

Upper School

2026-2027 CURRICULUM GUIDE

UPPER SCHOOL

Overview

The Upper School curriculum reflects our belief that a well-rounded liberal arts education, adapted to the modern world, is the best preparation for college and a lifetime of learning. Students establish solid foundations in the Core years where all students in Grades IX and X follow our curriculum (English, science, history, at least one world language, and an integrated math program which covers Algebra II, Geometry, and Data Science). They then move into the Elective years where they take advantage of our wide selection of offerings that enable students to pursue their interests and build on their strengths to engage in deeper, collaborative, and meaningful learning.

To enrich our students' experience in the Upper School, students have the option of continuing on in our exceptional liberal arts program or exploring their particular curricular interests by applying to our Independent Science Research Program or a STEM or Global Pathway. At the end of sophomore year, students have the ability to apply to a pathway and tailor their learning experience for Junior and Senior years with targeted coursework and research opportunities that further their knowledge of systems and enhances their critical thinking skills. Students who complete either pathway program will have an additional designation on their transcript highlighting their completion of the program, an acknowledgement of their academic achievement in their chosen area of focus.

No matter what path a student chooses in the Upper School at Nightingale, they are expected to complete twenty major courses during their high school career. Students generally take five majors each semester with the option (but not requirement) to take six majors. Additionally, specific minor and major courses are required for graduation (see "Required Minors" on the following page).

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

- Majors meet seven times per cycle.
- Minors meet three or fewer times per cycle.

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

Exceptions to these graduation requirements may only be made at the discretion of the Head and Associate Head of Upper School and the Director of College Counseling. Please refer to the Upper School Handbook for additional information.

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.

The 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 **Senior Capstone:** Spring semester of senior year | **Community Engagement:** Individual sustained service both to the school and the broader community required for Classes X–XII

REQUIRED MINORS

In addition to the above-mentioned diploma requirements, the following minor courses are also required as part of the Upper School program:

- Class IX-XII Beyond Barriers Sequence*
- Class IX Programming, Class X Physical Computing
- Class XI College Counseling
- Arts and Digital Design Sequence**

**This four-year sequence includes Class IX Power and Patriarchy: Who Made the Rules?, Class X Leadership, Class XI Public Speaking, and Class XII Financial Literacy Seminar*

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

UPPER SCHOOL

Offerings & Areas of Study

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. Students in Classes X–XII must choose one organization to support each year with a minimum of four visits, though most students spend far more time with their chosen organization. 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.

BEYOND BARRIERS

Beyond Barriers is a four-year, required sequence that embodies Nightingale's mission to educate girls' minds and hearts and to prepare students to be joyful learners, critical thinkers, compassionate citizens, and agents of their own lives. Taken as a whole, the sequence is intentionally developmental: it guides students from understanding how power and inequity shape lived experience, to seeing themselves as capable leaders, to claiming their voices in public spaces, and ultimately to exercising agency and responsibility in their personal and professional lives. Across all four years, Beyond Barriers empowers students to question the status quo with confidence, empathy, resilience, and reason.

CLASS IX

Power and Patriarchy: Who Made the Rules? M

We've gotten used to thinking about women's history in terms of "firsts" or notable achievements–the first woman presidential candidate; the first woman astronaut, the first woman billionaire. These exceptional stories are powerful and inspiring. They are important because they insert women into our historical record. But why were women excluded in the first place? How can we continue to resist and defy such constraints? In this course, we will interrogate the institutional and systemic forces that have defined women and their opportunities as well as limited women by establishing societal expectations and restrictions. Emphasis will be placed on gaining a critical, intersectional perspective on the workings of power as they affect women, as well as on the mechanisms of change and the experiences of women now. Broad areas of investigation will include: health and medicine, the law, representation, economics, and social relationships.

CLASS X

Leadership M

Why teach leadership to Class X at a girls' school? Four reasons: First, it teaches students that leadership is accessible to everyone and is merely a set of behaviors that can be learned. Second, it teaches adolescents how they can move from problem to progress. Third, it heightens self-knowledge. Fourth, it helps Class X students see themselves differently. And if you can see it, you can be it!

CLASS XI

Public Speaking M

Speaking in public is about more than just volume, pacing, tone, and stance. Ultimately, a good public speaker is someone who is confident in themselves and enthusiastic about what they're saying. In this class, through the development and delivery of a variety of speeches, students will not only learn the basics of rhetoric and effective speaking strategies, but they will also develop their sense of confidence by uncovering their authentic voice and unique sense of humor. After one semester of Public Speaking, students may actually find speaking in front of a crowd to be fun and freeing.

CLASS XII

Senior Financial Literacy Seminar M

As seniors prepare to transition from adolescence to adulthood, this seminar equips students with the knowledge, skills, and confidence to make informed financial decisions. The course emphasizes practical, real-world applications of personal financial management, including budgeting, saving, investing, credit, and long-term financial planning. Students examine how financial systems work, how money decisions intersect with values, identity, and equity, and how financial literacy serves as a foundation for independence and agency. By the end of the seminar, students will have developed the tools and habits necessary to navigate their personal and professional lives with intention, responsibility, and a sense of ownership of their financial futures.

ARTS AND DIGITAL DESIGN SEQUENCE

Nightingale's Digital Design Sequence is a graduation requirement for students, who must choose two of the following semester-long courses.

Design and Digital Fabrication I M
This semester-long course is an elected part of the Arts and Digital Design sequence. In this semester-long course, students learn how to apply various tools and technologies to prototype and develop their own innovations and re-imaginations. 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. Students are assessed through mini-projects throughout the semester. Throughout the course, students learn various computer-aided design tools to bring their creations to life. During the animal cutout project, students learn how to create vector graphics designs using Adobe Illustrator that are laser cut and then assembled into 3-dimensional animal figures.

Music Appreciation M
In Music Appreciation, students explore music as a verb: active and always in the present. This course explores the history, evolution, and cultural significance of music through a series of themes ranging from classical and global music traditions to jazz and 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. In class, students engage in listening and discussion as well as interactive activities to deepen their understanding of rhythm, melody, form, style, interpretation, and instrumentation. Additionally, students provide examples of their current "playlists" to connect the study of music history with current musical trends. Students are assessed through their participation in class, homework assignments, and a final presentation at the end of the semester on a topic of their choosing. Homework assignments include at home listening, musical submissions, and reflections. By the end of the semester, students are able to analyze music with an elevated language, critical ear, and a deeper understanding of music through theory, history, and culture. There are no prerequisites for this course.

Introduction to Art History M
This semester-long course is an elected part of the Arts and Digital Design sequence. This course will take students through a focused walk of art history. We will look at works from ancient to contemporary times using the Annotated Mona Lisa text as our guide. In addition, we will look at works outside the traditional Western canon of art history. Students in this course are encouraged to draw connections between art periods, human civilization, and how we look at art. Mary Beard's How do We Look and David Olusoga's First Contact the Cult of Progress will be used to enhance student's understanding of the interdependence between art and civilizations around the world. Students will have the opportunity to visit museum(s) around the city to make greater connections to course content. We seek to equip students with vocabulary, methodology and context to develop their own perspective when viewing art and encourage them to reframe art history for a new generation. Assessment will be based on quizzes, in class projects, participation and presentations.

Dance History M
Class X Dance History is a one semester course where students research and discuss the history of moving bodies in 20th-Century New York City. Students ask what is dance, who dances, where does dance happen, and whose history is recorded. The goals of the class are to expand thinking about dance history, to practice thinking historically about dance, to develop a deep engagement with dance as a viewer and a practitioner;, and to better know ourselves, our city, and our history of dance. Classes combine readings, videos, films, lectures, writing, and embodied practice. Students help select material to be studied. Students will know various social, sacred, and concert dance forms, as well as groups, artists, and institutions particular to New York City, understand methods of collecting and disseminating dance history (archival research, body-to-body transmission, oral history, video documentation, etc.), and situate their identities within a lineage of dance artists and places. Students maintain a dance journal for the entire semester where they record notes, thoughts, questions, feelings, vocabulary, and short essays. For a complete grade, students share the journal with the instructor at the conclusion of the course. Students also write 1.5 – 3 pages on a class-related subject of their choosing. Students may learn, present, and teach a short (1-3 minutes) dance or dance phrase as part of their presentation. They may also choose to show video and/or photos with their talk. Occasionally the class engages in dance practice. Students approach dance practice with the same rigor and focus as their other class work. No previous dance experience is necessary.

PATHWAYS

Pathways is a bold reimagining of the Upper School experience, designed to personalize learning in an interdisciplinary way. At its core is the belief that education must reflect the interconnectedness of the world students are preparing to enter. Beginning in Class IX, all students participate in a common, intellectually rigorous two-year core curriculum that emphasizes academic exploration and discovery. This foundational period fosters essential competencies—critical thinking, communication, collaboration, and curiosity—and provides students with space to explore minors, building the skills and confidence needed for deeper work in the elective years.

At the conclusion of Class X, students who seek a focused academic challenge and deeper level of inquiry may apply

for a personalized academic focus area, or Pathway, that aligns coursework, travel, research, and real-world experiences with their interests and aspirations. This opportunity is built upon an exceptional Upper School program grounded in the liberal arts. Every Nightingale student follows a rigorous humanities curriculum, studying English, History, and a world language throughout most of their high school experience, ensuring intellectual depth, critical analysis, cultural understanding, and strong communication skills. With this shared foundation, Pathways allow students to pursue specialized interests without sacrificing the breadth, balance, and humanistic perspective that define a Nightingale education.

The two Pathways include: STEM and Global Scholars. Each Pathway offers a curriculum map with three components: academic, extracurricular, and experiential. These intentionally curated components culminate in the required Senior Capstone: a semester-long research, design, or impact-driven initiative supported by writing, independent inquiry, knowledge creation, and public speaking. Importantly, Pathways are not rigid tracks; they are flexible frameworks that allow students to make interdisciplinary connections and pivot as their interests evolve in consultation with faculty and college counselors. Aligning core skill development with authentic exploration and intentional mentorship empowers students to shape a cohesive, self-driven academic narrative about who they are, their intellectual interests, and how they hope to engage with the world. As one leader put it, "Pathways is not simply a program; it is a vision for what transformative education can be."

STEM SCHOLAR PATHWAY

There are two separate STEM pathways that students can choose:

- Independent Science Research Program (ISRP) is an application-based program with a Lab Internship Focus
- Math & Computer Science Focus is a 'declaration of intent' process (STEM designation given upon completion of the three components)

STEM ISRP Pathway Requirements:

Academic Component:
- Complete Class IX & X CORE
- Application and Acceptance to ISRP and STEM Pathway
- Science Seminar (m) in Class XI and Class XII
- Advanced Science: Biotechnology Lab in Class XI Spring
- Triple-Up on STEM Classes all four semesters of Class XI and Class XII

Extracurricular Component:
- STEM Summer Internship Between Class XI and Class XII
- Membership in a STEM Club
- Peer tutor in a STEM field

Senior Capstone Component:
- Senior Capstone focused on ISRP internship work

STEM Math & Computer Science Pathway Requirements:

Academic Component:
- Complete Class IX & X CORE
- Application and Acceptance to STEM Pathway
- STEM Seminar (m) in Class XI and Class XII
- Advanced Programming I & Advanced Robotics & Engineering
- Triple-Up on STEM Classes all four semesters of Class XI and Class XII and maintain academic standing

Extracurricular Component:
- Membership in a STEM Club
- Peer tutor in a STEM field

Senior Capstone Component:
- Complete a Senior Capstone that is STEM focused

GLOBAL SCHOLARS PATHWAY

This application-based program is intended for students focused on engaging with the world via three main components: academic, extracurricular, and experiential. Global Scholars select classes and extracurriculars with a global focus to deepen their understanding of our interconnected world, and are committed to building a more nuanced understanding of their own worldview through thoughtful examination, development, and application of Nightingale's global competencies: sense of self and place, critical systems thinking, intercultural connection, adaptability to change, and action toward a better future.

Academic Component:
- Class IX and Class X CORE
- Application and Acceptance to the Global Scholars Pathway
- 2 Global English courses: spring semesters during Class XI and XII)
- 3 Global History courses: spring XI and fall and spring XII): If students do not wish to double up on history, they must prioritize courses that fulfill American history AND are approved global history credits. These courses will be marked with a globe in the course description guide.)
- 4 Semesters of Global Scholars minor: Classes XI and XII
  - Reflections and demonstrations of learning of the five global competencies each year. (Through Global Education Seminar)
- Senior Capstone of global significance

Extracurricular Component
- Intercultural Dialogue: 2 per year, at a minimum
  - Nightingale designed and facilitated
  - IGL
  - Peer schools etc
- Student leadership
  - Peer tutor for a modern language
  - Clubs with a global focus
  - Club project with a global focus
  - Club leadership of a club with a global focus

Experiential Component
- Class IX Trip to London
- Semester away
- Short-term exchange
- Immersive travel learning (with Nightingale or pre-approved outside program)
- A community engagement project that highlights modern languages studied

GLOBAL SCHOLARS

Class XI Global Scholars Seminar M

The Global Scholars minor of the Global Scholars pathway is an interdisciplinary, two year sequence that explores the concepts, institutions and processes that shape, and communities that make up, the contemporary world. Global Scholars examine these ideas through the lenses of current events, global issues and women changemakers throughout history. During year one, students build foundational knowledge of global systems and how these systems inform the ways in which countries interact and collaborate. They will also explore the diverse cultures and perspectives in regions or countries of their choice. Students develop communication skills by engaging in in-class debates as well as by hosting public-facing dialogues for the Nightingale community and for their broader school community around the United States and world. Scholars will learn to think critically about global change, with an emphasis on the interconnected and interdependent nature of our world. Students are assessed via individual reflections, group collaborations and presentations. The course text is *The World: a Brief Introduction* by Richard Haass.

Class XII Global Scholars Seminar M

In year two of Global Scholars, each student will select a global challenge that they feel is the most pressing in today's world. By engaging in more advanced, inquiry-based study of their global challenge, students will deepen and apply the foundational knowledge of global systems they acquired during year one of the pathway. Topics will include, but are not limited to, ideas such as climate change, inequality, institutions and governance, migration, technology, or global health. Students will engage in comparative analysis and consider collaborative problem-solving, prioritizing ethical decision-making and global citizenship. Global Scholars Year 2 places greater emphasis on independent research that informs potential, and analyzes existing, real-world solutions to global issues. Scholars will have the opportunity to identify their Senior Capstone topic. The text list will evolve based on students' topics, and assessments will include written reflections, infographics, debates and dialogues, and presentations.

SENIOR CAPSTONE PROJECT

The Senior Capstone is a semester-long, interdisciplinary, student-centered course that allows Class XII students to pursue a topic of personal interest through in-depth, independent research. Under the mentorship of a faculty section leader, students work in small cohort groups that foster seminar-style learning and help build a community of shared purpose and support. Section leaders empower students to ask big questions and design original work. While projects can take many forms, from traditional research papers to performances, product prototypes, or portfolios, all include authentic research and a written component that helps students contextualize their work within a broader field of inquiry.

Through this course, which takes place in the spring of Class XII, students strengthen essential academic and real-world skills—including research and inquiry, critical thinking, time management, self-direction, and the art of giving and receiving constructive feedback. They must exhibit strong organizational skills and the capacity to adapt to changing circumstances. Each Capstone project culminates in a comprehensive research paper and a formal presentation delivered at a school-wide colloquium. This public presentation allows students to communicate their ideas clearly and confidently, demonstrating both subject mastery and dynamic presentation skills.This transformative learning experience highlights students' growth and preparedness for the next stage of their academic and personal journeys.

ENGLISH

Nightingale's English program introduces students to a wide range of literature, both traditional and contemporary, and challenges them to investigate language and meaning. We celebrate diverse authors and narratives that emphasize our common humanity. We ask students to engage with a range of texts: novels, short stories, essays, films, poetry, scripts, and plays. Analytical and creative writing assignments push students to discover their voices and hone their critical thinking skills through practice, feedback, and reflection. In class discussions, students learn to listen and respond to their classmates, question assumptions, evaluate arguments, identify biases, and synthesize information from various sources. We affirm the universal power of human stories to expand our intellectual and imaginative horizons, enrich our inner lives, and deepen our capacity for empathy, compassion, and joy.

CLASS IX

English IX

In English IX, students learn to read and write with curiosity and precision. Students read a variety of texts, including Jacqueline Woodson's *Red at the Bone*, J.D. Salinger's *The Catcher in the Rye*, and Shakespeare's *Romeo and Juliet*. Each text disrupts what Chimamanda Ngozi Adichie calls "the danger of a single story," a concept that informs our discussions and writing assignments throughout the year. Students identify how and why our understanding of ourselves and our world is enriched when we have access to a variety of stories and storytellers. A sonnet unit, focusing on Shakespearean and contemporary sonnets, introduces students to the poetic form and gives students an opportunity to create their own original sonnet. A short story unit focuses on how compressed narratives can challenge our assumptions and encourage us to read more closely. Assessments include analytical and imaginative writing assignments, weekly reading comprehension exercises, and creative projects that students can approach independently or collaboratively. Students engage in an intensive study of English grammar and usage grounded in *The Beauty of the System*, a comprehensive guide to improving students' written and oral communication in Standard English, authored by our department's own Brad Whitehurst. At the end of the year, students will create a culminating project

that showcases an area of interest, sharing ways in which their lives and personal stories challenge single stories and connect to one (or more) of the texts read during the year.

CLASS X

English X

In English X, students read a variety of texts that deal with the theme of transformation. Beginning with Tara Westover's *Educated*, students consider what prompts some people to change from one state to another, whether outwardly in the shape of their lives, or inwardly in their thoughts and feelings. Discussing *Educated* also encourages students to contemplate what the purpose of an education is. This course includes texts of different genres; students read a play (*A Doll's House* by Henrik Ibsen), novels (*The Great Gatsby* by F. Scott Fitzgerald, *Their Eyes Were Watching God* by Zora Neale Hurston, and *Siddhartha* by Hermann Hesse), memoirs (*Night* by Elie Wiesel and *Narrative of the Life* of Frederick Douglass) and selected Romantic poetry. Students continue their study of English grammar and usage in *The Beauty of the System*. Students learn to read critically and to develop nuanced analytical arguments. They also complete several creative assignments, including a short story and a personal essay.

CLASSES XI AND XII

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

English XI

In this one-semester course, students explore their unique relationship to language and narrative through the study of two distinctive genres: the personal essay and poetry. Students explore the following essential questions: What do I have to say, and what are my options for saying it? How have writers over the years used these genres to explore their own thinking, and how can their examples be used as models for my own writing? How can I avail myself of the tools specific to literature (anecdote, dialogue, scene-setting description, selective word choice, figurative language, etc.) to expand my options on the page? In the first half of the course, students read both classic and contemporary essays, and in the second half, students engage in a robust study of poetry from a wide range of authors, backgrounds, and eras. Students will compose original creative work and complete in-class close readings of essays and poems to hone their interpretive faculties.

English XII

In English XII, students learn to contribute to vital conversations about identity and citizenship in a perceptive and imaginative manner. Students read *Brokeback Mountain* by Annie Proulx (and watch the film adaptation), *As I Lay Dying* by William Faulkner, *Citizen* by Claudia Rankine, *Sweat* by Lynn Nottage, and selected poems by Emily Dickinson. These works differ considerably both in genre and in ostensible subject matter. They are, however, all American texts that converge on the theme around which the course is built: unmet needs. Students consider how characters facing different circumstances respond to those needs (and at what cost). We consider how we—as readers, writers, and citizens—might negotiate our own needs with those of others. To what extent can people with different needs and experiences find a shared sense of reality? Students will complete analytical essays (including in-class close readings and a comparative paper that synthesizes key course themes) and creative projects (such as a pastiche of William Faulkner's style).

ADVANCED ELECTIVES

African-American Pastoral Visions

This elective course invites Class XI and Class XII students to explore African American literature and history through the lens of the pastoral, examining how writers imagine, reclaim, and reshape rural spaces, land, and the natural world. Students will read and analyze works such as Jean Toomer's *Cane*, Charles Chesnutt's *The House Behind the Cedars*, Alice Walker's *The Color Purple*, Gloria Naylor's *Mama Day*, and David Bradley's *The Chaneysville Incident*, as well as other influential voices in African American literature, history, and political thought. Through storytelling, close reading, discussion, and research, students will develop critical skills in literary analysis, historical contextualization, and interdisciplinary thinking. They will explore themes of race, migration, labor, community, identity, and the environment while considering how the pastoral tradition has been transformed by African American writers to reflect lived experiences, critique social and historical structures, and imagine alternative futures.

Art of the Short Story

This one-semester course offers the opportunity to explore the short story form, both from a critical perspective and a craft one. Put simply: you will analyze stories from a diverse pool of writers as you would in an English class (determining what a story means and what devices it employs to function) and as you would in a creative writing class (looking for what you can "take" from a story and assimilate into your own creative process). Our principal text will be *The Scribner Anthology of Contemporary Fiction*, edited by Lex Williford and Michael Martone. As the semester progresses, however, we will examine other stories not contained in that book to make sure that we consider as wide a range of styles and perspectives as possible. In the first part of the course, you will have ~2-3 analytical assignments pertaining to texts that we have read together. You will also conduct a *Paris Review*-style interview with yourself in which you interrogate your own aesthetic preferences and habits. At the end of the course, you will write your own short story in stages and give feedback to others as part of a workshop.

Friendship and Identity in Literature and Film

The friends we make in childhood and adolescence can alter who we become and the course of our lives. As we grow older, our childhood friends may be the only ones to remember who we once were. And yet the nature of friendship is amorphous; the relationship isn't formalized in the way marriages or family relationships are. This course draws on literature, film, cultural theory, and lived experience to explore how friendship is portrayed, experienced, and understood. What does it mean to be a good friend, and how have literature, film, and other

media shaped our understanding of what friendship should or could look like? How is friendship impacted by gender, race, class, and other social factors? How has the role of friendship shifted over time, and how have social media, smartphones, and the introduction of AI impacted our definitions and experiences of friendship? Possible authors include Toni Morrison, Sayaka Murata, Sarah Shun-lien Bynum, Aristotle, Adam Gopnik, and Derek Thompson. Students will produce a literary analysis essay, a personal essay, an inter-generational interview, a group project (e.g., applying Aristotle's framework of friendship to a contemporary film like *Clueless*), and a final project exploring a question chosen by each student.

Jewish Literature
This course is for all students—whatever your beliefs, self-identification, or background—who are interested in the wide-ranging, influential, and ceaselessly provocative nature of Jewish literature in the 20th and 21st centuries. The central question in this course is what it means to speak of "Jewish literature" at all. Does this label apply primarily to subject matter or does it also connote a certain set of aesthetic characteristics? We will do our best to explore this literature in all its diversity; our reading will take us from Eastern and Central Europe to North America and, naturally, to Israel. Writing in this course will comprise a comparative paper about short stories by Franz Kafka, Isaac Bashevis Singer, and Isaac Babel, an in-class close reading of Nicole Krauss's novel *The History of Love*, a short story, and a final essay in which students consider the course's central question. We will consider what it means for you to explore, interrogate, and even contribute to this tradition and the myriad conversations it inspires.

Journeys in American Literature
In this course, we'll consider how the American literary tradition riffs on the classical idea of "the hero's journey." How are the protagonists of our texts shaped by the journeys they undertake? How do forces—such as class, race, immigration, and war—anchor and alienate our heroes' sense of self? What do these texts tell us about the gap between the American Dream and American reality? Texts will include Toni Morrison's *Song of Solomon*, Tim O'Brien's *The Things They Carried*, Jhumpa Lahiri's *Unaccustomed Earth*, and others. Students will maintain a close reading journal and, over the course of the semester, produce a literary analysis essay, a hybrid personal-literary essay, and a collaborative project (e.g., exploring Morrison's use of motifs in *Song of Solomon*).

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? Through discussions, formal and informal writing, and projects based on the literature, students will consider these questions and others: 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. Texts may include *Pride and Prejudice* by Jane Austen, *Beloved* by Toni Morrison, and *The Prime of Miss Jean Brodie* by Muriel Spark, along with short stories.

Misfits and Monsters
Everyone loves a good villain—a thoroughly unsavory character whom we are permitted, even invited, to loathe utterly. Fictional worlds that draw clear lines between good and evil make it easy for us to stigmatize or demonize what we perceive as different from ourselves. Fictional worlds that are not so black-and-white but include ambiguous shades of gray may be more difficult to negotiate. How does one tell the good guys from the bad, especially when the drifters, misfits, ne'er-do-wells, evildoers – and even the monsters – appear to be not so very different from ourselves? In answering these questions, we will read works that may include *The Strange Case of Dr. Jekyll and Mr. Hyde* by Robert Louis Stevenson, *House of Mirth* by Edith Wharton, *The God of Small Things* by Arundhati Roy, *Convenience Store Woman* by Sayaka Murata, and short stories by Flannery O'Connor. In addition to participating in and often leading class discussions, students will complete in-class close-readings and longer take-home analyses of the texts, as well as creative assignments and projects inspired by the literature.

World Literature
Reading a country's literature provides a crucial insight into its cultural and imaginative life. In our interconnected world, this is more important than ever. The first part of the course will focus on novels by Nadine Gordimer and Jenny Erpenbeck that dramatize what it means to be an outsider or a marginal figure in one's own country. Students will complete in-class close readings of each text. The second part of the course will focus on so-called "postnational authors" such as Roberto Bolaño, Jhumpa Lahiri, and Yiyun Li. Students will write a short story or personal essay of their own and produce a final essay in which they consider what the phrase "world literature" means. Is it coherent to speak of global citizenship–in literature or in life? Each unit will feature supplemental texts from authors around the world, and students will also frequently lead class discussions.

ENGLISH MINOR COURSES

Creative Writing M
A one-semester elective minor course, Creative Writing offers students in Classes X-XII the opportunity to produce, refine, critique, and present original work inspired by the poems, creative nonfiction, and fiction they read. Across each unit, students develop their own writing through focused exercises and prompts, which are then formally workshopped in a supportive group setting. Mentor authors include David Whyte, Maggie Smith, Meghan O'Rourke, Ada Limón, Claudia Rankine, Audre Lorde, Sandra Cisneros, Olivier de la Paz, Lucille Clifton, Ross Gay, Lauren Slater, Jeannine Ouellette, Beth Ann Fennelly, Charles Yu, and others. Visiting authors have included Adrian Matejka, Melissa Faliveno, Leigh Newman, Darrin Strauss, Maya Popa, and Monica Youn. The course provides a space for students to experiment, take creative risks, and play with language while developing a distinctive

literary voice. By the end of the semester, students will have written, workshopped, and polished a collection of poetry, a personal essay or collection of lyrical essays, and one short story. There are no prerequisites for this course.

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 prioritize questions wholly based on your interests, but here are some questions that have come up in the past: What constitutes success? Can time be "wasted"? How might AI impact our understanding of companionship and connection? What do you think happens after you die, and how does that affect how you live your life? Does society need hierarchies to function? In the first half of the course, you will have the opportunity to design and lead your own inquiry; in the second half of the course, we'll examine (via short case studies) and propose solutions to current ethical issues. This course features a number of visits to New York City museums to deepen and expand students' inquiry. (Open to Classes IX through XII. Runs in fall and spring semesters.)

HISTORY AND SOCIAL SCIENCES

In the department of history and social sciences, Nightingale students explore diverse human systems of the past and present, seeking enduring understandings and inspiration for the lives they will lead in an interconnected, twenty-first century world. Our classes center human ingenuity and social transformation alongside the barriers that have stymied freedom and flourishing. Dynamic class discussions, varied readings, and an inquiry-based research program equip every Nightingale student with powerful tools for lifelong learning. By analyzing primary sources, scholarship, maps, and quantitative data from divergent perspectives, we lay bare the contested process of building narratives, empowering our students to become critical consumers and creators of knowledge, as well as meaningfully engaged citizens. Our students build capacity to act with keen analytical insight, empathy, and resilience as they develop community and design impactful lives within and beyond the blue doors. Throughout, we focus on developing the skills of historical thinking, inquiry-based learning, research, communication, and civil discourse.

CLASS IX

Global History 1

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, the first of a two-year global history sequence, students explore some of these transformations as they occurred in Africa, Asia, Europe, Latin America, and the Islamic world, while developing foundational skills for upper school history. Selected topics include the Indian Ocean trade networks; cultural flourishing and political change in Ming China and the Ottoman empire; the Renaissance, Protestant Reformation and Wars of Religion; indigenous empires in the Americas; and the Atlantic Revolutions. In addition to textbook excerpts, students read and analyze textual primary sources, while also exploring art, artifacts and maps. All assessments are designed to foster 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. The culminating assignment is the Class IX independent research paper, in which students delve deeply into a topic of their choice and construct a sophisticated written argument using scholarly sources.

CLASS X

Global History 2

During the nineteenth 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 2, 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 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 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. In addition to in-class writing, assessments include an intellectual history presentation, a group project on the decolonization experience of one country, and an inquiry-driven research paper on a topic of each student's choice that builds on the skills developed in Global History 1.

CLASSES XI AND XII

Over the course of Class XI and Class XII, students are required to take two semesters of United States history, one of which must be United States History 1. For the second semester, students may choose from a range of U.S. history

electives. A variety of advanced global history and social sciences electives are also offered, many of which fulfill the global pathway requirements. Additional requirements apply for 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.

United States History 1
Through a chronological survey that begins just prior to European colonization and concludes with the Civil War, United States History 1 explores the transformations and continuities that give character to American 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. David Shii's *America: A Narrative History* provides an overview of the time period and major events, which we supplement with a wide range of primary sources in order to focus and deepen understanding. Students are assessed on their participation in class discussions, in-class writing assessments such as primary source analyses and document-based question essays, as well as unit quizzes. As an introduction to United States historiography, a mid-semester project asks students to speak from the perspective of a historian of the American Revolution in both a graded dialogue and written reflection.

United States History 2
Beginning with Reconstruction, United States History 2 explores the continued processes through which the United States has questioned and expanded its founding principles, modernized economically and politically, consolidated geopolitical power, and assumed its contemporary national character. In this course, students will also learn advanced research methods and explore the challenges of writing history by completing their own New York City history project that requires original research, including the use of census data. The class concludes by considering the Cold War era and its legacies. This course fulfills one semester of the U.S. history requirement.

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 policy-making and jurisprudence have shaped American society. The course content surveys key episodes in the development of democratic institutions and practices in the United States from the late 18th century to today. Cases are presented chronologically but are designed to address a set of unifying topics: (1) the intellectual foundations of American democracy, (2) the evolving definition of "the people" in the political process, (3) the designs and functions of political institutions, both public and private, (4) the elements of democratic culture in the United States, (5) the intersection of democratic and market forces, and (6) the tension between state coercion and individual liberty. Discussion-based classes will encourage students to challenge one another's assumptions about democratic values and practices and draw their own conclusions about what democracy means in the United States. The grade for the course is based on class participation, short writing assignments, and one final research paper, which requires students to advance an argument on a topic of the student's choosing that draws on course themes and readings. This course is ideal for students who are interested in deepening their practical and historical understanding of the American political process, as well as for those interested in gaining experience with the case method of instruction frequently used in business and law schools. This course fulfills one semester of the U.S. history requirement.

Alternative Americas
Conventional historical narratives often focus on the ideas and practices that "won" and became dominant. Yet there were and still are people who lean in and fight for change, or opt out and form intentional communities where gender, consumption, property, and other essential characteristics of society are rearranged. In Alternative Americas, each week we will look at communities, real and imagined, that posit solutions to the most vexing systemic problems we face. As we move through the course and begin to think about the kind of society you think would do the most good and least harm, pay attention to important themes such as the distribution of resources within each community. What kind of ownership structures are there? How do food systems work? What is the relationship between people in a community, non-human animals, and the environment? How does each community approach gender, race, and other axes of inequality in mainstream society? What is the role of religion? What are the ties that bind and the challenges that arise? This course fulfills one semester of the U.S. history requirement.

World Now
How might we assess the state of our world today? Which issues merit our attention and scrutiny? The World Now is an in-depth examination of the culture and politics that animate our contemporary global order. We begin by discussing the role of climate change and how it marks the landscape, focusing on the many narratives that inform this debate. Then, we move to international culture, with the state of journalism today and the ways in which social media has created common assumptions about how global citizens operate in an interconnected world. Then, we focus on international developments in the political sphere, the broad effects of the Ukraine War and international migrant crisis, and the rise of authoritarianism. We conclude the course with a discussion of how the United States operates in our world, approaching our recent politics, issues such as mass incarceration and poverty, the role of guns in American life, book bans and contraceptive rights. This course enables students' engagement with some of the most pressing issues facing our world now, allowing them to see themselves as informed historical actors. Students write four essays, taking positions on issues of their choice, fully developing their arguments and critical thinking skills. Their major end-of-semester project allows them to engage in a contemporary

issue of their choice and then draft a specific policy solution to it. The nightly readings are incisive, of-the-moment articles from magazines and newspapers. This course counts toward the global pathway requirement.

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 communities, 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. In the second half of the semester, each student will give a robust individual presentation and complete an inquiry-based research project based on scholarly sources on a topic of their choosing. This course counts toward the global pathway requirement.

History and Theory of Consumer Society: an Economic History of the United States
The term "consumer society" emerged in the United States in the 20th century, and especially after World War II, to encapsulate changes associated with the expansion of industrialization and the increasing centrality of consumption and material abundance in American life. In this course, we will explore the history of consumer society and its impact on everything from the way we organize time and space to how we construct identities and distinctions and create equalities and inequalities. Among the questions we will consider are: why did America become the model for consumer society? Do individuals control consumer society or does it control us? How does mass consumption change our relationship to one another and to ourselves? Topics will include the role of mass media and technology in transforming consumer habits, the social and economic import of fashion, and critiques of and acts of resistance to consumer society. Throughout the course, we will be attentive to how lived experience both shapes, and is shaped by, larger economic, political, and social systems. Since this class will focus heavily on the methodology of the field of material history, assessments will be based on regular writing assignments that ask students to apply the unit concepts to specific objects related to consumer society. During the final weeks of the semester, students will research a topic/object/trend of their choice that will form part of a class guide to 21st century U.S. consumer society. This course fulfills one semester of the U.S. history requirement.

History of the Americas: the U.S. & Latin America in Comparative Perspective
Many believe that the Latine presence in the United States is a recent phenomenon, a product primarily of twentieth and twenty-first century global migration. Nothing could be further from the truth. This course takes the "long view" of the subject and explores the ways in which, as groups and as individuals, Spanish speakers and their descendants have inhabited and shaped the history of the United States from the 16th century to the present. Drawing on five centuries of history of the Western Hemisphere, we examine how North and South America's histories are deeply intertwined through conflict, competition, and cooperation. We reinterpret the "New World" by foregrounding Latin America's role in shaping US identity, exploring themes from the Spanish Conquest to modern-day authoritarianism, and highlighting Latin American humanist ideals. This course covers themes such as race, migration, labor, and empire. By the end of the course, students will demonstrate knowledge of the ways in which, as groups and as individuals, Latinos have experienced and contributed to the social, political, and economic development of the United States. Students will also gain an appreciation for both the distinctiveness of and commonalities among the various groups who comprise the Hispanic or Latino segment of U.S. society. Required texts for this course include Juan González' Harvest of Empire: A History of Latinos in America, Greg Grandin's America, América: A New History of the New World, and Valeria Luiselli's Tell Me How it Ends: An Essay in Forty Questions. Key projects will include a research project on a topic of the student's choice. This course counts toward the global pathway requirement and fulfills one semester of the U.S. history requirement.

Climate and Civilization
How has climate change marked our past? How has it shaped our present? And how will it affect our future? Climate and Civilization is an in-depth exploration of how our planet's ever-changing climate has affected the development of our civilization over time. Following a thorough historical coverage, we will then focus on climate change now, approaching it from multiple lenses and perspectives, the development of distinct narratives, from doubt and denial to doomism and optimism. We will study the politics and economics of climate change, how governments have responded and how corporations have profited. We will then discuss what climate justice might look like in a world in which extreme weather and extreme heat will surely exacerbate existing inequalities, sparking the movement of hundreds of millions of people. And we will examine the steadfast efforts of activists whose work has resulted in promising international agreements and a broad spectrum of sustainable solutions. Our course will enable students' engagement with the most pressing issue facing our world now, allowing them to see themselves as powerful actors in a distinct place and time, equipped with the tools to understand this issue and take action on it. Students write three essays, taking positions on issues of their choice, fully developing their arguments and critical thinking skills. The nightly readings are excerpts from recent scholarship, as well as media. A culminating project will allow each student to develop their own unique solution to a specific element of the climate change challenge. This course counts toward the global pathway requirement.

Religion and Human Experience
How can we understand the persistence—and in many areas, resurgence—of religious identity as a fundamental dimension of human experience? How have scholars studied religion and human meaning-making? This course introduces students to major global religious traditions by focusing on how individuals and communities interpret and embody their faiths. Rather than approaching religions primarily as fixed systems of doctrine, we will examine shared structures and diverse lived experiences in order to understand how people, past and present, have made meaning through the sacred. Through close engagement with scholarship drawn from a number of disciplines, as well as literature, students will examine religious phenomena empathetically and critically, attending to the perspectives of practitioners while developing tools for analyzing the rich diversity of human religious life. In the second half of the semester, each student will give a robust individual presentation and complete an inquiry-based research project based on scholarly sources on a topic of their choosing. This course counts toward the global pathway requirement.

HISTORY MINORS

Holocaust and Human Behavior M
Holocaust and Human Behavior explores the unfolding of the Holocaust through a historical, sociological, and social psychological lens. From the emergence of a German nation-state and racial antisemitism in the late nineteenth century, through the cultural flowering of the Weimar Republic, the rise of the Nazi party and state, the outbreak of World War II, and the development of the shooting squads and death camps that implemented the so-called Final Solution, students will trace a complex narrative of choices, contingencies, and structural factors that culminated in an unprecedented historical catastrophe. The course will conclude by exploring the reconstruction of Jewish life and quest for justice and accountability in the postwar years. This course is open to students in Classes X-XII.

MATHEMATICS

At Nightingale, we believe math should be seen as beautiful and complex. We value reasoning skills, complex conceptual and abstract thinking, decision-making, and curiosity as essential components of mathematical learning. We strive to create an inclusive learning environment that supports students with a wide range of backgrounds, experiences, and learning styles where our differences are opportunities for learning and growth. We believe in the importance of empowering our students to openly engage in productive struggle and actively strive for our students to be the problem finders and problem solvers of the next century.

The Upper School math curriculum guides students toward increasingly abstract and complex mathematical concepts. Geometry challenges students to think spatially, exploring relationships between shapes, sizes, and dimensions while emphasizing logical reasoning. Trigonometry introduces the study of angles and their applications to periodic phenomena, while statistics teaches students to analyze data and make informed predictions about the real world. Finally, calculus unites concepts of change and accumulation, offering powerful tools to solve problems in science, economics, and beyond. Throughout this progression, students deepen their mathematical understanding, developing competencies throughout the Upper School progression. There is intentional focus on the key competencies of mathematical communication, collaboration, perspective-taking, modeling, and reasoning to cultivate a mathematical mindset and prepare them for diverse academic and real-world challenges.

In our program, students are regularly presented with novel and unfamiliar problems that require them to draw on a wide range of strategies, skills, and concepts developed throughout the course. Rather than focusing solely on the specific content of any one problem, the curriculum emphasizes the intellectual work of problem-solving itself: making sense of a situation, identifying useful tools, and persevering through uncertainty. Students learn to approach challenging tasks with flexibility, choosing among multiple methods and representations as they test ideas, refine their thinking, and construct solutions. This process, learning what to do when you are not immediately sure what to do, is a central goal of our program and a key marker of mathematical growth.

CLASS IX

MATH IX Core
Class IX Math is Part I of an integrated sequence covering Algebra, Geometry, and Data Science. It is also part of a semester-long interdisciplinary STEM program with Biology and Computer Science IX. In this course, students explore mathematical concepts by analyzing and applying problem-solving techniques in a variety of intra- and interdisciplinary situations. They develop connections between algebraic and geometric principles, using right triangles and circles as foundational tools for geometry, trigonometry, vectors, families of functions, data modeling, and regression analysis.

The course goes beyond traditional disciplinary boundaries by emphasizing mapping techniques and geometric analysis through the study of the cholera epidemic in 19th-century London. Students develop techniques for identifying and building problem-solving strategies, engaging in mathematical modeling, and applying algorithmic processes. Throughout the course, students wrestle with abstract material and develop an understanding of the depth of thought required to master complex concepts. Additional assignment and assessment requirements apply for students wishing to take Math IX for Advanced credit.

Resources for this course include Nightingale faculty-developed materials, the text *Geometry* by Jurgensen, Maier, and Brown as a reference, and digital tools such as Desmos and Google Sheets to support visualization, data analysis, and mathematical modeling. *Prerequisite: successful completion of Algebra I.*

CLASS X

MATH X Core

Math X is Part II of our integrated sequence covering Algebra II, Geometry, and Data Science topics. It is also part of a year-long interdisciplinary STEM program with Chemistry and Computer Science X. It is grounded in the conceptual understanding of a function. In this class, students will develop strategies for the analysis of relationships between variables, be introduced to the complex plane, and analyze the connections between quadratic, exponential, logarithmic, trigonometric, radical and higher degree polynomial functions. Regression modeling will occur throughout the course and connect with other STEM courses. Matrices are introduced as a tool for problem solving. Students will be able to analyze and develop functions with visual, algebraic, and numeric representation and use various chemistry principles to practice this, such as the logarithmic pH-scale. 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.

Resources for this course include Nightingale faculty-developed materials, the text *Precalculus* by Stewart, Redlin, and Watson as a reference, and digital tools such as Desmos and Google Sheets to support visualization, data analysis, and mathematical modeling.

Math X A

The advanced level of Math X requires independence in problem solving and a stronger ability to connect multiple topics or skills to solve complex problems even while the topics match those in the standard level course. *Prerequisite: successful completion of Math IX and departmental approval.*

Advanced Math X

The accelerated level of Math X incorporates the totality of the material from Math X and Math X A and also covers all Precalculus topics. Upon completion of this class, students may enroll in an advanced calculus course. The course delves into sequences and series as a foundation for mathematical progression and introduces students to intuitive concepts of limits and continuity to bridge into calculus. 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. *Prerequisite: successful completion of Math IX and departmental approval.*

CLASS XI

Precalculus

In Precalculus, students expand their mathematical knowledge by focusing on advanced applications of algebraic, geometric, and trigonometric concepts. The course emphasizes the analysis and application of mathematical techniques across interdisciplinary scenarios, fostering a deep understanding of function families, including polynomial, rational, exponential, logarithmic, and trigonometric functions. Students explore transformations and applications of these functions, culminating in mathematical models that connect theory to real-world phenomena.

The course delves into sequences and series as a foundation for mathematical progression and introduces students to intuitive concepts of limits and continuity to bridge into calculus. Students will analyze and develop functions through visual, algebraic, and numeric representations, applying techniques such as factoring, logarithmic rules, and polynomial division to solve complex problems. Through conceptual exploration, students will develop strategies for tackling abstract material and understanding connections between advanced mathematical topics.

Resources for this course include Nightingale faculty-developed materials and the text *Precalculus* by Stewart, Redlin, and Watson. Digital tools such as Desmos and Google Sheets are used to support visualization, data analysis, and mathematical modeling. *Prerequisite: successful completion of Math X*

Precalculus A

The accelerated level of Precalculus requires independence in problem solving and a stronger ability to connect multiple topics or skills to solve complex problems. In addition to standard Precalculus topics, this level adds polar coordinates, parametric equations, vectors, and complex applications of the various families of functions. *Prerequisite: successful completion of Math X A*

CLASSES XI AND XII

Calculus

In Calculus, students embark on a rigorous study of differential and integral calculus, exploring foundational concepts, techniques, and real-world applications. The course begins with an in-depth examination of functions, limits, and continuity as the building blocks of calculus. Students then progress to the concept of derivatives, deriving rules for a variety of functions and their inverses, including polynomial, rational, trigonometric, logarithmic, and exponential functions. The curriculum emphasizes the relationship between differentiation and integration through the Fundamental Theorem of Calculus, providing students with a comprehensive understanding of how these tools are interconnected. Integration techniques are applied to solve problems involving area, volume, and summation, allowing students to model and analyze complex systems. Through the exploration of abstract concepts and practical applications, students develop strategies for mastering advanced mathematics.

Resources for this course include Nightingale faculty-developed materials and a variety of calculus texts. *Prerequisite: successful completion of Precalculus.*

Advanced Calculus (B Level)

The Advanced Calculus (B Level) requires independence in problem solving and a stronger ability to connect multiple topics or skills to solve complex problems. In addition to the coursework described above, topics include applications such as optimization and related rates problems, and volumes of solids of revolution. *Prerequisite: successful completion of Precalculus, Precalculus A or Advanced Math Core X and departmental approval.*

Advanced Calculus (A Level)
The Advanced Calculus (A Level) requires independence in problem solving and a stronger ability to connect multiple topics or skills to solve complex problems and an ability to learn the topics and skills necessary in less time. In addition to the coursework described above, topics include differentiation of polar curves, parametric curves, and three-dimensional vector-valued functions, as well as logistic curves, sequences and series, integration by parts, partial fraction decomposition, and first-order differential equations. *Prerequisite: departmental approval and successful completion of Precalculus A or Advanced Math X.*

Advanced Math: Linear Algebra
In Linear Algebra, students study matrix theory and linear systems. Through the axiomatic approach, they master the fundamental concepts of finite vector spaces, subspaces, bases, dimension, and linear transformations. They explore the important role Linear Algebra plays in many areas of mathematics, statistics, engineering, the natural sciences and computer science, using programs such as Octave, LaTeX, and MatLab when applicable. They develop their understanding through applications in statistics, physics, economics, genetics, differential equations, dynamical systems, and probability. Linear Algebra is a college-level course and demands a high level of abstract understanding and critical thinking from the students. *Prerequisite: departmental approval and successful completion of Advanced Calculus A.*

Standard/Advanced Statistics
This course introduces students to the major topics in 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 underst and themes and nuances in political polling and the process of redistricting. This year-long course is often about nuance i n numbers, an idea less explored in most math courses.

INTERSCHOOL MATH COURSES

Nightingale is a member of Interschool, a consortium that also includes Brearley, Browning, Chapin, Collegiate, Dalton, Spence, and Trinity. It offers courses and programs that change from year to year depending on student interest. All Interschool courses require school permission.

Collaborative Problem-Solving M
A collaborative problem-solving class where students work together on a small number of challenging problems over an extended period of time. Topics covered per seminar include combinatorics, number theory, geometry, algebra and inequalities. Students will acquire sophisticated problem-solving skills and a knowledge base that will allow them to successfully tackle the sorts of problems one sees on more challenging math contests such as the American Invitational Mathematics Examination (AIME). Although the prerequisites for this class are only algebra, geometry, and perhaps a bit of trigonometry, the comfortably-placed student will be a creative mathematical problem solver with an unusually solid mathematical background. The problems and topics covered in the class are challenging.

Chaos Theory M
Chaos theory, a cutting-edge field of math that took off with the advent of modern computing, has applications in everything from meteorology to the stock market and beyond. In this course, we will study fundamental ideas in chaos theory and the mathematical discipline of dynamical systems, an area of math focused on systems that change over time. Starting with the idea of iteration, we will explore how small changes in initial conditions can produce big differences in outcomes. We will come to understand a hallmark of chaos theory and dynamics: even the most simple and deterministic systems can produce unpredictable behavior and even the most complex systems can reveal some kind of order. Finally, we will see how these ideas apply to the beautiful world of fractals, including the Julia sets and the Mandelbrot set.

SCIENCE

The science department is dedicated to providing a robust and interdisciplinary approach to STEM education, developing students' competencies in science, technology, engineering, and mathematics with a focus on managing information, communicating ideas, problem solving, and critical thinking. We emphasize the integration of math, science, and computer science throughout our curriculum, striving to break down the silos between these disciplines and foster a more interconnected understanding of the world. Our Core science classes lay a strong foundation, while our diverse array of semester-long Elective courses allows students to explore specialized topics across a wide range of fields. These include, but are not limited to, organic chemistry, engineering, the genetics of cancer, and many other advanced topics. Additionally, we offer courses that appeal to students with an interest in the intersection of science and society, such as bioethics, public health, and psychology. This comprehensive approach ensures that students are well-prepared for the ever-evolving landscape of modern science and technology.

CLASS IX

Science IX: Biology
In Science IX, students explore biology through inquiry, phenomena, and experiential-based learning. The major themes of this course are the relationship between structure and function, energy transfer, continuity and change, and interdependence in nature. 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 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. This course is part of a semester-long interdisciplinary STEM program with Math and Computer Science IX.

CLASS X

Grade X: Chemistry

Prerequisite: Biology

In Science X, 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. This course is part of a semester-long interdisciplinary STEM program with Math and Computer Science X.

CLASSES XI AND XII

Physics

Prerequisite: Biology and Chemistry

Physics is an algebra-based first-year physics course open to all students who have successfully completed other lab science courses. 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 digital simulations.

ADVANCED COURSES

After completing the STEM Core courses, interested students in Classes XI–XII can continue their studies in an advanced-level course with departmental approval. Advanced science courses involve more in-depth study, increased independent learning, and often a quicker learning process. Class XI students must enroll in physics to enroll concurrently in an advanced course in biology or chemistry.

Advanced Biology: Genetics of Cancer

Prerequisite: Biology and Chemistry

This semester-long, lab-based course investigates the central dogma of molecular biology and explores how mutation and erroneous cell signaling cause it to go awry in cancerous cells. Using the historical case study of Henrietta Lacks as a starting point, students will uncover mechanisms of carcinogen action, investigate microscopic techniques like karyotyping, and debate bioethical issues around modern cancer research. The course will culminate with a review of new targeted therapies for the treatment of cancer and their molecular mechanisms of function. Runs in the fall semester.

Advanced Biology: Biology of the Nervous System

Prerequisite: Biology and Chemistry

This semester-long class focuses on 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, their mechanisms of action, 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. Runs in the spring semester.

Advanced Chemistry: Organic

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, emphasizing functional group characteristics, structure determination by spectrometric methods, reaction mechanisms, and synthesis. Runs in the fall semester.

Advanced Chemistry: Analytical

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 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 fieldwork planning, sampling activity, sample preparation chemical analysis, interpretation of results, and reporting. Runs in the spring semester.

Advanced Physics: Modern

Prerequisite: Physics

What would it be like to travel at near-light speed? How is Schrodinger's cat both alive and dead at the same time? If you have ever wondered about these things and other paradoxes, then you have come to the right place. Modern physics is a semester-long exploration of key discoveries that have led to the development of relativity and the quantum world. We will study topics such as atomic structure, the wave-particle duality of light (and everything), quantum mechanics, special relativity, and general relativity. The student experience in modern physics involves more complexity and theory than our first physics offering. There will be experiential learning opportunities to examine how physics intersects with other subject areas, including statistics, medicine, astronomy, and engineering. Runs in the fall semester.

Biotechnology

Prerequisite: Acceptance into ISRP

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 troubleshooting, 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 experiment to determine whether food products have been genetically modified. Runs in the spring semester.

SCIENCE ELECTIVES

Astronomy

This semester-long course presents an overview of the night sky and stellar astronomy. Topics studied include positioning, Earthly cycles, gravitation and planetary motion, properties of light, telescopes, the Sun, stellar evolution, and exoplanets. Students will be expected to do some math-based problem solving, produce a video on a topic that goes beyond the topics we study in class, and give a presentation to peers as part of a research project. Runs in the spring semester.

Anatomy and Physiology

Prerequisite: 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 significant experiential learning. Runs in the fall semester.

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. Runs in the spring semester.

Geography: Physical Systems That Make Our World

In this semester-long upper-level science elective that offers students an empirical understanding of the natural systems that shape the Earth. The course builds students' capacity in environmental science, data literacy, and systems thinking, challenging them to analyze how landscapes and ecosystems emerge from interactions among physical processes. Centered around a survey of atmospheric, lithospheric, biospheric, and hydrospheric sciences, students will investigate the form, origin, and workings of the planet's physical geography. Through data analysis and a series of introductory GIS (Geographic Information Systems) labs, students will examine how forces such as plate tectonics, climate dynamics, energy flows, and nutrient cycles structure the earth's natural environment. The curriculum offers an exploration of the Earth's natural wonders, and positions geography as a framework to better understand the world: grounded in empirical reasoning, propelled by scientific inquiry, and redefined by technological integration. Runs in the fall semester.

Geography: Human Systems That Make Our World

In this semester-long upper-level science elective that introduces students to the scientific study of human origins, and how humans organize societies, employ tools and technologies, and shape their surroundings. The curriculum will further develop student's background in the social sciences, data analysis, and systems thinking by examining the evolution of humanity, the forces that drive human movement and settlement, and the spatial patterns that underpin social and cultural structures. Students will analyze demographic transitions, population distributions, and human–environment interactions with quantitative analysis using Geographic Information Systems (GIS) to better understand human systems across space and time. The curriculum considers how societies respond to environmental pressures, how resources and ideas circulate, and how human communities adapt in a changing world. Complementing the perspectives offered in history courses, this class approaches human geography through empirical investigation, giving students a scientific understanding of the dynamic processes that shape human life on Earth. Runs in the spring semester.

INDEPENDENT SCIENCE RESEARCH PROGRAM (ISRP)

The Independent Science Research Program, part of the STEM Scholars Pathway, 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.

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. 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.

LANGUAGES

MODERN

The goal of the modern languages department is to use the three languages we offer (French, Spanish, and Mandarin Chinese) to develop multilingualism, multiculturalism, and interpersonal, interpretive, and presentational communication skills in our students.

Across the four language skill areas of speaking, listening, reading, and writing, students learn to communicate in a foreign language, often for the first time. They learn to apply grammatical rules, identify patterns, and process unfamiliar language using context clues. They imitate native speech patterns and phonology in order to spontaneously interact with others, interpret written material, and present rehearsed speech. Students learn to make comparisons between their native language(s) and target language, appreciating differences of nuance and grammar that are reflected in the ways languages express similar concepts. They begin to appreciate the journey of lifelong learning they are embarking on, while fostering connections to those who speak the target language. Students begin to take perspective on how their own culture fits into the broader world, and how it interacts with the culture of the target language. They learn to make intercultural connections, while deepening both their own sense of belonging in their language community and their understanding of other cultures.

FRENCH

French 1

This course serves as an introduction to the French language and begins w ith 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. Over the course of the year, students are gradually introduced to foundational grammatical structures, including articles, gender and number agreement, subject pronouns, and verbs in the present tense. A large amount of vocabulary is presented, and several of the most common tenses are introduced and practiced. Students are assessed through a combination of quizzes, unit tests, class participation, and oral and written assignments designed to measure progress in listening, speaking, reading, and writing. Instruction is supported by the textbook Promenades and the accompanying online platform, which provide structured practice in vocabulary, grammar, listening, and reading. A highlight for students is getting to know the storyline of the Promenades characters, acting out their dialogues from each lesson. Additional teacher-created materials and authentic resources are used to support instruction. 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

Prerequisite: French 1 or by placement

In addition to reviewing and consolidating the grammatical structures acquired in earlier years of French language study, the future and conditional tenses and the subjunctive mood are studied in depth. Students continue to use the textbook Promenades introduced in French 1, as it is designed for a two-year course of study. Short readings about contemporary French culture contextualize grammar and new vocabulary. Students are required to write short compositions, translations, and dictations, and have the opportunity to dive in depth into the cuisine of a Francophone country, presenting a project and food related to the region of study.

French 3

Prerequisite: 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). By the end of the year, students will demonstrate mastery of increasingly advanced concepts, such as relative pronouns, past infinitives, and present participles. Throughout the year, students are assessed through regular oral and written quizzes, as well as projects related to material presented in the Discover French textbook. Supplemental readings include short chapter books, such as Où est passé Martin, along with French films and songs. 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.

French 4

Prerequisite: French 3 or by placement

A natural progression from French 3, this class focuses on enabling students to refine their speech and writing as it relates to literary analysis, recounting events, and stating opinions. Students engage in a review of relative pronouns, the subjunctive mood, and the conditional tense, while keeping in mind their specific application in writing and speaking. Students write timed essays in class with prompts provided in advance, while also taking individual oral tests, leading discussion on a specific passage or chapter of a literary work studied by all, and reciting poetry. As there is a sustained emphasis on not only the practical applications of the language but also the culture to which it is related, reading is varied and includes topics related to art, music, history, and literature in the form of poetry, plays, and novels, as well as non-fictional essays and journalistic reports. While the bulk of class material is drawn from the Imaginez textbook, students also read Voltaire's *Candide* and the poetry of Hugo, Baudelaire, and Apollinaire. A highlight of the spring semester is a research project, examining and

presenting a cultural "oddity" from France, as assigned by the teacher.

French 5

Prerequisite: French 4 or by 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.), and include short stories from Maupassant, as well as Camus' *L'Étranger*. 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. Students are expected to incorporate more formal and structured expression into their writing, producing literary analysis, writing speeches, and presenting arguments. 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. Assessments include dialogue recitations, in-class debates, and a final oral exam. At several moments in the semester, students present a culminating presentation, such as when they take on the role of a Francophone president responding to a disaster, or when they present a TEDxTalk on the subject of their choice.

Advanced French: Culture, Literature, and History

Prerequisite: French 5 or by placement

In this advanced course, students study a variety of topics related to specific aspects of contemporary culture, society, French history, art, and some iconic works of literature. Given the typically small class size and advanced language skills of the group, discussion and thematic analysis feature heavily in the structure of the course. Examples of the subject matter covered include: poetry of the Romantics such as Hugo and Lamartine, regional culinary specialities, Gothic architecture and the reconstruction of Notre-Dame de Paris, the history of Francophone Africa, 19th Century realism in art and literature, French New Wave cinema, immigration in France, etc. Students are assessed through regular oral and written assessments tied to the material presented; in particular, each participant is often responsible for research into a specific book chapter, poem, or artwork, which they must then present to the class. Students may enroll in the course for one semester or two, as the area of focus shifts each semester. This flexibility also allows students to take the class over subsequent years if necessary, without repeating the same material. This class is open to all students who have completed French 5, but may also be taken with departmental permission by those with a background in French outside of Nightingale.

SPANISH

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. Over the course of the year, students are gradually introduced to foundational grammatical structures, including articles, gender and number agreement, subject pronouns, and verbs in the present tense. A large amount of vocabulary is presented and the present, preterite, and imperfect tenses (along with all their irregularities) are introduced and practiced. Students are assessed through a combination of quizzes, unit tests, class participation, and oral and written assignments designed to measure progress in listening, speaking, reading, and writing. Instruction is supported by the textbook Descubre 1 and the accompanying online platform, which provide structured practice in vocabulary, grammar, listening, and reading. A highlight for students is creating a travel brochure and oral presentation integrating vocabulary from the unit of study. Additional teacher-created materials and authentic resources are used to support instruction.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

Prerequisite: 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, and the difference between the preterite and imperfect tenses is emphasized. Students learn to narrate events in the past with more accuracy, express desires and emotions, and talk about future events. Students continue with the Descubre textbook series introduced in Spanish 1, as it is designed for a two-year course of study 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 syntax are contextualized, and engage in the study of a specific region of the Spanish-speaking world that they share out to the class in an oral presentation.

Spanish 3

Prerequisite: Spanish 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 Spanish moods and tenses. Students are expected to use relative clauses, higher-order idioms, and a richer variety of vocabulary actively in both composition and oral presentations. Emphasis is placed on the development of listening, speaking, reading and writing skills and on grasping the fundamentals of applied grammar. Cross-cultural understanding is fostered, and real-life applications are emphasized throughout the course. Throughout the year, students are assessed through regular oral and written quizzes, as well as projects related

to material presented in the Discubre 3 textbook. Short literary selections in poetry and prose are introduced to contextualize the grammar and to introduce the richness of Hispanic culture and history.

Spanish 4

Prerequisite: Spanish 3 or by placement

A natural progression from Spanish 3, this class focuses on enabling students to refine their speech and writing as it relates to literary analysis, recounting events, and stating opinions–helping students use the Spanish they know to discuss and analyze narratives and literary texts. Course content centers on cultural readings as they relate to interests in national lifestyles, the history of art, popular music, politics, and current events. The readings are for the most part excerpts of Spanish-language magazines and newspapers. Students write timed essays in class with prompts provided in advance, while also taking individual oral tests, leading discussion on a specific passage or chapter of a literary work studied by all, and reciting poetry. Written assignments require in-depth analysis and presentation of a particular point of view, while incorporating sophisticated syntactical devices and higher-order idiomatic expressions.

While the bulk of class material is drawn from the Encuentros Maravillosos textbook, students also read and present short stories by Julio Cortazar, as well as complete exercises from the Practice Makes Perfect grammar workbook.

Spanish 5

Prerequisite: Spanish 4 or by 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, much of which is drawn from the Imagina textbook, covers a variety of authentic literature (novels, short stories, poetry, news reports, magazine articles, etc.). Students are assessed through in-class writings and activities, oral quizzes, exams and oral presentations. 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–such as when, as part of a "Galería de Creadores," students showcase the contributions of influential Latin American artists to American culture.

Advanced Spanish: Culture, Literature, and History

In this advanced course, students study a variety of topics related to specific aspects of contemporary culture, society, history, art, and some iconic works of literature of the Spanish-speaking world from Europe and the Americas. Examples of the aforementioned include: poetry of the Golden Age, regional culinary specialities of the Caribbean, Catalan modernist architecture, Simón de Bolívar and the wars of South American independence, the films of Almodóvar, bolero and tango, the art of Goya and Velásquez, social realities in Central America and the Caribbean, Pre-Columbian civilizations, etc. Students continue honing their speaking and writing skills on a variety of topics, thereby increasing their ability to express themselves on myriad subjects. With regular guest lectures and outings to exhibitions and performances throughout New York City, students often engage directly with the material studied throughout the year. Students are assessed through regular oral and written assessments tied to the material presented; in particular, each participant is often responsible for research into a specific book chapter, poem, or artwork, which they must then present to the class. Students may enroll in the course for one semester or two, as the area of focus shifts each semester. This flexibility also allows students to take the class over subsequent years if necessary, without repeating the same material. This class is open to all students who have completed Spanish 5, but may also be taken with departmental permission by those with a background in Spanish outside of Nightingale.

CHINESE

Chinese 1

This course serves as an intensive introduction to the Chinese language (Mandarin), focusing on the fundamentals of reading, writing, listening and speaking. As with any beginning language course, the focus is on practical skills relevant to the daily lives of students. Though introductory in nature, the pace of the course is quick and is intended to prepare students for Chinese 2 the following year. Over the course of the year, students are gradually introduced to foundational elements of the Chinese language–such as initial and final sounds along with tones, as well as character strokes, stroke order and radicals–along with grammatical structures, including the use of measure words, sentence-final particles, yes/no question structures, and more. Students in this course should prepare themselves for a considerable amount of memorization, especially given the use of characters in writing. Students are assessed through a combination of quizzes, unit tests, class participation, and oral and written assignments (such as tingxie dictations) designed to measure progress in listening, speaking, reading, and writing. Instruction is supported by the textbook Integrated Chinese 1 and the accompanying online platform, which provide structured practice in vocabulary, grammar, listening, and reading. This course is open to all students in Classes IX–XII who are beginning their study of Mandarin Chinese outside of the curriculum sequence begun in Middle School.

Chinese 2

Prerequisite: Chinese 1 or by placement

In addition to the review and consolidation of the grammatical structures acquired in earlier years of Chinese language study, this course builds students' recognition of written Chinese, while growing their ability to narrate events, express plans, and state opinions. A significant amount of new vocabulary and characters is added to the curriculum, as students expand their grasp of Chinese

grammar, idiomatic expression, and cultural references. Similarly to previous levels of study, students are assessed on their understanding in a variety of contexts, including dictation quizzes, unit tests, dialogue recitations, and oral presentations. In addition to the material presented in the Go Far With Chinese textbook, authentic readings are incorporated in the instruction to allow students to contextualize their understanding of written and spoken Mandarin. As students learn about the sites and culture of the Chinese city of Xi'an through their textbook units, they imitate the language presented to become tour guides for their classmates, presenting about their favorite sites, foods, and experiences around New York.

Chinese 3

Prerequisite: Chinese 2 or by placement

With the expectation that students at this level have mastered fundamentals of grammar and vocabulary, special attention is given in this course to the mastery of written and spoken Chinese in a variety of social and academic situations. In class, students engage in small group discussions to improve their spoken fluency, review writing daily assigned characters, and practice new grammatical structures as they are introduced. Authentic texts, including contemporary media used in everyday life in China, are incorporated to help students gain practical skills in Chinese. In conversation, students are taught to speak more colloquially; furthermore, grammar becomes increasingly abstract. Throughout the year, students are assessed through regular oral and written quizzes, as well as projects related to material presented in the Integrated Chinese 2 textbook. As students become familiar with common idiomatic expressions and cultural references, many of which are rooted in a traditional story set in the distant past, they choose one to research and become more familiar with, ultimately presenting the story out loud to their classmates.

Chinese 4

Prerequisite: Chinese 3 or by placement

A natural progression from Chinese 3, this class focuses on enabling students to hone their skills in writing, reading, listening, and speaking, with materials that focus more heavily upon contemporary Chinese society and cultural appropriateness in order to sharpen their understanding of written and spoken Chinese in day-to-day tasks. These tasks include talking about school life, describing dietary restrictions and preferences, making purchases, and choosing courses and majors. As students continue through the Integrated Chinese textbook series, not only are they expected to use the target language more extensively in speaking on a variety of topics, but they also write longer and more in-depth compositions in reaction to what they have read. In addition to these written assessments, students have regular oral quizzes and presentations, along with tingxie dictations. By the end of the course, it is expected that students will be able to express in considerable detail cultural differences between China and the United States–something they can feature in their approach to making their own "get ready with my" social media video to present back to the class. At the end of the course, depending on performance and at the discretion of the department, the student may move on to Chinese 5 or take Advanced Chinese.

Chinese 5

In this year-long course, students hone their writing, speaking, listening, and reading skills at an advanced level, exploring meaningful themes such as lifestyle and health, holidays, social changes, history in China, traveling, gender equality, environmental protection, and financial literacy. Through their study of these topics, as presented in the Integrated Chinese 4 textbook, students gain insight into modern Chinese society while practicing language in real-life contexts, with the goal of holding longer conversations with fluency and cultural awareness, reading and understanding articles, stories, and other authentic materials, and writing clear, organized essays on cultural and social issues. While short essays take on increasing weight in student assessment, they are still expected to take regular quizzes and tests related to each unit of study, and deliver regular oral presentations, elevator pitches, or dialogues. Students are expected to fully delve into Chinese traditions and culture throughout the year, culminating in an in-depth presentation about one holiday of their choice, including its customs and traditions.

Advanced Chinese

Prerequisite: Chinese 4 or with departmental approval

This advanced course is 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, Taiwan, and the broader Chinese-speaking diaspora. These topics range from the environmental, to the artistic, to pop culture, to the economic, to societal changes, etc. Past topics of study have included social movements such as "Lying Flat," "996" work culture, and domestic migration, relating them to their cultural or social equivalents in the United States while also looking across time to understand the origins of many Chinese social phenomena in early philosophic schools of thought such as Daoism, Confucianism, or Legalism. Students develop their skills through the study of authentic printed materials, recorded segments, or Chinese-language films–often working from original news articles or seminal works of literature such as Lu Xun's Diary of a Madman. Students also gain exposure to the rudiments of Classical Chinese, reading short excerpts from stories and poems written thousands of years ago. Students are assessed through regular oral and written assessments tied to the material presented. Students may enroll in the course for one semester or two, as the area of focus shifts each semester. This flexibility also allows students to take the class over subsequent years if necessary, without repeating the same material. This class is open to all students who have completed Chinese 5, but may also be taken with departmental permission by those with a background in Chinese outside of Nightingale.

CLASSICS

In the Upper School, students deepen their linguistic proficiency and tackle increasingly sophisticated Latin and Ancient Greek texts in both the original and in translation. The curriculum cultivates advanced analytical thinking, cultural awareness, and a capacity for independent inquiry through sustained literary study, historical investigation, and research-based projects. As students progress, they move from intermediate language work toward nuanced literary analysis and opportunities for independent scholarship. Experiences such as cross-disciplinary collaborations, Latin Club, performances, competitions, and both domestic and international travel enrich their understanding and extend their engagement with the ancient world beyond the classroom.

Latin teaching in the Upper School has two separate tracks: one for students without prior knowledge of Latin (Elementary and Intermediate Latin) and one for students who began their study of Latin in Middle School (Latin 2 through Advanced). The Latin program is supplemented by two other elective courses of study: Ancient Greek and Ancient Philosophy, both of which are offered as semester-long minors.

Elementary Latin

This course introduces students to the fundamentals of Latin morphology and syntax through a reading-based approach, with an emphasis on vocabulary development for reading authentic Latin texts. Using Ecce Romani IA as the primary text, students examine the etymological relationships among Latin, English, and the Romance languages. The class also addresses cultural topics such as Roman dress and explores the mythical beginnings of Rome from the Trojan Wars to its founding. Students complete presentations on major figures of the Trojan War and collaborate on group projects exploring the events leading to Rome's foundation. Assessment is based on vocabulary and grammar quizzes, full-period unit tests, presentations, and group work.

Intermediate Latin

This course builds on students' elementary knowledge of Latin morphology and syntax through a continued reading-based approach, with an emphasis on expanding vocabulary and strengthening fluency for reading authentic Latin texts. Using Ecce Romani IB and IIA as the primary texts, students learn all tenses of the active and passive voice, as well as all noun and adjective declensions, while encountering more complex sentence structures. The course includes study of Roman daily life and culture, including the Roman House, Chariot Races, and Roman Aqueducts, alongside a historical survey from the time of the Roman kings through the Late Republic. Students complete presentations on key historical figures and collaborate on group projects exploring Roman history and society. Assessment is based on vocabulary and grammar quizzes, full-period unit tests, presentations, and group work.

Latin 2

This course provides a comprehensive review of foundational Latin grammar while introducing advanced morphological and syntactical structures necessary for the accurate interpretation of authentic Latin texts. Students develop proficiency in the translation and analysis of Latin sentences and extended reading passages through regular, guided practice and complete their study of the textbook Ecce Romani II. The curriculum also includes a systematic examination of Roman society, with particular attention to education, Roman cuisine and entertainment, and the political and historical developments surrounding the fall of the Roman Republic and the establishment of the Principate. Student learning will be evaluated through shorter vocabulary and grammar-based assessments, full-period chapter tests, and research-based presentations. As part of their research, students work on projects that cover the cultural, social, and religious diversity of the Roman Empire, including the roles and contributions of women and enslaved individuals, as well as the significant influences of Judaism and Christianity.

Latin 2A

Latin 2A builds on the foundations of Latin 1A while preparing students to engage with authentic Latin literature. After reviewing key grammatical concepts, students move on to more advanced structures, including subordinate clauses with the subjunctive and indirect statement. They apply these skills to read, interpret, and compose increasingly complex Latin sentences and passages, with a strong emphasis on continuous reading. Over the course of the year, students complete the Ecce Romani textbook series and trace Roman history from the Early Empire through the late Empire and the fall of Rome. They also transition to the study of original Latin literature, including selected poems of Catullus and Ovid, and examine the literary devices that shape meaning and style. Cultural study is integrated throughout the course and includes Roman religion, entertainment, and social rituals such as weddings and funerals, with frequent comparisons between ancient and modern practices. Students receive ongoing feedback through daily homework, vocabulary checks, tests, and projects on topics such as numismatics and underrepresented voices in Roman history and culture, all of which support linguistic proficiency, critical thinking, and cultural understanding.

Latin 3

Latin 3 is a transitional course that completes the intermediate language study of the Ecce Romani textbook series and moves on to Latin texts of increasing complexity. Students tackle new grammar structures and vocabulary with the goal of reading for fluency and enjoyment. Texts ranging from foundational myth to national epic are the vehicle for exploring Roman culture, history, and literature, especially in comparison to the modern world. Texts include Ecce Romani IIB, Lingua Latina, and Love and Transformation: An Ovid Reader. To complement their study of Roman epigrams, students assemble their interpretations on the inscriptions carved into the New York Medical College uptown. Class presentations on topics of advanced grammar and Roman history provide opportunities for individual research and public speaking. Aside from projects, students are assessed in weekly quizzes on vocabulary and tests on language and usage. The prerequisite for the course is Latin 2.

Latin 3A

Latin 3A is an intermediate–advanced course in which

students engage closely with original Latin texts, strengthening skills in translation, grammatical analysis, and interpretation. Throughout the year, students read across genres and registers, including poetry, history, oratory, and prose fiction, and examine Latin texts alongside selected secondary sources. Through discussion and analysis, students explore Roman culture, history, and society and consider their continued influence on the modern world. Assessment includes quizzes, tests, projects, and oral readings. Major texts include selections from Ovid's *Metamorphoses*, Caesar's *Commentarii de Bello Gallico*, Cicero's *In Catilinam*, and Apuleius' *Cupid and Psyche*. A highlight of the course is the end-of-year Latin Project, which allows students to pursue an area of personal interest through a research paper or a creative project accompanied by critical writing. The prerequisite for this course is Latin 2A or the equivalent.

Latin 4

Once students have gained a mastery of Latin vocabulary and grammar, Latin 4 exposes them to Latin literature. Readings from Ovid (poetry), Caesar, Cicero, and Apuleius (prose) are selected carefully by the instructor to challenge and enhance reading fluency. Additionally, a considerable amount of time is devoted to historical, cultural, and literary analysis, all skills which are further developed in the subsequent advanced level. Additionally, students are given opportunities to research aspects of Roman history and culture, and to present their findings to their peers. Other projects focus on subfields such as translation, character development, and propaganda. Students always enjoy the prosopopoeia project, in which they write and deliver a monologue as a character or object whose feelings are not voiced in a particular story. The opportunity to dress as and speak like a fictional character deepens their understanding of the original text while also exercising their creativity and public speaking skills. Beyond projects, regular assessments include vocabulary checks, translation quizzes, in-class discussions, and unit tests. The prerequisite for this course is Latin 3.

Advanced Latin: Latin Epic

In readings that range from the fragments of Naevius to the polished verses of Vergil's *Aeneid* to the stylized mythologies of Ovid and Valerius Flaccus, Latin Epic aims to rediscover the meaning of the epic genre and to appreciate Rome's contribution to the genre. Students read with an eye to literary style and also the cultural significance in Republican and early Imperial history. As with any Latin class, the appreciation begins with a precise understanding of the Latin in all its details. Students study the meter, stylistic devices, and grammatical constructions in the authors, reviewing along the way much of the material introduced last year in Ovid and Cicero or Horace and Catullus. In treating the works' historical, mythological, and literary background, the course also trains students to write persuasive literary essays. A final project of "creative scholarship" invites students to write a commentary, explore a new epic author, or connect Roman epic to modern fiction and film. Texts for the course include Vergil's Aeneid. Expanded Collection and Roman Epic. Students supplement their own readings of the poem with the work of other ancient and modern scholars. The prerequisites for this course are Latin 3A, Latin 4, or Advanced Latin: Latin Lyric

Advanced Latin: Latin Lyric

Students study and analyze works of Roman lyric poets, with particular emphasis on Catullus and Horace, under a variety of lenses, including cultural and socio-political context, generic conventions, and intertextual relationships, while paying careful attention to morphology, syntax, meter, and rhetorical and poetic figures. More in-depth textual analysis is supported by engagement with recent scholarship and by regular practice in sight translation of both prose and poetry. Students also prepare and present analyses of self-selected lyric poems as a major project, which, along with vocabulary assessments, translations, analytical writing, and class participation, form the basis of assessment.
The course is designed to consolidate students' linguistic proficiency, develop advanced skills in interpretation, research, and academic communication. Major course resources include Catullus' *Carmina*, Horace's *Odes*, the *Carmina Burana*, selected Latin authors for sight reading, and modern scholarly commentaries. The prerequisites for this course are Latin 3A, Latin 4, or Advanced Latin: Latin Epic.

CLASSICS ELECTIVES

Elementary Ancient Greek 1 and 2

Elementary Ancient Greek 1 and 2 introduce students to reading and writing Ancient Greek, beginning with the Greek alphabet and progressing to basic translation. Using a reading-based approach, students acquire vocabulary, morphology, and syntax organically through sustained engagement with Greek texts, while also exploring Greek history, philosophy, art, and literature through readings in English translation. Throughout the year, students collectively select a translated Greek work, such as Homer's *Iliad* or *Odyssey*, Aeschylus' *Agamemnon*, Plato's *Apology*, or Herodotus' *Histories*, which serves as a window into Greek culture and a springboard for discussion and connections across time and place. Assessment includes quizzes, class participation, and culminating projects. Core course materials include Athenaze and selected texts in translation. A highlight of the fall semester is the "micro-project," in which students investigate the Greek origins of a single English word to trace its etymology, cultural context, and evolution. As a spring capstone, students research a figure, concept, text, or artifact from the Greek world and ask why and how it remains relevant today, examining the enduring impact of Greek thought and culture on the modern world. There are no prerequisites for this course.

Intermediate Ancient Greek 1 and 2

In Intermediate Ancient Greek 1 and 2 students continue the study of the language and culture of Ancient Greece, beginning with a review of prior material and progressing to more advanced vocabulary, morphology, and translation. Through sustained engagement with Athenaze and selected original Greek texts, students develop increasing independence and confidence in translating Ancient Greek with the support of dictionaries and commentaries. Readings in English and class discussion deepen students' understanding of Greek contributions to philosophy, politics, education, and literature, while fostering attention

to detail, intellectual risk-taking, and empathy across time and culture. Assessment includes quizzes, participation, and a capstone project at the end of each semester. Course texts include Athenaze and student-selected readings in the original and in translation, such as Plato's Symposium, the fragments of Sappho, Homer's Odyssey, Euripides' Bacchae, and Aristophanes' Clouds. A highlight of the course is the semester capstone project, developed with instructor guidance and presented for class discussion and critique. The prerequisites for this class are Elementary Ancient Greek 1 and 2 or the equivalent.

Advanced Ancient Greek 1 and 2
In this course, students engage deeply with Ancient Greek language and literature by reading authors of their choice both in the original Greek and in translation, supported by glossaries and scholarly commentary. Building on prior coursework, students continue to refine their command of Greek morphology and syntax while developing greater reading fluency and precision in translation. Through sustained engagement with primary texts, class discussion, and guided research, students also deepen their understanding of the culture, intellectual traditions, and lasting influence of the Ancient Greeks. Students collaboratively select many of the authors studied during the course, with past selections including Homer, Herodotus, Sophocles, Euripides, Aristophanes, Plato, and Aristotle. The course culminates in a student-designed capstone project, developed and executed with close guidance from the instructor, in which students conduct independent research using primary and secondary sources and present their findings to their class. The prerequisites for this class are Intermediate Ancient Greek 1 and 2 or the equivalent.

Ancient Philosophy 1
This course provides a wide-ranging introduction to ancient philosophy as it was conceived and practiced in the Greco-Roman world. Over the course of the semester, students will study the questions that Greek philosophers posed about the world around them, their answers to those questions, and, not least, how their answers influenced other aspects of their society, including religion and science. Our ambitious inquiry will begin with the natural philosophers or "Presocratics," who attempted to address the origins and the nature of the cosmos. From there, we will turn our attention to the figure of Socrates and the writings of Plato, which expand upon early theories regarding rhetoric and the immortality of the soul. Throughout, the focus will be on developing students' critical thinking, philosophical argumentation, persuasive communication, and cultural competency as they take on, challenge, and defend radical ideas from ancient thinkers.

Ancient Philosophy 2
This course provides a different, also wide-ranging introduction to ancient philosophy as it was conceived and practiced in the Greco-Roman world. Over the course of the semester, students will study the questions that Greek philosophers posed about the world around them, their answers to those questions, and, not least, how their answers influenced other aspects of their society, especially ethics. Our ambitious inquiry will focus on what it means to live a happy life. As such we will study Aristotle, Plato's student and Alexander the Great's tutor, who wrote on a range of topics from the natural sciences to poetics and politics. From there, the class will explore the Epicureans and the Stoics and how these Hellenistic thinkers transformed philosophy and influenced Western thought. Students will engage with the reading through homework responses, class activities, discussions, and lectures. They will also work on an independent research project to be presented in the final two weeks of the course. Throughout, the focus will be on developing students' critical thinking, philosophical argumentation, persuasive communication, and cultural competency as they take on, challenge, and defend radical ideas from ancient thinkers.

COMPUTER SCIENCE

The Upper School computer science department works to develop three primary competencies in its students: programming, systems thinking, and a creative, problem-solving and growth mindset. From introductory through upper level courses, students learn to write code to manipulate data and to perform analysis, as well as to present their findings through dynamic visualizations. Students develop logical thinking and problem-solving skills and are introduced to frameworks for understanding the interconnectedness of data, technology, and broader societal concerns. Throughout the arc of the program, students are asked to grapple with increasingly complex and abstract material in a cycle of design, feedback, and iteration, necessitating commitment, focus, and the ability to work through setbacks.

CLASS IX

Programming, Data Analysis & Artificial Intelligence
This year-long course introduces students to the fundamentals of data analysis and artificial intelligence through hands-on learning and real-world applications. In the first semester, students explore Python programming, focusing on data structures, analysis, and visualization using libraries like Pandas, while incorporating tools like ArcGIS StoryMaps. These tools are introduced within the context of the STEM IX Ghost Map curriculum. The second semester shifts to the foundations of AI, where students learn about generative and predictive models, gaining practical experience with machine learning frameworks through tools like TensorFlow. Along the way, students develop and train their own AI models, deepening their understanding of how AI works. The course also examines the broader societal impacts of AI, fostering critical thinking about its ethical and cultural implications. Students are assessed on various projects and the completion of homework. By the end of the year, students will be well-equipped with technical skills and a thoughtful perspective on the evolving role of data and AI in our world. There are no prerequisites for this course.

Technology, Data, and Storytelling M
This required 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 and Google Sheets. 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. The student's final ArcGIS StoryMap project is a cumulative project where students embed all their data presentations and insights. Students are assessed through mini-projects and final projects throughout the semester.

CLASS X

Physical Computing (m)
This minor semester-long course introduces students to the fundamentals of text-based programming, circuitry, and electrical systems through a physical computing framework centered on Arduino microcontrollers and the C++ programming language. The course emphasizes hands-on learning to explore the integration of hardware and software using Arduinos. Students will learn to build and program circuits using inputs, outputs, and sensors, combining hardware and software to create interactive systems. Students will also use programming concepts to collect, analyze, and visualize data from the world around them. By the end of the semester, students are capable of building and programming physical computing devices that collect data using CO2, light, or temperature sensors. Students are assessed through miniprojects and final projects throughout the semester.

CLASSES X-XII

Advanced Programming I (STEM Pathway Requirement)
This semester-long advanced course is a STEM pathway requirement that focuses on Java and aims to equip students with a comprehensive understanding of programming. Students will cultivate their understanding of coding through analyzing, writing, and testing code as they explore concepts like modularity, variables, and control structures. The start of the course will cover essential concepts such as primitive types, if-statements, and iteration before moving on to more advanced object-oriented programming concepts such as recursion and inheritance. Students are assessed through mini-projects, final projects, and ongoing quizzes and tests that check for student understanding throughout the semester. By the end of the semester, students will program their own coding cafe using all the concepts learned throughout the semester. There are no prerequisites for this course.

Advanced Programming II
Prerequisite: Advanced Programming I
As a continuation of Advanced Programming I, this course deepens students' understanding of programming concepts with a focus on more advanced topics and a broadening of their language proficiency. Students will become comfortable with Python and SQL, enabling them to develop large applications with interactive data backends. The semester will culminate in the development of a complex web application designed to solve a problem or fit a need in the student's community. This course further enhances students' familiarity with best practices in program design, debugging, and testing. Students are assessed through mini-projects, final projects, and ongoing quizzes and tests that check for student understanding throughout the semester. By the end of the semester, students will be fully capable of applying programming-based problem-solving techniques to diverse situations and disciplines.

Advanced Robotics and Engineering (STEM Pathway Requirement)
Prerequisite: Advanced Programming I
This STEM pathway requirement is a semester-long course that immerses students in the exciting world of robotics engineering through hands-on exploration of engineering principles and programming techniques. Students will begin by understanding the fundamentals of robot design, including chassis construction, drivetrain systems, and manipulator integration. They will then dive into programming with Java, learning to create both autonomous and driver-controlled robot functions while integrating advanced concepts. Students are assessed through homework, mini-projects, and final projects throughout the semester. During their mechanism research project, students will research various engineering mechanisms and prototype new designs using CAD software. This course equips students with the technical skills, critical thinking, and collaboration necessary to excel in robotics engineering and beyond. Advanced Programming I is a prerequisite for this course.

Advanced Algorithms and Data Structures
Prerequisite: Advanced Programming I and Advanced Programming II
This semester-long course expands students' conceptual understanding of computer science concepts, teaching them methods to efficiently store and organize data, and the standard algorithms for managing and manipulating these data structures. All semester, in various applications, students will learn to ask themselves: how does this choice impact my machine's memory?; how does this choice impact the runtime of my program? We will cover lists, stacks, queues, trees, graphs, and hash tables alongside the proven algorithms for searching and sorting them. Students are assessed through mini-projects, final projects, and ongoing quizzes and tests that check for student understanding throughout the semester. Algorithms and Data Structures is a classic Level 2 college course for computer science, math, and physics students; students leaving this course will be exceptionally well-prepared for applying computer science principles to high-level applications in their future research and coursework.

Design and Digital Fabrication II M
Prerequisite: Design and Digital Fabrication I
This minor elective is open to students who have completed Design and Digital Fabrication I (see under Digital Design Sequence). Over the course of a single semester, students will engage deeply with the iterative design process, transforming initial ideas into fully realized projects. Through repeated prototyping and refinement, they will develop their concepts using a variety of tools and technologies, including laser cutters, 3D printers, AR

and VR systems, and physical computing devices. The design journey is enriched by critiques, field trips, historical discussions, and in-class activities, which expand students' understanding of design principles and their applications. Students are assessed through mini-projects throughout the semester. By the end of the course, students will not only have created tangible outcomes but also gained insights into the broader impact of design in everyday life.

Privacy and Cryptography M

Prerequisite: Advanced Programming I

This minor elective course will cover the foundations of contemporary digital citizenship: encryption, blockchain, networks, security, and data privacy. It will also equip students with knowledge of the systems undergirding these facets of our world. On the computational side, students will learn about ciphers, zero-knowledge proofs, and encryption; implementing secure systems through hands-on labs. They will also discuss their relationship to data and privacy in digital settings through a variety of case studies investigating the legal and ethical foundations of digital systems. This course will prepare students for active, informed digital citizenship, and prepare them for college-level logic coursework through proof-based computational thinking. Students are assessed through mini-projects, final projects, and ongoing quizzes and tests that check for student understanding throughout the semester.

HEALTH AND WELLNESS

The health education department strives to prepare students to navigate and care for their personal health. We approach health as a multi-dimensional and essential part of an individual's identity, and encourage students to give attention to each area of their well-being. We focus on skill-building as a key component of managing personal health. As students move through our program, they demonstrate their increasing ability to manage more complex realistic health scenarios for students their age.

CLASS IX

Foundations in Health and Wellness M

This required course establishes the foundation for health and wellness education in Upper School. Using a framework that emphasizes ten dimensions of health, students explore a range of attributes that factor into a teen's health. Essential health skills including stress management, decision-making, analyzing influences, and healthy communication are introduced and practiced with application in the following content areas; mental health, substance use, food and nutrition, and relationships and sexuality. Students take a personal safety course that focuses on healthy relationships, consent, and intimate partner violence.

CLASS X OR XI

Adolescent Health M

Adolescent health 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 builds on areas of health introduction in Foundations in Health and Wellness. Students build skills and gain knowledge that they apply to real-life health scenarios for adolescents with the goal of developing the capacity and confidence to improve personal health in their everyday lives. As a result of this class, students are 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.

CLASS XII

Personal Health Beyond the Blue Doors M

As a culmination of their Upper School Health Education experience, students who elect to take this course will apply all previously learned health content to issues of young adulthood. Students explore topics including managing personal health on a college campus, accessing healthcare and navigating appointment-making, living with a roommate, drinking culture on college campuses, sexual and reproductive health in adulthood, and more. Student input and current issues in wellness are considered throughout the duration of the course.

Mind Over Matter: A Course on Stress Management M

This course is designed for the busy high school senior looking to enhance their stress management skills to improve overall well-being. Students learn about the science behind stress before exploring and practicing health-enhancing stress management strategies including breathing techniques, journaling, and physical activity. Students analyze the impact of stressors on personal health, evaluate the effectiveness of a range of stress management practices, and create a personal stress management plan that demonstrates their ability to incorporate a variety of realistic health-enhancing stress management strategies into their lives.

Beyond Barriers, Binaries, and Bad Takes M

This course builds on and deepens previous health class discussions of gender, sexuality, anatomy, and the context in which we receive and internalize this information. Students analyze and work through both personal and socio-political barriers, explore and unpack binary approaches to health concepts, and utilize media literacy skills to approach "bad takes" in the age of misinformation, especially as they pertain to health advice, social media, relationships, and our bodies.

VISUAL ARTS

The Visual Arts at Nightingale is a skills-based program that provides students with the tools for creative self-expression, visual literacy, and an awareness of historical practices, diverse cultural traditions and an evolving social conscience that will serve to aid them in navigating whatever path they choose to follow. Elective-credit courses are offered in ceramics, drawing, painting, and photography (both analog and digital). Intro to art history is offered as an option for the required Arts and Digital Design Rotation and advanced art history is offered for major credit for students in Classes XI and XII. All of the elective-credit courses may be taken for major credit with permission of the instructor. In almost

every course, there are opportunities for museum, collection, or gallery visits that complement and extend the work in the classroom.

MINOR OFFERINGS

All of the courses in this section are semester-long courses.

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

Students are introduced to traditional black-and-white film photography, as well as alternative processes, such as cyanotypes, chemigrams, pinhole cameras, paper negatives and photo-collage techniques. Students will use fixed-focus 35mm film cameras and learn to process their own film and make enlargements in the darkroom.

Digital Imaging M

Students explore the world of image manipulation using 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

This course will focus on the fundamentals of drawing; including shading, perspective, contour and gesture drawing. Students will use professional graphite pencils as well as charcoal and Prismacolor pencils. An emphasis will be placed on observational drawing and using 3-dimensional models as much as possible, in addition to working from 2 dimensional imagery. Each unit will begin with step-by-step guidance and culminate in an accomplished product. We will begin with simple 3-dimensional forms, conduct a unit on perspective and natural elements, and round out our semester with figure drawing. As always, students are encouraged to incorporate and develop personal style and voice.

Introduction to Painting M

Students will be working primarily with acrylic and watercolor paints. We will cover all of the basics of shading, value and capturing three dimensional forms using these two mediums. Students will start out with acrylic paint working monochromatically with one subject and expand to include multiple objects and textures. Watercolor work will begin with abstract exploration of the medium and expand to include a student driven composition focusing on a still life or landscape. Beyond the fundamentals, students will be asked to think of their work as a vessel for change and will design a composition supporting a social issue of their choice using their preferred medium; acrylic or watercolor.

CLASSES X–XII

Each of the Visual Arts studio electives are open to all students in Classes X-XII and are able to be taken for one semester, or for multiple semesters over one or more years.

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

This course will focus on the anatomy of the human form in both its entirety and in portraiture. Students will create sketches of both the muscular and skeletal skeletons so as to enhance their knowledge of the exterior of the human form. We will look at the body in motion and with a focus on proportion. In addition, we will take a closer look at the proportions of the human head and portraiture from different perspectives. Students will use contour and gesture drawings to quickly capture the human form and dive into longer sketches as the semester progresses. Students will use professional graphite pencils as well as charcoal.

Painting M

Students participating in this course will take a deep dive into traditional landscape painting, explore abstraction and round out the semester by experimenting with silk painting. All units will feature a connection to art history to give students a background in the techniques and artform. For landscape painting students will look at artists from the Hudson River School and work from an underpainting to a complete work. Students will work with a traditional pallet of acrylic paints. We will approach abstraction from two perspectives; expressive and geometric with an emphasis on duration and repetition. Lastly, students will create silk paintings inspired by traditional Japanese techniques but with a subject matter of their choice.

Photography M

In this course, 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. With additional experience, students progress from assignments designed to master technical skills to ones that allow them to explore subjects of personal interest. They are exposed to a variety of traditional non-silver processes and introduced to the possibilities of digital imaging. At the end of the semester, students submit a portfolio on a theme of their choice.

CLASSES XI AND XII

Advanced Art History

Advanced Art History is equivalent to a 100-level college 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.

STUDIO MAJORS

Studio Art Majors are offered to students who have taken at least two semesters of elective art courses and want the opportunity to refine their skill set and create a substantial portfolio with the guidance of a member of the art department. Students are encouraged to express their interest to the relevant instructor in advance of registering. Students may register for Studio Art in one of four areas of concentration: ceramics, drawing, painting, or photography.

Studio Ceramics

Studio Ceramics offers an immersion in ceramic history, techniques, aesthetics and practice. Some options for more in-depth processes include creating plaster molds and slip casting, making custom decals, and working with underglaze chalk, china paint and luster. Every student will present their work in a completed portfolio accompanied by a written narrative at the end of each semester.

Studio Drawing and Painting

Studio Drawing and Painting offers an advanced studio experience for a student who desires to specialize in a drawing medium or complete an in-depth study of painting. An emphasis will be placed on developing original content and drawing from live observation and imagination. Students may work in a range of drawing or painting materials and mediums and should anticipate completing multiple finished works. Student work will be displayed and accompanied by an artist statement at the end of each semester.

Studio Photography

Studio Photography is an option for the student who has demonstrated a commitment to the medium and wants to continue to hone their skills and build a thematic portfolio that reflects a personal vision rather than a collection of assignments. A written statement about the work is submitted along with the portfolio at the end of each semester. Experimental projects, combined media, digital imaging, and alternative processes are possible areas of exploration.

PERFORMING ARTS

We believe that performing arts are fundamental to the human experience and integral to students' education and growth. The vision of the Performing Arts Department is for Nightingale students to be emboldened through the creative process so they can connect with themselves and engage with curiosity and compassion within the classroom and in the global community. To that end, in Theater, Music, and Dance, students are offered the opportunity to: experience diverse genres, artists, repertoire, and instructional practices; cultivate habits that foster patience, resilience, and critical thinking; emphasize personal and collective growth through meaningful collaboration; and explore the role of performing arts in challenging conventional boundaries. Throughout every Performing Arts course, students have the chance to explore the process of and practice creating and performing, and responding and connecting to art.

THEATER

Musical Theater M

This new course introduces students to the world of musical theater through the lens of its history and performance practice. This course is the first in a four-year series, all of which will focus on various aspects of musical theater including technical theater, production and business management, and the journey from audition to opening night. Students will study the early days of Broadway and trace the development of new genres, styles, and voices in the American theater scene. Included in this exploration will be opportunities for students to learn monologues and songs from a variety of shows ranging from Rodgers and Hammerstein and Lerner and Loewe to contemporary composers that influence Broadway today. At the end of the semester, students will perform one monologue of their choice, a duet scene with another student, or a song from a musical of their choosing. Through both analytic and experiential assessments, students will gain an appreciation for this unique theater tradition.

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 full scale 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.

MUSIC

CLASSES IX–XII

Upper School Chorus M

Upper School Chorus is a non-auditioned choral ensemble open to all students in Class IX-XII. No singing experience is required. Students learn the physiology of the voice and

gain an understanding of how fundamental vocal technique applies to various styles of singing. Additionally, the course focuses on the development of literacy skills such as utilizing solfege as well as rote teaching to learn music. Repertoire is chosen to reflect that full spectrum of singing experiences around the world and includes music from various styles, time periods, cultures, and genres. All rehearsals occur during the school day. Major performances during the year include the the Middle/Upper School Winter Concert in December and the Upper School Spring Concert in May. Because new repertoire is chosen for each concert, students can expect a different experience each semester and therefore can participate for all four years of Upper School.

Upper School Ensemble M

Upper School Ensemble is a mixed-grade (IX–XII) performance-based course that emphasizes collaborative music making and ensemble responsibility. Building on the technical and reflective foundations developed in middle school, students focus primarily on learning, rehearsing, and performing repertoire as a group. Repertoire is selected each year to reflect the ensemble's skill level and interests and includes a wide range of styles including pop, rock, musical theater, and classical. New techniques and concepts are introduced as they arise organically within the repertoire, reinforcing the idea that skill development serves musical expression and collective goals. Students are expected to practice their individual parts regularly between classes and arrive prepared to rehearse efficiently and thoughtfully. While the ensemble is open to all students with a minimum of three years of prior experience on their instrument and does not require an audition for entry, all students participate in a fall seating audition. Class time is spent primarily in full-ensemble rehearsals, with occasional sectional rehearsals to address instrument-specific skills and challenges. The ensemble performs twice each year and attends at least one live performance in New York City. Students are encouraged to connect with music in ways that feel personally meaningful, both within the ensemble and beyond the classroom.

Upper School Guitar M

Most students in Upper School Guitar are serious players with a solid basic skill set developed in Middle School. Projects are mostly chosen by students, allowing a focus on the advanced techniques that are most useful in playing the music that really interests them. There are many guitar worlds, and Upper School students are ready to choose which of those worlds they most want to explore. The class also includes some time to "strum for fun" and develop the habit of being in community through music. Students choose two major projects a year to prepare for performance. Some past choices range from alternative rock such as "Hospital Beach" through classic choices like "Hotel California" and "Landslide", to serious classical repertoire like Francisco Tarrega's Capricio Arabe. Assessment is somewhat flexible, since at this point most class members are serious players with an independent trajectory. The goal is to support their evolution in a meaningful way that is based on an understanding of their individual paths.

There is no prerequisite for US Guitar. Beginners are welcome and are offered individual support during the "catch up" process, as well as the possibility of initially playing simpler parts that help them build the skills they need.

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 up 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.

CLASSES X–XII

Chamber Chorus M

Chamber Chorus is an auditioned choral ensemble available for motivated singers in Class X-XII. Students experience a more rigorous experience that cultivates advanced singing skills and supports a deeper understanding of and appreciation for choral music. Challenging repertoire reflects the diverse choral traditions that are suited for a small ensemble. Throughout the rehearsal process, students engage in sightreading activities, learn advanced vocal technique, and experience the challenge of independent singing. Students' progress is assessed through in-class and recorded singing, which enables them to receive direct and immediate feedback. Chamber Chorus rehearses during the school day. Additionally, the ensemble occasionally meets on Saturdays for extended rehearsals in preparation for future performances. Historically, the ensemble has the opportunity to work with nationally-recognized choral clinicians. Performances include the Middle/Upper School Winter Concert and participation in NYSSMA, the New York State School Music Association festival in Spring. In recent years, Chamber Chorus has toured both domestically and internationally. Auditions take place in Spring for the upcoming school year, and selected students must be in any of the following music courses: Upper School Chamber, Upper School Ensemble, or a Guitar class.

PHYSICAL EDUCATION

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.

Dance
The Dance program centers cultural awareness, artistic expression, the development of an artistic/creative voice, contextualizing Contemporary dance and performance, and critical reflection and analysis. 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.

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	Winter Season	Spring Season
JV and V Volleyball	JV and V Basketball	V Badminton
V Cross Country	V Indoor Track	V Lacrosse
V Soccer	V Squash	V Softball
V Tennis	V Swimming	V Track and Field

LEARNING RESOURCES

Learning support is available for all Upper School students in the form of one-on-one meetings during free periods. Students can schedule recurring meetings during the two-week cycle or access support as needed. The learning specialist provides individualized instruction to help students understand themselves as learners. Typical sessions focus on honing study techniques, improving self-advocacy and independence, and building executive functioning skills such as organization, time management, or breaking down challenging assignments. The Learning Resources Department collaborates closely with teachers to provide classroom recommendations and instructional strategies to support all students. When there is a need, specialists partner with students and their families to support the evaluation process, determine appropriate test accommodations, and create a school learning plan tailored to the student's learning needs.

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.

VISUAL EDUCATION

Nightingale's Visual Education initiative focuses on sending students beyond the blue doors and into New York's vast array of cultural institutions to learn through art, artifact, object and performance. Through their studies in a range of subjects, upper school students visit and partner with museums, galleries, libraries, theaters, community centers, and other cultural spaces. These experiences offer upper school students opportunities to articulate their observations, interpretations, and questions and make connections between their learning and the real world.

OFF-CAMPUS STUDY

Nightingale is deeply committed to providing opportunities for its students to engage in global studies and develop comfort and confidence as members of an interconnected, global world. 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 optional trips have included travel to China, Cuba, Iceland, France, Italy, Spain, South Africa, the Dominican Republic, and Colombia.

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)

COLLEGE COUNSELING

The college process is, first and foremost, an educational one: We encourage our students to explore new ways of envisioning themselves and think about future options they may not have considered before. It is also highly personal: finding the right college is about finding a good match. The rigorous academic program at Nightingale ensures that each of our graduates will be prepared to succeed in a challenging undergraduate curriculum.

Each year, 100% of Nightingale seniors are accepted to colleges designated as selective and most selective in the U.S. and abroad. College counseling begins with course selection in the Upper School to ensure that each student completes the courses recommended for college admission and graduation from Nightingale. The college office also assists with standardized testing recommendations and requirements for domestic and international colleges and universities. Throughout their Nightingale years, students are encouraged to challenge themselves in the classroom, explore and develop passion and expertise in their extracurricular interests, and 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 officially begins in the junior year. Students and their parents/guardians work with the college counselors to develop a list of colleges that are appropriate for each student. Through individual meetings and college counseling classes, the counselors assist students with:

- Understanding the application process
- Researching colleges
- Essay writing
- The financial aid process
- Interview prep

All of this is done in service of our overarching goals of encouraging independence, developing mature decision-making skills for all of our graduates, and allowing each student to feel confident in their final college decision.