



# Upper School

2024-2025 CURRICULUM GUIDE

## UPPER SCHOOL

# Overview

The Upper School curriculum reflects our belief that a good liberal arts education adapted to the modern world is the best preparation for college and a lifetime of learning. Students establish solid foundations in English, mathematics, history, science, and at least one world language. Our wide selection of offerings enables students to pursue their interests and build on their strengths.

Upper School courses at Nightingale are designated as “majors” or “minors” based upon how often they meet within each eight-day cycle, as follows:

- Majors typically meet four or five times per cycle.
- Minors meet fewer than four times per cycle.

Students are expected to complete twenty major courses during their time in Upper School which typically amounts to five major courses each semester. In addition, certain minor courses are required for graduation (see “Required Minors” on the next page).

Exceptions to these graduation requirements may only be made at the discretion of the Head of Upper School and the Associate Head of School. Please see the Upper School handbook for further information. Students may take five or six majors in Class IX and take five thereafter. Minor courses may not be combined to take the place of a major.

Within this Curriculum Guide, the symbol “**M**” following the course name indicates that a specific course is a minor. All courses without that designation are majors.

**Optional minor classes** are for students who are interested in pursuing a topic outside of their “regular” course load. Minor classes are assessed pass/fail, and are a way for students to engage in intellectual pursuits without the pressure of grades. Minor classes may require a little homework, but most work should be done during the class itself. These seminar-style classes allow students to gain an introduction to topics that may not be typically offered in our core curriculum. Minor classes typically meet 2x a cycle and cannot be combined to form a major class. In certain cases, a student’s advisor or dean may advise that taking a minor in addition to the regular course load is not in a student’s best interest. In addition, enrollment in a minor will depend on the student’s availability when the class is offered. Minor classes in the past have included: French\*, Spanish\*, Ancient Greek, History of Indigenous Peoples, Music Composition, and The Sustainable World.

*\*In the case of modern language minors, a student may choose to take a minor to continue to keep up with a language that they have dropped or a heritage speaker may choose to enroll in a minor class while they choose to pursue another language as a major. For these reasons, language minors are not for beginning language students.*

**PLEASE NOTE: All courses listed in the Curriculum Guide will not be offered every year. Please consult the course registration sheet for more information regarding course availability.**

## Honor Code

The Honor Code is based on two pillars: academic honesty and a commitment to demonstrating respect for others in our school community.

“I will not cheat, steal, or plagiarize. I will treat others with respect and dignity. I understand that I am encouraged to prevent violations of the Honor Code from going unnoticed.”

Students at the Nightingale-Bamford School are expected to show respect for both personal and academic honesty and for one another. Trust is the foundation of a school community. A sense of honor is developed by living in an atmosphere of trust and by assuming the responsibilities that accompany this trust. Each student attending the Nightingale-Bamford School is expected to support the honor system.

## Diploma Requirements

**English:** 4 years | **History:** 3 years, including 1 year of American history  
**Mathematics:** 3 years | **Science:** 3 years, 2 of which must be a laboratory course | **World Languages:** 3 years in one language or 2 years in each of two languages | **Arts:** 1 year (visual and/or performing arts) | **Physical Education:** 4 years | **Health and Wellness:** 3 courses | **Community Engagement:** Individual sustained service both to the school and the broader community required for Classes X–XII

### REQUIRED MINORS

Going Beyond Barriers\*  
Class IX Programming  
Class X Arts and Digital Design Sequence\*\*  
Independent Study Program

\*This three-year sequence includes Class X Leadership, Class XI Public Speaking, and Class XII Senior Financial Literacy Seminar

\*\*Class X students must choose two of the following semester-long courses: Design and Digital Fabrication, Music Appreciation, Introduction to Art History, and Dance History

As of the 2023-2024 school year, any class taken outside of Nightingale, with the exception of courses taken at approved semester or year away programs, will not count towards graduation requirements or prerequisites.



## UPPER SCHOOL

# By the Class

## CLASS IX

### ENGLISH

#### Class IX English

Chimamanda Adichie's TED Talk "The Danger of a Single Story" sets the theme for this required year-long course. In the fall semester, students read, discuss, and write about Jacqueline Woodson's *Red at the Bone*, Ali Smith's *Girl Meets Boy*, and a sampler of sonnets from Shakespeare to the present. In the spring, students read Shakespeare's *Romeo and Juliet*, Gish Jen's *Typical American*, and Moisés Kaufman's *The Laramie Project*. Students borrow Kaufman's investigative technique to craft and present the Verona Project, a collaborative theatrical engagement with *Romeo and Juliet*'s hometown. Skills targeted in Class IX English are attention to detail and prioritizing salient points when reading, marshaling textual evidence to support interpretive analysis, actively listening and participating in both small and whole-group discussions, and making intertextual connections. Writing skills include developing, supporting, and sustaining analytical arguments; writing in a range of imaginative genres, including poetry and creative nonfiction; applying the conventions of Standard English with flexibility and precision; and revising sentences for clarity and concision. These skills contribute to the development of broader competencies such as exploring personal values, engaging in productive civil discourse, and critiquing social and cultural systems.

### HISTORY

#### Global History I

From the fourteenth through the late eighteenth centuries,

the world was transformed by statebuilding, religious and political conflict, trade, innovation, and increased interconnection. In this course, students explore some of these transformations as they occurred in Africa, Asia, Europe, Latin America, and the Islamic world. Selected topics covered include the Indian Ocean trade networks; cultural flourishing and political change in Ming China; the Renaissance, Protestant Reformation and Wars of Religion; the Aztec and Inca Empires; and the Atlantic Revolutions. In addition to textbook excerpts, students read and analyze textual primary sources, as well as art, artifacts and maps. Particular attention is paid to developing students' historical and social thinking, analytical writing, critical reading, discussion, and research skills, with a focus on primary source analysis and fundamentals of structuring an argument. In turn, these skills contribute to the consolidation of broader competencies such as critical systems thinking, inquiry-based learning, verbal and written communication, civil discourse, and strategic action.

### MATHEMATICS

#### Class IX Math Core

In this course, students explore mathematical concepts by emphasizing analysis and application of problem-solving techniques in various intra- and inter-disciplinary situations. They will develop connections between algebraic and geometric principles, using right triangles and circles as the building blocks for investigating geometry, trigonometry, vectors, families of functions, infinity, data modeling, and regression analysis. The course goes beyond traditional boundaries by focusing on the development of mapping techniques and geometric analysis of the cholera epidemic in 19th-century London. Students will analyze and develop functions with visual, algebraic, and numeric representation.

The course emphasizes conceptual understanding of these topics and the ability to draw connections between them, including techniques such as identifying and developing strategies, applying mathematical modeling, and algorithmic and geometric processes. Students develop and demonstrate a willingness to wrestle with more abstract material and understand the necessary depth of thought to master concepts. Mistake-making is celebrated and harnessed as learning opportunities.

### SCIENCE

#### Class IX Science Core

In this course, students explore biology through inquiry-based experiential learning, focusing on larger biological themes. Students work collaboratively to execute and occasionally design experiments, collect and analyze data with their peers, and enhance their problem-solving and communication skills through interactive work. This approach helps students gain a deeper understanding of scientific methodologies. The major themes of this course are the relationship between structure and function, energy transfer, continuity and change, and interdependence in nature. The laboratory component reinforces these concepts and hones critical scientific skills. Additionally, by integrating current events, the course encourages students to apply scientific principles to real-world situations and their everyday lives.

### CLASSICS

Latin teaching in the Upper School has two separate tracks: one for students without prior knowledge of Latin and one for students who began their study of Latin in Middle School. Within both tracks, students work on acquiring proficiency in Latin vocabulary and grammar, as well as

study Roman history and civilization, so as to be able to interpret and analyze seminal works of poetry and prose within the social, political, cultural, and literary context in which these works were created.

### **Elementary Latin**

Through the reading method, this course will introduce students to the fundamentals of Latin morphology and syntax, and will build their vocabulary in preparation for reading authentic Latin texts. Emphasis will be placed on the etymological relationships between English or the Romance languages and Latin. Lessons on Roman history and culture will also form an important component of the course.

### **Intermediate Latin**

The course is a continuation of Elementary Latin and will introduce students to more advanced concepts of morphology and syntax. Vocabulary acquisition and retention will be a main objective of the course in order to facilitate the transition from textbook Latin to authentic literary texts, such as Ovid, Seneca, and Pliny the Younger. Discussion of historical and cultural influences within these works are also featured.

### **Latin 2**

This course will begin with a review of basic grammar before the introduction of new advanced morphological and syntactical concepts. Continuous reading will be emphasized in preparation for authentic Latin literature. In the spring term, the class will study selections from poetry (Catullus and Ovid). Discussion of historical and cultural background and analysis of literary figures and meter will supplement the readings.

## **MODERN LANGUAGES**

### **French 1**

This course serves as an introduction to the French language and begins with the most rudimentary aspects of the language. It is intended for students with no prior French experience or who would benefit from a comprehensive review of the basics. Though introductory in nature, the

pace of the course is quick and is intended to prepare students for French 2 the following year. A large amount of vocabulary is presented, and several of the most common tenses are introduced and practiced. This course is open to all students in Classes IX–XII who are beginning their study of French outside of the curriculum sequence that began in Middle School.

### **French 2**

*Pre-requisite: French 1 or by placement*

In addition to the review and consolidation of the grammatical structures acquired in earlier years of French language study, the future and conditional tenses are studied in depth, along with the subjunctive mood. Short readings about contemporary French culture are used to contextualize grammar and new vocabulary. Students are required to write short compositions, translations, and dictations.

### **French 3**

*Pre-requisite: French 2 or by placement*

With the expectation that students at this level have mastered fundamentals of grammar and vocabulary, this course rapidly reviews the entirety of French moods and tenses, paying particular attention to common pitfalls that affect even advanced students (such as past-participle agreement or multiple object pronouns). As a common entry point to French in Upper School for Class IX students, this class uses moments from French history to tie into the Class IX trip to London in the fall, as well as elements of French culture (art, gastronomy, etc.) to deepen students' understanding of and connection with the broader context of the Francophone world. By the end of the year, students will demonstrate mastery of increasingly advanced concepts, such as relative pronouns, past infinitives, and present participles.

### **Spanish 1**

This course serves as an intensive introduction to the Spanish language and quickly progresses from basic aspects of the language to more sophisticated forms of

writing and speech. It is intended for students who have no prior experience with Spanish or who would benefit from a comprehensive review of the basics. Though introductory in nature, the pace of the course is quick and is intended to prepare students for Spanish 2 the following year. A large amount of vocabulary is presented and the present, preterit, and imperfect tenses (along with all their irregularities) are introduced and practiced. This course is open to all students in Classes IX–XII who are beginning their study of Spanish outside of the curriculum sequence begun in Middle School.

### **Spanish 2**

*Pre-requisite: Spanish 1 or by placement*

In addition to the review and consolidation of the grammatical structures acquired in earlier years of Spanish language study, the subjunctive and imperative moods are studied in depth. With the continued emphasis on the acquisition of active skills in writing and speaking, frequent short compositions and translations are required. Students must engage in short historical and cultural readings in which vocabulary and syntactical structures are contextualized.

### **Spanish 3**

*Pre-requisite: Spanish 2 or by placement*

In this course, students begin more process oriented writing and speaking. The entirety of Spanish moods and tenses is reviewed and students are expected to use relative clauses, higher-order idioms, and a richer variety of vocabulary actively in both composition and oral presentations. Short literary selections in poetry and prose are introduced to contextualize the grammar and to introduce the richness of Hispanic culture and history.

### **Chinese 1**

This introductory course in Mandarin focuses on the fundamentals of reading, writing, and speaking. As with any beginning language course, the focus is on practical skills relevant to the daily lives of students. Students in this course should prepare themselves for a considerable amount of memorization, especially given the use of characters in

writing. This course is open to all students in Classes IX–XII who are beginning their study of Mandarin outside of the curriculum sequence begun in Middle School.

## Chinese 2

*Pre-requisite: Chinese 1 or by placement*

This course is a natural continuation of what was covered in Chinese 1. A significant amount of new vocabulary and characters is added to the curriculum. Authentic readings are incorporated in the instruction to allow students to contextualize their understanding of written and spoken Mandarin. This course may be repeated for a second year if a student requires more time to consolidate her familiarity with the material.

## Chinese 3

*Pre-requisite: Chinese 2 or by placement*

In this course, special attention is given to the mastery of written Mandarin in a variety of social and academic situations. Authentic texts, including contemporary media used in everyday life in China, are incorporated to help students gain practical skills in Mandarin. In conversation, students are taught to speak more colloquially; furthermore, grammar becomes increasingly abstract.

## COMPUTER SCIENCE

### Interactive Programming

This course is a year-long course that focuses on the mastery of HTML, CSS, and JavaScript. This course is designed for students with a strong interest in programming to dive deeper into the core technologies of the modern web browser and explore more complex web technologies. Some of these technologies include frameworks, libraries, and object-oriented programming, through the learning of classes, objects, and constructors. With an emphasis on hands-on learning, students will be challenged to design and build interactive, dynamic websites with an increased level of functionality that incorporates object-oriented programming and complex data structures. Students will focus on how to visually present information and data to users in unique and creative ways. Students will use

professional programming tools as they work through programming challenges, and learn to build upon those challenges to design more ambitious and unique programs.

## Technology, Data, and Storytelling M

This semester-long course empowers students to uncover the powerful narratives that data can convey through the instruction of various technologies and tools. We will begin by introducing students to personal data organization and management, providing a broad overview of ways to understand and navigate personal data storage and the use of essential tools for successful technological integration into academic classes. Students will then learn how to manage, analyze, and present data in engaging ways using various tools, including ArcGIS StoryMaps, Google Sheets, and CODAP. Additionally, they will explore how programming in Python can enhance data analysis, enabling them to automate processes and uncover deeper insights. Through hands-on projects and real-world applications, students will better understand how analyzing data is used to influence decision-making, address societal problems, and drive innovation in today's digital world.

## HEALTH AND WELLNESS

### Foundations in Health and Wellness M

This course establishes the foundation for health and wellness education in Upper School. Essential health skills including decision-making, communication, and analyzing influences will be introduced to support students as they navigate their early high school experience. Students will begin to identify and clarify personal values affecting physical, mental/ emotional, and social health, while thinking critically about real-life health scenarios for teens. Students take a personal safety course that focuses on healthy relationships, consent, and intimate partner violence. This semester-long course is required for all Class IX students.

# CLASS X

## ENGLISH

### Class X English

Class X's theme of transformation is introduced by Tara Westover's memoir *Educated*. Evolving identities, especially in women's lives, are also explored in Ibsen's *A Doll House*, Fitzgerald's *The Great Gatsby*, and Zora Neale Hurston's *Their Eyes Were Watching God*. The journey from enslavement to freedom is presented in *Narrative of the Life of Frederick Douglass*; the pathway from freedom to dehumanization is charted in Wiesel's *Night*. In a writing workshop, students read a variety of essays—analytical, argumentative, anecdotal—as models for their own writing. The year concludes with a sampler of Romantic poets from William Wordsworth to Alice Oswald, entertaining more than one point of view with nuance and subtlety;

## Philosophical Inquiry Into Our World M

Philosophy as an academic discipline can be esoteric, if not alienating, but we're all philosophers at heart. In this minor, we'll try to reignite the spark of wonder and curiosity we all had as children. What are you wondering about most these days, and what do you most want to discuss in community with others? We'll generate the course agenda and questions together, immerse ourselves in sources that deepen our thinking, and work on making meaning (and, just as importantly, becoming more confused) together. We'll generate questions wholly based on your interests, but here are some questions that have come up in the past: What "counts" as valuable work today? Is "leadership" overvalued? How much inequality are we okay with? What's the fate of the high school English essay (or the Great American Novel) in the world of artificial intelligence? What if grades didn't exist? If there are so many reasons to be a good person, why is it so hard?

## HISTORY

### Global History II

During the 19th and twentieth centuries, technological, social, and political change ushered in a new era in global history, one often summarized by the term “modernity.” But what do we mean by “modern”? How did our contemporary world of technological marvels and remarkable transformation in many aspects of life—but also extreme inequality and, in some regions, persistent violence—come to be? In Global History II, students address these questions through critical reading, writing, and discussion in a seminar-style class. Topics include industrialization and technological change, urbanization, discourses of belonging and exclusion such as racism and nationalism, the expansion of political rights, the new wave of imperialism that reshaped the globe in the late nineteenth century, the emergence of new political ideologies and new forms of violence such as genocide; decolonization, the Cold War, and the resurgence of religion in politics in the late twentieth century. We will discuss, among other things, varied ways imperial powers interacted with those they sought to dominate, major revolutions and wars, the continuing transformation and expansion of a global economy, individualism vs. social obligations, gender roles, and the respective roles of the state, political ideologies, and national identities. Particular attention is paid to developing students’ historical and social thinking, analytical writing, critical reading, discussion, and research skills, with a focus in Class X on short timed essays, historiographical analysis, and student-led discussion. In turn, these skills contribute to the consolidation of broader competencies such as critical systems thinking, inquiry-based learning, verbal and written communication, civil discourse, and strategic action.

## MATH

### Class IX Math Core

Class X Math Core is the exploration of functions. Using the conceptual understanding of a function, students will develop strategies for analysis of relationships between variables, be introduced to the complex plane, and analyze the connections between quadratic, exponential,

logarithmic, rational, radical and higher degree polynomial functions. Students will be able to analyze and develop functions with visual, algebraic, and numeric representation. Matrices are introduced as a tool for problem solving. Grit and a willingness to wrestle with abstract material will be emphasized in the course, as well as a necessity for depth of understanding to master concepts. Mistake-making will be celebrated and harnessed as learning opportunities.

### Statistics in the Era of Big Data

This course introduces students to the major themes of an exploratory analysis of data. Planning and conducting a study, variable distributions, various statistical tools to analyze both quantitative and qualitative data sets, statistical inference, and visual representation of data are major themes of the course. Students examine sampling, surveying, research and experimentation as methods of collecting data. Correlation and Chi-squared Tests are used to explore the power of statistical inference and prediction. Students then use these tools to investigate topics of personal interest throughout the year. Data is used to understand themes and nuances in political polling and the process of redistricting. This year-long course is often about nuance in numbers, an idea less explored in most math courses.

## SCIENCE

### Class X Science Core

In Class X Science Core, students learn chemistry through differentiated techniques that include flipped classroom instruction, tiered units, formative lab activities, and collaborative experiences. Collecting and evaluating data for trends is central to each unit, as is being able to represent conclusions both visually and symbolically. Topics include atomic structure, matter and energy, and thermodynamics. All material is introduced in a real-world context to better aid the students in making connections between their learning and personal experience.

### A Sustainable World

Have you ever wondered just how much of an impact you and your household are having on the world? Do you

struggle with making meaningful, long-lasting changes that are not overly costly or challenging to maintain? In this course, we will examine how sustainability must involve not only the protection and preservation of Earth and its natural resources, but also the health and prosperity of the people living there. This project-based class will allow us to explore a plethora of means by which individuals, communities, and organizations can work to lower their carbon footprint and lessen their negative effects on our natural world while not merely surviving, but actually thriving.

### Public Health: Survey

*Prerequisite: Biology*

This semester-long course begins by introducing students to a brief history of public health starting with its emergence around the turn of the twentieth century, when infectious disease epidemics plagued London and New York City as the world’s emerging population centers. A survey of the major subdisciplines of public health then follows, including methods of epidemiology, fundamental biostatistical analyses, and the spread and control of both communicable and non-communicable diseases. The future of public health is also considered, particularly as climate change continues to affect the global distribution of pathogens and of the humans that serve as their hosts.

### Psychology: Biological and Behavioral Approaches

*Prerequisite: Biology*

In this semester-long class students will gain an introduction to psychology from the biological and behavioral perspectives. They will begin by learning about psychology as a discipline, the different approaches you can take towards it, and experimentation methods. Students will then study basic neurobiology/neuroanatomy followed by a focus on sensation and perception. They will then move to a more behavioral approach, studying learning and memory, motivation and emotion, personality, and social psychology. Students will participate in regular online and classroom discussions on pertinent psychological topics and will develop scientific research and writing skills while exploring psychological topics of their own interest.

## Science Seminar **M**

*Required for ISRP students*

In this year-long course, students develop advanced scientific literacy and communication skills. Students present talks on an area previously researched in a lab or field setting or on a current topic of interest from a scientific lens. Students also hear from outside speakers and attend educational programs at local universities and research institutions. In addition, students are guided and supported through the process of securing a science internship. This class meets twice per eight-day cycle and graded on a pass/fail basis. Students who have been accepted in the Independent Science Research Program must enroll in Science Seminar each academic year they are a part of the program; other students are invited to attend as space permits.

## CLASSICS

### Intermediate Latin

The course is a continuation of Elementary Latin and will introduce students to more advanced concepts of morphology and syntax. Vocabulary acquisition and retention will be a main objective of the course in order to facilitate the transition from textbook Latin to authentic literary texts, such as Ovid, Seneca, and Pliny the Younger. Discussion of historical and cultural influences within these works are also featured.

### Latin 3

This course will provide an overview of Latin literature and will study selections from prose (Caesar, Cicero, Sallust, and Apuleius) and poetry (Ovid). Students will work toward grammatical and lexical mastery and will build their reading skills. A considerable amount of time will be devoted to literary analysis and to grammar review in preparation for the following year's Advanced Latin courses.

## MODERN LANGUAGES

### French 1

This course serves as an introduction to the French language and begins with the most rudimentary aspects of the language. It is intended for students with no prior French

experience or who would benefit from a comprehensive review of the basics. Though introductory in nature, the pace of the course is quick and is intended to prepare students for French 2 the following year. A large amount of vocabulary is presented, and several of the most common tenses are introduced and practiced. This course is open to all students in Classes IX–XII who are beginning their study of French outside of the curriculum sequence that began in Middle School.

### French 2

*Pre-requisite: French 1 or by placement*

In addition to the review and consolidation of the grammatical structures acquired in earlier years of French language study, the future and conditional tenses are studied in depth, along with the subjunctive mood. Short readings about contemporary French culture are used to contextualize grammar and new vocabulary. Students are required to write short compositions, translations, and dictations.

### French 3

*Pre-requisite: French 2 or by placement*

With the expectation that students at this level have mastered fundamentals of grammar and vocabulary, this course rapidly reviews the entirety of French moods and tenses, paying particular attention to common pitfalls that affect even advanced students (such as past-participle agreement or multiple object pronouns). This class highlights moments from French history, as well as elements of French culture (art, gastronomy, etc.) to deepen students' understanding of and connection with the broader context of the Francophone world. By the end of the year, students will demonstrate mastery of increasingly advanced concepts, such as relative pronouns, past infinitives, and present participles.

### Spanish 1

This course serves as an intensive introduction to the Spanish language and quickly progresses from basic aspects of the language to more sophisticated forms of writing and speech. It is intended for students who have no prior experience with Spanish or who would benefit from a

comprehensive review of the basics. Though introductory in nature, the pace of the course is quick and is intended to prepare students for Spanish 2 the following year. A large amount of vocabulary is presented and the present, preterit, and imperfect tenses (along with all their irregularities) are introduced and practiced. This course is open to all students in Classes IX–XII who are beginning their study of Spanish outside of the curriculum sequence begun in Middle School.

### Spanish 2

*Pre-requisite: Spanish 1 or by placement*

In addition to the review and consolidation of the grammatical structures acquired in earlier years of Spanish language study, the subjunctive and imperative moods are studied in depth. With the continued emphasis on the acquisition of active skills in writing and speaking, frequent short compositions and translations are required. Students must engage in short historical and cultural readings in which vocabulary and syntactical structures are contextualized.

### Spanish 3

*Pre-requisite: Spanish 2 or by placement*

In this course, students begin more process oriented writing and speaking. The entirety of Spanish moods and tenses is reviewed and students are expected to use relative clauses, higher-order idioms, and a richer variety of vocabulary actively in both composition and oral presentations. Short literary selections in poetry and prose are introduced to contextualize the grammar and to introduce the richness of Hispanic culture and history.

### Chinese 1

This introductory course in Mandarin focuses on the fundamentals of reading, writing, and speaking. As with any beginning language course, the focus is on practical skills relevant to the daily lives of students. Students in this course should prepare themselves for a considerable amount of memorization, especially given the use of characters in writing. This course is open to all students in Classes IX–XII who are beginning their study of Mandarin outside of the curriculum sequence begun in Middle School.

## Chinese 2

*Pre-requisite: Chinese 1 or by placement*

This course is a natural continuation of what was covered in Chinese 1. A significant amount of new vocabulary and characters is added to the curriculum. Authentic readings are incorporated in the instruction to allow students to contextualize their understanding of written and spoken Mandarin. This course may be repeated for a second year if a student requires more time to consolidate her familiarity with the material.

## Chinese 3

*Pre-requisite: Chinese 2 or by placement*

In this course, special attention is given to the mastery of written Mandarin in a variety of social and academic situations. Authentic texts, including contemporary media used in everyday life in China, are incorporated to help students gain practical skills in Mandarin. In conversation, students are taught to speak more colloquially; furthermore, grammar becomes increasingly abstract.

## COMPUTER SCIENCE

### Design and Digital Fabrication M

This semester-long course is an elected part of Class X's required Arts and Digital Design sequence. In this course, students learn how to apply various tools and technologies to prototype and develop their own innovations and re-imaginings with real-world applications. Students use these skills to develop fluency in current technologies, grow as empathetic creators and collaborators, and become part of the worldwide maker community. The course begins with several weeks dedicated to skill building, moves to collaborative project-based units, and culminates in an independent theme-based project by each student.

## HEALTH AND WELLNESS

### Adolescent Health M

Adolescent health will meet three times per cycle for a semester and will be offered in both the fall and spring. It is a required course that students must take once as a sophomore or junior. With a focus on adapting safe

and healthy behaviors, this course will address multiple dimensions of health. Students will build skills and gain knowledge that they will apply to real-life health scenarios for adolescents while in the classroom, and gain confidence to apply these skills and knowledge to improve their personal health in their everyday lives. Content areas including mental health, gender and sexuality, nutrition, and substance use and abuse will be covered in depth. Students will be better equipped to access valid health resources, reduce health and safety risks, identify and manage influences on personal health and safety, and use their strengths to enhance well-being.

## GOING BEYOND BARRIERS

### Leadership M

Using a research-based framework called The Student Leadership Challenge, this required course is organized around the following principles: (1) leadership is an identifiable set of skills and abilities available to everyone, (2) the abstract concept of leadership can convert into easy-to-grasp behaviors that can be learned, and (3) leadership is an ongoing process that benefits from practice. Underlying the research is a belief that leaders lead most effectively when they are at their personal best; in this course, students learn to identify when that happens and how they can leverage their strengths toward a positive impact.

## ART HISTORY

### Introduction to Art History M

Exploring selected themes in art, students will view and analyze a wide variety of art works in different mediums from around the world and a range of historic periods. While this semester-long, introductory course is not a comprehensive survey, the class presents a basic overview of art from antiquity to the present, including the achievements of artistic giants, spanning from Leonardo da Vinci to Kara Walker.

# CLASS XI

## ENGLISH

*All Class XI and XII students take their grade-level English course in the fall semester and an Advanced English course of their choosing in the spring semester.*

### Junior English

This required semester-long course is an immersive writing workshop, in which preconceptions about strong writing are challenged and the bounds of the essay genre are expanded to embrace expository writing, creative nonfiction, memoir, and the personal essay. Students read a wide range of essays as models for their writing, from canonical masters to contemporary writers published in *The New Yorker*. Essayists typically include Virginia Woolf, James Baldwin, Joan Didion, Martin Luther King, Jr., Bruno Bettelheim, Barbara Kingsolver, and David Foster Wallace. Students not only expand their repertoires as writers; they also learn to view writing as an active form of thinking and a principal tool of intellectual engagement. In the process, they move beyond set models to arrive more organically at meaningful organization. The last few weeks of the term are devoted to mid-twentieth-century American poets, including Elizabeth Bishop, Sylvia Plath, and Robert Lowell.

## ENGLISH | SPRING ELECTIVE OFFERINGS

### Advanced English: Literary Heroines

What does heroism look like in literature? Is it determined by characters' actions—whether they overcome obstacles, endure difficult times, or undergo personal growth? Or is it an innate quality reflected in how characters choose to live their lives? Is heroism even possible for fictional characters in our modern era? How might heroism differ when the protagonists are women? This semester course will explore these questions as they play out in several major works of fiction, most of them written by women about women. Authors are likely to include Jane Austen, Virginia Woolf, Edith Wharton, and Toni Morrison.



### Advanced English: Masterpieces of American Literature

This course will explore several classic texts in American literature—an essential must-read list for every well-read student. Authors may include Herman Melville, Edith Wharton, Ernest Hemingway, Willa Cather, Philip Roth, Toni Morrison, or Jhumpa Lahiri. Writing assignments will be wide-ranging, from analytical essays to creative responses to the masters. At the end of the course, each student will choose one text from among several options for a final reading and writing project.

### Advanced English: Literature from Hell

Satan, the Devil, Lucifer, the Adversary—this infamous embodiment of evil has tempted the minds and hearts of the innocent and the guilty, challenged God’s sovereignty in heaven, and even schemed to bring about the downfall of humankind. And he has persisted through literature under many names and in many guises. This course will consider the iconic depictions of Satan in the Bible, Dante’s *Inferno*, and Milton’s *Paradise Lost* and then explore his satanic transformations in modern literature. Modern texts may include Goethe’s play *Faust*, Joyce Carol Oates’ story “Where are You Going? Where Have You Been?,” Mikhail Bulgakov’s novel *The Master and Margarita* and Neil Gaiman’s graphic novel *The Sandman*.

### Advanced English: The Art of the Short Story

In our internet age, when our attention seems constantly divided, the short story—which demands a mastery of precision, pacing, and voice—can provide both a window into literary history and a bite-size jolt of pleasure. In this course we’ll start with Russian masters Gogol and Chekhov, moving through experiments in modernism to the realism of Flannery O’Connor, James Baldwin, and Toni Cade Bambara. Then we’ll turn to contemporary stories in a range of styles, from authors such as George Saunders, ZZ Packer, Jhumpa Lahiri, Alexandra Kleeman, and Anthony Veasna So. We’ll also look at interviews with writers to learn about their process and gain an appreciation of craft. Ultimately, students will draw inspiration from our mentor texts and try their hand at their own original stories.

### Philosophical Inquiry Into Our World **M**

Philosophy as an academic discipline can be esoteric, if not alienating, but we’re all philosophers at heart. In this minor, we’ll try to reignite the spark of wonder and curiosity we all had as children. What are you wondering about most these days, and what do you most want to discuss in community with others? We’ll generate the course agenda and questions together, immerse ourselves in sources that deepen our thinking, and work on making meaning (and, just as importantly, becoming more confused) together. We’ll generate questions wholly based on your interests, but here are some questions that have come up in the past: What “counts” as valuable work today? Is “leadership” overvalued? How much inequality are we okay with? What’s the fate of the high school English essay (or the Great American Novel) in the world of artificial intelligence? What if grades didn’t exist? If there are so many reasons to be a good person, why is it so hard?

### HISTORY

#### United States History

This survey of the history of the United States is designed to introduce students to the events, themes, and assumptions that have shaped American institutions and the distribution of power within our society. Through a chronological survey that begins just prior to European colonization and concludes with the Cold War, students are challenged to find the changes and continuities that give character to our institutions, cultures, and social structure. Using methods and ways of thinking specific to the field of history, this course helps students understand that contemporary society has been shaped by the decisions and experiences of those who came before us. As a corollary, this course aims to inspire students to active citizenship and participation in and on behalf of the communities to which they belong. We rely heavily on primary sources, incorporate social and cultural history, follow current events, and consider historiographic changes in interpretation. Students will also learn advanced research methods, and the challenges of writing history by completing their own local history project that requires original research, including the use of census data.

### HISTORY | ELECTIVE OFFERINGS

*The following courses are open to Classes XI and XII. Additional requirements will be expected for those students wishing to take any of the major courses below at the advanced level. These requirements may include additional readings and assessments, as well as a significant project.*

#### Modern Latin American History and Literature

In the course of the 20th century, seven Latin American authors have won the Nobel Prize: Gabriela Mistral (1945); Miguel Ángel Asturias (1967); Pablo Neruda (1971); Gabriel García Márquez (1982); Octavio Paz (1990); Rigoberta Menchú (Peace Prize, 1992); Mario Vargas Llosa (2010). Together, they give us a chance to consider some of the major literary and political movements in Latin America leading to the present. This course offers an interdisciplinary overview of society and culture in Latin America. Topics include the legacies of conquest, patterns of economic development, changing roles of women, expressions of popular culture, cycles of political change, and U.S.-Latin American relations. Students will become familiar with political, economic, social, and cultural conditions that have produced conflict, change, and continuity in Latin America over the last 200 years. A focus will be placed on the literature from the time and place of each region covered in the course. This course is offered in English.

#### World Now

This course features an in-depth examination of the boldest and most provocative issues facing the world today. We begin with a Global Culture unit, in which we consider how social media such as Facebook, Instagram and TikTok have transformed life and society, raising questions about personal identity, truth, and privacy. In the International Developments unit, we discuss the global political landscape, marked by Russia’s War in Ukraine, the persistence of the international migrant crisis, and a rightward turn in international politics. Amidst discussions of the rise of authoritarianism and the decline of democracy throughout the world, we will also focus on China. We end this unit with a discussion of the state of transgender rights

throughout the world. In our America in the World Now unit, we consider the many ways in which our own nation remains an international outlier, also discussing the pandemic, populist politics, mass incarceration, gun ownership, conspiracy theories, and reproductive rights. Finally, we will thoroughly address the lead-up to the 2024 presidential election.

### **History, Gender, Power**

Why has gender inequality been so persistent in history? What accounts for feminism's successes and failures? How does the past resonate in contemporary struggles of women, LGBTQ, and other marginalized people? In exploring these and related questions, this class takes a thematic approach to the history of women, gender, and sexuality, drawing on case studies that range from the Hebrew Bible to 17th century ideas about female bodies to the national liberation movement in twentieth-century Kenya to bell hooks's critiques of Second Wave feminists. Through this course, students will develop an understanding of the persistence of gender inequality in wide-ranging historical contexts; intersectionality; varieties of feminism; women and work; the development of modern ideas about sexuality, gender, and identity; and the legacies of twentieth-century movements for justice and equality.

### **New York City in History**

New York City's history is a palimpsest of peoples and cultures, traditions and customs, buildings and structures. Scratch the surface at any one time and multiple layers of experiences reside below. It is always a thing in motion, a place evolving, transforming itself from one thing to another. It has never been the same city at the same time, indeed, there are multiple New York Cities, operating in both the past and the present. Our mission this semester is to attempt to discover these multiple New Yorks, excavating, exploring and observing. We will utilize a snapshot approach, looking at the city's history in chronological order but stopping to consider some details from distinct time periods: politics, architecture, entertainment, demography, neighborhoods, landmarks, institutions, lifestyles, famous people, and

notable events. Our course will focus on the history of Manhattan, with occasional trips to the other boroughs.

### **Case Studies in American Public Policy**

Are corporations people? What constitutes a marriage? When, if ever, can race be a factor in the policies of educational institutions? Through case studies, students in this elective will consider how the Supreme Court has shaped U.S. society and evaluate whether the role of the Court has shifted in recent decades. The discussion-based classes will encourage students to challenge each other's assumptions about democratic values and practices, and draw their own conclusions about what "democracy" means in America. This course is ideal for anyone interested in deepening their practical and historical understanding of the American political process, and for those interested in gaining experience with the case method of instruction frequently used in business and law schools.

### **International Relations and its Discontents**

How do international relations theorists and foreign policy analysts understand the world? What assumptions lead states and international institutions to intervention in some cases and inaction in others? Through theory and global case studies drawn from the decades after World War II, this course will introduce students to major debates in international studies that impact policy-making, power relations, and the dynamics of human societies in our contemporary world. Cases may include the partition of India and Pakistan, the Suez Crisis, the creation of the non-aligned movement, US interventions in Guatemala and Vietnam, the Sino-Soviet split under Mao, Soviet cultural relations with Mozambique, and the Iranian Revolution.

### **The Holocaust and Human Behavior M**

Drawing upon the ground-breaking curriculum from Facing History and Ourselves, students will explore the essential question: What does learning about the choices people made during the rise of the Nazi Party and the Holocaust teach us about the power and impact of our choices today? In this course, we examine the period in the twentieth

century when Nazi Germany murdered six million Jews and millions of other civilians, in the midst of the most destructive war in human history. We will do a deep dive into a case study of the Weimar Republic and the Nazi Party's rise to power in Germany. Through primary sources, survivor interviews, film and other sources, we will bear witness to the human suffering of the Holocaust and examine the range of responses from individuals and nations to the mass murder of the Nazi regime, as well as the aftermath of these atrocities. In examining this history, we will weigh questions like how to achieve justice and reconciliation, and how painful histories should be remembered. We will also critically examine the rise in the United States of anti-semitism, hate speech and white nationalism, and consider the ways in which the rise of Nazi Germany and the history of the period educates us about our responsibilities in the world today.

## **MATHEMATICS**

### **Precalculus**

The applications of functions is the primary focus of Precalculus. Students deeply explore polynomial, rational, exponential, and logarithmic functions including all necessary skills used to manipulate these expressions including logarithm rules and factoring, using polynomial division. Trigonometric functions are also studied after an introduction to the Unit Circle. Transformations and applications of these functions are a main focus of the year. Sequences and series are introduced. Advanced topics may include: a study of an intuitive approach to limits and continuity.

*The following courses are open to Classes XI and XII.*

### **Statistics in the Era of Big Data**

This course introduces students to the major themes of an exploratory analysis of data. Planning and conducting a study, variable distributions, various statistical tools to analyze both quantitative and qualitative data sets, statistical inference, and visual representation of data are major themes of the course. Students examine sampling, surveying, research and experimentation as methods of collecting

data. Correlation and Chi-squared Tests are used to explore the power of statistical inference and prediction. Students then use these tools to investigate topics of personal interest throughout the year. Data is used to understand themes and nuances in political polling and the process of redistricting. This year-long course is often about nuance in numbers, an idea less explored in most math courses.

### **Advanced Linear Algebra: Vectors and Modeling**

*Prerequisite: Advanced Calculus A*

Linear Algebra is the study of linear systems of equations, vector spaces and linear transformations. It plays an important role in many areas of mathematics, statistics, engineering, the natural sciences and computer science. In this class, fundamental concepts such as vector, vector space, subspace, basis, dimension and linear transformation will be introduced and developed alongside applications drawn from statistics, economics, genetics, dynamical systems and probability.

### **Math for Social Action M**

This semester-long course introduces and utilizes mathematical tools within statistics, data and regression analyses, and probability to explore injustice and inequities in American life. Through an inquiry-based approach, students investigate systems and structures of injustice; analyze the patterns and cycles that perpetuate inequities in political representation, housing, healthcare, and education; and identify the possible mathematical entry points to interrupt systemic injustice.

## **SCIENCE**

### **Physics**

*Prerequisite: Two lab sciences, Biology and Chemistry recommended*

Physics is an algebra-based first-year physics course open to all students who have successfully completed other lab science course(s). Physics and its applications surround us in our daily lives and we explore those connections by studying a broad range of topics and phenomena. Our major units of study include linear and non-linear kinematics, forces,

momentum, energy, electricity, magnetism, and light. Physics emphasizes conceptual understanding and problem solving while strengthening connections to mathematics and other branches of science. Experiential learning is central to our exploration of physics and this is accomplished through hands-on laboratory activities and some digital simulations.

## **SCIENCE | ADVANCED COURSES**

*After successful completion of the introductory course in a given discipline, motivated and interested students in Classes XI-XII are able to continue their studies in an advanced level course. Advanced science courses involve more in-depth study, increased independent learning, and often a quicker pace to the learning process. Class XI students must enroll in physics to enroll concurrently in an advanced course in biology or chemistry.*

### **Advanced Biology: Biology of the Nervous System**

*Prerequisites: Biology and Chemistry*

In this semester-long class we will study the biology of the nervous system. We will begin by studying basic neurochemistry and then examining neurological and neurodegenerative diseases, including major depression, multiple sclerosis, Parkinson's disease, Alzheimer's disease, and ALS. We will read primary sources as we look at treatment options and their mechanisms of action, as well as the current research. The lab component of the class will consist of brain dissections in which we study the anatomy and function of the brain.

### **Advanced Biology: Biochemistry**

*Prerequisites: Biology and Chemistry*

This semester-long course is an introduction to the study of biochemistry, focusing on the chemistry relevant to animal physiology and the link between biochemical processes and metabolic diseases and disorders. In short, students will develop an understanding of how biochemical processes work by uncovering what happens when they don't work properly. The semester begins with a review of macromolecules, chemical functional groups, and the chemical structure and properties of water. Then, organic chemistry and the significance of the carbon atom will be

studied, leading up to an emphasis on biochemical reactions and metabolic pathways regulated by enzymatic catalysts. The course will be lab intensive with an emphasis on college-level lab methodology and skills.

### **Advanced Chemistry: Analytical Chemistry**

*Prerequisite: Chemistry*

Analytical chemistry is the branch of chemistry dealing with measurement, both qualitative and quantitative. This semester-long lab-based course focuses on applications of instrumental chemical analysis techniques for environmental monitoring, forensics, and food science. Field sites in Central Park and the East River Field are used to compare data with our own aquaponics system. Crime scene scenarios are staged for investigation. Food is prepared for analysis—and perhaps some tasting. The course is project based, and activities include planning of field work, sampling activity, sample preparation chemical analysis, interpretations of results and reporting.

### **Advanced Chemistry: Organic Chemistry**

*Prerequisite: Chemistry*

Organic Chemistry is the study of compounds containing carbon. This semester-long lab based course covers the structure, bonding, and stereochemistry of these compounds, together with an emphasis on functional group characteristics, structure determination by spectrometric methods, reaction mechanisms, and synthesis.

### **Advanced Physics: Topics in Physics with Calculus**

*Prerequisite: Physics \**

*Students must also be enrolled in Calculus*

Offered in the second semester, Topics in Physics with Calculus revisits physics concepts learned previously, and it goes beyond the treatment of linear motion that occurs in all levels of calculus. We explore topics in physics applying vector arithmetic and calculus concepts such as limits, differentiation, optimization, integration, and more. This course provides students who may be considering a major in physics or engineering opportunities to apply their knowledge to challenging problems such as the optimization of projectile

range, the messy motion of objects encountering drag, rocket propulsion, and more. The student experience in our course will be one of greater depth with connections intentionally made between calculus and its applications in physics.

### **Biotechnology**

*Prerequisites: Biology and Chemistry; required for ISRP students*

This intensive laboratory class prepares students for internships in research labs. Students will learn important techniques in molecular biology including gel electrophoresis, restriction enzyme digests, primer design, DNA amplification by polymerase chain reaction (PCR), nucleic acid extraction and purification, genetic engineering, bacterial/yeast transformations, DNA sequencing, protein isolation, protein purification and visualization, enzyme linked immunoassays (ELISA), and chromatography. In the process, skills of trouble-shooting, data analysis and effective scientific communication will be emphasized. Students will also learn about the historical development as well as ethical considerations and societal impacts of biotechnology. As a capstone, students will design and conduct an experiment to determine whether food products have been genetically modified.

### **A Sustainable World**

Have you ever wondered just how much of an impact you and your household are having on the world? Do you struggle with making meaningful, long-lasting changes that are not overly costly or challenging to maintain? In this course, we will examine how sustainability must involve not only the protection and preservation of Earth and its natural resources, but also the health and prosperity of the people living there. This project-based class will allow us to explore a plethora of means by which individuals, communities, and organizations can work to lower their carbon footprint and lessen their negative effects on our natural world while not merely surviving, but actually thriving.

### **Public Health: Survey**

*Prerequisite: Biology*

This semester-long course begins by introducing students to a brief history of public health starting with its emergence around the turn of the twentieth century, when infectious disease epidemics plagued London and New York City as the world's emerging population centers. A survey of the major subdisciplines of public health then follows, including methods of epidemiology, fundamental biostatistical analyses, and the spread and control of both communicable and non-communicable diseases. The future of public health is also considered, particularly as climate change continues to affect the global distribution of pathogens and of the humans that serve as their hosts.

### **Psychology: Biological and Behavioral Approaches**

*Prerequisite: Biology*

In this semester-long class students will gain an introduction to psychology from the biological and behavioral perspectives. They will begin by learning about psychology as a discipline, the different approaches you can take towards it, and experimentation methods. Students will then study basic neurobiology/neuroanatomy followed by a focus on sensation and perception. They will then move to a more behavioral approach, studying learning and memory, motivation and emotion, personality, and social psychology. Students will participate in regular online and classroom discussions on pertinent psychological topics and will develop scientific research and writing skills while exploring psychological topics of their own interest.

### **Anatomy and Physiology**

*Prerequisites: Biology*

This anatomy and physiology major elective will offer students a lab intensive course, in which they will study some of the major organs in mammals. Each unit will focus on one of the body's major systems and include a one to two day dissection period. Dissections will include a cow's heart, a cow's brain, and a sheep's pluck. This class will give those students interested in the biological sciences an opportunity to delve deeper into each system and have a significant experiential learning.

### **Science Seminar M**

*Required for ISRP students*

In this year-long course, students develop advanced scientific literacy and communication skills. Students present talks on an area previously researched in a lab or field setting or on a current topic of interest from a scientific lens. Students also hear from outside speakers and attend educational programs at local universities and research institutions. In addition, students are guided and supported through the process of securing a science internship. This class meets twice per eight-day cycle and graded on a pass/fail basis. Students who have been accepted in the Independent Science Research Program must enroll in Science Seminar each academic year they are a part of the program; other students are invited to attend as space permits.

### **INDEPENDENT SCIENCE RESEARCH PROGRAM**

The Independent Science Research Program is open to highly skilled, motivated, and dedicated students of science in Classes XI–XII. Students apply to the program during the spring semester of Class X, and by applying to the program, students indicate an intention to commit at least six to eight weeks to intensive science research during the summer between Class XI and Class XII. While most research placements involve a lab setting, field placements are also possible. In addition, students in the program must enroll in the Advanced Science: Biotechnology course during the spring semester of Class XI, and they must enroll in the Science Seminar course every year that they are in the program.

### **CLASSICS**

#### **Advanced Latin: Latin Lyric or Latin Epic**

*Latin Lyric and Latin Epic are offered in alternate years. Latin Epic will be the Advanced Latin course offered in the 2024–2025 academic year.*

#### **Latin Lyric**

Students will study and analyze works of Roman lyric poets with an emphasis on Catullus and Horace under various lenses, such as the cultural and socio-political context in which these poems were created, their generic



characteristics, and their intertextual relationships. Close attention will be paid to morphological and syntactical phenomena, and rhetorical, poetic, and metrical figures. More in-depth textual analysis will be enhanced by the study of materials from recent scholarship. In addition to the assigned readings, students will practice translating different prose and poetry authors at sight and will prepare lyric poems of their own choice to present in class.

### Latin Epic

This course is devoted to the study of Latin epic poetry with a focus on the most illustrious representative of the genre, Vergil's Aeneid. Readings will also include the Aeneid's literary heritage (Ennius's Annales) and legacy (Lucan's Pharsalia, Silius Italicus's Punica, and Statius's Thebaid). The class will examine the conventions and techniques of the genre and trace the development of the epic hero from its Republican beginnings onward. Lastly, Latin Epic will study how authors manipulated the epic genre and examine to what extent their works were used as a tool of imperial propaganda.

### Ancient Greek 1.1 M

This course introduces students to the foundational building blocks of Ancient Greek: the alphabet along with some basic vocabulary and grammar. It will include readings and exercises that aim to help students learn the language of Homer, Sappho, Sophocles, and Plato, and will address historical, cultural, and linguistic themes within these texts.

### Ancient Greek 1.2 M

*Prerequisite: Ancient Greek 1.1 or the equivalent*

Students will expand their knowledge of the language through readings and exercises, focusing on grammar and enriching their vocabulary. In addition, they will translate excerpts from texts in the original Greek and continue to engage with themes central to the history and culture of the Ancient Greeks.

### Ancient Greek 2.1 M

*Prerequisite: Ancient Greek 1.2 or equivalent*

In this course, students will continue their exploration of

the Ancient Greek language and culture. They will develop linguistic dexterity by studying more advanced grammar and vocabulary, hone their translation skills through texts and exercises, and acquire a deeper understanding of what the Ancient Greeks have contributed to philosophy, politics, and education. At the end of the term, students will complete a project that will challenge them to connect with their learning and engage with the material on a more personal level.

### Ancient Greek 2.2 M

*Prerequisite: Ancient Greek 2.1 or equivalent*

In this course, students will engage with the Ancient Greek language and culture through the translation, examination, and analysis of excerpts from such texts as the Homeric Hymn to Aphrodite, Plato's Apology and Symposium, and Sophocles's Antigone. Students will continue to study morphology, syntax, and vocabulary tailored to the demands of each text. Readings in English will focus on the contributions of the Ancient Greeks to literature, art, and science. Furthermore, students will be asked to memorize and recite short passages as an exercise in pronunciation, listening, and memorization. The course will conclude with a capstone project that students will develop and present to the class.

### ANCIENT PHILOSOPHY

*In these two minor courses students will explore the Ancient Greek origins of philosophy in the Western tradition. They will examine the questions Ancient Greek philosophy addressed and how it attempted to answer them.*

### Ancient Philosophy 1 M

The course will begin with the natural philosophers of the 6th century BCE, Thales, Anaximander, Anaximenes, Heraclitus, Parmenides, Anaxagoras, and Democritus, who attempted to address the origins and nature of the cosmos and are credited with being the first scientists in the Western tradition. The course will conclude with Plato, who, through the medium of Socrates's teaching, shifted philosophical thinking to virtue, eros, the nature of knowledge, beauty and the common good. Readings will be drawn from primary sources in translation

as well as secondary sources. Students will engage with the reading through written responses and class discussions and will develop a capstone project that will bring together what they learned over the course of the term.

*This course can be taken alone or with Ancient Philosophy 2.*

### Ancient Philosophy 2 M

The course will begin with Aristotle, Plato's student and Alexander the Great's tutor, who studied and wrote on a range of topics from the natural sciences to poetics and politics. At the conclusion of the semester, the course will study the Epicureans and Stoics and explore how these Hellenistic thinkers transformed philosophy and influenced Western thought. Readings will be drawn from primary sources in translation as well as secondary sources. Students will engage with the reading through written responses and class discussions and will develop a capstone project that will bring together what they learned over the course of the term. *This course can be taken alone or with Ancient Philosophy 1.*

## MODERN LANGUAGES

### French 1

This course serves as an introduction to the French language and begins with the most rudimentary aspects of the language. It is intended for students with no prior French experience or who would benefit from a comprehensive review of the basics. Though introductory in nature, the pace of the course is quick and is intended to prepare students for French 2 the following year. A large amount of vocabulary is presented, and several of the most common tenses are introduced and practiced. This course is open to all students in Classes IX–XII who are beginning their study of French outside of the curriculum sequence that began in Middle School.

### French 2

*Pre-requisite: French 1 or by placement*

In addition to the review and consolidation of the grammatical structures acquired in earlier years of French language study, the future and conditional tenses are studied in depth, along with the subjunctive mood. Short

readings about contemporary French culture are used to contextualize grammar and new vocabulary. Students are required to write short compositions, translations, and dictations.

### **French 3**

*Pre-requisite: French 2 or by placement*

With the expectation that students at this level have mastered fundamentals of grammar and vocabulary, this course rapidly reviews the entirety of French moods and tenses, paying particular attention to common pitfalls that affect even advanced students (such as past-participle agreement or multiple object pronouns). This class highlights moments from French history, as well as elements of French culture (art, gastronomy, etc.) to deepen students' understanding of and connection with the broader context of the Francophone world. By the end of the year, students will demonstrate mastery of increasingly advanced concepts, such as relative pronouns, past infinitives, and present participles.

### **Advanced French: Language and Culture**

*Prerequisite: departmental placement*

In this year-long course, students hone their writing, speaking, listening, and reading skills at an advanced level. In the first semester, instruction focuses on reading and writing while providing students with broad exposure to topics of cultural importance in the Francophone world. Readings are drawn from authentic French-language publications (newspapers, magazines, essays, Internet sites, etc.). Through numerous writing assignments, students not only analyze the content of what they read but also reflect on the cultural perspectives and biases that they encounter. In the second semester, the focus shifts to developing greater competency in listening and oral production, with an emphasis on situations students might face when traveling, studying, or working in a Francophone country. As students listen to a range of authentic audio (radio, television, cinema, Internet video, poetry, news reports, etc.), they critically assess and imitate native intonation, accent, register, and presentation styles - making them their own in the process.

### **French Minor M**

*Prerequisite: French 4 or department approval*

Based on authentic written and recorded material, this course will develop comprehension and oral skills by addressing a variety of topics. Students will hone fluency in the spoken language through discussion of contemporary issues in French culture with emphasis on increasing vocabulary and ease in the manipulation of grammatical structures. The course aims to enhance language skills, linguistic awareness, and appreciation of contemporary France and French-speaking countries. Oral participation is required, especially since students will have many opportunities to express opinions and give explanations in the target language in discussions and debates. Particular interests will be integrated into the topics presented in class where possible.

### **Spanish 1**

This course serves as an intensive introduction to the Spanish language and quickly progresses from basic aspects of the language to more sophisticated forms of writing and speech. It is intended for students who have no prior experience with Spanish or who would benefit from a comprehensive review of the basics. Though introductory in nature, the pace of the course is quick and is intended to prepare students for Spanish 2 the following year. A large amount of vocabulary is presented and the present, preterit, and imperfect tenses (along with all their irregularities) are introduced and practiced. This course is open to all students in Classes IX–XII who are beginning their study of Spanish outside of the curriculum sequence begun in Middle School.

### **Spanish 2**

*Pre-requisite: Spanish 1 or by placement*

In addition to the review and consolidation of the grammatical structures acquired in earlier years of Spanish language study, the subjunctive and imperative moods are studied in depth. With the continued emphasis on the acquisition of active skills in writing and speaking, frequent short compositions and translations are required. Students must engage in short historical and cultural readings in which vocabulary and syntactical structures are contextualized.

### **Spanish 3**

*Pre-requisite: Spanish 2 or by placement*

In this course, students begin more process oriented writing and speaking. The entirety of Spanish moods and tenses is reviewed and students are expected to use relative clauses, higher-order idioms, and a richer variety of vocabulary actively in both composition and oral presentations. Short literary selections in poetry and prose are introduced to contextualize the grammar and to introduce the richness of Hispanic culture and history.

### **Advanced Spanish Language and Culture**

*Prerequisite: departmental placement*

In this year-long course, students hone their writing, speaking, listening, and reading skills at an advanced level. In the first semester, students explore a broad range of writing styles and genres while developing their critical writing and reading competencies. The reading list covers a variety of authentic literature (novels, short stories, poetry, news reports, magazine articles, etc.). Writing assignments require in-depth analysis and presentation of a particular point of view, while incorporating sophisticated idiomatic usage. In the second semester, students are exposed to a broad range of presentational speaking in Spanish (including radio, television, cinema, speeches, etc.). The course requires that students respond creatively and effectively within a broad range of real-life situations while producing dialogues, skits, and formal presentations.

### **Spanish Minor M**

*Prerequisite: Spanish 3 department approval*

Based on authentic written and recorded material, this course will develop comprehension and oral skills by addressing a variety of topics. Students will hone fluency in the spoken language through discussion of contemporary issues in Spanish and Latin American cultures with emphasis on increasing vocabulary and ease in the manipulation of grammatical structures. The course aims to enhance language skills, linguistic awareness, and appreciation of the contemporary Spanish-speaking world. Oral participation is required, especially since students will have many opportunities

to express opinions and give explanations in the target language in discussions and debates. Particular interests will be integrated into the topics presented in class where possible.

### **Chinese 1**

This introductory course in Mandarin focuses on the fundamentals of reading, writing, and speaking. As with any beginning language course, the focus is on practical skills relevant to the daily lives of students. Students in this course should prepare themselves for a considerable amount of memorization, especially given the use of characters in writing. This course is open to all students in Classes IX–XII who are beginning their study of Mandarin outside of the curriculum sequence begun in Middle School.

### **Chinese 2**

*Pre-requisite: Chinese 1 or by placement*

This course is a natural continuation of what was covered in Chinese 1. A significant amount of new vocabulary and characters is added to the curriculum. Authentic readings are incorporated in the instruction to allow students to contextualize their understanding of written and spoken Mandarin. This course may be repeated for a second year if a student requires more time to consolidate her familiarity with the material.

### **Chinese 3**

*Pre-requisite: Chinese 2 or by placement*

In this course, special attention is given to the mastery of written Mandarin in a variety of social and academic situations. Authentic texts, including contemporary media used in everyday life in China, are incorporated to help students gain practical skills in Mandarin. In conversation, students are taught to speak more colloquially; furthermore, grammar becomes increasingly abstract.

### **Advanced Chinese 1 and 2**

*Pre-requisite: Departmental approval*

These advanced courses are designed for students who have achieved a high intermediate to advanced level of proficiency in Mandarin and wish to strengthen their spoken

and written fluency. Students continue to develop their skills through readings, written practice, and discussions of a variety of topics as these relate to contemporary China and Taiwan. These topics range from the environmental, to the artistic, to pop culture, to the economic, to societal changes, etc. Students develop their skills through the study of authentic printed materials, recorded segments, or Chinese-language films. The student's work at both levels of study varies from the traditional written composition to oral presentations in the target language.

### **Chinese Minor M**

*Prerequisite: Chinese 3 and/or department approval*

Based on authentic written and recorded material, this course will develop comprehension and oral skills by addressing a variety of topics. Students hone fluency in the spoken language through discussion of contemporary issues in Chinese culture with emphasis on increasing vocabulary and ease in the manipulation of grammatical structures. The course aims to enhance language skills, linguistic awareness, and appreciation of contemporary China and Taiwan. Oral participation is required, especially since students will have many opportunities to express opinions and give explanations in the target language in discussions and debates. Particular interests will be integrated into the topics presented in class where possible.

## **COMPUTER SCIENCE**

### **Design and Digital Fabrication II M**

This course is a minor elective available to students who completed Design and Digital Fabrication. Through the single semester class, students will navigate the iterative design process as they work to turn a spark of inspiration into a tangible artifact. Ideas are prototyped and refined through successive iterations. Students will have access to a wide range of tools and technologies as they meet the challenge of bringing their ideas into reality. The design process is supported by critiques, field trips, history discussions, and in-class activities aimed at broadening and deepening students' understanding of design, the considerations that inform it, and how it impacts their daily lives.

### **Programming Interactive Graphics M**

Computers play an important role in almost every aspect of modern society. No longer are they limited to the arenas of business and research, but they have emerged as integral to the creation and generation of graphics. This semester-long course is an exploration of methods for creating computer-generated graphics. Students will build their repertoire of programming skills and develop techniques for algorithmic problem solving, as they use programming languages and other emergent technologies in the development of meaningful personal projects.

## **HEALTH AND WELLNESS**

### **Adolescent Health M**

Adolescent health will meet three times per cycle for a semester and will be offered in both the fall and spring. It is a required course that students must take once as a sophomore or junior. With a focus on adapting safe and healthy behaviors, this course will address multiple dimensions of health. Students will build skills and gain knowledge that they will apply to real-life health scenarios for adolescents while in the classroom, and gain confidence to apply these skills and knowledge to improve their personal health in their everyday lives. Content areas including mental health, gender and sexuality, nutrition, and substance use and abuse will be covered in depth. Students will be better equipped to access valid health resources, reduce health and safety risks, identify and manage influences on personal health and safety, and use their strengths to enhance well-being.

## **GOING BEYOND BARRIERS**

### **Public Speaking M**

This course is an introduction to the fundamentals of good communication skills. Students prepare approximately eight speeches of varying lengths on topics of their choice for presentation to the class. They learn to critique their own work as well as that of their classmates.

## ART HISTORY

### Advanced Art History

Advanced Art History is equivalent to a 100 level art history survey course, following a roughly chronological approach, beginning from global prehistory to global modernisms and contemporary art. This year-long, intensive course provides students with the opportunity to deepen their knowledge and understanding of specific art works, traditions and movements, to contextualize art making practices and to refine analytical skills in their reading of art.

## CLASS XII

## ENGLISH

All Class XI and XII students take their grade-level English course in the fall semester and an Advanced English course of their choosing in the spring semester.

### Senior English

This required semester-long course ranges across literary genres to explore unmet needs, dismantled stereotypes, and evolving gender roles in the twenty-first century. Current readings include Claudia Rankine's hybrid-genre lyric *Citizen*, William Faulkner's modernist novel *As I Lay Dying*, a sampler of Emily Dickinson's poetry, and Lynn Nottage's Pulitzer Prize-winning play, *Sweat*. Thanks to Nightingale's Drama Grant, students often attend and write reviews of a Broadway or off-Broadway play. Other writing assignments include the analytical and the creative. Each student presents a final interdisciplinary project that explores thematic connections between a Dickinson poem and one other literary work from the term.

## ENGLISH | SPRING ELECTIVE OFFERINGS

### Advanced English: Literary Heroines

What does heroism look like in literature? Is it determined by characters' actions—whether they overcome obstacles,

endure difficult times, or undergo personal growth? Or is it an innate quality reflected in how characters choose to live their lives? Is heroism even possible for fictional characters in our modern era? How might heroism differ when the protagonists are women? This semester course will explore these questions as they play out in several major works of fiction, most of them written by women about women. Authors are likely to include Jane Austen, Virginia Woolf, Edith Wharton, and Toni Morrison.

### Advanced English: Masterpieces of American Literature

This course will explore several classic texts in American literature—an essential must-read list for every well-read student. Authors may include Herman Melville, Edith Wharton, Ernest Hemingway, Willa Cather, Philip Roth, Toni Morrison, or Jhumpa Lahiri. Writing assignments will be wide-ranging, from analytical essays to creative responses to the masters. At the end of the course, each student will choose one text from among several options for a final reading and writing project.

### Advanced English: Literature from Hell

Satan, the Devil, Lucifer, the Adversary—this infamous embodiment of evil has tempted the minds and hearts of the innocent and the guilty, challenged God's sovereignty in heaven, and even schemed to bring about the downfall of humankind. And he has persisted through literature under many names and in many guises. This course will consider the iconic depictions of Satan in the Bible, Dante's *Inferno*, and Milton's *Paradise Lost* and then explore his satanic transformations in modern literature. Modern texts may include Goethe's play *Faust*, Joyce Carol Oates' story "Where are You Going? Where Have You Been?," Mikhail Bulgakov's novel *The Master and Margarita* and Neil Gaiman's graphic novel *The Sandman*.

### Advanced English: The Art of the Short Story

In our internet age, when our attention seems constantly divided, the short story—which demands a mastery of precision, pacing, and voice—can provide both a window into literary history and a bite-size jolt of pleasure. In this

course we'll start with Russian masters Gogol and Chekhov, moving through experiments in modernism to the realism of Flannery O'Connor, James Baldwin, and Toni Cade Bambara. Then we'll turn to contemporary stories in a range of styles, from authors such as George Saunders, ZZ Packer, Jhumpa Lahiri, Alexandra Kleeman, and Anthony Veasna So. We'll also look at interviews with writers to learn about their process and gain an appreciation of craft. Ultimately, students will draw inspiration from our mentor texts and try their hand at their own original stories.

### Philosophical Inquiry Into Our World M

Philosophy as an academic discipline can be esoteric, if not alienating, but we're all philosophers at heart. In this minor, we'll try to reignite the spark of wonder and curiosity we all had as children. What are you wondering about most these days, and what do you most want to discuss in community with others? We'll generate the course agenda and questions together, immerse ourselves in sources that deepen our thinking, and work on making meaning (and, just as importantly, becoming more confused) together. We'll generate questions wholly based on your interests, but here are some questions that have come up in the past: What "counts" as valuable work today? Is "leadership" overvalued? How much inequality are we okay with? What's the fate of the high school English essay (or the Great American Novel) in the world of artificial intelligence? What if grades didn't exist? If there are so many reasons to be a good person, why is it so hard?

## HISTORY

### United States History

This survey of the history of the United States is designed to introduce students to the events, themes, and assumptions that have shaped American institutions and the distribution of power within our society. Through a chronological survey that begins just prior to European colonization and concludes with the Cold War, students are challenged to find the changes and continuities that give character to our institutions, cultures, and social structure. Using methods and ways of thinking specific to the field of history, this



course helps students understand that contemporary society has been shaped by the decisions and experiences of those who came before us. As a corollary, this course aims to inspire students to active citizenship and participation in and on behalf of the communities to which they belong. We rely heavily on primary sources, incorporate social and cultural history, follow current events, and consider historiographic changes in interpretation. Students will also learn advanced research methods, and the challenges of writing history by completing their own local history project that requires original research, including the use of census data.

## HISTORY | ELECTIVE OFFERINGS

*The following courses are open to Classes XI and XII. Additional requirements will be expected for those students wishing to take any of the major courses below at the Advanced level. These requirements may include additional readings and assessments, as well as a significant project.*

### Modern Latin American History and Literature

In the course of the 20th century, seven Latin American authors have won the Nobel Prize: Gabriela Mistral (1945); Miguel Ángel Asturias (1967); Pablo Neruda (1971); Gabriel García Márquez (1982); Octavio Paz (1990); Rigoberta Menchú (Peace Prize, 1992); Mario Vargas Llosa (2010). Together, they give us a chance to consider some of the major literary and political movements in Latin America leading to the present. This course offers an interdisciplinary overview of society and culture in Latin America. Topics include the legacies of conquest, patterns of economic development, changing roles of women, expressions of popular culture, cycles of political change, and U.S.-Latin American relations. Students will become familiar with political, economic, social, and cultural conditions that have produced conflict, change, and continuity in Latin America over the last 200 years. A focus will be placed on the literature from the time and place of each region covered in the course. This course is offered in English.

### World Now

This course features an in-depth examination of the boldest and most provocative issues facing the world today. We

begin with a Global Culture unit, in which we consider how social media such as Facebook, Instagram and TikTok have transformed life and society, raising questions about personal identity, truth, and privacy. In the International Developments unit, we discuss the global political landscape, marked by Russia's War in Ukraine, the persistence of the international migrant crisis, and a rightward turn in international politics. Amidst discussions of the rise of authoritarianism and the decline of democracy throughout the world, we will also focus on China. We end this unit with a discussion of the state of transgender rights throughout the world. In our America in the World Now unit, we consider the many ways in which our own nation remains an international outlier, also discussing the pandemic, populist politics, mass incarceration, gun ownership, conspiracy theories, and reproductive rights. Finally, we will thoroughly address the lead-up to the 2024 presidential election.

### History, Gender, Power

Why has gender inequality been so persistent in history? What accounts for feminism's successes and failures? How does the past resonate in contemporary struggles of women, LGBTQ, and other marginalized people? In exploring these and related questions, this class takes a thematic approach to the history of women, gender, and sexuality, drawing on case studies that range from the Hebrew Bible to 17th century ideas about female bodies to the national liberation movement in twentieth-century Kenya to bell hooks's critiques of Second Wave feminists. Through this course, students will develop an understanding of the persistence of gender inequality in wide-ranging historical contexts; intersectionality; varieties of feminism; women and work; the development of modern ideas about sexuality, gender, and identity; and the legacies of twentieth-century movements for justice and equality.

### New York City in History

New York City's history is a palimpsest of peoples and cultures, traditions and customs, buildings and structures. Scratch the surface at any one time and multiple layers of experiences reside below. It is always a thing in motion, a

place evolving, transforming itself from one thing to another. It has never been the same city at the same time, indeed, there are multiple New York Cities, operating in both the past and the present. Our mission this semester is to attempt to discover these multiple New Yorks, excavating, exploring and observing. We will utilize a snapshot approach, looking at the city's history in chronological order but stopping to consider some details from distinct time periods: politics, architecture, entertainment, demography, neighborhoods, landmarks, institutions, lifestyles, famous people, and notable events. Our course will focus on the history of Manhattan, with occasional trips to the other boroughs.

### Case Studies in American Public Policy

Are corporations people? What constitutes a marriage? When, if ever, can race be a factor in the policies of educational institutions? Through case studies, students in this elective will consider how the Supreme Court has shaped U.S. society and evaluate whether the role of the Court has shifted in recent decades. The discussion-based classes will encourage students to challenge each other's assumptions about democratic values and practices, and draw their own conclusions about what "democracy" means in America. This course is ideal for anyone interested in deepening their practical and historical understanding of the American political process, and for those interested in gaining experience with the case method of instruction frequently used in business and law schools.

### International Relations and its Discontents

How do international relations theorists and foreign policy analysts understand the world? What assumptions lead states and international institutions to intervention in some cases and inaction in others? Through theory and global case studies drawn from the decades after World War II, this course will introduce students to major debates in international studies that impact policy-making, power relations, and the dynamics of human societies in our contemporary world. Cases may include the partition of India and Pakistan, the Suez Crisis, the creation of the non-aligned movement, US interventions in Guatemala and

Vietnam, the Sino-Soviet split under Mao, Soviet cultural relations with Mozambique, and the Iranian Revolution.

### **The Holocaust and Human Behavior M**

Drawing upon the ground-breaking curriculum from Facing History and Ourselves, students will explore the essential question: What does learning about the choices people made during the rise of the Nazi Party and the Holocaust teach us about the power and impact of our choices today? In this course, we examine the period in the twentieth century when Nazi Germany murdered six million Jews and millions of other civilians, in the midst of the most destructive war in human history. We will do a deep dive into a case study of the Weimar Republic and the Nazi Party's rise to power in Germany. Through primary sources, survivor interviews, film and other sources, we will bear witness to the human suffering of the Holocaust and examine the range of responses from individuals and nations to the mass murder of the Nazi regime, as well as the aftermath of these atrocities. In examining this history, we will weigh questions like how to achieve justice and reconciliation, and how painful histories should be remembered. We will also critically examine the rise in the United States of anti-semitism, hate speech and white nationalism, and consider the ways in which the rise of Nazi Germany and the history of the period educates us about our responsibilities in the world today.

## **MATHEMATICS**

### **Calculus**

This course covers the concepts, techniques, and applications of differential and integral calculus. Students start with a comprehensive look at functions, limits, and continuity. From there the concept of the derivative is developed, and derivative rules are established for many types of functions and their inverses: polynomial, rational, trigonometric, logarithmic, and exponential. The Fundamental Theorem of Calculus bridges the derivative to the integral, and the use of integration in area, volume, and summation problems is practiced.

*Advanced B level topics will include: optimization, related rates,*

*the Riemann Sum, the revolution of solids.*

*Advanced A level topics will also include: polar coordinates, vector functions, parametrically defined curves, and elementary differential equations.*

### **Advanced Calculus (B Level)**

*Departmental permission required*

This course begins with a swift review of functions, limits, and continuity. Students study differential calculus in depth, beginning with the definition of the derivative and differentiation rules and continuing with applications such as optimization and related rates problems. Through discussion of the Riemann Sum and the anti-derivative, the integral is introduced. The second semester focuses on applications of the Fundamental Theorem of Calculus, techniques of integration, areas between curves, and volumes of solids of revolution.

### **Advanced Calculus (A Level)**

*Departmental permission required*

This course begins with the topics in differential and integral calculus covered in Advanced Calculus (B Level). Additional topics investigated include polar coordinates, vector functions, parametrically defined curves, logistic curves, sequences and series, integration by parts and partial fractions, and elementary differential equations.

*The following courses are open to Classes XI and XII.*

### **Statistics in the Era of Big Data**

This course introduces students to the major themes of an exploratory analysis of data. Planning and conducting a study, variable distributions, various statistical tools to analyze both quantitative and qualitative data sets, statistical inference, and visual representation of data are major themes of the course. Students examine sampling, surveying, research and experimentation as methods of collecting data. Correlation and Chi-squared Tests are used to explore the power of statistical inference and prediction. Students then use these tools to investigate topics of personal interest throughout the year. Data is used to

understand themes and nuances in political polling and the process of redistricting. This year-long course is often about nuance in numbers, an idea less explored in most math courses.

### **Advanced Linear Algebra: Vectors and Modeling**

*Prerequisite: Advanced Calculus A*

Linear Algebra is the study of linear systems of equations, vector spaces and linear transformations. It plays an important role in many areas of mathematics, statistics, engineering, the natural sciences and computer science. In this class, fundamental concepts such as vector, vector space, subspace, basis, dimension and linear transformation will be introduced and developed alongside applications drawn from statistics, economics, genetics, dynamical systems and probability.

### **Math for Social Action M**

This semester-long course introduces and utilizes mathematical tools within statistics, data and regression analyses, and probability to explore injustice and inequities in American life. Through an inquiry-based approach, students investigate systems and structures of injustice; analyze the patterns and cycles that perpetuate inequities in political representation, housing, healthcare, and education; and identify the possible mathematical entry points to interrupt systemic injustice.

## **SCIENCE**

### **Physics**

*Prerequisite: Two lab sciences, Biology and Chemistry recommended*

Physics is an algebra-based first-year physics course open to all students who have successfully completed other lab science course(s). Physics and its applications surround us in our daily lives and we explore those connections by studying a broad range of topics and phenomena. Our major units of study include linear and non-linear kinematics, forces, momentum, energy, electricity, magnetism, and light. Physics emphasizes conceptual understanding and problem solving while strengthening connections to mathematics and

other branches of science. Experiential learning is central to our exploration of physics and this is accomplished through hands-on laboratory activities and some digital simulations.

## SCIENCE | ADVANCED COURSES

After successful completion of the introductory course in a given discipline, motivated and interested students in Classes XI-XII are able to continue their studies in an advanced level course. Advanced science courses involve more in-depth study, increased independent learning, and often a quicker pace to the learning process. Class XI students must enroll in physics to enroll concurrently in an advanced course in biology or chemistry.

### Advanced Biology: Biology of the Nervous System

*Prerequisites: Biology and Chemistry*

In this semester-long class we will study the biology of the nervous system. We will begin by studying basic neurochemistry and then examining neurological and neurodegenerative diseases, including major depression, multiple sclerosis, Parkinson's disease, Alzheimer's disease, and ALS. We will read primary sources as we look at treatment options and their mechanisms of action, as well as the current research. The lab component of the class will consist of brain dissections in which we study the anatomy and function of the brain.

### Advanced Biology: Biochemistry

*Prerequisites: Biology and Chemistry*

This semester-long course is an introduction to the study of biochemistry, focusing on the chemistry relevant to animal physiology and the link between biochemical processes and metabolic diseases and disorders. In short, students will develop an understanding of how biochemical processes work by uncovering what happens when they don't work properly. The semester begins with a review of macromolecules, chemical functional groups, and the chemical structure and properties of water. Then, organic chemistry and the significance of the carbon atom will be studied, leading up to an emphasis on biochemical reactions and metabolic pathways regulated by enzymatic catalysts.

The course will be lab intensive with an emphasis on college-level lab methodology and skills.

### Advanced Chemistry: Analytical Chemistry

*Prerequisite: Chemistry*

Analytical chemistry is the branch of chemistry dealing with measurement, both qualitative and quantitative. This semester-long lab-based course focuses on applications of instrumental chemical analysis techniques for environmental monitoring, forensics, and food science. Field sites in Central Park and the East River Field are used to compare data with our own aquaponics system. Crime scene scenarios are staged for investigation. Food is prepared for analysis—and perhaps some tasting. The course is project based, and activities include planning of field work, sampling activity, sample preparation chemical analysis, interpretations of results and reporting.

### Advanced Chemistry: Organic Chemistry

*Prerequisite: Chemistry*

Organic Chemistry is the study of compounds containing carbon. This semester-long lab based course covers the structure, bonding, and stereochemistry of these compounds, together with an emphasis on functional group characteristics, structure determination by spectrometric methods, reaction mechanisms, and synthesis.

### Advanced Physics: Topics in Physics with Calculus

*Prerequisite: Physics \**

*Students must also be enrolled in Calculus*

Offered in the second semester, Topics in Physics with Calculus revisits physics concepts learned previously, and it goes beyond the treatment of linear motion that occurs in all levels of calculus. We explore topics in physics applying vector arithmetic and calculus concepts such as limits, differentiation, optimization, integration, and more. This course provides students who may be considering a major in physics or engineering opportunities to apply their knowledge to challenging problems such as the optimization of projectile range, the messy motion of objects encountering drag, rocket propulsion, and more. The

student experience in our course will be one of greater depth with connections intentionally made between calculus and its applications in physics.

### Advanced Physics: Engineering

*Prerequisites: Biology, Chemistry, and Physics  
(can be enrolled concurrently with approval)*

In this hands-on project based class, we will explore applications of the core Upper School science disciplines: biology, chemistry, and physics via the lens of engineering. The engineering themes of iterative design, optimization with constraints, collaboration, and effective communication will be emphasized and associated skills will be taught and developed. Because the class is interdisciplinary, modules will focus on a project or projects that combine multiple science disciplines, and specific emphasis will be placed on relating our designs to concepts studied in our prior (and concurrent) Upper School science classes, with a particular emphasis on physics. We will explore fields of engineering such as mechanical engineering, electrical engineering, chemical engineering, and environmental engineering through a variety of smaller and longer term projects such as: building vehicles and wind turbines, designing camera obscuras, building musical keyboards, optimizing processes such as coffee production, and designing air quality and flood water sensors that can be used in crowd-sourced science projects such as Citizen Science, or in a collaboration with an environmental engineering lab at NYU.

### Biotechnology

*Prerequisites: Biology and Chemistry;  
required for ISRP students*

This intensive laboratory class prepares students for internships in research labs. Students will learn important techniques in molecular biology including gel electrophoresis, restriction enzyme digests, primer design, DNA amplification by polymerase chain reaction (PCR), nucleic acid extraction and purification, genetic engineering, bacterial/yeast transformations, DNA sequencing, protein isolation, protein purification and

visualization, enzyme linked immunoassays (ELISA), and chromatography. In the process, skills of trouble-shooting, data analysis and effective scientific communication will be emphasized. Students will also learn about the historical development as well as ethical considerations and societal impacts of biotechnology. As a capstone, students will design and conduct an experiment to determine whether food products have been genetically modified.

### **A Sustainable World**

Have you ever wondered just how much of an impact you and your household are having on the world? Do you struggle with making meaningful, long-lasting changes that are not overly costly or challenging to maintain? In this course, we will examine how sustainability must involve not only the protection and preservation of Earth and its natural resources, but also the health and prosperity of the people living there. This project-based class will allow us to explore a plethora of means by which individuals, communities, and organizations can work to lower their carbon footprint and lessen their negative effects on our natural world while not merely surviving, but actually thriving.

### **Public Health: Survey**

*Prerequisite: Biology*

This semester-long course begins by introducing students to a brief history of public health starting with its emergence around the turn of the twentieth century, when infectious disease epidemics plagued London and New York City as the world's emerging population centers. A survey of the major subdisciplines of public health then follows, including methods of epidemiology, fundamental biostatistical analyses, and the spread and control of both communicable and non-communicable diseases. The future of public health is also considered, particularly as climate change continues to affect the global distribution of pathogens and of the humans that serve as their hosts.

### **Psychology: Biological and Behavioral Approaches**

*Prerequisite: Biology*

In this semester-long class students will gain an introduction

to psychology from the biological and behavioral perspectives. They will begin by learning about psychology as a discipline, the different approaches you can take towards it, and experimentation methods. Students will then study basic neurobiology/neuroanatomy followed by a focus on sensation and perception. They will then move to a more behavioral approach, studying learning and memory, motivation and emotion, personality, and social psychology. Students will participate in regular online and classroom discussions on pertinent psychological topics and will develop scientific research and writing skills while exploring psychological topics of their own interest.

### **Anatomy and Physiology**

*Prerequisites: Biology*

This anatomy and physiology major elective will offer students a lab intensive course, in which they will study some of the major organs in mammals. Each unit will focus on one of the body's major systems and include a one to two day dissection period. Dissections will include a cow's heart, a cow's brain, and a sheep's pluck. This class will give those students interested in the biological sciences an opportunity to delve deeper into each system and have a significant experiential learning.

### **Science Seminar M**

*Required for ISRP students*

In this year-long course, students develop advanced scientific literacy and communication skills. Students present talks on an area previously researched in a lab or field setting or on a current topic of interest from a scientific lens. Students also hear from outside speakers and attend educational programs at local universities and research institutions. In addition, students are guided and supported through the process of securing a science internship. This class meets twice per eight-day cycle and graded on a pass/fail basis. Students who have been accepted in the Independent Science Research Program must enroll in Science Seminar each academic year they are a part of the program; other students are invited to attend as space permits.

### **Independent Science Research Program**

The Independent Science Research Program is open to highly skilled, motivated, and dedicated students of science in Classes XI–XII. Students apply to the program during the spring semester of Class X, and by applying to the program, students indicate an intention to commit at least six to eight weeks to intensive science research during the summer between Class XI and Class XII. While most research placements involve a lab setting, field placements are also possible. In addition, students in the program must enroll in the Advanced Science: Biotechnology course during the spring semester of Class XI, and they must enroll in the Science Seminar course every year that they are in the program.

## **CLASSICS**

### **Advanced Latin: Latin Lyric or Latin Epic**

*Latin Lyric and Latin Epic are offered in alternate years. Latin Epic will be the Advanced Latin course offered in the 2024–2025 academic year.*

#### **Latin Lyric**

Students will study and analyze works of Roman lyric poets with an emphasis on Catullus and Horace under various lenses, such as the cultural and socio-political context in which these poems were created, their generic characteristics, and their intertextual relationships. Close attention will be paid to morphological and syntactical phenomena, and rhetorical, poetic, and metrical figures. More in-depth textual analysis will be enhanced by the study of materials from recent scholarship. In addition to the assigned readings, students will practice translating different prose and poetry authors at sight and will prepare lyric poems of their own choice to present in class.

#### **Latin Epic**

This course is devoted to the study of Latin epic poetry with a focus on the most illustrious representative of the genre, Vergil's *Aeneid*. Readings will also include the *Aeneid*'s literary heritage (Ennius's *Annales*) and legacy (Lucan's *Pharsalia*, Silius Italicus's *Punica*, and Statius's *Thebaid*).



The class will examine the conventions and techniques of the genre and trace the development of the epic hero from its Republican beginnings onward. Lastly, Latin Epic will study how authors manipulated the epic genre and examine to what extent their works were used as a tool of imperial propaganda.

### **Ancient Greek 1.1 M**

This course introduces students to the foundational building blocks of Ancient Greek: the alphabet along with some basic vocabulary and grammar. It will include readings and exercises that aim to help students learn the language of Homer, Sappho, Sophocles, and Plato, and will address historical, cultural, and linguistic themes within these texts.

### **Ancient Greek 1.2 M**

*Prerequisite: Ancient Greek 1.1 or the equivalent*

Students will expand their knowledge of the language through readings and exercises, focusing on grammar and enriching their vocabulary. In addition, they will translate excerpts from texts in the original Greek and continue to engage with themes central to the history and culture of the Ancient Greeks.

### **Ancient Greek 2.1 M**

*Prerequisite: Ancient Greek 1.2 or equivalent*

In this course, students will continue their exploration of the Ancient Greek language and culture. They will develop linguistic dexterity by studying more advanced grammar and vocabulary, hone their translation skills through texts and exercises, and acquire a deeper understanding of what the Ancient Greeks have contributed to philosophy, politics, and education. At the end of the term, students will complete a project that will challenge them to connect with their learning and engage with the material on a more personal level.

### **Ancient Greek 2.2 M**

*Prerequisite: Ancient Greek 2.1 or equivalent*

In this course, students will engage with the Ancient Greek language and culture through the translation, examination,

and analysis of excerpts from such texts as the Homeric Hymn to Aphrodite, Plato's Apology and Symposium, and Sophocles's Antigone. Students will continue to study morphology, syntax, and vocabulary tailored to the demands of each text. Readings in English will focus on the contributions of the Ancient Greeks to literature, art, and science. Furthermore, students will be asked to memorize and recite short passages as an exercise in pronunciation, listening, and memorization. The course will conclude with a capstone project that students will develop and present to the class.

### **Ancient Greek 3.1 M**

*Prerequisite: Ancient Greek 2.2 or equivalent*

This course will focus on Greek prose. Students will continue to develop their linguistic skills and their understanding of Ancient Greek culture through the translation, examination, and analysis of excerpts of original Ancient Greek texts, such as Herodotus's Histories, Plutarch's Life of Alcibiades, and Aristotle's Rhetoric. Readings in translation will provide students with a broader context for each text and challenge them to consider for which audience and with which objectives these texts were constructed, which people, qualities, and actions they vaunt, decry, or simply leave out, and what role rhetoric plays in each of them. The course will conclude with a capstone project that students will develop and present to the class.

### **Ancient Greek 3.2 M**

*Prerequisite: Ancient Greek 3.1 or equivalent*

This course will focus on Greek poetry. Students will continue to hone their translation and analytical skills and will also learn about Greek meter and its role in determining genre. They will translate, metrically scan, and examine excerpts from Homer, Sappho, Euripides, Aristophanes, and Callimachus, and will further engage with the material through readings in translation, secondary sources, and works of literature and art inspired by these texts. The course will conclude with a capstone project that students will develop and present to the class.

## **Ancient Philosophy**

*In these two minor courses students will explore the Ancient Greek origins of philosophy in the Western tradition. They will examine the questions Ancient Greek philosophy addressed and how it attempted to answer them.*

### **Ancient Philosophy 1 M**

The course will begin with the natural philosophers of the 6th century BCE, Thales, Anaximander, Anaximenes, Heraclitus, Parmenides, Anaxagoras, and Democritus, who attempted to address the origins and nature of the cosmos and are credited with being the first scientists in the Western tradition. The course will conclude with Plato, who, through the medium of Socrates's teaching, shifted philosophical thinking to virtue, eros, the nature of knowledge, beauty and the common good. Readings will be drawn from primary sources in translation as well as secondary sources. Students will engage with the reading through written responses and class discussions and will develop a capstone project that will bring together what they learned over the course of the term.

*This course can be taken alone or with Ancient Philosophy 2.*

### **Ancient Philosophy 2 M**

The course will begin with Aristotle, Plato's student and Alexander the Great's tutor, who studied and wrote on a range of topics from the natural sciences to poetics and politics. At the conclusion of the semester, the course will study the Epicureans and Stoics and explore how these Hellenistic thinkers transformed philosophy and influenced Western thought. Readings will be drawn from primary sources in translation as well as secondary sources. Students will engage with the reading through written responses and class discussions and will develop a capstone project that will bring together what they learned over the course of the term.

*This course can be taken alone or with Ancient Philosophy 1.*

## **MODERN LANGUAGES**

### **French 1**

This course serves as an introduction to the French language and begins with the most rudimentary aspects of the

language. It is intended for students with no prior French experience or who would benefit from a comprehensive review of the basics. Though introductory in nature, the pace of the course is quick and is intended to prepare students for French 2 the following year. A large amount of vocabulary is presented, and several of the most common tenses are introduced and practiced. This course is open to all students in Classes IX–XII who are beginning their study of French outside of the curriculum sequence that began in Middle School.

## French 2

*Pre-requisite: French 1 or by placement*

In addition to the review and consolidation of the grammatical structures acquired in earlier years of French language study, the future and conditional tenses are studied in depth, along with the subjunctive mood. Short readings about contemporary French culture are used to contextualize grammar and new vocabulary. Students are required to write short compositions, translations, and dictations.

## French 3

*Pre-requisite: French 2 or by placement*

With the expectation that students at this level have mastered fundamentals of grammar and vocabulary, this course rapidly reviews the entirety of French moods and tenses, paying particular attention to common pitfalls that affect even advanced students (such as past-participle agreement or multiple object pronouns). This class highlights moments from French history, as well as elements of French culture (art, gastronomy, etc.) to deepen students' understanding of and connection with the broader context of the Francophone world. By the end of the year, students will demonstrate mastery of increasingly advanced concepts, such as relative pronouns, past infinitives, and present participles.

## Advanced French: Language and Culture

*Prerequisite: departmental placement*

In this year-long course, students hone their writing, speaking, listening, and reading skills at an advanced level. In the first

semester, instruction focuses on reading and writing while providing students with broad exposure to topics of cultural importance in the Francophone world. Readings are drawn from authentic French-language publications (newspapers, magazines, essays, Internet sites, etc.). Through numerous writing assignments, students not only analyze the content of what they read but also reflect on the cultural perspectives and biases that they encounter. In the second semester, the focus shifts to developing greater competency in listening and oral production, with an emphasis on situations students might face when traveling, studying, or working in a Francophone country. As students listen to a range of authentic audio (radio, television, cinema, Internet video, poetry, news reports, etc.), they critically assess and imitate native intonation, accent, register, and presentation styles - making them their own in the process.

*The following advanced electives represent recent course offerings—one literature and one arts course are offered each year.*

### Advanced French: La littérature d'Afrique noire

*Prerequisite: Advanced French Language or department approval*

This semester course serves as an introduction to Black African Literature. Students explore subSaharan Francophone literature at the confluence of various currents: its own local and diverse traditions, the impact of the Arab and Islamic worlds, and of course the omnipresent influence of European colonialism. In this course, students distinguish the different periods in which this Black African literature fits, in particular the pre-colonial period, the colonial period, and the era of post-independence of 1941- 1974. Students dedicate considerable time to the reading of Aimé Césaire's *Cahier d'un retour au pays natal* and Camera Laye's *L'Enfant noir*.

### Advanced French: Le Surréalisme

*Prerequisite: Advanced French Language or department approval*

Students begin this course with a viewing of Luis Buñuel's *Un chien andalou* to initiate the visual exploration of the surrealist movement. Students read the poetry of Apollinaire, the poetry and the movement's manifesto by André Breton, as well as writings by Jacques Vaché, Louis

Aragon, and Philippe Soupault. Students study the surrealist movement's implications in visual art, chiefly in the paintings of Magritte, Hans Arp, and Salvador Dalí. Students also study related topics such as: Dada, Freud's work with free association, and juxtaposed realities.

### Advanced French: French Cinema

*Prerequisite: Advanced French Language or department approval*

As theoretician Ricciotto Canudo stated in *La Gazette des sept arts* of 1920, cinema has become the seventh art, as “rhythmic as dance, music, and poetry.” Due to Hollywood's dominance, many have forgotten that France is the birthplace of cinema. This semester-long course not only introduces students to significant works produced in France, but also develops the speaking and writing skills needed for image and discourse analysis. Films viewed, discussed, and studied include: *Ascenseur pour l'échafaud*, *Manon des sources*, *La haine*, *Jusqu'à la garde*, *l'Auberge espagnole*, *Amélie*, and *Le casse-tête chinois*.

### Advanced French: The French Short Story: Tales and Fables from the French Canon

*Prerequisite: Advanced French Language or departmental approval*

As a semester-long literature survey course, this Advanced French course will serve as an introduction to classic short stories and fables drawn from the French literary canon, including fairy tales, satire, philosophical stories, etc. By studying biographies of the works' authors, students will gain a deeper understanding of the different time periods in which they were writing. Throughout their readings, students will learn to distinguish different registers and literary structures, as well as analyze the morals and themes behind the stories and their characters. Authors studied will include: Émile Zola, Voltaire, Charles Perrault, Guy de Maupassant, etc.

### Advanced French: Survey of French Art: From Lascaux to Nouveau

In this advanced course taught solely in French, students study art and artists of France from the prehistoric to the contemporary. The course is taught chronologically starting

with the cave paintings of Lascaux. From there students move swiftly to the Italian influence on French painting, sculpture, gardens, and architecture with the École de Fontainebleau, Leonardo da Vinci at the court of François I, and France's two Medici queens to the neoclassicism of the 17th century, the court of Versailles. Students learn of the differences and reactions in the developments of the following movements of the 18th-20th centuries: Rococo, Baroque, Romanticism, Naturalism, the Barbizon School, Impressionism, Fauvism, Cubism, Orphism, Dadaism, Surrealism, and Nouveau Réalisme.

### **French Minor M**

*Prerequisite: French 4 or department approval*

Based on authentic written and recorded material, this course will develop comprehension and oral skills by addressing a variety of topics. Students will hone fluency in the spoken language through discussion of contemporary issues in French culture with emphasis on increasing vocabulary and ease in the manipulation of grammatical structures. The course aims to enhance language skills, linguistic awareness, and appreciation of contemporary France and French-speaking countries. Oral participation is required, especially since students will have many opportunities to express opinions and give explanations in the target language in discussions and debates. Particular interests will be integrated into the topics presented in class where possible.

### **Spanish 1**

This course serves as an intensive introduction to the Spanish language and quickly progresses from basic aspects of the language to more sophisticated forms of writing and speech. It is intended for students who have no prior experience with Spanish or who would benefit from a comprehensive review of the basics. Though introductory in nature, the pace of the course is quick and is intended to prepare students for Spanish 2 the following year. A large amount of vocabulary is presented and the present, preterit, and imperfect tenses (along with all their irregularities) are introduced and practiced. This course is open to all students

in Classes IX–XII who are beginning their study of Spanish outside of the curriculum sequence begun in Middle School.

### **Spanish 2**

*Pre-requisite: Spanish 1 or by placement*

In addition to the review and consolidation of the grammatical structures acquired in earlier years of Spanish language study, the subjunctive and imperative moods are studied in depth. With the continued emphasis on the acquisition of active skills in writing and speaking, frequent short compositions and translations are required. Students must engage in short historical and cultural readings in which vocabulary and syntactical structures are contextualized.

### **Spanish 3**

*Pre-requisite: Spanish 2 or by placement*

In this course, students begin more process oriented writing and speaking. The entirety of Spanish moods and tenses is reviewed and students are expected to use relative clauses, higher-order idioms, and a richer variety of vocabulary actively in both composition and oral presentations. Short literary selections in poetry and prose are introduced to contextualize the grammar and to introduce the richness of Hispanic culture and history.

### **Advanced Spanish Language and Culture**

*Prerequisite: departmental placement*

In this year-long course, students hone their writing, speaking, listening, and reading skills at an advanced level. In the first semester, students explore a broad range of writing styles and genres while developing their critical writing and reading competencies. The reading list covers a variety of authentic literature (novels, short stories, poetry, news reports, magazine articles, etc.) Writing assignments require in-depth analysis and presentation of a particular point of view, while incorporating sophisticated idiomatic usage. In the second semester, students are exposed to a broad range of presentational speaking in Spanish (including radio, television, cinema, speeches, etc.). The course requires that students respond creatively and

effectively within a broad range of real-life situations while producing dialogues, skits, and formal presentations. The following advanced electives represent recent course offerings—one literature and one arts course are offered each year.

### **Advanced Spanish: Literature and Culture of the Hispanic Caribbean**

*Prerequisite: Advanced Spanish Language and/or departmental approval*

This course is intended to introduce students to a Spanish speaking Caribbean World. The history, culture, and geography of the Spanish Caribbean have made it a distinctive and complex world area: the experiences of colonialism, slavery, and indentured servitude (“servidumbre por contrato”); emancipation, exile and emigration, cultural identity, gender and feminist writing, as well as polemics about cohesiveness and fragmentation of the region. In this semester-long course, we will study Spanish Caribbean literature and culture focusing on three main countries: Cuba, Puerto Rico, and the Dominican Republic. We will examine issues of colonialism and post-colonialism, slavery and emancipation, exile and immigration, race and cultural mix (“Mestizaje”). Students will become acquainted with major authors, themes, and literary movements that have emerged in the Caribbean. The course incorporates a range of media and employs an interdisciplinary perspective in exploring Caribbean prose, poetry, and drama. Some of the topics that will organize our discussions include: empire, revolution, sugar and labor, decolonization, storytelling and the oral tradition, re-visioning European traditions, ritual and carnival, transnationalism, diaspora, and exile, and constructions of race, class, gender, and sexuality.

### **Advanced Spanish: History of the Spanish Language**

*Prerequisite: Advanced Spanish Language and/or departmental approval*

This semester-long advanced class focuses on the history and culture of the Spanish speaking world. We explore the different origins of the Spanish language, from the Roman occupation of Iberia, the invasions of Visigoths and the

influence of Arabic peoples through the Reconquista of 1492. We also examine the different registers of Spanish as manifested in Spain's colonies in the New World through modern Spain and Latin America. Of course, we must study the influence of indigenous peoples such as the Mayas, Aztecs, and Incas of pre-Columbian civilization as well as smaller groups such as the Mapuche and the Wayú, to name but a few. Students then have a full panorama of how the language has been transformed by its history and conquests. At this considerable overview, we study the diverse cultural and historical aspects of Latin American countries such as their independence, slang, sayings, movies, and series. To conclude we will study how English language influences the way that people learn Spanish as a second language, including the loan words and code-switching used for Spanglish speakers in the United States. The class also will discuss how Spanglish represents a culture in the country and in what contexts Spanglish is used.

#### **Advanced Spanish: Power, History, and Love in Works of Gabriel García Márquez**

*Prerequisite: Advanced Spanish Language and Culture or departmental approval*

In this semester-long course, students will study the fiction of Gabriel García Márquez, the author of: *La hojarasca*, *La mala hora*, *Los funerales de la Mamá Grande*, *La increíble y triste historia de la cándida Eréndira y su abuela desalmada*, *Crónica de una muerte anunciada*, and *Cien años de soledad*. Students will witness the evolution of the novelist while exploring recurrent themes such as dictatorship, love, and old age. Students will discuss and write about their readings in Spanish in order to appreciate the richness of Gabriel García Márquez's narrative and why he remains one of the greatest literary geniuses of his generation.

#### **Advanced Spanish: El Bolero, El Tango, El Cante Jondo como forma popular de poesía**

*Prerequisite: Advanced Spanish Language and Culture or departmental approval*

Since the dawn of civilization, poetry and music have enjoyed a symbiotic, mutually inspiring, and nourishing relationship. They

have always provided a source of strength, consolation, and inspiration to humans individually and to societies in general. The musical styles Bolero, Tango, and Flamenco, amongst other forms of musical expression, have been cultivating both musical and linguistic artistry since the middle of the 19th century. Poets like Federico García Lorca and composers like Manuel De Falla forged alliances to advance the evolution and spread of Flamenco. Ruben Dario and Amado Nervo, poets and writers from the Modernist movement, both offered inspiration to and sought inspiration from Bolero artists. In this course, students will immerse themselves in and explore the fascinating chronicles of Hispanoamerican culture in its most intimate expression, the songs of love and desperation that have resonated in people's hearts and intellect for over a century. Students will learn how these musical forms have influenced and been influenced by literature, art, and history.

#### **Advanced Spanish: A Survey of Spanish and Latin American Art**

*Prerequisite: Advanced Spanish Language and Culture or departmental approval*

In this semester-long survey course, students explore definitions of art as related to painting, sculpture, architecture, music, and crafts of various types. Topics vary from the Spanish baroque to cubism, surrealism, and the generación de la ruptura in South America. Examples of artists studied include : Velásquez, Goya, Dalí, Picasso, Botero, El Greco, and Miró. Students acquire the critical vocabulary necessary to discuss art in an academic setting with the continued emphasis on honing speaking and writing skills at the advanced level.

#### **Advanced Spanish: The Short Fiction of Jorge Luis Borges**

*Prerequisite: Advanced Spanish Language and Culture or departmental approval*

In this course, students explore in depth the short stories of Borges. Students read, analyze, and discuss Borges's collection titled *Ficciones*. Particular attention is paid to the writer's style and use of literary devices while honing their academic writing in Spanish. Towards the end of this course, students create their own short fiction in Spanish in imitation

of Borges, developing a short story while incorporating elements of this important Argentine writer's style.

#### **Spanish Minor M**

*Prerequisite: Spanish 3 department approval*

Based on authentic written and recorded material, this course will develop comprehension and oral skills by addressing a variety of topics. Students will hone fluency in the spoken language through discussion of contemporary issues in Spanish and Latin American cultures with emphasis on increasing vocabulary and ease in the manipulation of grammatical structures. The course aims to enhance language skills, linguistic awareness, and appreciation of the contemporary Spanish-speaking world. Oral participation is required, especially since students will have many opportunities to express opinions and give explanations in the target language in discussions and debates. Particular interests will be integrated into the topics presented in class where possible.

#### **Chinese 1**

This introductory course in Mandarin focuses on the fundamentals of reading, writing, and speaking. As with any beginning language course, the focus is on practical skills relevant to the daily lives of students. Students in this course should prepare themselves for a considerable amount of memorization, especially given the use of characters in writing. This course is open to all students in Classes IX–XII who are beginning their study of Mandarin outside of the curriculum sequence begun in Middle School.

#### **Chinese 2**

*Pre-requisite: Chinese 1 or by placement*

This course is a natural continuation of what was covered in Chinese 1. A significant amount of new vocabulary and characters is added to the curriculum. Authentic readings are incorporated in the instruction to allow students to contextualize their understanding of written and spoken Mandarin. This course may be repeated for a second year if a student requires more time to consolidate her familiarity with the material.



### Chinese 3

*Pre-requisite: Chinese 2 or by placement*

In this course, special attention is given to the mastery of written Mandarin in a variety of social and academic situations. Authentic texts, including contemporary media used in everyday life in China, are incorporated to help students gain practical skills in Mandarin. In conversation, students are taught to speak more colloquially; furthermore, grammar becomes increasingly abstract.

### Advanced Chinese 1 and 2

*Prerequisite: Departmental approval*

These advanced courses are designed for students who have achieved a high intermediate to advanced level of proficiency in Mandarin and wish to strengthen their spoken and written fluency. Students continue to develop their skills through readings, written practice, and discussions of a variety of topics as these relate to contemporary China and Taiwan. These topics range from the environmental, to the artistic, to pop culture, to the economic, to societal changes, etc. Students develop their skills through the study of authentic printed materials, recorded segments, or Chinese-language films. The student's work at both levels of study varies from the traditional written composition to oral presentations in the target language.

### Chinese Minor **M**

*Prerequisite: Chinese 3 and/or department approval*

Based on authentic written and recorded material, this course will develop comprehension and oral skills by addressing a variety of topics. Students hone fluency in the spoken language through discussion of contemporary issues in Chinese culture with emphasis on increasing vocabulary and ease in the manipulation of grammatical structures. The course aims to enhance language skills, linguistic awareness, and appreciation of contemporary China and Taiwan. Oral participation is required, especially since students will have many opportunities to express opinions and give explanations in the target language in discussions and debates. Particular interests will be integrated into the topics presented in class where possible.

## COMPUTER SCIENCE

### Design and Digital Fabrication II **M**

This course is a minor elective available to students who completed Design and Digital Fabrication. Through the single semester class, students will navigate the iterative design process as they work to turn a spark of inspiration into a tangible artifact. Ideas are prototyped and refined through successive iterations. Students will have access to a wide range of tools and technologies as they meet the challenge of bringing their ideas into reality. The design process is supported by critiques, field trips, history discussions, and in-class activities aimed at broadening and deepening students' understanding of design, the considerations that inform it, and how it impacts their daily lives.

### Programming Interactive Graphics **M**

Computers play an important role in almost every aspect of modern society. No longer are they limited to the arenas of business and research, but they have emerged as integral to the creation and generation of graphics. This semester-long course is an exploration of methods for creating computer-generated graphics. Students will build their repertoire of programming skills and develop techniques for algorithmic problem solving, as they use programming languages and other emergent technologies in the development of meaningful personal projects.

## HEALTH AND WELLNESS

### Personal Wellness **M**

This course explores the intersections of physical, mental/emotional, and social health in an effort to best prepare students for independent living and proactive self-care in the future. Topics discussed are determined by students and current issues in wellness for emerging adults. This course meets in the spring semester and is required for all Class XII students.

## GOING BEYOND BARRIERS

### Senior Financial Literacy Seminar **M**

As seniors begin to transition from adolescence to

adulthood, this course will focus on developing a variety of financial skills including, but not limited to, personal financial management, budgeting, and investing. Students will develop a basic understanding and knowledge of the effective use of these skills for their personal and professional journeys.

## ART HISTORY

### Advanced Art History

Advanced Art History is equivalent to a 100 level art history survey course, following a roughly chronological approach, beginning from global prehistory to global modernisms and contemporary art. This year-long, intensive course provides students with the opportunity to deepen their knowledge and understanding of specific art works, traditions and movements, to contextualize art making practices and to refine analytical skills in their reading of art.

### Independent Study Program

The Independent Study Program (ISP) offers students in their senior year the opportunity to pursue an area of particular interest independently. In order to have the time necessary to examine a topic in depth, students are typically allowed to drop one major academic course in the spring term, or two courses, if they are enrolled in six major courses. Students attend a seminar at which they present an oral and written report on their progress each cycle. Projects vary in nature, from purely research-based to creative and entrepreneurial and culminate in a written paper that summarizes student learning or process and an oral presentation to the school community. The ISP committee evaluates students' work on a pass/fail basis, and students receive detailed final evaluations with feedback on every aspect of their projects.

## CLASS IX–XII

### VISUAL ARTS

#### CLASS IX

##### **Ceramics M**

Students will work to develop and hone skills—technical and artistic. Students will learn to articulate their aesthetic choices which will inform and create a personal visual language. The exploration of form, volume, texture, color, and scale will lead to both traditional and experimental ceramic pieces. There will be opportunities to create sculptural and functional pieces, utilizing both wheel-throwing and handbuilding methods. In conjunction with studio work, we will explore historical and contemporary ceramics through slide/video presentations, class discussions and critiques.

##### **Darkroom Photography M**

This is an introductory course in traditional black-and-white photography, as well as alternative processes. Students will learn to process and print from their own film. Particular emphasis is given to the creative application of focus, field of vision, and lighting.

##### **Digital Imaging M**

This course is oriented towards graphic design. Students will use Photoshop to edit and retouch digital images, create photo montages, fantastic landscapes, and self portraits, employing special effects and experimenting with type to create a portfolio reflective of their individual interests.

##### **Experiments in Drawing M**

Students will develop visual competence in representational drawing. This will include lessons involving tone, value, shape, form, and composition, as well as one- and two-point perspective. A variety of drawing materials, such as pencil, charcoal, and pastel, will be used.

##### **Introduction to Painting M**

Students will investigate the fundamentals of painting the still life, landscape, and how painting can be used as a vessel to argue one's point of view for social justice. They will work primarily from direct observation and reference imagery. Assignments will address composition, the representation of space and form, the modulation of color, and atmospheric perspective. Once students gain confidence with the medium, they will be asked to create a persuasive painting, using imagery, to lobby for a cause they feel strongly about.

#### CLASSES X–XII

##### **Ceramics M**

Students will work to further develop and hone skills—technical and artistic. Students will learn to articulate their aesthetic choices which will inform and create a personal visual language. There will be opportunities to create sculptural and functional pieces, utilizing both wheel-throwing and handbuilding methods. In conjunction with studio work, we will explore historical and contemporary ceramics through slide/ video presentations, class discussions and critiques.

##### **Life Drawing M**

Working from anatomical studies, wooden figures, and live models, students learn the fundamentals of representing the human figure in a variety of media, including graphite, charcoal, and colored pencil. This will include exploring proportion, anatomy, and various methods of creating value.

##### **Painting M**

In this course, the projects are initially teacher directed technical studies exploring the various principles and elements of two-dimensional art. As the students' capabilities mature, the projects become more self-directed and individualized.

##### **Photography I M**

Students master the use of the manual SLR through a series of assignments designed to address composition, proper exposure, and the creative use of depth of field. Additionally, students learn basic black-and-white darkroom skills and are

given a general introduction to the history of photography. Contemporary trends in the medium are also introduced through illustrated lectures, reading assignments, and visits to galleries and museums.

##### **Photography II M**

*Pre-requisite: Photography I*

This course builds on the foundation of Photography I. Students progress from assignments designed to master technical skills to ones that allow them to explore subjects of personal interest. In addition, they are exposed to a variety of traditional non-silver processes and introduced to the possibilities of digital imaging. Students are required to visit galleries and museums and to do one in-class presentation on a current exhibit. At the end of the semester, students submit a portfolio on a theme of their choice.

### PERFORMING ARTS | DRAMA

#### CLASS IX

##### **Acting I M**

This semester-long course will be an intensive workshop in theater arts and will focus on voice and movement, improvisation and scene study. Students will be encouraged to participate in a fall production working either on stage or backstage. This course will also emphasize New York's role as a main resource to the theater community and includes attendance at Broadway and Off-Broadway plays.

##### **Acting II M**

*Pre-requisite: Acting I*

This semester-long workshop is an advanced scene study course where roles are assigned requiring more imagination, technique, and concentration. Emphasis will be on the actor, through study, rehearsal, and performance. Students will work on scenes in classical drama from Greek tragedy to Shakespearean comedy. This course is taught by a professional guest actor.

## CLASSES X-XII

### Fall Play **M**

Each fall, interested Upper School students have the opportunity to audition for and present a play or to work backstage. Students receive a semester of arts credit for their demonstrated commitment to the production, which includes regular attendance at rehearsals throughout the entire production period. Rehearsals are held three afternoons per week and on two weekends.

### Spring Musical **M**

Each spring, interested Upper School students have the opportunity to audition for and present a fullscale musical or to work backstage. Students receive a semester of arts credit for their demonstrated commitment to the production, which includes regular attendance at rehearsals throughout the entire production period. Rehearsals are held three to five afternoons a week (depending on a student's role) and on three weekends.

## PERFORMING ARTS | MUSIC

### CLASS X

#### Music Appreciation **M**

This semester-long course is an elected part of the required Arts and Digital Design sequence in Class X. It explores music as a verb: active and always in the present, whether we are listening to Bach's Goldberg Variations or a brand new remix of an Ariana Grande song. Each class centers on a theme rather than a time period; themes range from folk songs to choral music, film scores to contemporary popular music. Through classroom listening and discussion, students learn to analyze music aurally and acquire the musical vocabulary necessary to examine contrasting styles and genres of music. Assignments include written reviews of various musical pieces and a final student-driven project. Previous guest speakers have included contemporary-classical pianist/composer Timo Andres and Tony Award-winning composer Jeanine Tesori.

### ELECTIVES

*In addition to the following courses, several extracurricular performance options are available, including chamber ensembles*

*(small group instrumental ensembles), and Bassless Accusations (the Upper School a cappella group).*

## CLASSES IX-XII

### Upper School Chorus **M**

Upper School Chorus is a non-auditioned singing group that rehearses twice in the eight-day cycle. The ensemble performs at the annual winter and spring concerts as well as the Interscholastic Choral Festival. Healthy vocal technique, sight-reading, and listening skills are all developed. Repertoire is chosen from a wide variety of styles, periods, cultures, and genres. Students receive arts credit for participation in Upper School Chorus.

## CLASSES X-XII

### Upper School Chamber Chorus **M**

*Prerequisite: Strong sight-reading and aural skills; must be any one of the following: (i) a member of Upper School Chorus or Chamber Music Ensemble, (ii) enrolled in a Composition class, or (iii) enrolled in one of the Guitar classes.*

Upper School Chamber Chorus is an auditioned singing group that rehearses three times in the eight-day cycle. This highly selective group (14-20 singers) performs challenging repertoire, including Renaissance, Baroque, contemporary classical, and vocal jazz pieces that are suited to a small, advanced ensemble. The singers regularly perform around the city, participates in the state music contest, and tour both domestically and internationally. Students receive arts credit for participation in Upper School Chamber Chorus.

## CLASSES IX-XII

### Upper School Ensemble

Upper School Ensemble is open by audition to all string and select woodwind players. The class operates as a chamber orchestra, with opportunities for students to build their sight-reading skills and refine their playing technique within an ensemble. Repertoire ranges from classical to contemporary works with consideration of student input, and the ensemble performs at least twice each year. Students will receive fine arts credit for this class.

## Upper School Guitar **M**

The Upper School Guitar program offers a series of courses designed to meet the needs and interests of all students. Beginning students develop a basic skill set and build techniques suitable to a wide range of styles. Subjects covered include learning basic chords and accompaniment styles, reading guitar tablature, and playing guitar introductions, riffs, and solos. Students with some previous experience learn more advanced chords and accompaniment styles, simple solo playing, and basic chord theory. Students with a strong background play music in a variety of styles to help refine and strengthen their technique. All interested players will be placed in an appropriate section after consultation with the instructor. Students receive arts credit for participation in any guitar class.

## Music Theory **M**

Music Theory offers students the opportunity to learn fundamental components of music. Topics will include formation of major and various minor scales, identifying and using key signatures and time signatures, understanding harmonic progressions in various genres, an introduction to voice leading, improvement of aural skills, and theoretical components of non-western music. The curriculum will be further individualized to explore specific student's areas of interest or curiosity. Through homework exercises, listening activities, and class discussions, students will gain a deeper understanding of the "rules" that guide nearly all genres of music. The course will culminate in a student-selected final project that allows individuals to explore in greater detail a topic of their choosing.

## Music Production and Composition **M**

This semester-long course will focus on writing, arranging, and producing music. While the course focus will be on music, skills acquired will be useful for podcasting, sound design, and engineering. These will be great tools to have for other classes in which audio knowledge is useful (i.e. creating videos, podcasts, soundscapes, etc.). Through a series of lessons and small projects, students will gain the skills to create various projects that rely on sound production and

editing. The intention is to offer a space where composition students can continue to explore their musical skills, while also teaching nonmusicians how to utilize various online programs like Soundtrap and Noteflight—allowing them to not only compose music, but also create projects that will be useful in other content areas. Each student will create one to five original pieces throughout the course. No previous knowledge in music is required; each student will be working at their own pace based on their level.

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## PERFORMING ARTS | DANCE

### CLASS X

#### Dance History **M**

This semester-long course is an elected part of the required Arts and Digital Design sequence in Class X. Through research and analysis, students in this course gain a sense of the development of dance styles throughout history.

### ELECTIVE OFFERINGS

*Upper School dance elective topics change on a rotating basis and include the following: Dance on Camera, Dance in*

*Unexpected Places, Dance and Politics, and Dance and Gender. These project-based electives give students the opportunity to study dance as part of their academic program. Since dance is both a physical discipline and a performing art, credit for a dance elective may be used for either physical education or art.*

### CLASSES IX- XII

#### Dance and Gender **M**

This course focuses on film and the moving body. We will explore the world of movement on-screen by looking at the development of this burgeoning art form. The infinite ways in which movement forms perception in the two-dimensional format will be investigated. The semester begins with a historical perspective on the merging of film and dance followed by showings of work ranging from insights into the human condition through pedestrian gesture to abstract choreography uniquely portrayed via the camera lens. Movement classes and viewings are supplemented with student projects. In creating individual screen dances students use editing and camera techniques. Kinesthesia, rhythm, and spatial awareness are a few of the movements for camera aspects that are applied to the film work.

## PHYSICAL EDUCATION

### CLASSES IX-XII

In the Upper School, students begin to learn where their interests lie, and our program exposes them to a variety of opportunities to find activities to which they can connect. The goal of our program is to provide students with a foundation on which to pursue lifelong fitness. Enjoyment of—and appreciation for—physical activity as part of a healthy lifestyle are the fundamental components of our curriculum. A variety of PE courses are offered each trimester within the three areas of focus described below. Over the course of the year, students must select at least one class from each area of focus; their fourth class may come from the focus area of their choice.

#### Mind/Body

Students will explore yoga, Pilates, meditation, myofascial-

release techniques, and other methods that explore the connection between the mind and body. Self-reflection and stress reduction techniques allow students to explore methods of self-regulation and build resilience.

### **Fitness**

This area of focus encompasses many different forms of activity that aim to increase stamina, strength, and athleticism. The goal is to increase physical knowledge and wellness regardless of one's perceived ability, to identify and apply correct movement patterns, and to promote longevity through fitness. Students will use various technological applications to enhance their understanding. Courses offered may include running & jogging, power walking, strength training, Kickboxing, Cardio Jam, and Zumba to name a few.

### **Games and Sport**

Students will participate in various games and team sports that foster teamwork, strategy, leadership, and comradery. Students learn the history, rules, and impact of these activities as it relates to life long fitness. Courses in this category may include badminton & racquet sports, cooperative games, and Lower School games. Participation in two sports fulfills a student's PE requirement for the year. Subject to departmental approval, students in Classes X-XII may also receive a PE exemption for a significant commitment to an outside athletic team or other athletic endeavor, including dance, by applying to our Alternate Athletic Credit Program.

## **ATHLETICS**

Nightingale recognizes the value and importance of athletic participation. We offer a wide-ranging program of competitive teams for our students. Participation in two sports fulfills a student's physical education requirement for the year.

### **Fall Season**

JV and Varsity Volleyball  
Varsity Cross Country  
Varsity Soccer  
Varsity Tennis

### **Winter Season**

JV and Varsity Basketball  
Varsity Indoor Track  
Varsity Squash  
Varsity Swimming

### **Spring Season**

Varsity Badminton  
Varsity Lacrosse  
Varsity Softball  
Varsity Track and Field

## **LIBRARY**

Research and reading are the twin pillars of the Upper School library program. In close collaboration with faculty, librarians support project-based contextual research integrated throughout the curriculum. Students learn traditional and emerging literacies, critically using and assessing a variety of information sources. Individual conferences and small group instruction provide practice in articulating research questions and investigating robust lines of inquiry. Students have access to a full suite of digital and print resources including peer reviewed journals, primary sources, historical newspapers and an extensive library of physical and digital books.

Through partnerships with local organizations, we offer a range of interdisciplinary opportunities that give students a chance to experience hands-on research and cultural enrichment. These projects are designed to empower students to explore New York City's cultural centers, literary events, and historical societies.

The library's diverse collection reflects the community's wide range of interests, perspectives, abilities and identities.

Student-driven book clubs and the Library Advisory Board give students leadership opportunities to engage in library programming and collection development. Our goal is to cultivate curious, independent, and agile thinkers who will thrive in a college environment, equipped with skills for life.

## **COLLEGE COUNSELING**

The rigorous academic program at Nightingale ensures that each student who graduates from the school will be prepared to succeed in a challenging college curriculum. Each year all of Nightingale's senior class are accepted to selective colleges in the U.S. and abroad. College counseling begins with course selection in the Upper School to make sure that each student completes the courses required for college admissions and takes the necessary standardized tests. Throughout their Nightingale years, students are encouraged to challenge themselves in the classroom, explore and develop passion and expertise in their extracurricular interests, and to search for ways to contribute to the good of their community, both inside Nightingale and in the world beyond.

The process of identifying prospective colleges begins officially in the junior year. Students and their parents work with the college counselors to develop a list of colleges that are appropriate for each student. Individual and small group meetings with students focus on understanding the application process, researching colleges, and essay writing, as well as developing interview, self-assessment, and mature decision-making skills. The Nightingale-Bamford School is proud of the quality and wide range of colleges chosen by its graduates.

## **COMMUNITY ENGAGEMENT**

At Nightingale, community engagement is integral to educating students as global citizens. By working with others in our neighborhoods, students understand the systems in our society and their own ability and obligation in standing side by side with those in need and those who work to eliminate societal needs through grassroots, non-profits, and governmental agencies. All students in Classes



X-XII must demonstrate a sustained service commitment and choose one organization to support each year with a minimum of four visits. In addition to this sustained commitment, students must participate in one cross-divisional event each year within our school community. At the end of the school year, students complete a reflection to demonstrate their level of engagement and learning from their service commitment.

### OFF-CAMPUS STUDY

In addition to the off-campus study options listed in this section, other travel opportunities are offered periodically and tied directly to the curriculum. Class IX travels to London for a week every fall, and other trips have included travel to China, Cuba, Iceland, France, Italy, Spain, South Africa, the Dominican Republic, and Colombia. At the end of Class IX, students may apply for the Global Planning and Round Square Committee, which leads the Upper School in incorporating the Round Square consortium and global issues into the life of our community. Round Square is a consortium of more than 200 schools from 50 countries around the world and allows our students to develop global competencies, attend conferences and service projects, and participate in additional exchanges. Any student may apply for an exchange to a Round Square school regardless of her participation in the committee.

Through the Round Square consortium, Nightingale is planning virtual reciprocal exchange opportunities for our students at schools where our students can practice the modern languages that they have been studying in our classrooms including Spanish in Perú and French in Quebec.

International exchanges beyond those listed below may be arranged through the Round Square network.

### CLASS X

- Australian exchange with Ascham School in Sydney, six weeks
- South African exchange with St. Mary's School in Waverly, Johannesburg, three weeks
- Swiss Semester in Zermatt, first semester

### CLASS XI

- English exchange with St. Paul's Girls' School in London, two weeks
- High Mountain Institute in Leadville, CO, one semester
- Maine Coast Semester at Chewonki in Wiscasset, ME, one semester
- Mountain School of Milton Academy in Vershire, VT, one semester
- School for Ethics and Global Leadership in Washington DC or Johannesburg, South Africa, one semester
- School Year Abroad (SYA) in France, Italy, or Spain, full year (one semester is available if space permits)