



TABLE OF CONTENTS

(click on a heading to jump to that section)

TABLE OF CONTENTS	1
(click on a heading to jump to that section)	
Administration	1
Requirements For Graduation	2
Policies Governing Academic Study	3
Visual Arts	4
Computer Science	8
English	10
History	18
Mathematics	25
Modern Languages	29
Performing Arts	37
Science	41
Athletics & Physical Education Program	47
Aerie Program Courses	50
College Counseling	54
The NuVuX Studio Term at Wheeler	56
Co-Curricular Programs	58

Administration

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Requirements For Graduation

Students are required to be enrolled in five major courses each semester. Any exception to this requirement must be approved by the Head of Upper School. The School recognizes and supports accommodations for students with documented learning disabilities.

School policy requires that a Senior must pass all courses in which he or she is enrolled during the Senior year, regardless of any prior fulfillment of the distribution requirements or other factors. Seniors who have failed a one-semester or a year course will be granted a certificate of attendance in June and be given the opportunity to earn the diploma within a specified time subsequent to June of the Senior year.



Visual Arts

One credit requirement (two semesters). Foundation Art (1/2 credit) in grades nine or ten and a half credit to be chosen from elective listing.

English

Four credits. English 9 & 10 (full year) , English 11 & 12 (Fall semester) and one core elective in the Spring semester of each year.

Modern Language

Through level 3 in one language, or through level 2 in two languages.

History

Three credits, including one year of United States history.

Mathematics

Three credits, including two credits in algebra and one in geometry.

Performing Arts

One credit (two semesters).

Science

Three credits, including one credit each of Environmental Science and Chemistry, and one credit of either Biology or Physics.

Physical Education

Four years, 100 minutes per week required.

Community Service

Four credits, one earned each year.



Note: One semester equals 0.5 credit; one year- long course equals 1.0 credit.

Policies Governing Academic Study

Course Load

All students carry a minimum of five major courses. Although some students' interests compel them to consider taking seven major courses, we urge students and families to make this decision cautiously as students must create a balance between academic study and co-curricular commitments for a healthy life. Students wishing to take seven major courses must petition the Head of the Upper School and Program Planning Committee of the Upper School. Students have an exploration period of the first two weeks of each semester to consider changing their program. Only students enrolled in six major courses can drop a major course after the last day of the second week of school as others will have missed too substantial a portion of a class to enroll in a fifth course. If a student has been misplaced, that student will be moved to the appropriate level with the advice of the teacher and the Department Head. Only under special circumstances are students allowed to drop a year-long course after the first semester. In these cases the first semester grade, W, will stand on the transcript, which will reflect a "Withdraw."

Advanced Placement Policies

Students are admitted to AP courses with the permission of the department. Students in these courses necessarily take on a course load with high work demands and often must use vacations and long weekends to cover material. All students in AP courses are required to take the AP examination.

In an effort to sustain a healthy balance between academic, co-curricular, and athletic commitments, no student will be allowed to enroll in more than four AP classes. Students who meet the criteria to enroll in four AP classes and who wish to do so will need to petition the Program Planning Committee of the Upper School. We urge students and parents to make this decision only after careful thought and with an eye toward preserving time for activities outside of school.

Semester and Year Away Programs

Wheeler recognizes the value of non-traditional educational programs and enthusiastically supports five programs that offer an experience complementary to ours to interested Juniors. These programs involve an application process with the hosting schools, and Wheeler works closely with them to ensure a good experience for our students. Students at Wheeler may apply to the following semester and year away programs for the JUNIOR YEAR ONLY: The Mountain School in Vershire, Vermont; CITYTerm in New York City; The High Mountain Institute in Colorado; The Island School, Eleuthera Island in the Bahamas; and School Year Abroad, sponsored by Phillips Academy. Seniors are expected to spend the entirety of the year on our campus.

Independent Study

Students with a particular passion or expertise in an area may choose to pursue independent study in that area with a faculty member. These opportunities require the utmost initiative, independence, and responsibility on the part of the student. Independent studies may be taken as either major or minor courses; in either case students and the instructor must be able to meet for five periods in the eight day cycle. Independent studies as minors are approved by the appropriate department chair and the Head of Upper School. Independent studies as majors are approved by the Committee of Department Heads. These applications must be submitted in the spring for the Fall semester of the next year and in the Fall semester for the Spring semester of that academic year. No independent study can count as a fifth major unless that student has exhausted the department's offerings.



Visual Arts

The study of art affects many areas of learning. The development of perceptual skills, like that of verbal skills, is vitally important because these skills improve thinking. The study of art, while enhancing learning as a whole, also has value as a discipline in and of itself. The Upper School Art curriculum encourages students to be open and receptive to new ideas, to new ways of working and thinking, and to taking risks. Students learn to value experimentation and discovery without fear of right or wrong outcomes; the process of art-making is valued before product. Program goals broaden student awareness through involvement in the art making process and aim to help students value themselves, their work, and the efforts of others. Requirements: Because Wheeler considers art to be an integral part of the educational process, each student is required to take two art courses in the Upper School. The first of these, in the 9th or 10th grade, is always the Foundation Art course. Students new to Wheeler in the 10th grade are required to take Foundation Art. Students may then complete their art requirement by taking Introduction to Wheel Throwing, Digital Photography 1, Drawing, Graphic Design, Ceramics: Hand Building, Printmaking, or Painting before they graduate. Students new to Wheeler in the 11th grade are required to take either Foundation Art or one art elective, depending on previous art experiences. Students with a strong interest and ability in art should take Foundation Art in the ninth grade, and then complete the necessary application process to be considered for acceptance in the Studio Art program. Students with a strong interest in art specialties can pursue advanced work in the Drawing, Ceramics, and/or Digital Photography sequence of courses. Serious students in the electives track may qualify for the Advanced Art Seminar. For an overview of the Upper School Art offerings and their sequences below.

Foundation Art

Foundation Art provides the basis for all art courses that follow in the Upper School. This studio-based course covers the basic elements of design, form, and composition. Projects explore a variety of media and materials that may include but are not limited to, drawing, painting, collage, photography, printmaking and ceramics. Gallery visits and critiques are also an essential component of this curriculum, encouraging students to analyze art in addition to creating art. This single-semester course is required at the 9th or 10th grade level. Offered fall and spring semesters. (Minor course)

Ceramics: Hand Building

This course is designed to familiarize students with various techniques of hand building utilitarian objects in clay, including pinch, coil, and slab construction techniques. Projects are assigned to give students knowledge and confidence in working with clay as a material while considering the function of a piece. In addition, decorative techniques and surface design will be taught throughout the semester. Students will learn how to create pieces by considering form, surface, personal style and craftsmanship. Offered fall and spring semesters. (Prerequisite: Foundation Art) (Minor course)

Introduction to Wheel Throwing

This class is an introduction to learning the basic techniques of creating clay forms on a potter's wheel. At first students will develop basic skills of centering the clay, pulling up walls, and making simple pieces. As the semester progresses students will develop more complex work. Projects include a variety of utilitarian objects with some consideration of sculptural work as well. Glazing and decorating techniques will be presented throughout the semester. (Prerequisite: Foundation Art) Offered fall and spring semesters. (Major course)

Advanced Wheel Throwing

For students who have completed Introduction to Wheel Throwing and are interested in continuing developing skills and expression with this medium and technique. Projects include plates, coil throwing, sculptural construction as well as explorations of artists and cultures focused on ceramics. Techniques in decorative work and surface design will also be emphasized. Students can opt to take one or two semesters of Advanced Wheel Throwing. Please indicate your preference during course sign-ups. Offered fall and/or spring semesters. (Prerequisite: Foundation Art and Introduction to Wheel Throwing) (Major course)

Three-Dimensional Design

This course offers an exploration of sculptural techniques to create three-dimensional forms working with a variety of media. Projects will draw inspiration from nature, architecture, and creations from industry. As students learn techniques and gain the ability to communicate their ideas in three-dimensions, more complex processes will be introduced. Offered fall and/or spring semesters. (Prerequisite: Foundation Art) (Minor course)

Drawing

This course is designed for students to develop their skills in drawing with an emphasis on creative exploration and personal expression using a wide range of drawing surfaces and materials. Subjects may include spontaneous and responsive mark-making, self-portraits, and still-lives. Each student will be given a sketchbook for their own personal visual journaling. In-class assignments are supplemented by walking field trips to nearby museums and galleries. Offered fall and spring semesters. (Prerequisite: Foundation Art) (Minor course)

Printmaking

This course focuses on an exploration of printmaking techniques which may include but are not limited to mono print, silkscreen, relief, intaglio and related photo processes. While learning the technical skills involved in contemporary and traditional printmaking, students will explore how to make multiple prints as a reproduction technique that can be used for t-shirts, posters, and cards as well as single prints combining various techniques. In-class assignments are supplemented by walking field trips to nearby museums and galleries. Offered fall and spring semesters. (Prerequisite: Foundation Art) (Minor course)

Painting

The focus of this course is daily in class painting as a way to enjoy the exploration of painting without the stress of perfection. In addition to learning the basics of painting, students will continue to develop drawing skills for accuracy and expression. Students will also learn about value, color-mixing, and color-relationships. Through an exploration of different styles and materials, the aim of this course is for each student to find the best means for personal expression. In addition to inside studio work, we will paint outside when possible, (plein-air, in the spirit of our founder) visit shows in our own Chazan Gallery and when possible, take a day long field trip to the Rhode Island School of Design Museum and Edna Lawrence Nature Lab. Offered fall or spring semester. (Prerequisite: Foundation Art) (Minor course)

Graphic Design

In this course students will learn the basic principles of creating great designs combining text and image. Students will learn to create strong and effective visual statements through traditional design methods balanced with contemporary computer technology. The skills learned in this course offer a solid foundation for students interested in pursuing design work in commercial art, advertising, and web design. Course-work will be supplemented with field trips to local studios when possible. Offered fall or spring semesters. (Prerequisite: Foundation Art) (Minor course)

Digital Photography 1

An introduction to black and white digital photography, this course will cover the basic operations of a digital camera, image-capture, downloading, formatting and image adjustments in Adobe Photoshop, and printing. A digital camera is required for the course. No phone cameras. Offered fall and spring semesters. (Prerequisite: Foundation Art) (Minor course)

Digital Photography 2

This course is a continuation of the skills and concepts learned in Photography 1. Students will be introduced to color digital photography, learning color theory and applying various color combinations and palettes to image-capture. Advanced techniques in Photoshop will be covered to further enhance image-manipulation possibilities and to create photo-collages. A digital camera is required for the course. No phone cameras. Offered fall and/or spring semesters. (Prerequisite: Foundation Art and Digital Photography 1) (Minor course)

Advanced Art Elective Seminar

Art Seminar is a rigorous course of study for advanced Art Elective students to continue exploration in Ceramics, Drawing, Photography, Printmaking, Graphic Design, or Sculpture. First semester studio time is structured around conceptually based assignments to which students respond within their medium of expertise. Class time also includes demonstrations, critiques, visits from professional artists as well as trips to museums and local studios. The second semester is devoted to producing a body of artwork around a personally selected theme, which culminates in a senior art show in the Chazan Gallery. This is a year-long major academic course. Prerequisites: successful completion of level two and level three (if offered) Art Electives within a specified medium and permission of instructor. (Major course)

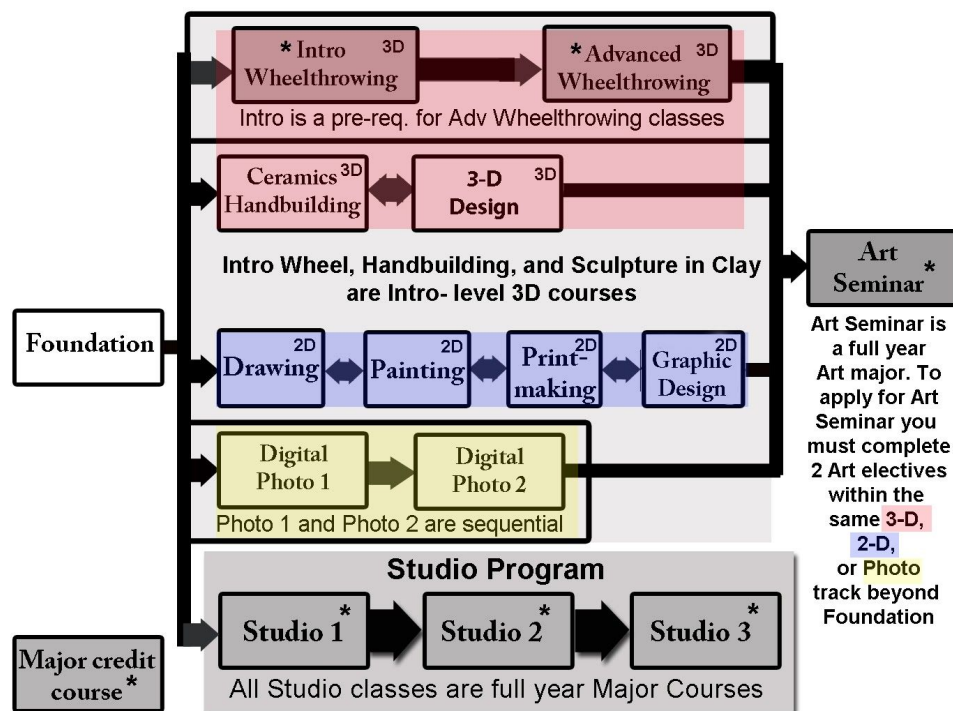
Studio Art 1

Studio Art One is a rigorous course specifically designed for students with a strong interest in drawing and painting and a commitment to advanced study in visual art. Through a series of structured assignments, students develop the observational and rendering skills necessary to make powerful visual statements through their art. The first semester focuses entirely on black and white compositions and designs. Subject matter include both representational and non-representational imagery, figure drawing, landscape and portraiture. The second semester provides a thorough introduction to color theory and painting. Studio Art 1 is a year-long major academic course with a weekly five hour out-of-class assignment. Prerequisite: Foundation Art/Departmental Recommendation/Application requires submission of three assigned drawings and a written statement. Full year. (Major course)

Studio Art 2 & 3

Studio Art 2 and 3 provide a further exploration of drawing, painting, design, and sculpture for the student who has successfully completed Studio Art 1. Focusing on visual expression as a means of communicating ideas, the course stresses the conceptual development of ideas and experimentation with materials to explore expressive possibilities. Working independently on long-term projects, each student strives to develop the skills and confidence necessary to make uniquely personal and expressive visual statements. Figure drawing classes, group critiques, gallery and museum trips, and artists' lectures are also included. Advanced Studio Art is a year-long major academic course with a weekly five-hour out-of-class assignment. Prerequisite: Studio Art 1. Department recommendation is required. Full year (Major course)

Art Department Course Sequence



Note: All Art Electives are 1 semester Minor Courses except where noted (in gray)
Students may take the Art electives Ceramics Handbuilding, Drawing, Graphic Design, Painting, Printmaking, Intro Wheelthrowing, Three -Dimensional Design, or Digital Photography 1 in any order.



Computer Science

Introduction to Web Design

This course introduces concepts related to web layout (including Internet protocols), content production and graphic design. We look at website design from both programmatic and graphic design perspectives. Students will learn the basic elements of web page design including basic layout, the use of graphic and text elements in design, integrating navigational elements, the use of buttons in a page and the relationship between page design and target audience. Students are introduced to the following elements and their use in the construction of Web pages: Hyper Text Markup Language (HTML), Cascading Style Sheets (CSS), and JavaScript (JS). The primary application tools used in the course include online coding editors/compilers, Adobe DreamWeaver and Adobe Photoshop (or Pixlr). As a capstone to the class students will design, create and present their individual web sites. No previous programming, web design or Photoshop experience is necessary. One semester. Offered Fall semester. (Minor course)

Introduction to Computer Science

This course is an introduction to computer science topics, including: program design and development, hardware, data compression, binary conversion, algorithms and programming. We evaluate programming methodologies and the use of structured, problem-solving logic. Students are introduced to fundamental concepts of computer science including computer programming terminology, standard data types, and class and object concepts through the programming language Javascript. A significant amount of time in class is devoted to learning how to design, code, compile and debug programs. This course does not assume any previous programming experience and is intended for students who want to gain a foundation in standard programming concepts and techniques. Students interested in this course should have completed Honors Math 1, or Algebra 2, or received the teacher's permission. This course is a prerequisite to AP Computer Science. One semester. Offered spring semester. (Major course)

Advanced Placement Computer Science

This course emphasizes advanced programming methodologies and Object Oriented Programming concepts. Students will become proficient in advanced class and object design, array lists, inheritance, polymorphism, linked lists, searching/sorting, recursive techniques and algorithms among other fundamental concepts in computer science. The curriculum is based on the College Board Advanced Placement Computer Science syllabus and taking the Advanced Placement Computer Science Examination in the Spring is a requirement of the course. Math aptitude and a mastery of Java syntax are necessary. The course uses hands-on projects to help students acquire the skills and understanding necessary to be successful programmers. Prerequisite is either completion of Introduction to Computer Science with an A- or better or teacher's permission. Full year. (Major course)





English

The English department encourages students to become sophisticated readers and confident writers. Through in-depth analysis of texts of increasing complexity chosen from various literary forms (autobiographies, essays, novels, short stories, plays, and poetry), our students develop their ability to understand and to explain an author's style, voice, background, and historical period. We strive for a balance between classic and contemporary texts and look to expose our students to a diverse selection of perspectives and subjects.

Writing is at the heart of all levels of the English curriculum. The department emphasizes both analytical and creative writing assignments in order to enhance students' understanding of literature and their own place in the world. Students at each grade level can expect to write a variety of expository and personal essays, poems, short stories, and one act plays. Students hone their writing through a revision process that involves thorough teacher commentary, peer editing in class, and the use of appointed student writing mentors. We encourage students to showcase their work in student publications and various writing contests.

All students must complete four full years of English study. For an overview of the Upper School English offerings and their sequences see end of this section.

English 9

In the freshman year, students are exposed to great works of fiction, poetry, and drama. As they read, students will also learn to ask important questions about how the words on the page might help them better understand human experience. In many cases, the texts in this course have, as their protagonists, young people who are struggling with choices about falling in love, finding an identity, or defying cultural expectations. Students in ninth grade are expected to generate ideas for writing, to revise drafts with care, and to spend time identifying their own strengths and weaknesses as readers and writers. In addition to critical essays, students will also write creative responses to the texts in such forms as poetry, fiction and personal narrative. Students will study vocabulary and grammar in conjunction with their reading and writing. Texts used in recent years have included *The Catcher in the Rye*; *The Story and Its Writer*; *The Merchant of Venice*; *Oedipus Rex*; *Antigone*; *Sing, Unburied, Sing*; *The Norton Introduction to Poetry*; and *The Book Thief*. (Major course)

English 10

Sophomore English is designed to develop and refine students' critical reading and writing skills. The study of international literature will identify the common ground between texts of different cultural origins and literary genres. Writing assignments will focus on synthesizing information, concepts, and approaches from various literary sources, including works in translation. In addition to writing analytical essays, students have opportunities to write creative responses to the texts. Texts used in recent years have included *A Doll's House*, *The Tempest*, *The Selected Odes of Pablo Neruda*, *The Namesake*, *The Classic Fairy Tales*, *The Elephant Vanishes*, and *Pride and Prejudice*. (Major course)

English 11, Fall Semester

The fall semester of junior year is devoted to the study of American literature, with particular emphasis on the creation of a national identity in the nineteenth century. Students examine such topics as the immigrant experience, the settling of the land, the pursuit of the American Dream, philosophies of freedom and democracy, cultural and racial differences, and the emerging roles of men and women in a new continent. Students examine these themes in personal and critical essays and various forms of creative projects. Authors may include Walt Whitman, Emily Dickinson, Ralph Waldo Emerson, Henry David Thoreau, Frederick Douglass, F. Scott Fitzgerald, Langston Hughes, Zora Neale Hurston, and Jimmy Santiago Baca. Juniors in good standing may be invited by their English teachers to take either one or both of the Advanced Placement exams in English in the spring. (Major course)

English 12, Fall Semester

The fall semester of English 12 introduces students to a range of challenging texts that explore important existential questions. In the first weeks of the semester, the class will collectively perform a close study of William Shakespeare's *Hamlet* and its protagonist's struggles with grief, inaction and selfhood. Later in the semester, when students read Toni Morrison's *Beloved*, they will examine Morrison's powerful exploration of memory and the many ways it haunts, shapes, and defines the human experience. In the final weeks of the course, students will read and discuss Sarah Ruhl's play *The Clean House* and Marie Howe's poetry collection *What the Living Do*. In their critical essays responding to these texts, students are encouraged to read scholarly articles about the texts and to challenge themselves, in their own writing, to articulate more nuanced and complex arguments than they have taken on in the past. Students are expected to experiment with form and voice in their creative writing as inspired by the nonlinear narrative structures of the texts they are reading. (Major course)

English 11 and 12, Spring Semester Core Electives

Each spring the English Department offers core elective choices for 11th and 12th graders. Students rank their preferences from this list of the specific course descriptions during course sign ups.

American Dreams

The American Dream figures in the public imagination as an essential piece of the American experience, a possibility for all. Believing in the dream offers youth and elderly alike the opportunity to revere the greatness of the U.S. as the home of freedom, of rags-to-riches triumph, of sanctuary from persecution, of democracy. We will explore texts that interrogate, critique, and challenge the truth and validity of the American Dream by engaging with once-erased voices, rediscovering suppressed histories, and listening to thwarted perspectives. Our readings will include a selection of the following texts: James Baldwin's *The Fire Next Time*, Arturo Islas's *The Rain God*, Danzy Senna's *Caucasia*, John Okada's *No-No Boy*, and Tommy Orange's *There There*.

Contemporary Poetry

In *A Poetry Handbook*, Mary Oliver writes that poems are “fires for the cold, ropes let down to the lost, something as necessary as bread in the pockets of the hungry.” At the same time, she also acknowledges that poetry is a craft that one can study and practice -- it is words and lines, meter and syntax, sound and sense. In this course, we will explore poems as readers and writers; we will respond both critically and creatively. We will consider the ways in which poetry written in the last hundred years or so offers meaning amidst a complex and ever-changing world. Within the writing seminar format of this course, we will read a diverse array of poetry and use it as inspiration for our own original work. The primary texts for this course will be *The Penguin Anthology of Twentieth-Century American Poetry*, edited by Rita Dove, and *A Poetry Handbook* by Mary Oliver, along with various online resources. Students will also conduct an independent study of a poet of their choosing, selecting one collection by this poet and reading it over the course of the semester. Each week, students will share their poems in progress and receive feedback in a workshop setting. The final project for this course will be a handcrafted chapbook of students' best poems.

Creative Writing

In this course, we will write every day, both in class and out. During class, we will use both text and image as inspiration for composing original work that attempts to convey our perception and comprehension of the world around us. Fundamental to this course is a genuine willingness to embrace the process of writing, to take risks, to examine our tendencies, and to push ourselves to be bold and clear. Students should expect to submit a new piece every week and to revise work on an ongoing basis. Throughout the semester, students will take turns sharing their work in a full workshop setting. The final project of this class is a bound, fully revised writing portfolio including works in each of the major genres of fiction, creative nonfiction, and poetry, at least forty pages in length. At the end of the semester, while the seniors are out of class working on projects, juniors will create digital stories that integrate writing and graphic images. Texts for this course include Anne Lamott's *Bird by Bird*, *The Pushcart Prize: Best of the Small Presses* anthology (current edition), and class handouts.

Epic Poetry

In this course, we will read Homer's *Odyssey*, Virgil's *Aeneid*, and Dante's *Inferno*. As we study these ancient poems, we will focus, primarily, on the evolution of the epic poem, as a form. We will trace, for example, the ever-expanding geography of the Underworld. We will consider, too, the evolution of the epic hero—as a character and as a representative of certain cultural ideals. Our study of the epic hero and his moral make-up will also cause us to think about the role of women in epic, the necessity of civic piety, the interference of the gods, the power of fate, and the potential effects of travel on the individual and his character.

The Female Protagonist

This course will focus on the development of strong female characters in a range of literary works: from Shakespeare's plays to Jane Austen's novels to contemporary fiction and film. We will begin by considering the female characters students have already encountered in their reading since childhood before shifting to assigned texts. Students will write critically in response to the literature and will also explore those qualities which distinguish strong women in their own experience. Particular protagonists considered may include: Madeline, Katniss Everdeen, Beatrice, Jane Eyre, Elizabeth Bennet, and Esther Greenwood.

Manifestations of the Monster: Studying Society's Deepest Fears through Literature

For centuries, monsters have been the profanely corporeal translations of humanity's fears, anxieties, sins, and transgressions. These unsettling embodiments of the grotesque and the inhuman have often represented, with varying subtlety, a terrified fixation on human difference, notions of perversion and abnormality, otherness, social upheaval, and cultural flux. The uncertainty and chaos posed by clashes between peoples and by encounters with unfamiliar realms has persistently begotten dread with terrible imaginativeness, spawning monstrosities that scare us and which we must either escape or destroy. It is no accident, then, that the history of monsters echoes the histories of racism, sexism, colonialist tyranny, scapegoating violence.

We will examine the layers of symbolic meaning packed into the figures of monsters in stories. However, we will also take on a peculiar challenge. We will investigate the effects and implications of confronting and engaging with monsters in literature exactly and palpably for what they are: terrifying creatures with strange and repulsive physicalities. What happens when we accept the bodies of monsters—their breathing, even heaving presences—as real, tangible entities, rather than as symbolic stand-ins for entrenched or looming fears of “the other” or of social change? At what point do our monstrous metaphors become merely convenient refuges where we can stay at a safe distance? We have the audacity to conjure them, but what of the guts to face them? Perhaps monsters are not threats at all. Perhaps monsters are revolutionary.

In this class, we will read a selection of these texts: stories by H.P. Lovecraft, Mary Shelley's *Frankenstein*, John Gardner's *Grendel*; Franz Kafka's *The Metamorphosis*; H.G. Wells's *The Island of Doctor Moreau*, Jeff VanderMeer's *Borne*, Stephen Crane's “The Monster,” and Victor LaValle's *The Ballad of Black Tom*.

Maps and Migration in Literature

A city, a map, text, and the human heart are all territories we seek to analyze and define. However, part of the paradox of examining such territories is that they require boundaries; they often ask us to draw sharp lines of separation. The idea of movement—especially of moving forward—along such dividing lines has long been a driving obsession for humanity. By exploring the manner in which Black people have intentionally been erased from world history, this course aims to eradicate boundaries created by systemic racism. By challenging false rhetoric and giving a voice to powerful Black speakers and writers such as Malcolm X and Chimamanda Ngozi Adichie, this course aims to boldly empower those who seek to achieve a post-racial society by means of true unity and diversity. Students will write two critical essays and two creative essays in this class. Texts may include Chimamanda Ngozi Adichie's *Americanah*; Malcolm X's *The Autobiography of Malcolm X*; and Edwidge Danticat's *Breath, Eyes, Memory*.

Metafiction

Many postmodern authors tackle the problematic nature of reality's "universal descent into unreality" (Roth) by engaging the reader in uncertainty. In metafiction, fiction about the nature of fiction itself, readers struggle to separate actuality from possibility, truth from lies, and memory from imagination, as authors simultaneously undermine belief and the suspension of disbelief in order to reach more complex truths. Together we will study novels, plays, children's literature, cartoons and comics, popular music, films, and television episodes in order to examine the relationship between reality and fiction as well as the nature of storytelling as a means of transcending truth and unveiling "the possible fictionality of the world outside the literary fictional text" (Waugh). Possible texts: Kurt Vonnegut's *Slaughterhouse-Five*, Grace Paley's "Conversations with My Father," Tim O'Brien's *The Things They Carried*, Tom Stoppard's *Rosencrantz & Guildenstern Are Dead*, Margaret Atwood's "Happy Endings," Thomas Pynchon's *The Crying of Lot 49*, and Luigi Pirandello's *Six Characters in Search of an Author*; possible films: *Stranger than Fiction* (dir. Marc Forster), *Adaptation* (dir. Spike Jonze), *Rear Window* (dir. Alfred Hitchcock), and episodes from the fourth season of *Seinfeld* (written by Larry David).

Modern Drama

In this course, we will read a range of plays written over the course of the last 150 years, analyzing these plays as literature and as models for our own dramatic writing. We will spend significant time reading and performing aloud in class, considering how these characters function on stage and how their words and gestures comment on the modern human condition. From the time of Chekhov, writers began to use language and staging with greater realism and naturalism than earlier playwrights. As a class, we will attempt to understand how and why each play is "realistic" in its portrayal of life. In addition to writing critical analyses of these texts, we will also write original monologues and one-act plays. Texts include Anton Chekhov's *Uncle Vanya*, Edward Albee's *Who's Afraid of Virginia Woolf?*, Samuel Beckett's *Waiting for Godot*, Lynn Nottage's *Sweat*, Tony Kushner's *Angels in America*, and Suzan-Lori Parks's *Topdog/Underdog*.

Reading and Writing the Memoir

Memoirs differ from autobiographies in the way that they do not try to recount the full story of the writer's life. Rather, they focus on particular experiences or moments in an effort to contemplate the meaning of those events. In this course students will read several complete memoirs in addition to a collection of excerpts and personal essays as inspiration for telling their own stories. We will also be exploring the growing genre of graphic memoirs and will experiment with visual projects ranging from digital storytelling to graphic journaling. Though students will write critically on the assigned reading in class, papers will be creative nonfiction pieces. We will read work by authors like: Tobias Wolff, Mary Karr, David Eggers, Annie Dillard, Tim O'Brien, David Sedaris, Roald Dahl, Amy Krouse Rosenthal, Allison Bechdel, Lynda Barry and Allie Brosh.

Shakespeare

In reading four of William Shakespeare's plays and a selection of his poems, we will explore the complexity of his language, the richness of his characters, and the relevancy of his observations about human experience. Readings for this course may include *Othello*, *Henry IV Part 1*, *Romeo and Juliet*, *Richard III*, *As You Like It*, and the sonnets. Running through these plays are the themes of family discord, jealousy, rebellion, and the complicated nature of love. We will also discuss the ways in which gender, age, race, physical appearance, and social class affect the power dynamics of the conflicts in which these characters engage. Students will write creative and critical responses to the texts, enact scenes, and engage in lively class discussion.

The Short Story

In this class, we will read, analyze, and discuss the short story as a genre. Our shared study will lead us to ask deep and prolonged questions about the nature and purpose of this literary form. We will examine how it differs practically and aesthetically from our experiences with the novel, and we will consider the many ways in which the short story's concentrated narrative affects its treatment of human behavior and even the very act of storytelling itself. After beginning with micro fiction, flash fiction, and sudden fiction, we will examine a wide variety of authors who may include: Chimamanda Adichie, Aravind Adiga, Nana Kwame Adjei-Brenyah, Julia Alvarez, Ann Beattie, Raymond Carver, John Cheever, Anton Chekhov, Ted Chiang, Sandra Cisneros, Jennifer Egan, Nikolai Gogol, Nathaniel Hawthorne, Ernest Hemingway, Langston Hughes, Jhumpa Lahiri, Gabriel Garcia Marquez, Flannery O'Connor, Aleksandr Pushkin, Philip Roth, David Sedaris, Amy Tan, Alice Walker, and Tobias Wolff. Over the semester, students will write critical essays as well as original short fiction.

Twenty-First Century Literary Rebels: Wit, Wonder, and the New Sincerity

David Foster Wallace wrote in his essay "*E Unibus Pluram: Television and U.S. Fiction*": "The next real literary 'rebels' in this country might well emerge as some weird bunch of anti-rebels, born oglers who dare somehow to back away from ironic watching, who have the childish gall actually to endorse and instantiate single-entendre principles... The new rebels might be artists willing to risk the yawn, the rolled eyes, the cool smile, the nudged ribs, the parody of gifted ironists, the 'Oh how banal.' To risk accusations of sentimentality, melodrama. Of overcredulity." His essay is a challenge for writers to embrace what Nick Carraway described as Gatsby's "romantic readiness," to transcend irony. Walk through Urban Outfitters, scan bookshelves, or peruse your Facebook mini-feed, and you'll notice how it has become common, even stylish, to dress, speak, and write ironically about everything, including irony itself. In our self-conscious social networking world in which we wait for "likes" and share ironic memes, how do we face the tension between cool detachment and straightforward sincerity? How do we balance comedy with vulnerability, style with authenticity, and performance with privacy? Focusing on works by David Foster Wallace, Karl Ove Knausgaard, and Zadie Smith, we will discuss the artistic movement often called New Sincerity and why this anti-rebel rebellion is important, perhaps even necessary, in today's digital landscape.

Weird Worlds: Exploring Fantasy, Science Fiction, and Horror

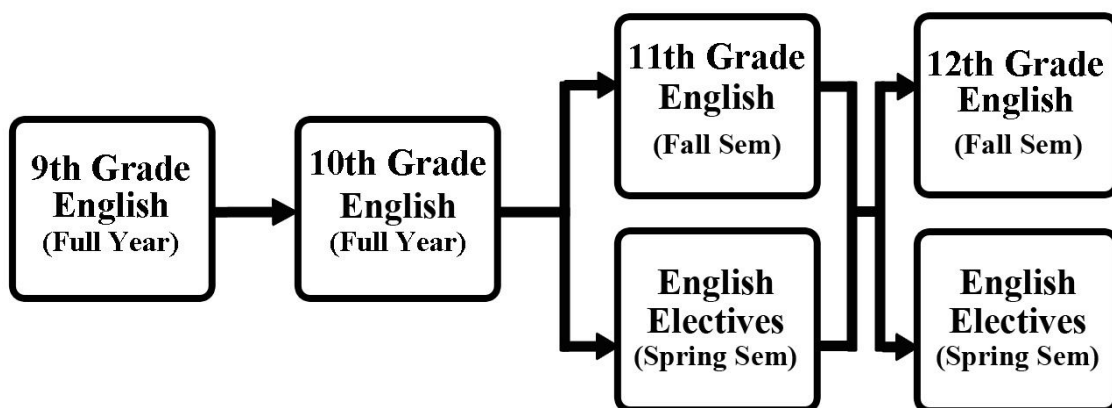
In this elective, we will explore the fantastical, the scientifically not-here, the perplexing, the unsettling, and the horrific. We will investigate other worlds that authors have created to witness and comprehend more fully our own world and its wonders, chaos, mysteries, beauties, and terrors. As we traverse the otherworldly, we must strive to glean new wisdom. Together we will read Margaret Atwood's *The Handmaid's Tale*, Alan Moore's graphic novel *Watchmen*, Ursula K. Le Guin's *The Left Hand of Darkness*, and Octavia E. Butler's *Kindred*.

Writing in a Public Voice: Modes of Journalism

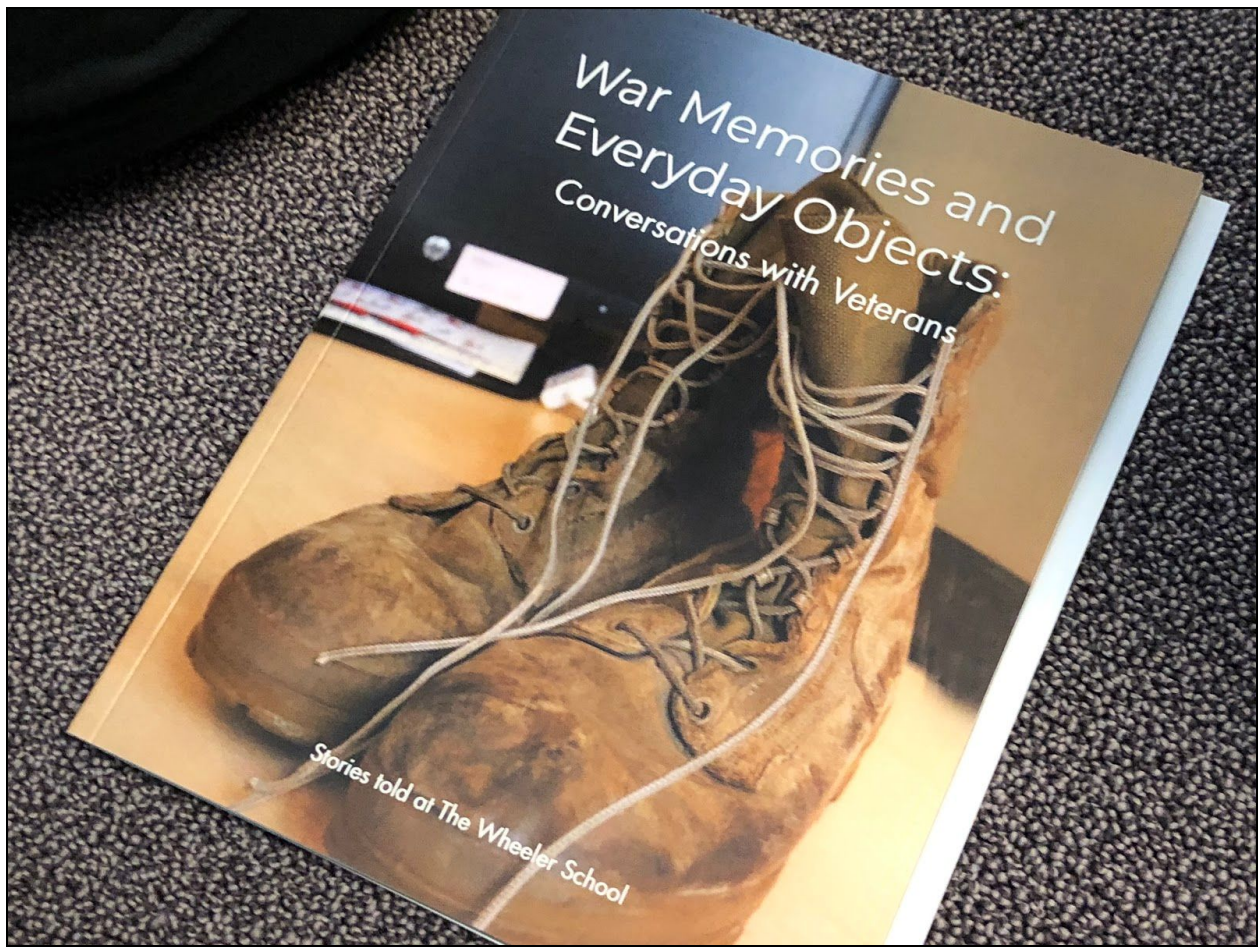
Writer, philosopher, and humorist Kurt Vonnegut famously advised writers to “use the time of a total stranger in such a way that he or she will not feel the time was wasted.” Writing in a Public Voice introduces students to the art of informed engagement in an era of distraction. We will read op-eds, reviews, profiles, columns and opinion pieces from publications such as *The New York Times*, *The Atlantic*, *Rolling Stone*, *Wired*, *The Washington Post* and *The New Yorker*, with an eye toward studying the essential skills and hallmarks of style required by each genre. Students will generate story ideas, develop research strategies, learn to engage readers and submit queries for publication in print and online formats. They will write, review, and revise several works of their own and learn how to connect to their respective audience through informed storytelling. Texts studied will include *The New New Journalism: Conversations with America's Best Nonfiction Writers on Their Craft* as well as a curated selection of articles from *The New York Times*, *The Atlantic*, *Rolling Stone*, *Wired*, *The Washington Post* and *The New Yorker*, which students will access through the Prescott Library's Flipster account.

Course sequence below —

English Course Sequence



Students are required to fulfill 4 years of English courses



History

The History Department trains students to understand the foundations of the contemporary world. By the time students graduate (when many of them have reached voting age), they should be able to make informed decisions about the people, issues, and events around them.

To that end, students develop the skills needed to become successful citizens in today's rapidly changing world. Students learn to think critically by examining both primary and secondary sources, by weighing different sides of arguments, and by evaluating options and judging outcomes. Such critical thinking is encouraged through a variety of means: essays, tests, presentations, research projects, debates, role-plays, class discussions, and a variety of types of writing assignments. Critical writing is stressed throughout the curriculum.

History courses are structured to build skills over the four-year span of secondary school. The skills developed and the knowledge acquired in one year's course is designed to prepare students for the next. Taking courses out of sequence, therefore, is discouraged.

Students are required to take three years of History that include Topics in World History, Modern World History, and United States History. The Department encourages students to take a fourth year of History through our seminar program. For an overview of the Upper School History offerings and their sequences see end of section.

Grade 9

Topics in World History

In this course, students build the skills of historical inquiry by examining the ways cultures and societies in the Middle East, Europe, Africa and the Americas evolved over centuries of contact and conflict. Our study proceeds chronologically, from “medieval” to “modern,” but with a thematic focus. For instance, the course compares patterns of colonization, including assimilation and conquest, and considers the roles of race, religion, gender, sexuality and ethnicity in the process. Students study how ideas are circulated and how intellectual developments impact social and political history (e.g. the Enlightenment and the French and Haitian Revolutions). We also consider how economic circumstances inspire new cultural movements (e.g. the Industrial Revolution and socialism). We foster skills needed for historical analysis: discerning cause and effect connections, recognizing patterns, and evaluating perspectives. In the process, we analyze a number of primary sources, use library and web resources for research, and build analytical writing skills. We cultivate study skills including note-taking, time management, and organization in order to prepare students for success in this and future history courses. (Major course)

Grade 10

Modern World History

The tenth-grade year is designed to complete the chronological sequence begun in the ninth grade by examining major developments in the making of the modern world from the late 19th century to the present. Although the format of the course is chronological, it will emphasize in-depth study of major topics and themes such as colonialism and imperialism, global economic development, revolution, world war, technological innovation, competing political and economic ideologies, decolonization, and contemporary issues. Students will build upon skills developed in the ninth grade as they closely analyze a variety of primary sources, complete a number of research projects, and continue to refine their analytical writing skills. (Major course)

Grade 11

United States History

This course examines major developments in the United States from the colonial era to the present, emphasizing significant cultural, constitutional, political, economic and social developments. Themes such as race, gender, foreign policy, and migration will be emphasized, and students will be exposed to key ideas, debates, institutions and documents of United States history. Students will continue to develop critical reading and thinking skills over the course of the year, and assessments will include at least one major research paper. (Major course)

Honors United States History

The expectations of this course are set at the level of a first-year college seminar. The course proceeds chronologically through United States history and aims to help students see current events in the United States through a historical lens. Students will participate in student-directed discussions, write an original historical research paper, and display a high level of engagement in all areas of the course. With a focus on the craft of history, the course will require independent inquiry, sustained analysis of primary sources, engagement with academic journals and historical monographs, and strong writing skills. This is a writing and reading intensive course; students can expect longer nightly readings and frequent analytical writing assignments. Admission to this course is selective; students wishing to take it should complete an application during the spring of 10th grade. (Major course)

Note: Students completing the Honors US History course who wish to take the College Board Advanced Placement (AP) exam should check with their teachers, since extensive out of class review and independent preparation is required.

Advanced Placement courses

Advanced Placement Economics

The AP Economics course offers an in-depth introduction to the fundamental theories and concepts of economics. Students are expected to take the Macroeconomics AP exam in May, as preparation for this exam is one of the primary goals of the course. We will begin the year working on basic economic concepts of opportunity costs and supply and demand before examining macroeconomic topics including economic indicators, fiscal and monetary policy, as well as international trade. During this process, abstract economic theories will be related to everyday items and current events. Application for this course is required. (Major course)

Advanced Placement Art History

The AP Art History course is an exploration of the nature of art, its function, meaning, processes, traditions, responses to and its impact upon societies and cultures from prehistory to present, caves to contemporary. The course engages students in the investigation of collective themes that connect people cross-culturally and throughout time. Students gain the skills of visual analysis necessary to the in depth work of Art Historians. Whether you're an artist, musician, anthropologist, visual learner or simply interested in looking at the world through a different lens, this course will interest and enlighten you while also encouraging you to develop a strong sense of self-awareness. A January exam will be given and students are required to take the College Board's AP Examination. Students should expect approximately 30 minutes daily of outside-of-class reading, videos, journal writing and project preparation. Enrollment is open to juniors and seniors (with preference given to seniors). Students wishing to enroll in this class must submit an application during the Spring course enrollment period. (Major course)

History Seminars

History Seminars are open to Juniors and Seniors. Sophomores wishing to enroll in seminars must receive written permission from the Department. All seminars are one semester majors.

The following course descriptions are representative of the History seminars offered in recent years. The Department will specify which seminars will be offered for 2021-2022 at the time of course signups.

Political Philosophy and the Law

The notion of inalienable rights is the fundamental construct of the American political system. Throughout our history, Americans have believed in and fought for rights guaranteed by the Constitution. Civil Rights and Civil Liberties offers an intensive study of some of the fundamental constitutional issues which have shaped the history of the United States. Students taking this course will explore the basis of American law in Enlightenment political philosophy and then turn to an examination of the Constitution itself. The second quarter will be devoted to a study of the landmark Supreme Court decisions interpreting racial segregation in education, search and seizure rights of students, and free speech. (Major course)

Contemporary World Issues

The goal of this course is to provide students with a broad-based understanding of the contemporary world and to encourage them to be actively involved in the world around them. The course will explore major issues facing the world today such as globalization, the fight against terrorism, international peacekeeping, individual rights and liberties, and the tension between state sovereignty and global intervention. We will approach these issues through current case studies and through an examination of their historical context. Our study of the issues will ultimately lead us to question what can and should be done about world crises and what role the United States should take in global affairs. Class discussion is stressed in this course, and students will be expected to do nightly reading, conduct independent research, and write papers. This semester culminates in an independent research project on a contemporary world issue of each student's choice. (Major course)

History of International Relations, 1945-present

The subject of this course is the political, economic, and military relations between the major countries of the world since the end of the Second World War. Some of the themes covered will include: the causes and consequences of the Cold War from its origins in Europe to its extension to Asia, Africa, Latin America, and the Middle East; the emergence of regional conflicts and tensions related to the Cold War in many parts of the world; the creation and evolution of the postwar international economic order; the disintegration of the European colonial empires and the emergence of independent states in Africa, Asia, and the Middle East; the rise of the People's Republic of China and its increasingly important role in Asia; Détente; the end of the Cold War and the breakup of the Communist bloc; the emergence of a new international order in the era of globalization and the war on terror. (Major course)

Migration, Borders, and Refugees

This course will explore the history of global migration and human displacement since WWII. We will examine the creation and maintenance of national borders, the varied causes of migration, the emergence of refugee camps, fluctuating national and international policies, and the experiences of immigrants, refugees, and displaced persons. We will use a case-studies approach to engage meaningfully with a wide range of places, people, and perspectives from the partition of India and Pakistan to Cuban migration to Florida after the Cuban Revolution to Syrian and Palestinian refugee communities in Lebanon to the ongoing European migrant crisis. While examining global patterns, we will also engage with the various ways immigration has shaped the city of Providence. We will consult historical sources of all kinds as well as policy papers, news articles, literature, artwork, music, and films. Students should expect to engage in discussion, write essays and reflections, conduct oral history interviews, collaborate with community organizations in Providence, and research independently.

Rights Movements

This course examines the ways that the "rights" revolutions of the twentieth century led to deep and long lasting change in the United States and abroad. The course will begin with an examination of the emergence of the idea of human rights. The human rights revolution began with a simple idea: that every individual, whatever his or her nationality, political beliefs, or ethnic and religious heritage, possesses an inviolable right to be treated with dignity. From there the class will examine the history of civil rights movements and trace the ways that their goals and tactics influenced and inspired later rights movements such as: women's rights, gay and lesbian rights, indigenous rights, etc. Using primary sources, fiction and multimedia evidence, students will examine the goals of these movements and assess their relative successes into the contemporary period. The class will examine the broader global context to understand the ways these movements have been incorporated and/or resisted around the world. (Major course)

Revolution: From the Bastille to Tahrir Square

This course explores the phenomenon of revolution in a global context. Through a wide variety of primary and secondary sources, we will explore democratic, communistic, theocratic and social revolutions, from France in 1789 to Egypt in 2012. Much of our class time will be devoted to historical simulations aimed at providing students with opportunities to dig deeply into the issues that lead to revolutionary upheaval. Our topics will vary to incorporate current events when applicable, as revolutions continue to occur around the world. The course will culminate in a research project in which students will explore a revolution of their choosing. (Major course)

The Baby Boom

This course will address the phenomena of the Baby Boom generation in American history, from 1946 onwards. The course will focus on the social and cultural effects this generation has had on American society. Through film, television, music, and other aspects of popular culture, students will develop an historical and visual vocabulary to describe the experience of the “baby boomers.” The course has a collegiate format, with readings drawn from a wide range of voices and perspectives. As a culminating project, students will produce an oral history of a Baby Boomer. (Major course)

The Vietnam Wars

What were the Vietnam wars? How did each differ? How did they overlap? What did each mean? For the Vietnamese? For the French? For the Americans? Why did Vietnam (and Laos and Cambodia) become a major battlefield in the Cold War? Why did the United States sacrifice 57,000 Americans and kill over 2 million Vietnamese in pursuing the conflict? How did American and Vietnamese soldiers and civilians experience the war? What lessons can we draw from this conflict? These are the major questions that the course will address. In addition to exploring the perspectives of American policy-makers, soldiers, and civilians, we will devote considerable time to exploring the perspectives of individuals from South Vietnam, North Vietnam, and Cambodia. This course will begin well before American troops arrived in Vietnam and will continue after the American withdrawal. In addition to policy briefs, memos, and historical documents, students will read excerpts of memoir, fiction, and oral history interviews. We will watch films, explore music of the Vietnam Era, and spend time with local veterans of the war. The course will culminate with a final paper on the legacies of the conflicts in Vietnam. (Major course)

Topics in African History

This course will explore the continent of Africa in all its complexity, diversity, contradictions, and challenges. We will study the roles of African people, places, and processes in local and regional power structures and global systems. The course will examine specific case studies from Sub-Saharan Africa and North Africa while engaging with broader themes of kinship, power, slavery, colonialism, nationalism, conflict, citizenship, democratization, migration and identity. Our study of Africa will be interdisciplinary in nature, drawing on music, fiction, popular culture, and film as well as historical sources. Students should expect to engage in discussion, write essays and reflections, conduct independent research, and seek out media, news sources, and prominent voices from Africa and the African diaspora. Of course, given the vastness of the continent, this will not be an exhaustive survey. The aim of the course is to introduce students to African history and offer new ways of seeing, understanding, and analyzing Africa. (Major course)

#SayHerName

This course is an introductory course on body theory and the history of the value and devaluation of the black woman's body over the course of American History. The body remains one of the most significant sites for the enactment of power relations and a site for their production, transformation, and critique. This course begins with the seemingly simple question "What is a Body?," a question that will become the guide for the course as a whole as we chronicle the history of black women in North America. As the course progresses, it will become more apparent that not only is this not at all a simple question, or one with an answer we already know, but also that its very formulation often masks the particular racial, gendered, and sexualized practices that produce difference, new identities, rebirth, and a cycle between visibility and invisibility. So although the course's central focus is black women, we will examine the experiences of various groups that make up the fabric of the US and the black woman's narrative. We will utilize social theory, music, poetry, speeches, and works of literature to understand her narrative within a historical framework.

Evolution of American Conservatism Since 1950

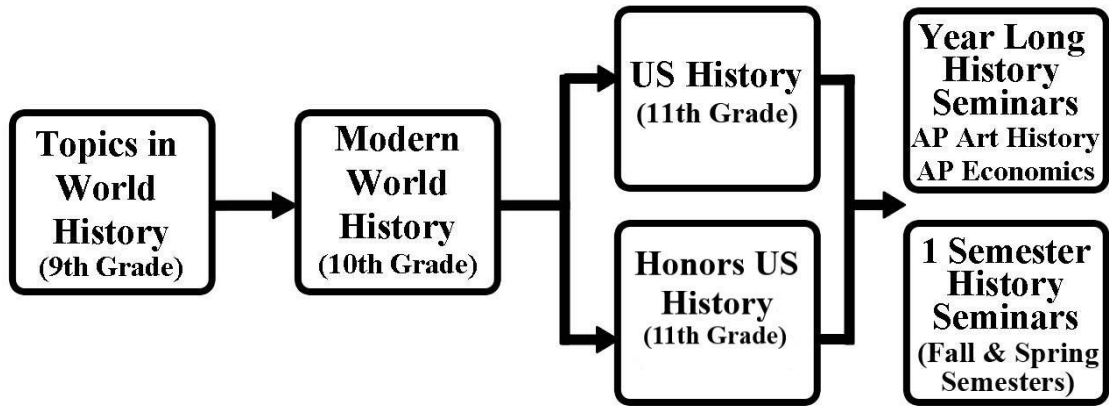
Those who considered America's future in 1950 would be surprised to learn just how potent a force conservatism has become in contemporary America. This class is a study of the underlying causes of this transformation in American politics and in American culture over the last sixty-five years. We will work to understand the rise of conservatism from the early 1950s to the rise of Trumpism in our own era by focusing on the ways social, cultural, economic, demographic, and technological changes have shaped our political ideologies. This is not a partisan class or one that will unequivocally support or critique conservative (or liberal) ideologies. Rather, this course will trace the development of conservatism, broadly understood, in post-war America. I expect that every student will bring to this class an open-minded spirit of inquiry in approaching this topic: our goal is to question, to explore, and to better understand the world in which we live.

Latinx in America

This course sets out to tell how numerous peoples, from regions and continents across the globe, came together to become a collective group of people- Latinx, Latinos, Hispanics, Chicanos, Mestizos, etc. Although the core historical narrative of the course will be rooted in the voices and opinions of Latinos, it's vital that each of us accept and know that the history of more than fifty million Latinos in the United States is our history! No matter where in the world you or your ancestors come from this is your history. We will utilize social theory, music, poetry, speeches, and works of literature within a historical framework to learn and relearn American history through the Latinx community. Each year the particular groups within the Latinx community selected for our narrative of America will be determined according to the makeup of the Latinx students represented within our classroom, the Wheeler Community, and/or Providence.

Course sequence on next page —

History Course Sequence





Mathematics

The objective of the Mathematics department is to give students the tools and problem-solving skills to face the challenges of a variety of problems. We encourage students to work both individually and collectively in finding solutions. We want each student to build confidence in their ability to study mathematics now and in the future, to see connections among the concepts covered in our curriculum, and to reach their potential through understanding and appreciation of the subject.

Although students are required to take three years of math in Upper School, most students take mathematics courses in each of the four years. Graduation requirements include two years of passing grades in Algebra and one year in Geometry. Students who have a particularly strong interest in mathematics or in another field which relies on advanced mathematical ideas may, if qualified, undertake an accelerated sequence. **A TI-Nspire CAS graphing calculator and computer software that comes with the calculator are required for all students in every course.**

Integrated Math

This course covers Algebra 1 and Geometry topics in an integrated fashion and is intended for students who have not taken Algebra 1 or who need further solidification of their algebra skills. Topics include properties of numbers, linear and quadratic functions, rational expressions, plane and solid geometry, and data analysis as time permits. The curriculum places particular emphasis on skills relating to the interpretation of concepts through word problems. Successful completion of this course fulfills the departmental Geometry requirement. Department recommendation only. (Major Course)

Geometry & Data Analysis

For the first two-thirds of the year, this course covers the major topics of Euclidean geometry. Concepts are explored through conjectures, constructions, and computer use. The course begins with a thorough review of analytical geometry including midpoint, slopes, linear equations, and intersections. The major geometry topics covered are congruence, similarity, parallel lines, polygons, circles, area and volume, and further development of coordinate geometry. The remainder of the year is devoted to the study of descriptive statistics and probability. Topics include measures of central tendency, standard deviation, graphical displays of data in two variables, regression, probability, and counting principles. Algebra 1 topics are used, reviewed, and assessed throughout the year to make the transition to the second year of algebra a smooth one. (Major course)

Intermediate Algebra

This course reviews the essential concepts and techniques of Algebra 1, including the real number system and its properties, mathematical symbols and notation, solving equations, factoring, and graphing. Based on Algebra 1 skills assessment in Geometry, this course is designed for students who need further solidification of their skills to be successful in Algebra 2. Emphasis is given to mastery of basic algebraic skills, but Algebra 2 topics are introduced as time permits. Department recommendation only. (Major course)

Algebra 2

The goals of this course are to establish mastery of basic algebraic skills and enhance mathematical maturity. Basic skills are developed around the following families of functions: linear, exponential and logarithmic, quadratic, rational, radical, and polynomial, with a special focus on graphs and their transformations. Emphasis is placed on exploring functions in symbolic, graphical, and tabular form. Within this framework, topics include solving equations and inequalities, factoring, simplifying higher radicals, and complex numbers. Trigonometric concepts, sequences and series and probability topics are also introduced and developed as time allows. (Major course)

Algebra 2 and Trigonometry

One distinction between this course and Algebra 2 is the pacing and depth at which the content is covered. The other is in the additional topics covered and the expectation that students are comfortable working through more challenging problems. Algebra 2 and Trigonometry is organized around the study of families of functions including linear, quadratic, polynomial, rational, exponential, logarithmic and trigonometric functions with increased emphasis on mathematical modeling. Sequences and series and sigma notation will also be covered. Students will simplify expressions with exponents and radicals and solve equations involving the function families studied. Both a grade of B+ or better in Geometry and departmental approval are required for this course. (Major course)

Algebra 3 and Trigonometry

This course is designed for students from either Algebra 2 or Algebra 2 and Trigonometry who need an extra year to solidify their skills and understanding of algebraic and trigonometric functions in preparation for Precalculus. This course covers a vast array of topics intended to both strengthen each student's algebraic foundations, as well as preview potential material covered in future classes. There is a major emphasis on using technology to help foster a better understanding of mathematical applications. Topics will include functional analysis, graphing, exponents and logarithms, complex numbers, trigonometry, and probability and statistics. (Major course)

Precalculus

As its name implies, this course is designed for students who expect to take a calculus course, either at Wheeler or in college. The function concept, including composite and inverse functions, is extended beyond previous courses, and quadratic, polynomial, rational, exponential, logarithmic, and trigonometric functions are covered in depth. Special topics such as modeling and regression, probability, conic sections, sequences and series are also covered. Both a grade of B or better in Algebra 2 & Trigonometry and departmental approval are required for this course. Students in Algebra 3 & Trigonometry must have a grade of A- or better as well as departmental approval. (Major course)

Calculus

This course covers the key concepts related to differential and integral calculus, as well as the main techniques and applications that relate to these concepts. It strives to provide students with an introduction to calculus topics they may see again in a college level course. It is open only to seniors who have earned a grade of B- or better in Precalculus or juniors who have successfully completed Honors Math 2, or to those students who have departmental approval. (Major course)

Statistics

This course is an introduction to statistical methods, concepts, and literacy with an emphasis on understanding the methods and applying them confidently to real issues and data sets. Topics include techniques of descriptive and exploratory data analysis, the use of software to analyze real data sets and produce convincing graphical displays, and the design of random sample surveys and experiments. Probability concepts and techniques are introduced and inferential methods such as confidence intervals and hypothesis tests are explored through in-class and computer simulations. Statistics is open to seniors only. (Major course)

Honors Mathematics 1: Euclidean Geometry

This course begins the sequence of accelerated study leading to Advanced Placement Calculus BC. Enrollees must have completed Algebra 1 by grade 8 and have a thorough knowledge of Algebra 1 topics, including equations of lines, factoring, solving quadratic equations, solving systems of equations, and work with square roots. This course covers the standard topics of Euclidean geometry in detail, with special attention to the proof-writing process and solving geometry problems using the algebraic techniques listed above. Two- and three-dimensional applications and trigonometric concepts are introduced along with in-depth work on analytic geometry. A departmental recommendation is required for admission to this course. (Major course)

Honors Mathematics 2: Continuous Functions

This fast-paced honors course, designed for students with proven exceptional ability, interest, and background in mathematics, covers the material of Algebra 2 and Trigonometry and Precalculus in one year, and at a more sophisticated level. Topics covered include an in-depth examination of functions including polynomials and rational functions, exponential and logarithmic functions, and trigonometric functions specifically. The course is intended primarily for sophomores who completed Algebra 1 in grade eight and Honors Math 1 (or its equivalent) in grade nine. Students in this course are expected to enroll in AP Calculus AB the following year. Only students who have a strong interest in mathematics, have a grade of B or better in Honors Math 1, and who are recommended by the department may enroll. (Major course)

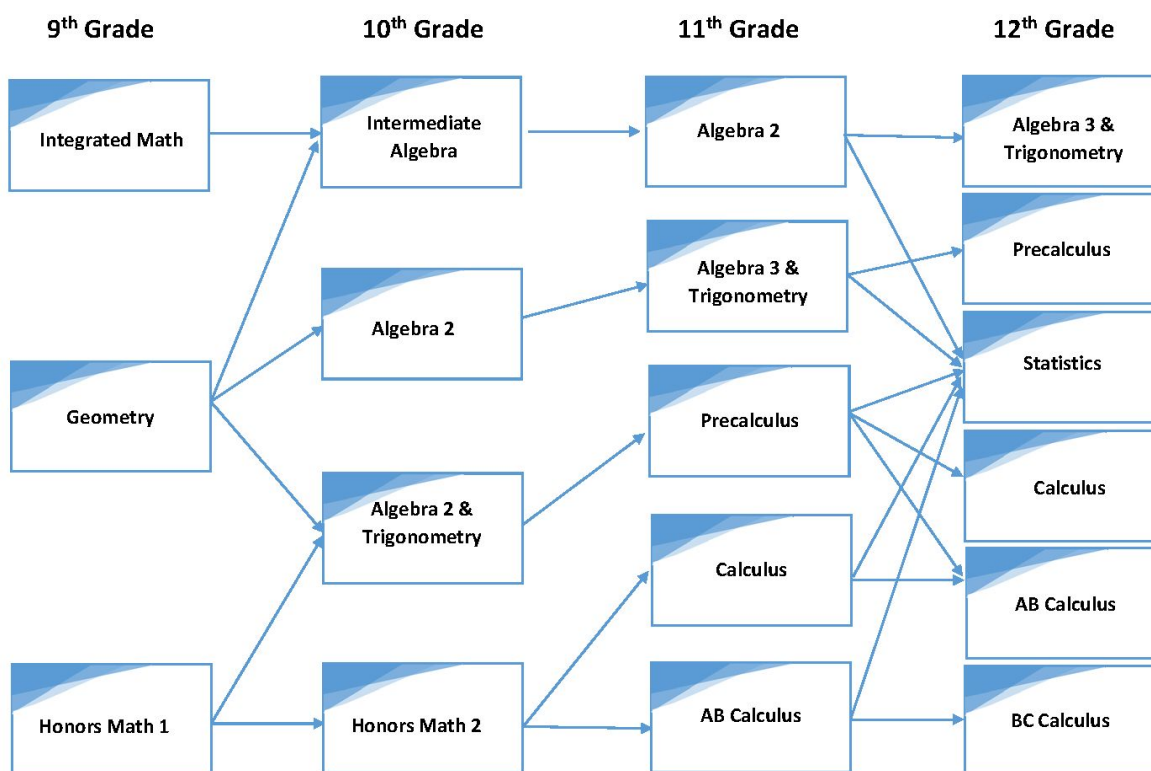
Advanced Placement Calculus AB

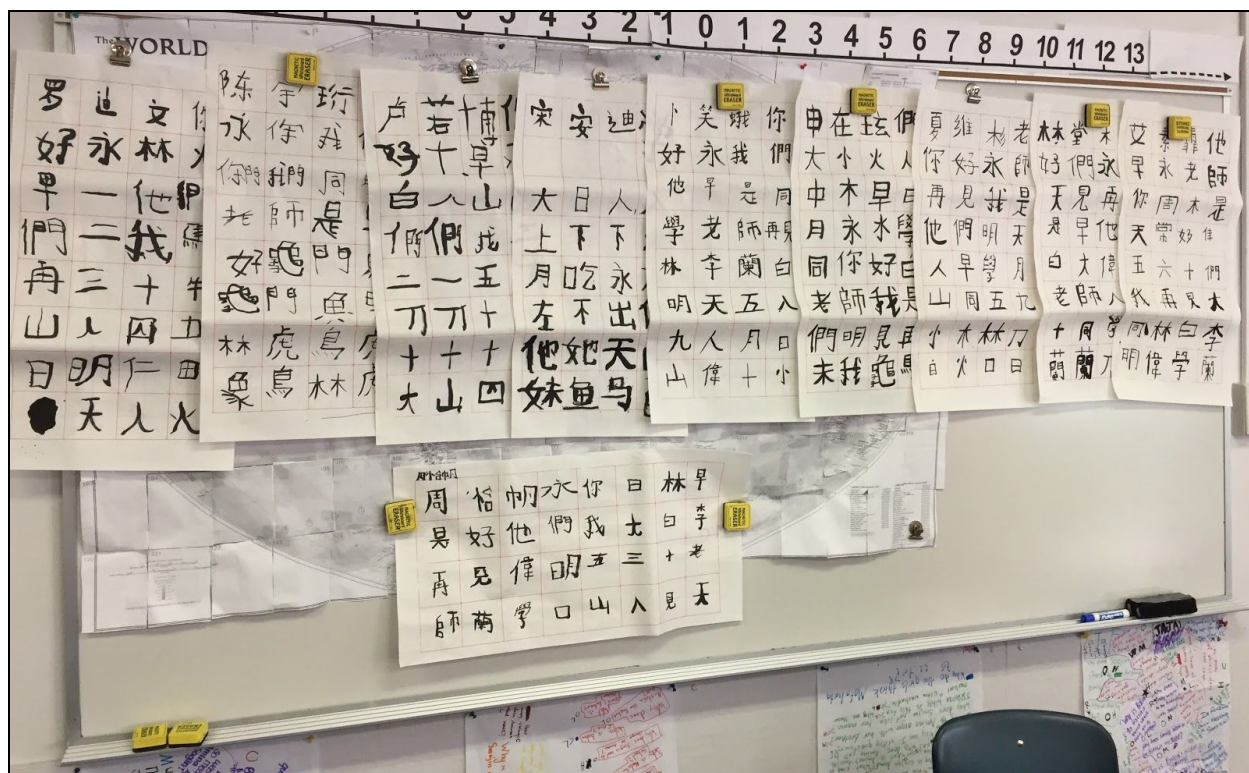
This course covers the syllabus outlined by the Advanced Placement Program of the College Board. Topics include limits, derivatives and integrals of functions of a single variable, and selected applications. Students enrolled in this course are required to take the AP Calculus AB examination in the spring. This course requires a high level of mathematical maturity and a strong level of commitment to, and interest in, mathematics. Either a grade of A- or better in Precalculus or B- or better in Honors Math 2 and departmental approval are required for enrollment in this course. (Major course)

Advanced Placement Calculus BC

This yearlong course is the continuation of AP Calculus AB and covers topics that separate the AB and BC curricula. Advanced techniques of evaluating integrals, applications of calculus to polar and parametric systems, differential equations, and power series approximations are covered. Satisfactory performance in AP Calculus AB and departmental approval are required for enrollment in this course. Students enrolled in this course are required to take the AP Calculus BC examination in the spring. (Major course)

Mathematics Course Sequence





Modern Languages

To become proficient in a modern language, students must learn to speak, to listen and understand, to read and to write in the target language. Teachers, therefore, choose activities to address these four skills. At each level, students learn grammar and vocabulary, study cultural units, read selected literary texts or news articles, watch video clips or films, write in journals or prepare more formal compositions, and converse in groups or speak in front of the class. Since we encourage students to become independent speakers, the higher-level courses place greater demands on self-generated conversation. In each class, the mid-year examination is oral and requires the student to meet individually with the teacher to converse in the target language.*

Wheeler offers course work in Chinese, French, and Spanish. Students normally begin studying any one of these three languages in the sixth or ninth grades. Modern language students must earn a C- or better in level 1 language study to continue to level 2. Those students who earn a D+ or below must either repeat level 1 at Wheeler the following year or satisfactorily complete an approved summer school course and pass the department's qualifying exam prior to continuing to level 2 at Wheeler. Students with accepted documentation of a language waiver can opt to take the language Pass/Fail.

Students who wish to continue beyond the required level 3 of modern language study must be willing to speak the language extensively and to approach their work with a high degree of commitment and motivation. Students must earn a C to continue beyond level 3 or have the consent of their current instructor. Students who do not pursue the study of a modern language beyond the third year are strongly advised to enroll in the introductory sequence of a second modern language or a language and culture elective.

For an overview of the Upper School Modern Language offerings and their sequences see end of section.

*The Language and Culture electives will have a written semester exam.

Chinese

Elementary Courses (Chinese 1, 2, 3)

This sequence of courses is intended to promote basic competence in all aspects of the language.

Chinese 1

This course introduces students to Mandarin, also referred to as Putonghua, Guoyu, or Hanyu, which is the official national language in China. Students will begin with the Pinyin system of romanization to learn the pronunciation of Mandarin and will soon learn to recognize as well as read and write simplified characters. The students will learn to communicate about topics such as getting to know each other, families, feelings, hobbies, the date, time, expressions, location, and daily routines. Chinese culture and history are also woven into the language lessons to lend a sense of vitality to the course. (Major course)

Chinese 2

In this course, students continue to develop the basic level skills in speaking, listening, reading and writing. Students continue to transition from traditional to simplified characters and to use the Pinyin system to work on pronunciation. This course emphasizes grammatical structures, vocabulary building and greater fluency in utilizing communication skills in familiar, everyday situations at school and at home. Topics include shopping, making appointments, and transportation. Students begin to learn different strategies and methods of expressing similar ideas, feelings and concepts, thereby gaining a greater flexibility of expression. Additionally, students will read a short novel about an American high school student who spends a year in Taiwan. (Major course)

Chinese 3

This course introduces more complicated grammatical concepts and vocabulary from daily life situations in greater depth. Students will learn to speak about subjects such as getting and giving directions, renting an apartment, sports and travel. The course also emphasizes the critical transition from thinking in English and translating into Chinese to thinking on your feet in Chinese. To this end, a series of activities will be proposed to help students develop flexibility and fluidity of expression. These include debates, scavenger hunts, presentations, and a movie project. This class is conducted mostly in Chinese. (Major course)

Advanced Courses

Courses are designed for students who wish to pursue the study of the language beyond level 3 required by Wheeler. Ability and willingness to speak Chinese extensively in the classroom are prerequisites. Mandarin is primarily used in the following courses. The other requirements are listed in the introductory section.

Chinese 4

This course leads students to greater proficiency in listening, speaking, reading, writing and mastering more complicated grammatical concepts. Students will learn to discuss topics through the lens of college students, such as traveling, dormitory living arrangement, major Chinese regional cuisines, dietary preferences, shopping for clothes, and choosing academic majors and courses in school. Students will use storytelling, presentations, skits and video projects to explore these topics. In addition, students will read a Chinese novel and explore Chinese modern pop culture. (Major course)

Chinese 5

This course begins with a review of grammar, characters, and idiomatic expressions to prepare students for the transition to post-secondary Chinese programs. The course will emphasize topics relevant to college, such as roommates, campus life, cooking, traveling, and leisure time. Students will be exposed to authentic language materials including documentaries, website articles and films about current events, history, literature and politics. Students will use short essays, debates, and presentations to express their opinions about these issues. Additionally, students will read a novel based on a traditional folktale. (Major course)

French

Elementary Courses (French 1, 2, 3)

This sequence of courses is intended to promote basic competence in all aspects of the language.

French 1

This course is an introduction to basic grammatical structures, elementary vocabulary, and the sounds of French, with extensive practice in speaking. By the end of French 1, students will be able to have conversations in the present and past tenses about topics such as food, families, travel, sports and weather. They will also be familiar with the geography of France and Europe. (Major course)

French 2

This course is a continuation of French 1. It includes vocabulary building with increased emphasis on creative use of the language, both spoken and written. Themes for vocabulary include holidays, daily life, travel, sports and leisure and health and nutrition. By the end of French 2, students will be able to use several tenses, including the present, the passé composé and the imperfect. Students will also study the geography and culture of the Francophone world, concentrating mainly on France, Africa and Canada. This class is mostly conducted in French. (Major course)

French 2 Honors

French 2 honors covers the grammar and vocabulary review of French 2 at an accelerated pace. This allows students to read more short stories, poems and current events and study more grammatical tenses, including the pluperfect, the future and the past conditional. Requires departmental recommendation. (Major course)

French 3

In this course, students continue to develop their language skills by reviewing basic grammar, learning more complicated grammatical concepts and expanding their vocabulary. They study vocabulary topics such as education, employment, technology, the environment and contemporary world issues. Students read and write about the history, the culture and everyday life in Francophone communities in Europe, Africa and Canada. This course is mostly conducted in French. (Major course)

Advanced Courses

Courses are designed for students who wish to pursue the study of the language beyond level 3 required by Wheeler. Ability and willingness to speak French extensively in the classroom are prerequisites. French is primarily spoken in all the following courses. The other requirements are listed in the introductory section. Depending on enrollment, some courses may be taught in a combined setting.

French 3 Honors

In this course the emphasis is on authentic language and practical vocabulary for communicating in real life situations. Using this vocabulary and more advanced grammar, students complete contextualized activities, communicative group-work, and written compositions. Literary excerpts and short films from the francophone world are studied to enhance students' understanding of culture and current events, which are intrinsically woven into the course work. There is a strong on-line component to this class. Students have access to all audio and video components on-line. They complete on-line activities on a daily basis and receive instant feedback on their performance. In addition, they use on-line voice recording for which they receive personalized audio feedback from their instructor. The course is conducted in French. (Major course)

French 4

A thematic study of vocabulary is combined with an in-depth review of grammatical structures to allow students to further develop their skills in speaking, writing, reading and listening. Literary excerpts and short films from the francophone world are studied to enhance students' understanding of culture and current events, which are intrinsically woven into the course work. There is a strong on-line component to this class. Students have access to all audio and video components on-line. They complete on-line activities on a daily basis and receive instant feedback on their performance. In addition, they use on-line voice recording for which they receive personalized audio feedback from their instructor. The course is conducted in French. (Major course)

French 4 Honors/ French 5

In this course students develop greater comprehension by reading works by authors such as Maupassant, Saint-Exupery, Zola and others. They also explore short films and newspaper and magazine articles. Students are exposed to more extensive thematic vocabulary in various ways which enable them to gain greater confidence with spoken French. Grammar is reviewed and expanded to include important linguistic subtleties. Students learn how to write exposés and compositions on a variety of topics in French. (Major course)

AP French Language & Culture

The AP French Language and Culture course is designed as the culmination of students' studies in Upper School. Students enrolled in this course should already have a good command of French grammar and considerable competence in listening, speaking, reading and writing. In AP French, students refine those skills while learning new vocabulary to communicate in French on a variety of topics. The course aims at enriching the students' cultural knowledge and experience with the Francophone world through a comparison with their own cultural experience of the six course themes: Global Challenges, Science and Technology, Contemporary Life, Personal and Public Identities, Families and Communities, and Beauty and Aesthetics. These themes, explored from a variety of authentic written and audio resources, serve as springboards for the practice of interpersonal, interpretive and presentational communication within relevant contexts. The course is devised to prepare students for the AP French Language and Culture Examination. AP French Language and Culture is conducted exclusively in French. (Major course)

Spanish

Elementary Courses (Spanish 1, 2, 3)

This sequence of courses is intended to promote basic competence in all aspects of the language.

Spanish 1

This course enables students to converse in basic Spanish in the present tense by introducing topics such as getting to know others, daily activities at school and home, feelings, the weather, likes and dislikes, foods, and vacation and travel. Students learn about daily life and cultural activities in the Hispanic world, watch videos and listen to tapes featuring native speakers. Spanish 1 emphasizes the essentials of Spanish grammar by introducing practical vocabulary, by stressing accurate pronunciation, and by including reading, writing and conversation drills. (Major course)

Spanish 2

This course enables students to acquire a solid foundation in basic grammar and vocabulary. Students will be required to speak about their own lives and activities in the present, past and future tenses. The vocabulary includes topics such as daily routines, personal hygiene, travel, food, shopping, health, outdoor activities and the environment. Students are expected to share their opinions about their own lives and about individuals in other cultures. This class is conducted mostly in Spanish. (Major course)

Spanish 2 Honors

Spanish 2 Honors incorporates a weekly focus on the four skills of second language acquisition: listening, speaking, reading and writing. Students continue to develop their language by reviewing intermediate grammar concepts and expanding their vocabulary with a strong emphasis on oral expression. This course presents grammar and vocabulary of Spanish 2 at an accelerated pace. In addition, students learn the perfect tenses, additional uses of the present subjunctive and the imperfect subjunctive. This requires a willingness to engage readily and to take risks speaking often in Spanish. Students read and discuss a short novel during the second semester and analyze short Latinx films. (Major Course)

Spanish 3

This course prepares students to express their opinions and carry on conversations in Spanish about their community and the world around them. This culminates in a mid-year oral exam which requires that they communicate about issues like the environment, life in the city, social justice, or health and wellbeing. Reading and oral skills are developed by studying selected cultural materials about Central America, the Caribbean, South America and Spain. One unit includes a film in Spanish, either addressing issues that Mexican immigrants may face in our country or reflecting on the privatization of the water supply in Bolivia, which has strong connections to the Spanish conquest and exploitation of the New World. New grammar includes the future and conditional tenses, the present perfect and the pluperfect, and the uses of the present subjunctive. The class is conducted mostly in Spanish.

Advanced Courses

These courses are designed for students who wish to pursue the study of the language beyond level 3 required by Wheeler. Ability and willingness to speak Spanish extensively in the classroom are prerequisites. Spanish is primarily spoken in all the following courses. The other requirements are listed in the introductory comments to this section.

Spanish 3 Honors

This course incorporates a weekly focus on the four skills of second language acquisition: listening, speaking, reading and writing. Students continue to develop their language by reviewing complex grammar concepts and expanding their vocabulary with a strong emphasis on oral expression. Culture from various regions in the Spanish speaking world is presented through music, readings, internet articles, poems, short stories, newspapers, 2 novels, a year long television program, films and class speakers. Students also participate in bimonthly virtual exchanges with global and local partners to build relationships and gain global competence while using the language. The course is conducted in Spanish. (Major course)

Spanish 4

A thematic review of vocabulary is combined with the study of grammar to facilitate self-expression. In this course we expose the students to authentic materials that combine verb tenses and encourage students to read and listen for total comprehension. In addition to grammar and vocabulary, students read poetry, watch short film series, and explore art and other cultural topics. Oral participation is essential. (Major course)

Spanish 4 Honors

This course takes advantage of the students' strong foundation in grammar and expression to explore the literature, contemporary issues, and art of the Hispanic culture. Students learn the nuances of spoken and written language while discussing and writing about global themes such as technology, education, global challenges, and contemporary life. This course is focused heavily on oral participation in both interpretive and presentational modes. (Major course)

Spanish 5

This course is designed to have students develop greater comprehension by exploring extensive thematic vocabulary and cultural themes from Latin America and Spain to gain greater confidence with spoken and written Spanish. Students will read, see and hear about life and trends of the Spanish-speaking world, including the history and culture of Latin America as well as the history and importance of the Latino community in Rhode Island. Students watch and analyze a year long TV program from Spain and interpret cultural short films and feature length films from Latin America and Spain. Students review advanced grammatical structures, and participate in discussion, debate and oral presentations which complement reading and writing activities. Students write compositions on a variety of topics in Spanish as well as participate in live virtual exchanges with global and local partners to build their global competence and gain empathy and world perspective. (Major course)

AP Spanish Language

This course is entirely focused on and organized around preparation for the AP Language exam in May. The first semester curriculum draws on literary works and contemporary and cultural topics as a basis for developing more confidence with spoken and written Spanish. Readings are selected from a variety of Latin American and Spanish prose, poetry and narrative. A general review of grammar principles will accompany literary study. Films, newspapers and websites provide additional supplement to the core curriculum. The second semester prepares students even more intensively for the AP Language Examination by introducing material that closely duplicates the test experience. In addition to in-class work, students use the class blog to practice advanced communication skills with a focus on synthesis in writing and speaking. Students are required to take the AP Language examination. Prerequisite: Final grade of A- or above in Spanish 4 Honors or permission from instructor. (Major Course)

Cultural Enrichment Courses

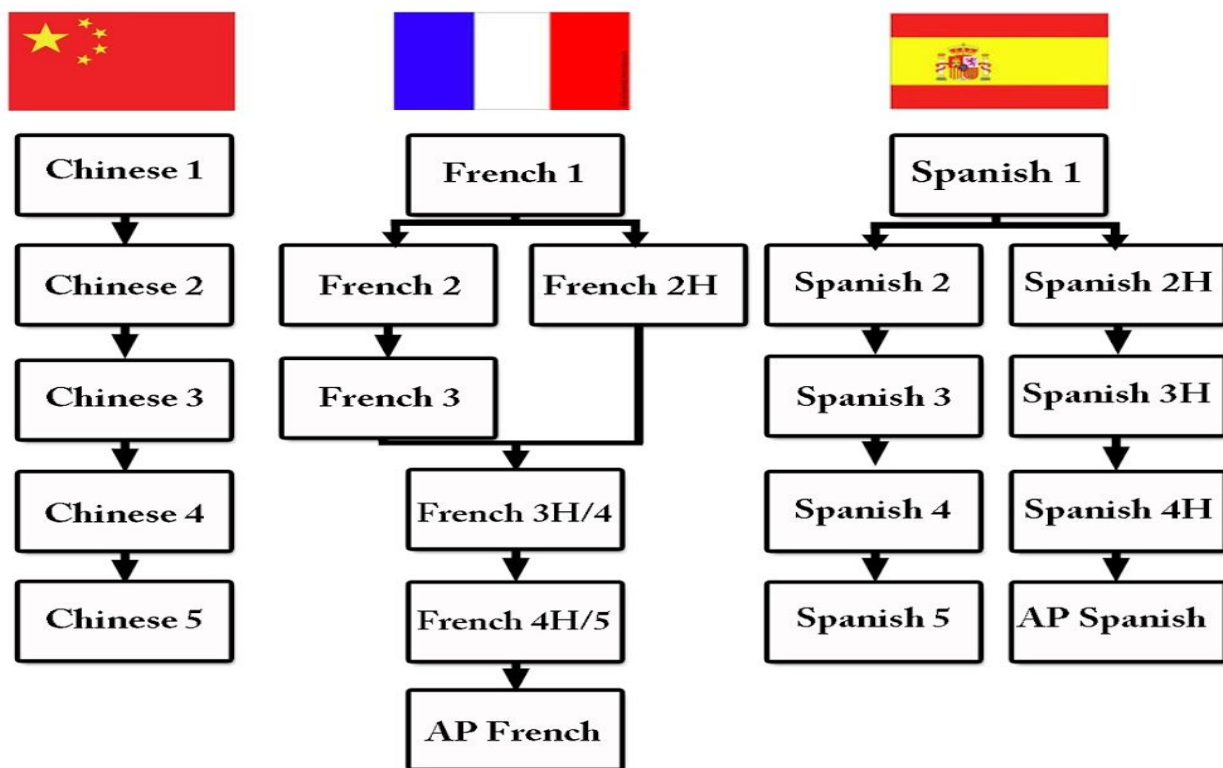
Language and Culture 1: Ibero-American Cinema

This course will focus on the study of language and culture in Spanish-speaking countries through Spanish-language film. Students will explore the ways that language and culture are portrayed in Spanish-speaking cinematic works and the cultural impact of cinematic representation, with emphasis on vocabulary, idiomatic expressions, and cultural comparisons and connections between the represented cultures and their own. Prerequisite: Open to upperclassmen upon completion of the three-year language requirement or written approval from the Department of Modern Languages. This course is taught in English. Fall semester. (Major course)

Language and Culture 2: Francophone Cinema

This course will focus on the study of language and culture in French-speaking countries through French-language film. Students will explore the ways that language and culture are portrayed in French-speaking cinematic works and the cultural impact of cinematic representation, with emphasis on vocabulary, idiomatic expressions, and cultural comparisons and connections between the represented cultures and their own. Prerequisite: Open to upperclassmen upon completion of the three-year language requirement or written approval from the Department of Modern Languages. This course is taught in English. Spring semester. (Major course)

Course sequence on next page —



- Language and Culture 1
Ibero-American Cinema
- Language and Culture 2
Francophone Cinema

Language and Culture electives can be taken any time after the language requirement is complete, either as an alternative to or in conjunction with regular language electives. These electives can be taken in any order.



Performing Arts

Courses in the Performing Arts curriculum involve students in a process, which includes creativity, sharing, performance, and critical analysis. Courses designated Ensemble develop fundamental skills while exploring history, form and theory. Courses designated as Performance emphasize repertoire, technique, and hands-on applications. Performance courses require an audition to determine appropriate placement. Specific audition criteria are available from individual instructors.

Every student is required to complete successfully one full year of Performing Arts. This may be fulfilled with either major or minor elective courses. The department strongly recommends that every student complete at least one semester by the end of the sophomore year. Students new to Wheeler may enroll in any non-performance class or contact the department for entrance into a performance level course. Eleventh graders new to Wheeler need take only one semester of Performing Arts.

Acting Ensemble

Through the development of short scenes and monologues, this course will introduce students to acting and an approach to written text. Students will be given a step-by-step process for character development using contemporary plays. Many of the techniques and terminology used in this course come from Uta Hagen's teachings found in *Respect for Acting* and *A Challenge for the Actor*. Students will be expected to prepare monologues and scenes throughout the course. Fall and spring semesters. (Minor elective)

Acting II

This class will continue to explore the acting process through scene study and exercises designed to help actors develop character through improvisation, voice and movement. We will study the actor's approach to the written text based on the teachings of Uta Hagen and Herbert Berghoff. Students will explore many theatre genres and authors, which will lead to a performance showcase of work from the class. This class will include master classes with some of the area's great actors and directors and student's work will be professionally recorded and stored for supplemental college materials. Prerequisite: Acting Ensemble or permission from the instructor. Spring Semester (Minor elective; offered in even years 2018, 2020)

Acting Performance

Students in this course will comprise a 'company' of experienced actors who will direct their skills toward performance. The culmination of this course will be the Upper School Fall Production. Rehearsals for the show will occur during class time with evening performances. Participants in the course should be confident in all aspects of acting and production. Prerequisite: Acting ensemble or permission of the instructor and an audition. Fall semester. (Major elective)

Musical Theatre Performance

Students in this course will comprise a 'company' of experienced actors who will direct their skills toward a musical performance. The culmination of this course will be the Upper School Spring Production in March. Rehearsals for the show will be held three days a week after school and on an occasional weekend day. Participants in the course must be willing to dance, sing, act and make a commitment to the ensemble. Spring semester. Physical Education & Performing Arts credit. Prerequisite: Audition. (Minor elective)

Advanced Theatre Study

This course is designed for students with a serious interest in pursuing acting. Students will prepare audition pieces, learn about pictures, resumes, commercials, regional theatres, unions, casting directors, soaps, films, agents and create a webpage. Each student will have the opportunity to audition for a professional casting director locally and in New York City. The class will culminate with a trip to NYC where students will see Broadway shows and participate in seminars and Q&As with NY professionals. Prerequisite: Acting Performance/ Acting Ensemble or permission from the instructor. Spring semester. (NYC trip fee.) (Major elective offered in odd years)

Introduction to Technical Theatre

This course provides an opportunity for students to explore the many aspects of stage-craft for theater. The class will address stage structures, lighting, sound and carpentry through hands-on projects and workshops. The main goal is to construct, light and run successfully the major productions during a semester. The course requires a number of lab hours on designated weekends during the semester. Students may take this course only once. (Minor elective, offered fall and spring semesters)

Advanced Technical Theater

This course is designed as a continuation of the technical theater sequence. The class will focus on in depth development of the skills in stagecraft which were introduced in the introduction class. Students will be expected to work independently on long term projects based around the spring theater productions. Opportunities will be offered for students to focus on a particular area of interest and more deeply explore that area. This course requires a number of lab hours on designated weekends throughout the semester. Prerequisite: Introduction to Technical Theater or permission from the instructor. Spring semester. (Minor elective)

Design for the Theater

This course will provide an opportunity for students to pursue and understand skills in the many design areas involved in theatrical productions. This class will focus on scenic design through workshops and projects. It will cover all stages of the design process from concept development to final design presentations. Students will be given a chance to develop skills in rendering, drafting, and model making as well as gain a firm understanding of the basic principles and techniques for theatrical design. Spring semester. (Minor elective)

Sound Exploration

This course presents an opportunity for experienced and non-experienced musicians alike to explore music as a language. By “speaking” (playing) in an ensemble-based setting, students gain the courage and confidence to ignite their inner musician. A marimba band is formed each semester and students develop ensemble skills while discovering why being in a band is cool. Principles and foundations of sound and music are discovered through mediums such as videos, sound clips, student performances and other interactive assignments. One semester course, offered both Fall and Spring semesters. (Minor elective)

Choral Ensemble

This is an entry-level course for students who love to sing and wish to gain more experience reading and singing choral works of all genres. Singers will be expected to prepare repertoire, explore sight singing, and acquire a basic understanding of music theory fundamentals. Support of the ensemble is an integral part of the commitment to this class. This course can be taken as either a 1 semester or full year class. Offered both Fall and Spring. (Minor elective)

Performance Chorale

Contemporary a cappella and choral works from Renaissance to Modern will be explored in this course. The group comprises mixed voices (SATB) and auditions are competitive. Singers will be expected to develop specific skills including sight-singing, intonation, diction, blend, vocal techniques, and an understanding of music theory. Experienced music readers are encouraged to write choral arrangements. Members are required to participate in the ensemble’s efforts and meet all performance commitments on and off campus. Prerequisite: Audition. Full year. (Major elective)

Handbell Ensemble

Learning to ring handbells is fun, accessible, and an excellent way to develop musical skills. Using contemporary hits and classical favorites, students will explore the wide range of sounds that can be produced using handbells and handchimes. The course will cover basic music theory including how to read and interpret musical notation. The handbell ensemble is open to all students regardless of previous musical experience. Offered both fall and spring semesters. (Minor elective)

Performance Handbells

Emphasis is on performance and ringers are expected to demonstrate proficiency in all techniques and aspects of musicianship. In addition to on-campus concerts, the ringers are required to meet all performance requirements, including participation in Spring Tour, local and regional workshops, and festivals sponsored by the American Guild of English Handbell Ringers. The group will perform a variety of the most challenging repertoire for the instrument, and individuals are encouraged to compose or arrange for the ensemble. Prerequisite: Ensemble Handbells and/or Audition. Full year. (Major elective)

Ensemble Jazz

This course emphasizes the development of individual facility on a chosen instrument and provides the ensemble structure in which the student must play and improvise daily. Theory includes scales, modes and chord progressions. Repertoire includes jazz, blues, rock, and other improvisational music. Prerequisite: permission of the instructor. Full year. (Minor elective)

Performance Jazz

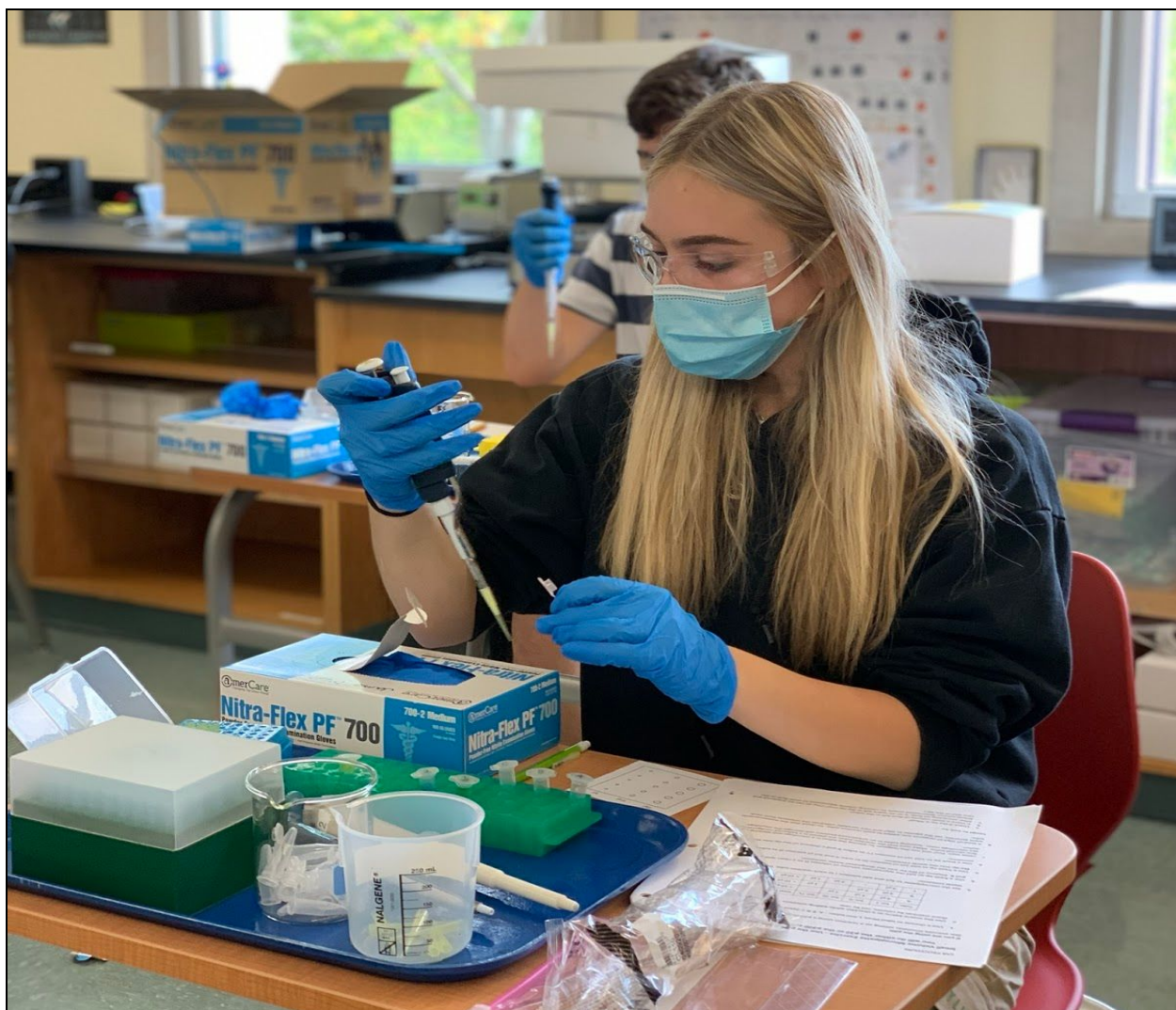
This course emphasizes mastery of the student's chosen instrument via performance, improvisation, composition and arranging. Students will be expected to play all scales, modes and rhythmic figures in varying styles. Repertoire includes jazz, blues, folk, rock, and other improvisational music forms. Each student will have the opportunity to compose and arrange for his/her instrument. Students must participate in regular ensemble rehearsals, individual tutorial sessions when needed, and all performances. Prerequisite: Jazz Ensemble and permission from the instructor. Full year. (Major elective)

Dance

This class will explore Ballet, Jazz, Modern, and Contemporary Dance through class study and performance opportunities. Coursework will be heavily focused on the development of technical skills and artistry, memorization of choreography, the study of variations, and the development of dance vocabulary. There will be one main stage performance in which all students are required to participate. Grading will be based on class attendance and participation, personal technique growth, artistry, and performances. Dancers of all skill levels are encouraged to take this course and every student will be given opportunities for personal growth. This class can be taken more than once. (Minor elective)

Independent Study in Performing Arts

This program provides an opportunity for motivated students to pursue special topics in the Performing Arts after their requirement has been fulfilled. Admission to this program is by departmental permission. The project must include research, written documentation and conclude with a major presentation. Candidates should submit a detailed project proposal including the subject and scope of the project, specific resources, and deadlines for various interim presentations. Students are responsible for securing the support of a faculty advisor from the Performing Arts Department for any independent study. Minor elective, semester or full year.



Science

The Upper School science curriculum is based on the premise that all Wheeler graduates should be scientifically literate citizens, and that all of our students should be exposed to the methods and concepts of the primary physical and biological sciences. Each of our science courses emphasizes critical observation, logical reasoning, quantitative experimentation, problem-solving skills, and scientific literacy.

The minimum science requirement for graduation from Wheeler is three credits (three years of study), including Environmental Science, Chemistry, and a full-year course in either Biology or Physics. All students are encouraged to take at least one course in each of the scientific disciplines. After completing courses in Environmental Science (ninth grade) and Chemistry (tenth grade), students may take courses in Biology and Physics in either order. This sequence of courses is considered to be our core curriculum. Students new to Wheeler after the ninth grade are not required to take Environmental Science.

Environmental Science

In Environmental Science, ninth graders consider environmental issues within the sciences in general, and within ecology specifically. Course material focuses on becoming responsible citizens in a global ecosystem, with a goal of developing sustainable solutions to issues which impact our planet. After setting an ecological foundation, students explore human-constructed systems which affect populations, resources and pollutants. Projects include individual and group research presentations, assays of soil, water and other resources, and a final exhibition through which students address and attempt to solve an environmental problem currently affecting a National Park. Full Year. (Major Course)

Advanced Placement Environmental Science

Ninth grade students will follow an AP environmental science (APES) curriculum by reading an entire college level text, taking weekly reading quizzes, writing thorough and coherent essays, as well as completing recommended laboratories and field trips in preparation for the AP exam in May. Students study the sustainability of both ecosystems and human constructed systems throughout the year. Prerequisites: Excellent command of Algebra 1, recommendations from all 8th grade teachers, and strong skills in both reading and writing. Course completion satisfies the Environmental Science requirement for graduation. All students are required to take the AP examination. Full year. (Major course)

Fundamental Chemistry

This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, the periodic table, chemical reactions, chemical bonding, states of matter, solutions, acids and bases, and organic chemistry. It will emphasize the “language of chemistry”, and students will develop an ability to visualize processes on an atomic and molecular level. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts. Laboratory experiments and inquiry activities augment and reinforce the basic principles discussed in lecture as well as provide practical examples. The problem sessions will further the students’ skills in solving algebraic problems and students’ understanding of applied mathematics in the study of Chemistry. Corequisite: Intermediate Algebra or Algebra 2. Full Year. (Major course)

Chemistry

Chemistry is the study of matter and the interactions it undergoes. Strong emphasis is placed on the development of the fundamental ideas and concepts of chemistry, and their application to everyday life, technology and related fields in science. Inquiry based learning and laboratory experimentation are a major component of this course. Topics include measurement, atomic and molecular structure, the periodic table, chemical reactions, chemical bonding, states of matter, solutions, acids and bases, and organic chemistry. Methodologies include hands-on inquiry activities, labs, and research-based projects. Corequisite: Algebra 2 or Algebra 2 Trig. Full Year. (Major course)

Honors Chemistry

This course is designed for students who have a strong interest in science and mathematics. Topics studied will include atomic structure, electron configuration of atoms, the periodic table, chemical bonding, equilibrium in chemical and physical systems, energy changes in chemical reactions, oxidation and reduction, kinetic molecular theory as applied to gases, liquids, and solids, nuclear reactions, and an introduction to organic chemistry. Emphasized in the course are the following: 1) understanding and application of fundamental concepts, 2) logical, analytical thinking skills, 3) the experimental and historical development of the ideas of chemistry, and 4) the relationship of chemistry to other scientific fields, and to advances in industry and technology. Prerequisites: AP Environmental Science or Environmental Science, concurrent enrollment in Algebra 2 Trig or Honors Math 2, and recommendation by the science department. Full year. (Major course)

Advanced Placement Chemistry

This course is intended for juniors and seniors who wish to further their understanding of chemistry beyond the first year. It is designed to be the equivalent of a typical general chemistry course offered by most colleges; students will prepare for and take the AP exam in chemistry at the conclusion of the course in May. The curriculum includes detailed studies of the following broad topics: structure of matter, states of matter, chemical reactions, chemical equilibrium, thermodynamics, and descriptive chemistry. Laboratory work is emphasized throughout the course in all topics. Prerequisites: Honors Chemistry or Chemistry, concurrent enrollment in Precalculus or beyond, and recommendation by the science department. Full year. (Major course)

Fundamental Biology

This course introduces students to the major branches of biology. These include molecular and cell biology, energy, genetics, evolution, anatomy and physiology. Throughout the year, students conduct hands-on laboratory exercises and research projects that are tightly coordinated with lectures and other classroom activities. This course emphasizes biological principles in a conceptual way and aims to help students visualize biological processes. Time is dedicated to learning important concepts through multiple learning approaches, flexible pacing, use of hands-on models, structured notes templates, and a variety of assessment approaches. Prerequisite: Fundamental Chemistry or Chemistry. Full Year. (Major course)

Biology

This course introduces students to the major branches of biology. These include molecular and cell biology, energy, genetics, evolution, anatomy and physiology. Students will conduct coordinated laboratory exercises and activities throughout the year that will serve to answer questions about living things. Prerequisite: Fundamental Chemistry, Chemistry, or Honors Chemistry. Full year. (Major course)

Advanced Placement Biology

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions. A strong emphasis is placed on laboratory experimentation and data analysis. Students are required to take the AP examination. Prerequisites: completion of one year of Chemistry and recommendation by the science department. Full year. (Major course - Open to Seniors Only)

Molecular Biology

Molecular Biology is a rigorous course specifically for students interested in pursuing research in the biological sciences. This full year science department course will introduce students to the structural and functional roles of nucleic acids and proteins. This laboratory-intensive course is designed to expose students to basic laboratory research, current topics, and techniques in molecular biology. Students will carry out a wide array of classical and advanced molecular biology techniques, including the isolation, analysis and manipulation of DNA and proteins. This course is for rising Juniors and Seniors. Prerequisite: Chemistry or Honors Chemistry. Prerequisite or corequisite: Biology or AP Biology, in addition to written application and approval by the science department. Full year. (Major course).

Physics

In this course we will study topics of classical and modern physics, including motion, energy, electricity and magnetism, sound, light, optics, atomic physics, nuclear physics, and particle physics. The goal of the course is to gain understanding of the fundamental ways that the universe works and how to use physics to your advantage in life. Students will learn by analyzing practical applications in daily life and imagining future applications in technology. Students will perform several laboratory experiments to predict, discover, and/or verify concepts and mathematical laws. Many laws of physics will be examined through algebra, and minimal trigonometry will be used. Prerequisites: Chemistry or Honors Chemistry, Algebra 2 Trig or Honors Math 2, and permission of the science department. Full year. (Major course)

Honors Physics -MI

This math-intensive (MI) physics course provides students with a fast paced and highly quantitative survey of topics of classical and modern physics, including motion, energy, electricity and magnetism, sound, light, optics, atomic physics, nuclear physics, and particle physics. The goal of the course is to gain understanding of the fundamental ways that the universe works and how to use physics to your advantage in life. Students will learn by analyzing practical applications in daily life and imagining future applications in technology. Students will perform several laboratory experiments to predict, discover, and/or verify concepts and mathematical laws. Mastery of algebra and trigonometry skills is necessary for this course. Prerequisites: Honors Chemistry, Honors Math 2 and permission of the science department. Full year. (Major course)

Advanced Mechanics

This is a second-year physics course for seniors who wish to expand their problem solving skills in calculus-based mechanics and its application to modern physics. It is intended to cover the first semester of college-level physics plus additional skills expected of students entering a typical physical science undergraduate program such as physics, engineering, chemistry, or pre-med. Students will improve their science writing, reading, and discussion skills through lab reports, research, and projects. Students may take the AP Physics C: Mechanics exam in May. Prerequisite: a full year of Physics or Honors Physics and recommendation by the science department. Corequisite: Calculus. Full year. (Major course)

Science Electives

Science electives are one semester-long major courses. For 2021–2022, the courses offered will be selected from those described below.

Animal Behavior

Animal behavior is an integrated science course that mainly delves into the areas of genetics and evolution, but also involves the study of development, anatomy, physiology, endocrinology, neurobiology, learning and social theory as applied to behavior. What are the costs and benefits of animals living in groups? How did social organisms like ants, termites and naked mole rats evolve? Why do crows hold grudges? Why do vampire bats share the blood they suck? Students will examine case studies, do experiments and participate in field studies to reinforce their understanding of topics such as natural selection, learning, kinship, cooperation, communication, feeding, reproduction and play. Open to Juniors and Seniors. (Major course)

Applied Physics and Experimental Design

Did you know that your car is designed to crumple during an accident? Have you ever wondered how windmills generate electricity? Is there a scientific distinction between music and noise? How does the moon cause tides in the oceans on Earth? Students in this course will work to answer these kinds of questions by developing experiments to test the underlying physics concepts and drawing conclusions based on the results. Various topics including the physics of motion, forces, electricity, and magnetism will be explored through hands-on projects with minimal mathematics. (Major course)

Astronomy: Introduction to the Solar System

In Astronomy: Introduction to the Solar System, students will develop an understanding of the formation of the known universe, and the formation of galaxies and solar systems. In particular, students will focus on the formation, composition, and mechanics of our local star, Sol, and the system of planets and objects which orbit it. The course will introduce students to the study of 'local' astronomy, from scientific, historical and cultural perspectives. Students will explore basic scientific laws of motion, gravity, and energy, as well as the methods which scientists use to learn more about our solar system through lectures, class discussion, multimedia exploration, activities, guest speakers, and with minimal mathematics. (Major course)

Astronomy: Introduction to the Formation of the Cosmos

Astronomy: Introduction to the Formation of the Cosmos focuses primarily on the universe beyond Earth's Solar System. Students will develop an understanding of the formation of the known universe, the formation of galaxies and solar systems, and the formation, composition, and mechanics of galactic structures. The course will introduce students to the study of astronomy, from scientific, historical and cultural perspectives. Students will explore basic scientific laws of motion, gravity, and energy, as well as the methods which scientists use to learn more about our larger universe through lectures, class discussion, multimedia exploration, activities, guest speakers, and with minimal mathematics. (Major course)

Introduction to Engineering

In this course, students will learn what engineering is by solving engineering problems. The course will include an overview of general engineering and design practices as well as delving into a variety of engineering sub-disciplines, including Electrical, Mechanical, Civil, and Biomedical Engineering. The primary focus of the course will be hands-on activities and projects through which students will learn about the design process from start to finish and have the opportunity to find their own solutions to engineering problems. Students will learn to use a variety of tools including basic hand tools, power tools, and electronics equipment. This course culminates in a final project where students are asked to engineer a solution to a problem that they see in the world. (Major course)

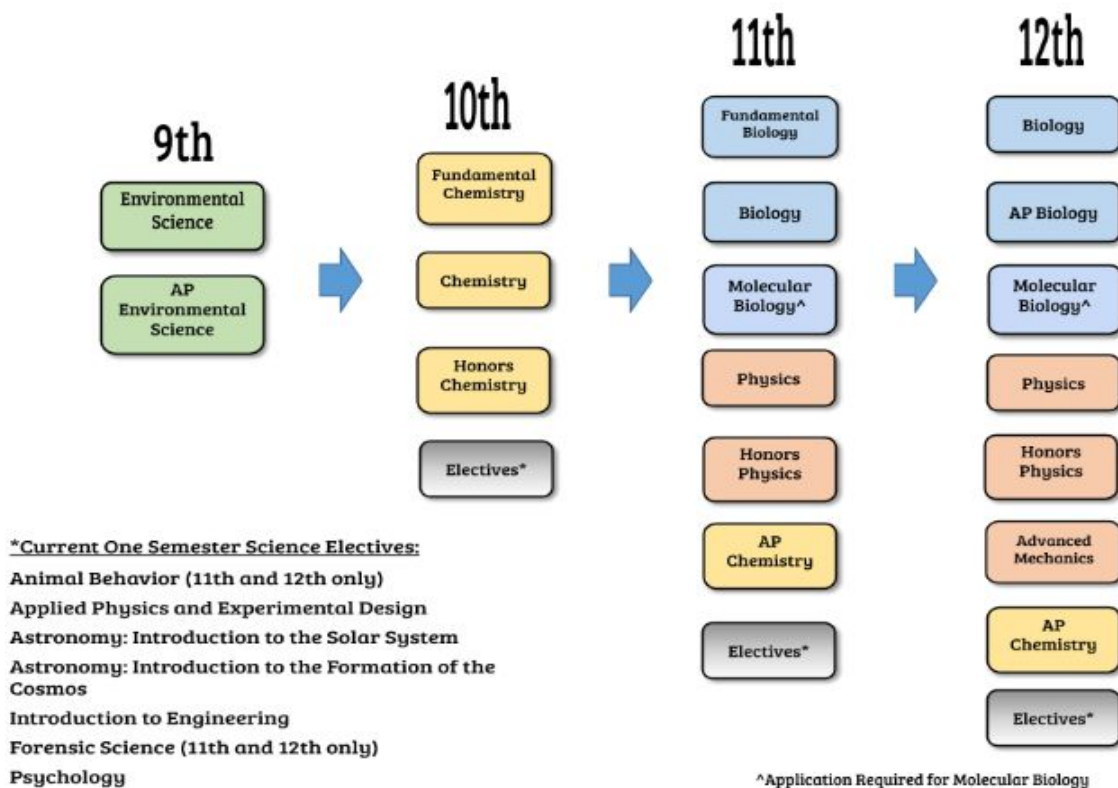
Forensic Science

This integrated course will focus on critical thinking and lab skills as well as problem-solving techniques to learn more about the fascinating field of forensics. We will learn how scientists gather crucial information at the scene of the crime and then carefully analyze evidence such as fingerprints, fibers, and blood. We will investigate how skulls and bones can provide clues to help medical artists in their attempt to reconstruct faces. The forensic science field includes a wide range of specialized jobs and we will familiarize ourselves with the many opportunities that exist throughout the course. Our final project will be a complicated crime scene in which students will apply the skills they have learned during the semester. We will have two guest speakers and take at least one field trip during the semester. Open to Juniors and Seniors. (Major course)

Psychology

This course is an introduction to some of the fundamental principles and concepts that constitute the study of psychology. The diversity of topics in this class reflects the breadth of the science of behavior and mental processes. Topics include the history of psychology, research methods, the brain and behavior, nature versus nurture, human development, emotions and stress, personality, psychological disorders, treatment, and social psychology. It is primarily a discussion based class that requires nightly reading. (Major course)

Wheeler Upper School Science Sequence





Athletics & Physical Education Program

Physical education and athletics are an integral part of the Upper School Program. Participation in either area encourages physical fitness, development of specific skills, cooperation and socialization with peers, and fun through physical activity. Athletics specifically develops values such as commitment, self-discipline, and teamwork. Participation in athletics is highly encouraged and fulfills the physical education requirement for a specific term.

Physical education instruction and athletics participation are divided into three seasonal terms: Fall, Winter, and Spring. Requirements for the Athletic and Physical Education Program in the Upper School are as follows:

1. All students must participate in a minimum of 100 minutes of physical education activities per week. This is a Rhode Island state requirement.
 - a. Students must sign up for their elective activities at the beginning of each term. Students will be enrolled in upper school PE classes which will meet during Enrichment twice per week until they make arrangements with the PE Dept.
 - b. Most physical education activities will meet after school one or two times per week depending on the activity. Weight Room participants may work out before school from 6:30 am - 8:00 am, after school from 3:00 pm - 5:00 pm or during the academic day if supervision is available from PE staff or athletic trainer. I would highly recommend making arrangements for a supervisor ahead of time.
 - c. Playing on an interscholastic team fulfills the physical education requirement for that season.
 - d. Student participation in the musical satisfies the Physical Education requirement for the winter trimester.

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- e. Varsity and JV players who participate in 2 Wheeler sports will now be exempt from taking physical education for a 3rd term. As usual we will offer physical education classes after school, weight room throughout the academic day, as well as honoring independent contracts for students doing outside activities. Students not playing 2 sports are required to participate in physical education for 3 terms.
2. Students will receive a grade of “credit” or “no credit” in physical education and athletics on the basis of attendance, knowledge, skill performance, improvement and effort.
 3. Independent contracts are allowed for students who participate in an outside of school activity that meets the weekly time requirement and is supervised by either a coach, supervisor or instructor.
 4. The only students exempt from the physical education requirement are those with physical injury/disabilities and those who provide a physician’s letter of explanation to the School Nurse.
 5. Activity possibilities are listed below. Activities will be revised according to student interest and facility availability.

Examples of Physical Education Offerings

P.E. Classes - Co-Educational

Yoga, Rock Climbing, Archery, Ultimate Frisbee, Weight Room

Athletic Teams

Boys' Teams

Fall: Cross Country, Soccer

Winter: Basketball, Squash, Indoor Track, Swimming

Spring: Baseball, Lacrosse, Tennis, Golf (Co-ed), Track & Field

Girls' Teams

Fall: Cross Country, Field Hockey, Soccer, Tennis

Winter: Basketball, Squash, Indoor Track, Swimming

Spring: Lacrosse, Softball, Golf, Track & Field

Athletic Co-operative Teams

Boys Ice Hockey w/ Providence Country Day & St. Raphael Academy (participation fee)





Aerie Program Courses

Supplemental Course Offerings

The Aerie Program provides courses individualized to a student's particular passion beyond what is offered within Wheeler's curriculum. Seminars and tutorials with adjunct instructors can be arranged in consultation with advisors, department heads, and Aerie staff.

In order for Aerie Supplemental Courses to appear on the transcript (and thus receive course credit), they must at least meet the school's minor course requirement of meeting five days in each eight day school cycle. Students may apply through Mr. Harris, the Director of the Aerie Program, or Mr. Himelfarb, the Aerie Enrichment Coordinator.

2020-2021 for credit courses included:

- Arabic, Italian, and Russian
- Anatomy and Physiology, Electricity and Magnetism, Evolution of Plant Diversity, Introduction to Brain/Computer Interfaces, and Principles of Computer Science
- Advanced Engineering and Design, Design and Analysis of Algorithms, Discrete Math, Introduction to Backend and Frontend Coding, Linear Algebra, and Multivariable Calculus
- Advanced Music Theory, Film Studies: the Western, Independent Study in Poetry, Jazz Composition, Music Production, Playwriting, and Writing the Novel

2020-2021 not-for-credit tutorials included:

American Sign Language, German, Hebrew, Japanese, and Turkish
Advanced Psychology, Intermediate Python, Science Research Seminar, and Video Game Design
Differential Equations and Precalculus
American Government, Creative Writing, Music Production, and Sound Writing

Enrichment Program

The Upper School schedule provides a daily Enrichment block from 10:35 a.m. - 11:25 a.m. during which students may enroll in semester-long weekly offerings which cater to individual passions beyond the classroom. Most students take at least one Enrichment course, and many take more; students who do not enroll in Enrichments go to study hall during this period. This block is also when some academic teams meet: Math Team, Model UN, Mock Trial, Envirothon, Debate, and Robotics.

2020-2021 Enrichment offerings included:

Ancient Greek, Irish/ Gaelic, Korean
Digital Design and CAD, Intro to Botany, Intro to Immunology, Marine Biology, Neuroscience, Organic Chemistry, Paleontology, Phylogenetic Biology, and Virology
Entrepreneurship, Humanitarian Disaster Relief, Intro to Law, Israel/ Palestine, Private Equity, and Understanding Urban Planning
Animation, Cooking, Equine Studies, Fashion Design, History of Architecture, Improvisational Comedy, Intro to Screenwriting, Lighting Design for Broadway, and West African Dance

Broadcast Program

Video Broadcasting

Video Broadcasting provides an introduction to the foundational principles of video production from inception to completion via creative writing, storyboarding, camera shooting, and editing footage with state of the art software. Projects come in the form of documentaries, music videos, creative works, or on-campus recordings that the student produces for use on our multimedia site: www.wheelerschoolbroadcasting.org. (Major course, Performing Arts Credit)

In addition to the Video Broadcasting major, there are a number of ways to get involved with the Broadcast Program. In recent years, these have included Advanced Video Production, Sound Production, Radio Broadcasting, and Podcasting.

Supplemental Language Offerings

Students who wish to explore foreign languages in addition to their Modern Language requirements do so through the Aerie Program. In the last few years Wheeler students have been enrolled in classes or tutorials in different levels of Japanese, American Sign Language, Arabic, Italian, Russian, and German. Other students have studied Ancient Greek, Modern Hebrew, Korean, Urdu, Turkish, Persian, Swedish, Dutch, and French Creole. Some students do advanced work in preparation for AP exams not offered within the regular curriculum or continue their language studies past the AP level.

Latin Program

Upper School students who wish to pursue language studies beyond the scope and requirements of the Modern Language Program may pursue instruction in Fundamentals of Language: Latin, Latin 1, 2, 3, 4, and Advanced Latin Literature. New students who come to Wheeler in the Upper School and took Latin as their primary language before they arrived may also continue Latin. Introductory Latin instruction is also available to Middle School students.

Fundamentals of Language: Latin

This course serves as an introduction to Latin language acquisition. Students learn the nuts and bolts of both English and Latin, as everything we do in Latin, we do in English. This course pays particular attention to the manner in which English and Latin establish meaning: word order and word inflection (changes in verbs, nouns, pronouns, and adjectives) are considered on a daily basis to help students gain understanding of how precisely English and Latin convey meaning. Students may continue the following year with Intermediate Latin. (Major course – by Departmental Permission only)

Intermediate Latin

Intermediate Latin serves as the bridge course between Fundamentals of Language: Latin and Latin II. Students build on their work from Fundamentals with continuing intensive focus on the morphology, vocabulary, and syntax of both English and Latin. Students begin to translate more complex Latin as the course unfolds and their linguistic facility deepens. (Major course)

Latin I

Latin I focuses on morphology, syntax, and vocabulary acquisition. Students learn all six tenses of the indicative of the four plus verb conjugations and all five noun declensions. There is a focus on learning how to read Latin effectively as well as a perusal of Roman history and culture. (Major course)

Latin II

Latin II is a continuation of Latin I: it reintroduces students to an in-depth study of the language in a reading context. Students spend the first three quarters finishing the study of basic morphology, syntax, and vocabulary. In the final quarter, students begin to read Latin authors including Catullus, Martial, and Seneca the Younger. (Major Course)

Latin III

A thorough review of all morphology, syntax, and vocabulary of Latin II precedes a close reading and examination of various prose Latin writers in their historical context including Caesar, Cicero, Livy, Sallust, Augustus, Petronius, Pliny, Tacitus, Suetonius, Apuleius, and others. Neo-Latin authors including Ludvig Holberg will also be considered. (Major course)

Latin IV

A reprise of all morphology, syntax, and vocabulary of Latin III leads into a thorough reading of selections from the poetry of Catullus, Tibullus, Vergil, Horace, Martial, and Ovid. Students learn the various meters of these authors while learning to actively apply and expand their knowledge of the basics of Latin grammar – in the cultural and historical context of the fall of the Roman Republic and rise of the Principate under Augustus. Daily quizzes on syntax, morphology, meter, and translation solidify and deepen students' understanding. (Major course)

Advanced Latin Literature

Advanced Latin Literature can be taken after Latin IV; the curriculum changes with the interests of students but always includes reading, interpretation, and translation of prose and poetry at a deep and high level. (Major course)



THE WHEELERS SCHOOL

Upper School Aerie Enrichment at Wheeler



Stats

75%

US students

taking Aerie Enrichment

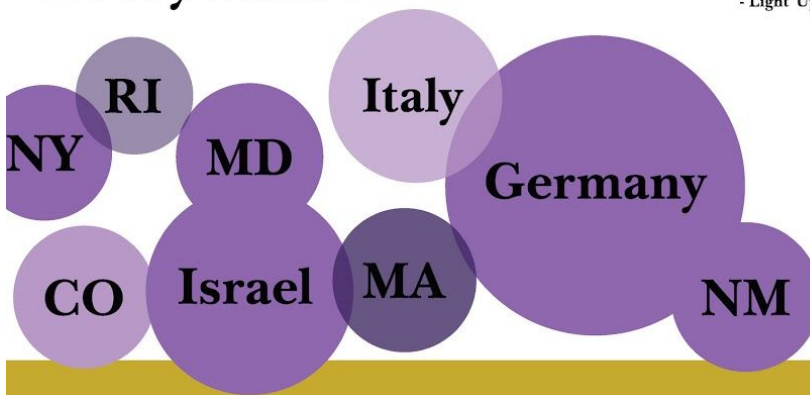
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Aerie Enrichment Classes Offered

Examples of Aerie

- Advanced Neuroscience
- Animation
- Arabic 1, 2, & 3
- Design + Analysis: Algorithms
- Differential Equations
- Digital Design CAD 1 + 2
- Evolution of Plant Diversity
- Expressive Arts Therapy
- History of Architecture
- Humanitarian Disaster Relief
- Immunobiology
- Irish/ Gaelic
- Israel-Palestine
- Jazz Composition
- Light Up Broadway: Lighting Design for Plays and Musicals
- Maps and Apps: GIS and the Science of Where
- Neuroscience 1, 2, & 3
- Organic Chemistry
- Paleontology
- Private Equity
- Robotics
- Tree-Thinking + Phylogenetic Biology
- Understanding Urban Planning
- Video Game Design
- Virology
- West African Dance

Aerie Teachers are Everywhere!



College Counseling

The College Counseling office serves as a resource to students and their advisors with regard to the selection of courses, summer study and work plans, and advice about standardized testing. Regular group and individual sessions begin in December of the junior year and continue through the senior year. The search for appropriate colleges, the process of self-evaluation and decision-making, and the healthy transition to a new environment are issues central to the discussions.

Wheeler's course requirements are minimum requirements for the Wheeler diploma. When planning a program for a given semester, a student should consider current curricular and co-curricular interests, the ability to manage demanding courses, and future goals. Most colleges are interested in students who choose to exceed the graduation requirements; selective colleges are looking for students who are able to excel in the most demanding courses. Seniors, particularly, must choose the paths of greatest academic challenge possible in keeping with their abilities if they are to be competitive applicants at highly visible colleges.

Finally, we encourage students to develop outside interests at Wheeler and in the greater community. These may be academic, and may also include the athletic, artistic, and altruistic. Summers, too, are important periods in which all of these activities may be pursued. The depth and quality of a student's commitment to any activity is far more important than the number of activities in which they participate.

SAT

The College Board website (www.collegeboard.org) has the most up-to-date information about test design and timing for the SAT Reasoning Test.

The following schedule may be amended at any time.

Sophomore Year	Junior Year	Senior Year (if necessary)
Oct.- PSAT on campus May – practice ACT test on campus	Oct.- PSAT on campus Dec.- SAT Dec. – ACT w/ Writing Spring - SAT or ACT for a 2nd time	August - SAT Sept.- ACT Oct. – SAT Oct. - ACT Nov.-SAT

Bulletins with information about the College Board testing programs and sample questions are available in the College Counseling Office. Students with documentation of a diagnosed learning difference which qualifies them for extended time testing should contact Ms. White in the ASAP Office to ensure that the proper forms are filed. Please note that ETS has specific guidelines for the procedures and time limits for non-standard administration of their tests.

Reporting SAT scores

Score Choice is an optional score reporting feature offered by the College Board for reporting SAT scores to colleges. While it offers students the opportunity to send only a selection of their scores, some colleges do not allow the use of the option. It is best to consult the individual college websites to determine their policies. Wheeler students should report scores to colleges only in consultation with their college counselor.

ACT with Writing Test

The ACT, an alternative to the SAT, which is accepted by all colleges, is offered at various test centers throughout the state. The ACT consists of four subtests: English, Mathematics, Reading, and Science. We recommend that all juniors take the ACT exam in either December or February of their junior year. For those who do not take the ACT in February, we recommend that they take the April ACT exam. The student's college counselor will help students interpret their results and advise them about which scores to send.



The NuVuX Studio Term at Wheeler

Wheeler's NuVuX Program offers a unique design + innovation curriculum to upper school students via rigorous, open ended prompts that challenge students to engage in near-future and real world problems around them. NuVuX courses are an opportunity for students to develop their creativity and problem solving skills to generate a positive impact in their own communities.

Led by the NuVuX Design Fellow, an expert in innovative design, students will investigate the world around them through hands-on making and advanced fabrication techniques. Students will develop ideas through the iterative design process by engaging in research, sketching, brainstorming, prototyping, collaboration, and feedback from peers and experts. The semester will culminate in a final presentation, and students will create a portfolio of work to showcase their projects.

In past NuVuX studio courses, students designed high-tech wearables to grapple with the future effects of climate change, partnered with the Nursery students to co-design play structures, and used virtual reality design software to model and create their own, futuristic virtual worlds.

What you can expect in these courses:

- Develop solutions and responses to community-based problems
- Create positive impact
- Access to professionals and experts in design, engineering, and innovation

Skills you will learn:

- The Iterative Design Process, including collaboration, communication, and how to receive and incorporate feedback from peers and experts
- Visual communication through drawing, video production, and storytelling
- Professional level 2D and 3D drafting + modeling software
- Digital fabrication tools, such as laser cutting and 3d printing
- Woodshop tools
- Electronics for interactive design, including Arduino, sensors, motors, and programming

Seminar Studios | Fall 2021

Seminar A: Environmental Robots

This studio will call into question our fundamental understanding of what robots are, and how they interact with the environment, to develop a vision for new Bots that can create understanding about, remediate, interact with, and find equilibrium in our environment.

Students will consult with local wildlife and farming experts to deeply understand the issues facing their community, and develop autonomous solutions that preserve the environmental priorities of the greater Providence area.

Students will learn the fundamentals of energy, mechanics, and electronics and research pressing ecological issues in their own community to inform the design of their Environmental Robots. These Bots serve to not only remediate and protect, but also to envision performance beyond our current conceptions and capabilities, engage our imaginations, while improving our planet and well-being.

Seminar B: Living Architecture

In this studio, students will envision and prototype responsive architectural experiences that promote well-being by strengthening connections between people, technology, and environment. Research of designers such as Philip Beesley, who creates biophilic ‘living’ sculptures that breathe and undulate in response to the environment, and Chico MacMurtrie, who uses pneumatic actuation and organic geometries to animate performative installations through amorphous robotics, will inform and scaffold each student’s site specific work. Students will have the opportunity to build scale models of their designs, develop them in modeling software, and potentially create full-scale prototypes. Students will also be exposed to cutting-edge responsive materials to incorporate into the design of their activated structures. This studio will investigate what it means for a structure to be alive and responsive to the needs of its inhabitants.

Seminar Studios | Spring 2022

Seminar C: Waste to Wonder

When we throw something “away” we usually just move it out of our sight to a different part of the world, to live in perpetuity in a landfill or ocean. This studio will challenge students to reconsider their definition of trash, and to use waste not only as a material for design, but to see it as an opportunity for innovation.

Students will track and observe waste created in their own community to identify potential materials for their design. Through material tests and manipulations including shredding, grinding, heating, molding, and binding, students will conceptualize their own practical or artistic use for what was once considered waste. Along the way, students will learn about concepts of material science, digital fabrication, and product design, and explore the supply chain and life cycles of the materials we take for granted every day.

(seminars continued on next page)

Seminar D: Mechatronics for the Ages

By 2050, one in four people living in the United States will be age 65 or older. As the baby boomer generation enters their golden years, this shift demands an examination of how we best serve and care for our aging population.

In this studio, students will take a deep dive into understanding the daily life and hurdles of the aging population and how our society perceives and interacts with the elderly in our community. Students will interview and interact with residents at a local senior home to understand the practical and aspirational challenges of their day, and design assistive devices to help these clients improve their daily lives.

Imagine how you can create a device for writing that may help a former playwright with Parkinson's disease control their hand tremors, or a gardener to water their plants. What does it mean to age and to grow old, and how can we use technology to improve this experience? Students will apply knowledge of human anatomy, mechatronic devices, electronics and product design to directly improve the lives of community members.

Co-Curricular Programs

Whole Life Seminar

The program is focused on identity development for adolescents and incorporates the themes of the three pre-existing co-curricular areas of Unity & Diversity, Health, and Community Action. The program also includes other important elements, such as digital citizenship, social-emotional learning, and global education.

The implementation of the Whole Life Seminar came from the collective decision for co-curricular programming to cut across the developmental spectrum and focus beyond 9th and 10th-grades. It provides opportunities for co-teaching and collaboration across departments. Each grade level will have a teaching team composed of representatives from the Offices of U&D and Health, among others. The teaching is intersectional, while at the same time intentional to preserve aspects of our specific U&D curriculum. Students will gain independence through the program which will culminate with a community based independent inquiry-based project.

Based on guidance from our existing Unity & Diversity and Health curricula as well as our work to integrate the RULER curriculum, we have developed the following themes for each year:

- 9th grade is a foundational year and begins with the theme of My High School Experience.
- 10th grade increases the level of challenge and focuses on a theme of Identity and Wellbeing.
- 11th grade focuses on the theme of Choices and Relationships.
- 12th grade culminates with a focus on Adult Life and the Future.

Topics throughout the Wheels program include how to establish a common vocabulary, build community, develop listening and empathy skills, increase DEI & SSI awareness, become active anti-racist citizens and learn how to engage in challenging conversations. The students will focus on the relevance of socially significant identities in school, locally, and globally. The curriculum provides the opportunity to examine privilege, preconceptions, and understanding of different people. As students mature they will be given opportunities to grapple with more advanced issues of diversity, equity, and inclusion. Through complex discussions and activities facilitated by the Office of U&D students will explore and address issues of social justice and social responsibility, with the goal of providing them with the skills necessary for their future role as global leaders in a diverse, multicultural world.

The integrated health goals include human development, wellness, disease prevention, stress, sleep, mindfulness, nutrition and exercise, body image, decision making, substance abuse, digital citizenship, social-emotional learning, and public health. Other topics woven throughout the Wheels program include community engagement, civics, food insecurity, global education, and leadership development. Inquiry-based learning and community action are embedded through the course work as well. The students will be provided with resources for them to develop awareness and advocacy skills, and opportunities for reflection.

