a living memoir.

**Mental Health in Literature:** How does literature portray mental illness? Drawing on information across disciplines, students will answer this question by considering what role literature plays in society’s understanding of mental health, the role of the author, and the reader’s perception. In addition, students will confront issues of representation, history, and the media’s impact on proliferating predominant conceptions and misconceptions. Course content will include selected anchor texts, external readings on the history of medicine and abnormal psychology, and alternative media forms such as film and music. By the end of the semester, students will have considered how the portrayal of mental disorders has progressed over recent centuries and across mediums and ultimately form an understanding of literature’s power to portray the human mind.

**Rag & Bone Shop:** A Reading and Writing Workshop in Poetry: This course explores and illuminates the poetic process and the poetic tradition. The writing of poetry in the workshop emerges 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 apply this understanding both to their own compositions and 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 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 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 are 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 also reveals 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 place short stories under the microscope to discover how and why these brief tales move us so deeply. We 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 study formal narrative techniques in order to craft original short stories. Students 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 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 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.

## 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 21<sup>st</sup> 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 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 complete a capstone project that requires a synthesis of their knowledge of world history and research, writing, and public speaking skills.

**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 emphasizes 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 support the study of specific court cases in history and literature and provide an introduction to legal issues prominent at different times in American history. Additionally, the mock trial portion of the class offers 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 Economics:** Relying on textbook readings, MIT OpenCourseware lectures, and in-class discussion sessions, problem sets, and supplementary work, this course provides a true college-level introduction to the fields of microeconomics and macroeconomics. In microeconomics, we 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 consider how those decisions play out under the conditions of perfect competition, oligopoly, and monopoly. In macroeconomics, we examine how principles of economics apply to an economic system as a whole. Topics in macroeconomics will include national income, economic performance measures, the financial sector, monetary policy, economic growth, economic inequality, and international economics. At the conclusion of this course, students will be prepared to take both the AP Microeconomics and AP Macroeconomics exams. Prerequisites: successful completion of U.S. History and strong math skills. *See Mr. Dunne for permission to enroll. This course is expanding from a one-semester course to a full-year course.*

**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 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 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 encourages 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 examine the United Nations Declaration of Human Rights and evaluate the status of those rights in the world today; we connect with Thayer graduates and discuss their experiences as “global citizens;” we 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 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.

**Introduction to Psychology:** In this psychology course, we 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 relies on nightly reading assignments, discussion, and review of both current and classic research in the field. Students 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 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 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 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 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 relies on nightly reading assignments, discussion, and review of both current and classic research in the field. Students 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 explore the relationship between sports and society in the United States. Students 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 depends 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 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 are 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 is 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 provides 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 show mastery of the topics of this course through a mixture of problem sets, projects, and traditional tests. A graphing calculator is used extensively as is 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 depends 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 that student's 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 work with scientific concepts through a theme-based approach. Emphasis is 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 work with scientific concepts through a theme-based approach. Emphasis is 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 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 focus on the specific programming skill sets required to engineer a working robot: project management, mechanical design, and programming. Students 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 expand on the programming and design required for a variety of robotic tasks. Students meet as an entire class one period each week while 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. Rooted in the design thinking process, students are introduced to concepts in additive and subtractive manufacturing, woodworking, basic architecture and structural engineering, form casting, and 3D design. Students are assigned a variety of challenges where they determine the materials, tools, and course of action to accomplish their build as they move through design iterations. With a variety of resources and challenges, students creatively strategize, 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 Science 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 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 visit labs in and around Boston. By May, they have applied 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 the 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 is 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 help students gain a greater appreciation for the night sky and the evolution of planets, stars, and galaxies. Students are 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 helps students explore astronomy, science, and the art of photography. Students learn the process that goes into astrophotography including the planning, taking, and the post-processing of images through software. Subjects are 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 off-campus locations. *This course does not fulfill the 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 study major topics in Geology and Meteorology including mapping, minerals, rocks, plate tectonics, mountain building, erosion, weather, and climate. We 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 those students 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 I and Marine Science II:** Marine Science I is 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. Marine Science II is 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. Students may take either Marine Science I or Marine Science II or both.*

**Systems & Structures I and II:** These semester-long courses help students gain a greater appreciation for the engineering process and are designed to delve more deeply into a variety of physical and human systems through inquiry. Two key aspects of this course are designing and building large-scale projects as well as 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 constitutes a significant portion of the student's grade. *It is open to juniors and seniors, but seniors take precedence over junior applicants. Students may take either Systems & Structures I or Systems & Structures II or 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 prepares students for the AP Exam in Biology in May. Students are expected to take this exam as the culmination of the course. *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. *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 also develops 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 are a large part of the class, and students' own interests are 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. *Juniors must have successfully completed or be concurrently enrolled in PreCalculus Advanced. 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 an AP Language course 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 students reading and discussing major works in the target language. Reading, writing, and conversational skills are all emphasized 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 somehow use it outside the classroom to broaden their experience and ability in the language. The department organizes trips to China, Dominican Republic, France, Greece, Peru, and Spain.

### CHINESE

**Chinese I:** Chinese I is designed for those who have never spoken or studied the language and for non-native Mandarin speakers with up to one year of previous study in the language. This course provides students with the fundamentals for learning to understand, speak, and begin to read and write Mandarin Chinese. The course focuses on developing accurate pronunciation and tones, learning to understand the spoken language in context, and developing a foundation of basic sentence patterns, questions, and everyday vocabulary. The sound system (pinyin and tones) and the writing system (radicals and stroke order) are presented in detail. Reading is used to support and reinforce the acquisition of the spoken language. The course is proficiency-based and focuses on the development of listening and speaking skills. Towards the end of the first year, the classes will be conducted in Chinese for at least 80% of the class time.

**Chinese II:** Chinese II is designed for those whose Mandarin speaking/listening proficiency reaches Novice-Low or Novice-Mid according to ACTFL standards OR who have taken Chinese I at Thayer. This course expands students' understanding of Chinese languages and cultures. Learners are provided with more vocabulary and sentence patterns to deepen their ability in conversing about various topics. Reading is used both to support and reinforce the acquisition of the spoken language and expand vocabulary. Character handwriting strengthens character recognition, and typing improves accuracy of using sentence patterns. The course is proficiency-based. The class is conducted in Chinese for at least 90% of the class time.

**Chinese III:** Chinese III is designed for those whose Mandarin speaking/listening/reading proficiency reaches Novice-Mid or Novice-High according to ACTFL standards OR who have taken Chinese II at Thayer. In this course, students learn about Chinese culture and contemporary topics through readings and videos in Chinese. Learners are expected to discuss the Chinese readings in the target language, use strings of sentences (in both speaking and writing), and to ask simple questions with ease. Students grow their vocabulary through readings and express ideas by typing. Character writing remains the tool to reinforce character recognition. The course is proficiency-based. The class is conducted in Chinese for at least 90% of the class time.

**Chinese IV:** Chinese IV is designed for those whose Mandarin speaking/listening/reading proficiency reaches Novice-High or Intermediate-low according to ACTFL standards OR who have taken Chinese III at Thayer. In this course, students continue to learn about Chinese culture and contemporary topics through readings and videos in Chinese. Modified readers of traditional Chinese novels and some classic Chinese will be introduced. Learners give presentations on a wide variety of topics about cultures, contemporary issues, and personal interests. Writing reinforces the use of various vocabulary and diverse sentence patterns. The course is proficiency-based. The class is conducted entirely in Chinese. 

**Chinese Heritage Lang. 1:** This course is designed for students who are able to comfortably carry on extended conversations in Mandarin, but who have limited literacy skills. The primary focus of the course is developing students' reading and writing abilities while continuing to expand their listening and speaking skills. Starting from Pinyin, stroke order, basic radicals, and characters, the course will gradually expand students' character-recognition abilities. Students will learn characters and phrases through reading stories and novels that provide cultural topics to narrate, describe, discuss, and compare. The course is conducted entirely in Chinese. 

## FRENCH

**French I:** French I is the initial course of study for students of French language, literature, and culture. 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 in the French language as much as is viable.

**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 to prepare them for advanced study in French. French II - Honors is an accelerated class.

**French III and III - Honors:** This course focuses on improving students' speaking and writing through daily engagement with culturally rich stories and authentic media that explore the Francophone world. Speaking activities are done daily. By the end of the third year, French students have seen and practiced most elements of the French language, including all of the indicative tenses, most grammatical concepts, and many topics within the subjunctive. Students expand their vocabulary and use idiomatic language in "authentic" situations. Students in French III - Honors work on essay writing, including cultural analysis, compare and contrast, formal emails, and argumentative essays.

**French IV:** The focus of this course is to enable students to become proficient in the French-speaking 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 exploring the diversity of the Francophone world 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 the preparation of class materials. While most grammar is studied in context, students review all aspects of advanced grammar, idioms, and vocabulary. Students who successfully complete this course will go on to AP French. 

**French V:** This class is for students wishing to continue their French studies, typically in their senior year. The emphasis is on honing all skills to keep 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 being 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 synthesizing sources, developing thoughtful ideas, and communicating with a command of grammar and idiomatic expression. 

**Advanced French Language & Culture:** This class is for students who have already taken the French Language and Culture AP course. Students extend all four language skills by drawing on a wide range of authentic sources from the Francophone world that delve into global and cultural issues. A high degree of proficiency and critical understanding is required, and the class is 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 emphasizes 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 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, and Ars Amatoria*; and 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 to 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, and Pliny, depending on the year. (Each year the teacher alternates the 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 the significant context, themes, central characters, and key ideas in the Latin passages. To develop students' ability to read Latin at sight, students read authors outside the required syllabus, such as prose writers Nepos, Cicero, Livy, Pliny the Younger, and Seneca the Younger and verse authors 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 and the development of writing skills. Students learn and review appropriate grammar for a first-year language course.

**Spanish II and II - Honors:** In Spanish II, the skills and activities of Spanish I are reinforced and broadened, enabling students to become more sophisticated and proficient in expression. The concentration on aural-oral skills continues with a focus on oral proficiency. Written work becomes longer and more sophisticated, and reading assignments are used to introduce students to cultural topics and more complex language. The focus of this class is on the Spanish-speaking world. 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 through daily engagement with culturally rich stories and authentic media. Speaking activities are done daily. By the end of the third year, Spanish students have seen and practiced most elements of the Spanish language, including all of the indicative tenses, most grammatical concepts, and many topics within the subjunctive. Students expand their vocabulary and use idiomatic language in "authentic" situations. Students in Spanish III - Honors work on essay writing, including cultural analysis, compare and contrast, formal emails, and argumentative essays.

**Spanish IV:** The focus of this course is to enable students to become more proficient in using the target language and expand their auditory comprehension via authentic materials. In this course, students refine their writing and reading skills while exploring literature, music, and media from Spain and Latin America. 

**Spanish IV - Honors:** This is a course for advanced students who are highly proficient in all aspects of the Spanish language. Widening the lens to explore Hispanic 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 the preparation of class materials. While most grammar is studied in context, students review all aspects of advanced grammar, idioms, and vocabulary. Students who successfully complete this course will go on to AP Spanish. 

**Spanish V:** This course is for students wishing to continue their Spanish studies, typically in their senior year. The emphasis is on honing skills to keep them active in preparation for continued study in college. Students explore Hispanic culture and literature. The course content is vast, 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

**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 include books, internet sources, newspapers, guest speakers, and movies. Many topics are examined including literature, politics, race, foods, religion, cultural values, music, art, family, social classes, sports, and holidays. This course is offered in two parts, one during each semester. Students may sign up for both semesters or take only one or the other. Semester 1 begins with Spain's prehistory and goes through the age of exploration and conquest. Semester 2 covers the colonization and later independence movements in Latin America as well as modern art movements, music, and festivals around the world. *This course is open to juniors and seniors. This course may satisfy the third-year language requirement with the permission of the World Language 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 (required, full-year)
- Sophomore: Sophomore Health & Wellness (required, full-year)
- Junior: Junior Decisions (required, first semester)
- Senior: Senior CPR Certification (required, first semester)

**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.*

**Sophomore Health & Wellness: Lifetime Skills and Activities:** This course introduces students to a variety of topics and experiences that demonstrate how to live a sustainable, balanced lifestyle. Topics include, but are not limited to: nutrition basics: evaluating individual dietary needs, making informed decisions: 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 to provide juniors with critical information so they can better anticipate consequences, evaluate risk, and make informed decisions. At the end of the course, students will hopefully have a better understanding of themselves – on both a personal level and within the constructs of our society. We explore and discuss topics that include personal values, morality, implicit bias, constructions of gender and sexual identity/expression, mental health, mindfulness, peer pressure, obedience, digital awareness, consent, healthy relationships, and sexual health/safety. This course meets once a week in the fall semester. *Junior requirement.*

**Senior CPR:** Seniors 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 need to physically demonstrate proper skills and knowledge during a practical session with a Thayer instructor. Upon completion of both components, students receive certification, which is good for two years. Students holding a current certification of the above are 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 includes 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 utilize video analysis and simulation in order to learn event preparation and emergency management of common injuries. Students receive an overview of anatomy, physiology, and kinetics as they apply to the science of sports medicine. *This course is open to juniors and seniors. Full-year, 1/2 credit*

## SPECIAL INTEREST

**Anti-Racism: An Introduction:** This one-semester course provides 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 examine how racism affects all of us in a multitude of ways, and we consider how anti-racism can create a more welcoming, positive, and supportive environment for all. The experience includes 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 identify and examine problems, acknowledge those who promote solutions, and engage in problem-solving activities in our school and our communities. Students consider the many ways Thayer contributes to the “common good” and develop ways Thayer can do more and do better. The course concludes with a service-learning project with a focus on ethical leadership and community engagement. *This course is required for sophomores.*

**Intersections: Intersectionality & Social Justice:** This one-semester elective course builds upon some of the lessons introduced in Anti-Racism and The Common Good. We will examine in more detail concepts of identity and consider how we create our own identities and how we relate to others in the world. With readings, videos, and other resources, we will engage in discussions that consider how various identities intersect in particular ways with a range of social issues, including access to education and health care, the workplace, the justice system, the environment, and the meaning of community service. Throughout, we will focus on assessing complicated intersectional problems and considering innovative, collaborative, multi-disciplinary solutions. *This course is open to juniors, and seniors. One semester, graded course, 1/2 credit* 

**Entrepreneurship:** Have you ever thought about making money by starting your own business or selling a product or service that you’ve created? Have you ever wanted to present a business on *Shark Tank*? If so, you might be an entrepreneur in the making. By definition, entrepreneurship is “*the activity of setting up a business or businesses, taking on financial risks in the hope of profit.*” But in reality, it’s so much more. To be a successful entrepreneur, you have to do the research to determine what a good product is, understand what will actually sell, in some cases find financial backers to help you to build the product, and decide how to market the product so that it becomes financially viable. This full-year class will explore the fundamental elements of entrepreneurship. It will meet once per week and there will be mandatory monthly evening sessions and/or field trips as part of the course. Students will be required to regularly communicate with others on their product team, only those fully engaged in the material of the course and are able to commit to the evening sessions and field trips should consider enrolling. *Priority will be given to juniors and seniors. When there is a high demand for the course, there will be an application process. Full-year, once per week with additional meetings, pass/fail, 1/2 credit.*

**Junior College Counseling:** This comprehensive course centers on personalized attention for students, and their taking ownership of their college search with the support of the College Counseling staff. Students will gain an in-depth understanding of the college search process by learning about college applications, essay writing, and strengthening their presentation and interviewing skills. Students will be challenged to think creatively through exercises that require self-evaluation and self-study. Students’ competency will culminate with a final project focused on the college application process. This course meets once a week in the spring semester. *Junior requirement.*

**Independent Study Program:** The purpose of Independent Study is to afford students the opportunity to pursue a course of study on a topic that has significant import in the development of their overall academic program. Independent Study courses are meant to enhance, not substitute for, regularly scheduled academic courses and are only offered to students who have exhausted the current offerings. We do not offer Independent Study in a course that is offered in the curriculum. In most cases, the Independent Study should be a sixth course, not an alternative to a fifth course. Students should discuss Independent Study ideas with faculty in the appropriate academic department. Students should identify a faculty sponsor with the expertise, interest, and time to support and supervise their study. Faculty are usually pleased, but are not obligated, to supervise an Independent Study. Students must submit the Independent Study proposal to the relevant Department Head and Upper School Director of Studies during the spring course planning process. *Depending on the proposal, a student and faculty advisor may request that the course be pass/fail or graded.*

# Thayer Academy Upper School Course Offerings

## 2023-24

### Arts

Freshman Arts

### Performing Arts

Dance Styles/Movement  
Integrated Theatre Arts  
Musical Theatre  
A cappella  
Chamber Orchestra  
Jazz Combos  
Private Lessons

### Visual Arts & New Media

Graphic Design I, II, III  
Media Production  
Web Design  
Painting & Drawing I, II, III  
Photography I, II, III  
Pottery I, II, III  
Yearbook Publication, Journalism & Design

### 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, Senior Seminar - Honors  
Advanced Composition: *Voice* Magazine  
Art of Communication  
Crossing Borders: Journeys & Transformations\*  
Memoir and the Spoken Word  
Mental Health in Literature  
Rag & Bone Shop: Poetry  
Scene to Screen\*  
Sliver of Truth  
Visual Literature: The Graphic Novel

### History

World History I, I - Honors  
World History II, II - Honors  
United States History  
AP United States History  
Law & Society  
AP United States Government & Politics  
Global Scholars Capstone I\*  
Economics  
AP Economics  
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  
Robotics I, II, III  
Collaborative Design Lab  
Independent Science Research  
Anatomy & Physiology  
Astronomy I, II  
Astrophotography  
Earth Science I, II  
Marine Science I, II  
Systems & Structures I, II  
AP Biology  
AP Chemistry  
AP Environmental Science\*  
AP Physics C - Mechanics

### **World Languages**

Chinese I  
Chinese II  
Chinese III  
Chinese IV\*  
Chinese Heritage Lang. 1\*  
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\*  
Hispanic History & Culture I\*\*, II\*\*

### **Health & Wellness**

Freshman Health & Wellness  
Sophomore Health & Wellness  
Junior Decisions  
Senior CPR  
Sports Medicine

### **Special Interest**

Anti-Racism: An Introduction  
The Common Good: An Introduction to Social Justice  
Intersections: Intersectionality & Social Justice\*  
Entrepreneurship  
Junior College Counseling  
Independent Study Program

\*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