Baldwin’s curriculum is dynamic, forward-looking, exciting and designed to give every girl a substantial foundation in the skills and knowledge she will need as a college student, an independent adult and a citizen of the world. Our faculty cultivate an environment that supports our girls in their learning process, challenging them to tap into their interests, take risks and collaborate with others. They provide unique opportunities for our girls to learn beyond the classroom through programs and partnerships with the broader community. Our faculty bring their expertise into the curriculum through a range of elective courses and co-curricular opportunities.
Graduation Requirements

Course Requirements
A minimum of 22 credits is required to graduate. Most students complete more than the 22 credits required for graduation. The distribution of credits is as follows.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>4 Credits (required each year)</td>
</tr>
<tr>
<td>History</td>
<td>3 Credits</td>
</tr>
<tr>
<td>Languages</td>
<td>3 Credits of a single language or 2 Credits in one language and 2 Credits in a second language</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3 Credits</td>
</tr>
<tr>
<td>Science</td>
<td>3 Credits (Physics, Chemistry and Biology)</td>
</tr>
<tr>
<td>Visual and/or Performing Arts</td>
<td>2 Credits</td>
</tr>
<tr>
<td>Electives in any department</td>
<td>4 Credits</td>
</tr>
</tbody>
</table>

Note: Classes must be passed in order to receive credit.

Often students will take more than four credits of math, science or other electives and four credits of language to demonstrate interest and talent in these subjects.

Other Requirements
Interdisciplinary Institute (Required each year of Upper School)
The purpose of the Interdisciplinary Institute (I2) is to provide all students and faculty time for an extended and vigorous investigation of an essential question that spans more than one discipline through outstanding educational opportunities that are not possible in the standard classroom setting. I2 appears on a student’s transcript as a major academic requirement.

Life Skills for Wellness (Required Grade 10)
Life Skills is a required, non-graded course, which meets once a week for one quarter. It is part of the Life Skills for Wellness Program, co-facilitated by the Specialists in School team. Age appropriate topics to promote a healthy lifestyle and the choices and consequences of high-risk behavior are discussed in this class.

College Counseling (Required Grades 11/12)
Seniors will meet with college counselors during the fall semester. Juniors meet with the college counselors during the spring semester. Workshop topics will include the college search process, campus visits, recommendation letters, writing college essays and navigating this exciting time of discovery.

Life 101 (Required Grade 12)
Seniors will meet spring semester to discuss a variety of life skills such as personal finance and positive relationships in preparation for life after Baldwin.
Independent Study

Departments may be willing to work with upper level students on an independent basis. Written proposals for projects should be submitted to the department and approved by the department and the Director of the Upper School in the spring of the preceding year. Permission to undertake independent study for credit must be obtained from a teacher who is willing to work as the student’s project advisor and from the Director of the Upper School. Such permission is granted based on the student's academic record, educational value of the proposal, level of interest and commitment and the probability of successful completion. If a course is already offered at Baldwin, it cannot be an Independent Study option.

Honors and Advanced Topics Courses

Baldwin offers Honors and/or Advanced Topics courses in every discipline. Honors courses are offered in parallel to regular sections and offer an accelerated pace and extended coverage of material. Departments establish policies to determine which students are appropriate for Honors nominations; each spring the departments make recommendations to students and advisors about prospective placement for the next academic year. Such courses are designated “Honors” on student transcripts. Advanced Topics courses are capstone courses that offer study in a particular field beyond the normal requirements of the curriculum. As such, they are the most rigorous courses, taught at the collegiate level with high expectations for student engagement and responsibility. Departments establish policies to determine which students may enroll in “AT” courses. Such courses are designated as Advanced Topics on student transcripts.
Computer Science and Engineering

Graduation Requirements: Courses are non-required electives.

The Computer Science and Engineering classes are housed in the DREAM Lab®. The specialized equipment, including 3D printers, laser cutter, CNC machine and electronics, allows students to explore a wide range of Computer Science and Engineering projects, from building and programming electronic devices to designing and building solid structures.
**Engineering 1 (Fall)**
Students enrolled in Engineering 1 are introduced to important skills and tools that will provide the basis for future work and study in engineering. The course will focus on the study and practice of various types of engineering including, but not limited to: bio, civil, electrical, environmental and mechanical engineering. Through a series of instructor-defined projects incorporating concepts such as computer aided design (CAD), electronics, Internet of Things (IoT) and robotics, students will use an engineering design approach to collaboratively solve a range of defined problems.

**Engineering 2 (Spring)**
Engineering 2 deepens the learning acquired in Engineering 1 as students apply math and science concepts to engineering projects with a more rigorous and real-world application. Students continue to develop and expand their proficiency using the tools introduced in Engineering 1 and apply their learning to a series of hands-on projects. Students will also work with current industry standard CAD software such as Autodesk Suite to create and simulate scaled projections and visualizations. Throughout each project, students learn to reflect deeply on, and engage in, the iterative process of design.

*Prerequisite:* Engineering 1

**Computer Science 1 (Fall)**
Students in Computer Science 1 are introduced to the foundations of computer science through a series of one- to two-day short programming projects using Python 3. Through these projects, students are introduced to computer science concepts such as iteration, discrete structures (functions) and simple data structures. Students will leave Computer Science 1 confident with their ability to plan, organize and program a solution to a defined problem.

**Computer Science 2 (Spring)**
Students in Computer Science 2 continue to develop an understanding of the foundations of computer science through a series of week-long projects in Java. Students receive instruction regarding Java’s syntax, however they are expected to apply Computer Science 1 concepts to projects. Students collaborate and use provided online resources to solve problems, troubleshoot and debug programs. Instructor support is just-in-time and individualized. A point of differentiation between Computer Science 1 and Computer Science 2 is an expectation of increased independence in programming.

*Prerequisite:* Computer Science 1

**Advanced Design and Project Development (AT option)*
Advanced Design and Project Development is a project-based course in which students propose and take on a term-long design-and-build project of their choice. In this course, the instructor facilitates as students identify a problem and imagine an innovative solution, create and present a project proposal (including budget), acquire necessary materials and supplies, seek out resources and instructional support (videos, experts and mentors, web resources, online courses, books, etc.) and work to realize their project goals.

*Prerequisites:* Computer Science 1 and 2 and/or Engineering 1 and 2 (may be repeated up to four times) *For the AT designation, students must have AT Calculus and AT Physics (which may be taken concurrently).*
English

Graduation Requirements: 4 credits

English is required every year, every semester for Grades 9-12. Each full-year course receives 1 credit. Senior English courses are comprised of two-semester electives, except for the year-long AT English course.

The English curriculum is designed to help students learn to read and analyze texts carefully, think critically and write effectively. Students are exposed to texts from across the globe, in a range of genres and from different time periods. Through lively intellectual classroom conversations, students wrestle with ideas, have their ideas challenged and find their own voice. Through a range of writing assignments, presentations and multimedia assignments, students learn a variety of ways to more formally express their ideas, gaining written and verbal communication skills that will last a lifetime.
REQUIRED: ENGLISH COURSES GRADES 9-11

**English 9**
**Leadership: Taking Command of your Environment**
The 9th-grade curriculum offers an active and collaborative approach to student learning. Students analyze Fitzgerald’s *The Great Gatsby*, Shakespeare’s *The Taming of the Shrew*, Satrapi’s *Persepolis*, short stories and poetry as a basis for their focus on what it means to be a persuasive communicator and student-leader. While the year’s theme combines self-advocacy, managing one’s time and environment and taking control of one’s learning, the course also incorporates vocabulary acquisition, targeted grammar units, informal free-writing and class discussions. Students develop their analytical writing, which emphasizes a logical progression of ideas and the use of specific textual evidence, alongside their creative and personal expression. The culminating interdisciplinary multimodal project gives students the opportunity to creatively apply the idea generation, communication and narrative building skills they hone throughout the year.

**English 10**
**Identity and the Choices that Define Us**
In 10th grade, students study short stories, novels, drama and poetry that explore how our choices define us. Students analyze how an author uses language and literary form to connect with the reader, encouraging empathetic reading, nurturing shared understanding and creating meaning. Through creative and analytical writing, students learn to produce clear, logical, carefully crafted pieces. Students produce a variety of multimedia projects and develop speaking skills through oral presentations and class discussions. Within the context of their reading assignments, students study vocabulary and grammar. In addition, students use the program Membean to strengthen their vocabulary with individuated online learning instruction. Texts may include Forster’s *A Room with a View*, Hurston’s *Their Eyes Were Watching God*, Shakespeare’s *Macbeth*, Shelley’s *Frankenstein* and a selection of short stories and poetry.

**English 11**
**Unlikely Heroes**
Grade 11 students study increasingly more challenging novels, dramas, short stories and poems that explore how common people become heroic. Students express their ideas and offer responses to their peers through class debates and in moderated online discussions. As a way to benchmark their growth, students curate their Upper School writing, utilizing online portfolios and metacognitive learning techniques. The year begins with a review of the summer reading and then moves into the analysis of texts such as Morrison’s *Song of Solomon*, Shakespeare’s *Hamlet* and Brontë’s *Jane Eyre*. Students explore themes of magical realism in short stories and investigate modern and contemporary poetry. Throughout the year, students build a body of knowledge — critical analysis, vocabulary, grammar and rhetorical, syntactical and poetical devices — that is measured in the SAT, SAT Literature Subject Test and ACT. Students write a variety of creative and critical pieces, and they finish the year writing personal essays that could be helpful in the college application process.
ENGLISH SEMESTER COURSE OFFERINGS FOR ALL GRADE LEVELS

Grade 12 students may take these courses to fulfill their English requirements.

Creative Writing (Fall)
This course focuses primarily on developing students’ creative writing through practice. Students experiment with various forms (poetry, short story, creative non-fiction, etc.). In addition, they study published texts to discover what stylistic devices they can best adapt to their own work. Students read and hear about writers and “the literary life.” The course requires students to write, share and read aloud their original work. Students learn revision through the workshop process. Students are encouraged to create portfolios and submit their work to competitions and for publication. Students may take this course more than once, but new students are given priority.

Journalism (Spring)
Students study the principles and practices of print journalism as well as journalism’s role in a democratic society. They read and analyze a wide variety of newspaper articles from news to editorials, sports coverage, opinion pieces, profiles, reviews and human-interest features. The course stresses clear, concise writing, the ability to prioritize and synthesize information, interview techniques, research, impartiality in reporting and composing for print. Students are required to submit articles for possible publication in the Hourglass. The class also discusses topics such as news bias, multi-platform journalism and ethics. Students may take this course more than once, but new students are given priority.

COURSES FOR SENIORS
Semester courses open to juniors | Advanced Topics designation for juniors

Advanced Topics: Seeking Immortality through Literature
The fall term introduces students to principal works of Classical Antiquity and the European Middle Ages. The spring term begins with the Renaissance and then explores how modern and contemporary literature opens conversations with influential literature of the past. This course introduces students to literary criticism from structuralism to queer theory. Students conclude the course with drama literary circles and original research, so they can decide whether and how literature can grant immortality. Authors may include Homer, Sappho, Ovid, Chrétien de Troyes, Marie de France, Dante, Boccaccio, Chaucer, Shakespeare, Woolf, Shaw, Williams, Albee Wilson and Stoppard.

Prerequisites: For Grade 12 students only. Requires recommendation from the English department and that students earned an A- or A in English 10 and an A- or A in English 11.

The Art of Memory in the Graphic Novel (Fall)
For many people, memories come in flashes, in surges of emotions, in powerful words and, perhaps most of all, in pictures. Graphic novels synthesize into a new art form memoir, biography, history, fiction and comics, granting writers both flexibility and control in how they communicate the art of memory with readers. This course studies graphic novels to investigate how multimodal literature and art can memorialize life, history and the world. Sequential art and experimental narratives encourage students to investigate experiences of bliss and loss, triumph and challenge and everyday life. Students also try their hands at creating graphic memoirs. Course selections include Art Spiegelman’s Maus and Alison Bechdel’s Fun Home, as well as excerpts from Marjane Satrapi’s and Alan Moore’s work and Scott McCloud’s Understanding Comics: The Invisible Art.
Black in America (Fall)
What does it mean to be American and black? Students in this seminar critically engage literary works that explore racial identity, alienation, historical trauma and political resistance in 20th and 21st century America. This is a reading-intensive, discussion-based class, in which participants are expected to complete all assigned readings and come to each session prepared to engage in rigorous conversations about urgent questions presented in the literature. Texts may include plays, memoirs and novels such as Lorraine Hansberry’s *A Raisin in the Sun*, Bruce Norris’ *Clybourne Park*, James Baldwin’s *The Fire Next Time* and Ta-Nehisi Coates’ *Between the World and Me*. Supplemental readings might include writings from Michelle Alexander, Ernest Gaines, Kiese Laymon, Imani Perry and Brian Stevenson.

Fairytales Reinvented (Fall)
When a story begins “Once upon a time,” readers expect a story set long, long ago in a faraway kingdom with princesses, witches, heroes, talking animals, magic and adventure. People have favorite stories such as “Sleeping Beauty” and “Little Red Riding Hood,” and they don’t mind seeing those stories updated and modernized. In this course, students read canonical versions of these tales by the Brothers Grimm and Charles Perrault and then read modern reinventions of them, which retell the stories with surprising plot twists, alternative perspectives or experimental literary styles. The main texts are Jack Zipes’ Norton Critical edition called *The Classic Fairy Tales*. Other texts include stories by Angela Carter, Robert Coover, Salman Rushdie, Ludmilla Petrushevskaya, Michael Cunningham and A.S. Byatt.

Indigenous Literature: Living Texts (Spring)
Poet and scholar Gloria Anzaldúa famously wrote in *Borderlands/La Frontera: The New Mestiza* that much of the United States “was Mexican once, / was Indian always / and is / and will be again.” This interdisciplinary course will begin with an introduction to the diverse yet deeply intertwined literary, artistic and cultural origins of the indigenous peoples of what is now known as North America. Students will then explore the ways in which contemporary writers, artists and organizers are reimagining and reaffirming 21st-century indigenous life through a variety of “texts.” Specifically, students will focus on how these creators draw upon multimodal traditions, as well as forward-looking innovations, in order to challenge persistent Western narratives and add to a vast body of living literatures. Course materials may include: selections of historical documents such as pre-Columbian codices, treaties and maps; poetry and book excerpts (fiction, graphic novel, YA); 2D and 3D visual art; music; recipes; and a sampling of various digital media.

Identity and The Female Experience (Spring)
This course will explore literary accounts of ethnic experiences of women in the context of recent American history. Resources include memoirs, movies, novels, plays, poetry, philosophy and song lyrics. During discussions, students analyze and critically assess concepts, categories and vocabulary used to explain and interpret the coming of age experience for females in a society defined by division, exploitation, exclusion and marginalization. Students will critically engage texts, media and song lyrics that explore these issues from an array of perspectives to understand how the intersection of race, ethnicity, gender, class and sexuality shape social practices and impact persons participating in those practices. Authors may include Rita Mae Brown, Margaret Cho, Kimberle Crenshaw, Audre Lorde, Sarah Treem, Paula Vogel and Rebecca Walker.
What is Human? Human Evolution as Portrayed in Literature (Spring)
When Hamlet asks “What a piece of work is man... what is this quintessence of dust,” he implies that humankind is made of dust and will always return to dust. For Shakespeare, humankind will never change in origin or evolution. However, modern science offers new insights into the origins, genetics and possible future of Homo sapiens. In this course, students will read Björn Kurtén’s Dance of the Tiger: A Novel of the Ice Age, which tells the fictionalized story of how Homo sapiens emerged 35,000 years ago in western Europe to dominate the Neanderthals. Then students will consider one of many possible evolutionary futures for Homo sapiens by studying Naomi Alderman’s futuristic novel The Power. This text allows students to consider how the world could change if women unexpectedly grow an extra internal organ that gives them superpowers. Students will also study the 1968 film “Planet of the Apes,” which imagines what might happen if humans destroy themselves in a nuclear war thus allowing for the rise of a primate civilization. Additional texts may include excerpts from the theoretical works of various evolutionary scientists such as E.O. Wilson, Stephen J. Gould, Sang-hee Lee and historian Yuval Noah Harari.

THE WRITING CENTER
Baldwin’s Writing Center offers individualized attention for all kinds of writing and writers. Student tutors volunteer in the Center, and a member of the English department is its Director. Students sign up to meet with either a faculty member or a student tutor for a brief conference or a longer revision session. Help is also provided asynchronously and online. The faculty, tutors and tutees build relationships that offer writing support in addition to that of the classroom teachers. Additionally, the Director is trained to work with second language students.
History

Graduation Requirements: 3 credits

Modern World History is required in Grade 9. U.S. History is required in Grades 10 and 11. Each passed full-year course receives 1 credit. Each passed semester course receives 0.5 credit.

The History Department seeks to foster an imaginative understanding of the achievements, aspirations and conflicts of the past and present human community. We encourage each student to reconstruct, analyze and interpret significant events and ideas using primary and secondary sources as well as insights from related disciplines. We believe this will help prepare each girl to embrace the future as an active, thoughtful, civically responsible world citizen.
Grade 9: Modern World History
This course examines major events in world history that contributed to the development of an interconnected modern world. Students are asked what makes a state or empire successful and explore the tension between individual freedom and societal stability. Topics include the rise of the Mongols under Genghis Khan; comparative religious art of the great Asian Muslim empires and of Renaissance and Reformation Europe; the Columbian exchange of commodities in the era of oceanic trade; comparative Atlantic revolutions as influenced by the Enlightenment; European industrialization and colonialism; and the world wars, with a focus on the Holocaust. Students explore how historians know what they know and critically assess the different types of written texts and other media through which historians convey information about the past.

Grade 10: U.S. History I
U.S. History I is a survey course covering the beginning of American history through the mid-nineteenth century. Major themes include Native American history, European colonialism in the Atlantic world, the emergence of British North America, revolution and independence, the development of the Constitution, early two-party politics, economics and social development of the early Republic, territorial expansion, sectional crisis, slavery, the Civil War and Reconstruction. Projects include work with colonial probate records, a simulated Constitutional ratification convention and an exploration of Civil War history through monuments.

Grade 11: U.S. History II
U.S. History II resumes the study of American history where U.S. History I ended, with the conclusion of Reconstruction in the late 19th century and traces the continued course of U.S. history through the beginning of the 21st century. Major themes include industrialization, urbanization and immigration; the Progressive Era; the Great Depression; the New Deal and the rise of the welfare state; the postwar economic boom; the Cold War; the civil rights movement; Court; the Vietnam War; Watergate; the Reagan era and the conclusion of the Cold War; culture wars; increasing political polarization; and 9/11. Projects will include crafting historical fiction, engaging in a simulated 1968 student teach-in, Supreme Court landmark cases research and completing a spring research paper in 20th-century American history.

Grade 11: Honors U.S. History II
Honors U.S. History II covers approximately the same time period and topics as U.S. History II, with a greater emphasis on engaging in historical interpretation and argument. Reading assignments frequently are drawn from original scholarship and primary sources in addition to the textbook and run 10-12 pages per night. Major projects include 2-3 graded round-table debates and 3-4 research-driven writing projects. Admission is by recommendation of the department and requires that the student receive an A or A- in 10th grade History and a B+ or higher on all writing assignments in 10th grade History.
**Grades 11-12: Psychology (Fall) (AT Option Available)**
This course will introduce students to the fundamentals of psychology. Beginning with current brain research and an exploration of neuroscience, students will go on to examine the growth of developmental, comparative, cognitive, social and clinical psychology. Students will explore the theoretical contributions of historic thinkers such as Freud, Jung, Piaget and Skinner, as well as the current controversies about neural bases of personality/behavior and the relationship between individual needs and societal expectations. Experiments, simulations and field assignments offer unique opportunities to delve more deeply into selected topics.

**Grades 11-12: The Vietnam War (Fall) (AT Option Available)**
This seminar is devoted to exploring the many dimensions of one of America’s most complex and contentious experiences in the 20th century. The course will introduce students to traditional debates in the historiography of the Vietnam War over the root causes of the war, whether and to what extent victory was possible for the United States, why the United States lost and how the war affected American society and the trajectory of the Cold War. It will also draw on the greater accessibility of sources in the past 15 years to examine the perspective of the major factions in both North and South Vietnam, including the perspective of the National Liberation Front and the Politburo in Hanoi. Closer to home, students will trace the effects of the war in American society, including the civil rights movement, the backlash against post-war liberalism and the emerging counterculture of the 1960s and will examine the role of art and media to shape perception and memory of the war on all sides.

**Grades 11-12: The Holocaust (Spring) (AT Option Available)**
This elective offers a survey of the Holocaust, from the rise of anti-Semitism in 19th century Europe to the implementation of the Final Solution during the Second World War. Students will be exposed to essential historiographical debates in the field of Holocaust studies and will read the work of Friedländer, Bauer, Browning, Kershaw, Lipstadt and other important historians of the Holocaust. The course then considers how the Holocaust is remembered, from memorials to the arts, in museums and in politics. Primary source material is provided by the USC Shoah Foundation, the United States Holocaust Memorial Museum and Yad Vashem. Students should possess a passion for history, love of reading and willingness to take on independent research.

**Grades 11-12: Anthropology/Sociology (Spring) (AT Option Available)**
This class will move from the individual perspective examined in Psychology to examine larger cultural and social behaviors. Students will work to understand the threads that join all humans, regardless of cultural context, while recognizing that social and cultural differences often lead to conflict and misunderstanding. By exploring the theoretical contributions of historic thinkers such as Mead, Geertz, Goffman, Weber and Foucault, students will strive for a true understanding of the complexities of human ways of life, which in turn will take them one step closer to an authentic global perspective. Survey development, field assignments and original ethnographic research will provide the experiential opportunities that are the hallmark of the social sciences. Psychology is not a prerequisite.
**U.S. Politics and Civics (Fall)**
This course will provide students with a detailed overview of the design and functions of the U.S. governmental system, an opportunity to debate contemporary political issues and a roadmap to engaged citizenship. This class will also offer a chance for students to dive deep into the issues of the 2020 Election. Students will identify national, state and local issues that matter to them and then create individual campaigns that engage with real world organizations, institutions and stakeholders. Students will also explore the complexities of partisan gerrymandering by submitting entries to the annual Draw the Lines PA mapping contest.

**Great Cases: Constitutional Law and the Supreme Court (Spring)**
This course will provide students with an overview of landmark Supreme Court Cases, the court’s history and the basic underpinnings of constitutional law. Students will also dedicate time to studying the present justices, their judicial philosophies and the issues likely to come before the court. Students will sharpen their analytical skills as they prepare written briefs and oral arguments on contemporary and historical cases. The course will also provide an opportunity to delve into current events by closely examining the current slate of cases scheduled to be heard by the Supreme Court. Potential assignments will include a formal prediction of votes in a pending case via the FantasySCOTUS online contest and a “crash course” style video covering the major components of a historical case of their choice. As an extracurricular component, students enrolled in the class are eligible to compete in the Moot Court Tournament hosted by Princeton University each spring.
Languages

Graduation Requirements: 3 to 4 credits

The study of one language for three years or two languages for two years each in the Upper School is required. Each passed full-year course receives 1 credit. Each passed semester course receives 0.5 credit.

The Languages curricula fosters global understanding, openness and acceptance of diversity in a fast-changing world through language study. Students acquire not only a proficiency in foreign languages, but also the ability to read and understand literature and culture of countries where their chosen language is spoken. Students are constantly encouraged to develop their curiosity, which leads them to learn about the different facets of the various countries and their cultures.
Arabic - Introduction to Arabic
This half-credit course introduces the foundations of the Arabic language. Students will use Ahlan Wa Sahlan: A Workbook for Beginning Arabic to learn to read and write the Arabic script and to speak Arabic. The class will also involve discussion of different Arab cultures and the current events in Arabic speaking countries. Introduction to Arabic is only open to seniors and may be taken in addition to other language classes.

*Note:* Meets twice per week during G-block for 0.5 credit.

Classics (Latin/Greek)
The Classics program offers ancient languages taught in a creative atmosphere. The main purpose of the Latin program is to teach the student to read the language, giving her the linguistic training and experience in translation that will enable her to read Roman authors with reasonable facility and appreciation. An effort is made to give the student a sympathetic understanding of classical life and thought and of the ancients' contributions to modern civilization. Classics teachers consider that the greatest benefit for the student is derived from a Latin program that extends over a period of years. Experience with Latin should improve precision in the use of words, thereby contributing to clarity in the expression of ideas in all subjects. Spoken and written Latin, as well as some ancient Greek, is included throughout the program. Advanced English vocabulary derived from Greek and Latin is stressed in all levels. Aspects of art, history, religious history and architecture are combined with Latin study in order to emphasize interdisciplinary thinking. The Classics faculty often collaborates with other departments to present to the student a global, interrelated and thorough education. Students in all levels compete in the National Latin Exam and participate in the Philadelphia Classical Society contests. Opportunities are offered for educational travel to Italy and Greece with the focus on the ancient world.

Latin 1
Students in this class read basic, yet engaging stories in Latin as they study the fundamentals of the Latin language. Students develop an understanding of the language per se, of history, of Roman and Greek culture and of the impact of Latin on English vocabulary. Lessons include composing in Latin and spoken Latin. This course is designed for Upper School students new to Baldwin or new to Latin. Completion of this course (or Latin 1A/1B) is the prerequisite to begin the study of Latin 2.

*Note:* Students may be in class with Grade 7 and 8 students.

Latin 2
This course completes the study of Latin grammar and introduces students to the translation and understanding of original texts. It also seeks to expand the students' knowledge and appreciation of English vocabulary through Greek and Latin roots, perfect the student's English grammar and acquaint students with classical civilization and its impact on later literature and civilization. Students translate from Latin and compose in Latin. Inspired by the readings, the class also pauses from translation and grammar tasks to examine important questions from ancient culture, history, literature, religion and/or philosophy.

*Prerequisites:* Successful completion of Latin 1 or Latin 1A/1B.
Latin 3 - Prose Authors
This course emphasizes Roman rhetorical writing in legal and historical areas, as well as in fiction. Each year the readings are chosen in order to present various aspects of a theme of interest to the class. Selections are taken from Cicero's speeches and letters, Livy's History, Pliny’s Letters, the Biblia Sacra, et al. Latin composition is part of the course.

**Prerequisites:** Successful completion of Latin 2.

Latin 4 - Seminar in Latin Epic Poetry
For the advanced student of Latin, this course seeks to foster an understanding of ancient poetry and poetics through close analysis of the great epic poems of Latin literature, including Vergil’s Aeneid and Ovid’s Metamorphoses. Students will gain an appreciation of the literary style of these epics, their rich and complex texture, the inspiration under which their authors worked and their influence upon each other and upon later Roman and world literature. The course content includes a lively mixture of work in language, literature, history, art, critical scholarship and other topics.

**Prerequisites:** Successful completion of Latin Prose Authors (3).

Advanced Topics: Latin 5 - Latin Literature - Lyric and Elegiac Poetry
This year-long course of study is designed to follow the study of epic poetry in level 4, though seniors may elect this course in place of Latin Epic Poetry with departmental permission. The course will prepare students for advanced study of Latin at the collegiate level. The advanced seminar course examines lyric and elegiac poetry, by nature shorter and more personal than epic. The focus of the course is on the Republican poet, Catullus and the Augustan poets Horace, Vergil and Ovid, along with selections from other Latin, Greek and English poets. Students will develop critical skills through the close reading and analysis of literary texts and the use of literary evidence for Roman and Greek cultural studies. The course content – a lively mix of work in literature, metrics, textual criticism, history, art, composition and critical scholarship – is intended to give students a fuller appreciation of both Latin poetry and its lasting influence on world literature. In the first semester, selections may include passages from Vergil’s Eclogues and the poems of Catullus. In the second semester, selections will be taken from Horace’s Odes and Ovid’s Amores and other works.

**Prerequisites:** Successful completion of Latin 4 – Seminar in Latin Epic Poetry

Introduction to Ancient Greek
This half credit course provides a rigorous introduction to the Attic Greek language and seeks to center language instruction in the history, literature and culture of the Greeks from pre-literate times through the Roman conquest. Class discussion will be based on outside readings, which will include topics such as Greek archaeology, history and the Greek view of mythology, religion and philosophy.

**Note:** Open only to seniors and may be taken in addition to other language classes; meets twice per week for 0.5 credit.

Independent Study
The Classics teachers may arrange to meet with individual students, especially in the senior year, for specialized study on a one-to-one basis. Students should discuss with the department the preceding spring.
French 1
This course uses an integrated approach to language learning, from the introduction of new material, through reinforcement, evaluation and review, presentations, exercises and activities that are designed to span all four language skills: listening, speaking, reading and writing. Students use and reinforce these new skills while developing a realistic, up-to-date awareness of French culture. Some themes that are covered are traveling, sports, shopping, health, cultural activities and checking into and out of a hotel. Students will also do research projects using French internet sites.

French 2
This course allows for maximum interaction among students and between students and instructors. Interaction is based on tasks to be accomplished and on effective linguistic functioning in the types of situations likely to be encountered in real life. The goals of this course are to help students function as accurately as possible in a variety of contexts by putting into practice the ACTFL Proficiency Guidelines. The students learn how to communicate in the present, past and future. They study the cultural geography of the French-speaking world.

Honors French 2
This accelerated course follows the same philosophy as regular French 2, with an emphasis on writing and reading skills.

Prerequisites: Honors placement requires departmental approval. The student must have an A- or A for the year.

French 3
This course allows for maximum interaction among students and between students and teacher. Oral and aural skills are developed through various activities. Reading and writing skills are emphasized through the use of authentic documents. The students read French and Francophone literary texts, which are selected according to their needs.

Honors French 3
This course is designed to prepare the students for Honors French 4 - Masterpieces in French and Francophone Literature. The students study grammar intensely. Reading and writing skills are developed through carefully selected literary works from the French-speaking world.

Prerequisites: Honors placement requires departmental approval. The student must have an A- or A for the year. The student must take a placement exam (covering missed material from French 2 Honors) in August, before the school year begins.

French 4
This course stresses oral and writing skills and grammar is thoroughly reviewed. The students learn how to improve on oral expression by studying specialized vocabulary in specific situations. Oral proficiency is further emphasized through debates on various topics, according to the interest of the students and through various real-life situations that the students must act out spontaneously. The students write their own creative stories and explore the rich literature of French and Francophone masters by studying a variety of short stories, plays and poems, which they analyze orally and in written essays.
Honors French 4 – Masterpieces in French and Francophone Literature
The course reinforces the grammar learned in the previous years of study and covers additional material to help the students achieve a certain level of fluency in French as a foreign language. There is a focus on developing the four language skills: reading, writing, listening and speaking. Material will include audio and video recordings, films, newspapers, magazines and literary texts. The course will focus primarily on contemporary French and Francophone literature and may include the works of Senghor, Césaire, Hampâté Bâ and Camus.

Prerequisites: Honors placement requires departmental approval. The student must have an A- or A for the year. The student must take a placement exam (covering missed material from French 3 Honors) in August, before the school year begins.

French 5 - Writers from the French-Speaking World
In this course, students will continue to develop their speaking, writing and reading comprehension skills as they study selected works by two important French writers of the 19th century: Dumas and Hugo. The students will also read and analyze a folk tale by Kanié, a 20th century African writer from the Côte d’Ivoire. Materials will include films, newspapers, magazines and literary texts. Some grammar review will be included as the students build their reading comprehension, speaking and writing skills in French.

Advanced Topics: French 5 – Modern Literature
This course will focus on 19th, 20th and 21st century French literature and may include the works of Flaubert, Maupassant, Hugo, Baudelaire, Apollinaire, Sartre, Beauvoir, Duras and Veil. Its goal is to help students understand French in various contexts without dependence on a dictionary and to express themselves coherently, resourcefully and with reasonable fluency and accuracy in both written and spoken French. Materials will include literary texts, films, newspapers and magazines.

Prerequisites: Honors French 4 - Masterpieces in French and Francophone Literature.

Independent Study
The French teachers may arrange to meet with individual students, especially in the senior year, for specialized study on a one-to-one basis. Students should discuss with the department the preceding spring.

French Exchange Program
Upper School French students will have the opportunity to participate in an exchange program with the Lycée Mongré, a private school near Lyon, France. The Baldwin students will visit the Lycée Mongré School during the spring of 2021 and host the French students in the spring of 2022.

SPANISH
Spanish 1
The focus of Spanish 1 is to build proficiency in the language. There is an emphasis on authentic oral expression, pronunciation, aural comprehension, reading comprehension and cultural awareness. Topics are introduced through the text as well as through authentic material (newspaper, magazines, T.V. advertisements, train tickets, etc.). The student learns how to create and respond in both the context of her immediate environment and in the context of travel to Spanish-speaking countries. She studies the cultures and geography of the Spanish-speaking world. She leaves Spanish 1 with both an understanding of basic conversational Spanish and an introduction to basic grammar.
Spanish 2
This second year course continues to strengthen the acquisition and refinement of language skills: speaking, reading, writing and listening. Grammatical structure, with primary emphasis on verb forms, is stressed. Class time is spent on oral activities with homework assignments designed to reinforce new material. Activities that contribute to cultural awareness continue to be an integral part of the course. The textbook provides the core of the course, presenting basic material in each lesson with a variety of activities, which clarify and reinforce the material. A workbook provides additional written practice. The course follows the same format as Spanish 1 with listening comprehension exercises and testing. Frequent quizzes and tests, both written and oral, are assigned.

Honors Spanish 2
This honors course covers the same material as Spanish 2 at a more rapid pace. Emphasis is placed on the mastery of many verb tenses.
Prerequisites: Honors placement requires departmental approval. The student must have an A- or A for the year.

Spanish 3
This third-year course continues the emphasis on oral expression, giving special attention to idiomatic usage, pronunciation and vocabulary building. Grammatical structures continue to be studied. Stress is placed on the review and mastery of all verb tenses of regular and irregular verbs in the indicative and subjunctive forms. At this level, cultural awareness becomes more focused on specific topics. A grammar review textbook provides the core material. Listening activities, speaking activities, reading short stories and writing compositions form the basis of the class. Frequent quizzes, both written and oral, are assigned.

Honors Spanish 3
Students will reinforce all grammatical points studied in previous years through intense oral, written and comprehension exercises. All verb forms, including the subjunctive, are studied in depth. Expansion of vocabulary is also stressed. Students read short literary selections by well-known Spanish and Latin American authors.
Prerequisites: Honors placement requires departmental approval. The student must have an A- or A for the year. The student must take a placement exam (covering missed material from Spanish 2 Honors) in August, before the school year begins.

Spanish 4
The focus of this course is to improve conversational Spanish, review the more challenging grammar topics and introduce students to current issues (such as immigration, cross-cultural influences and the importance of Latino culture in the United States). The course will consist of readings in literature from both high school and college level texts, news articles from various news sources and films. Students are expected to work with challenging materials and have a commitment to speaking in the target language at all times.
Honors Spanish 4 - Masterpieces of Spanish and Latin American Literature
This course emphasizes the use of Spanish for active communication and continues to prepare students to do college level work in Spanish Literature. Students work to develop proficiency in all four language skills: listening, speaking, reading and writing. Students will read, discuss and analyze works from Spain and Latin America. Advanced grammar is an integral part of the course.

**Prerequisites:** Honors placement requires departmental approval. The student must have an A- or A for the year. The student must take a placement exam (covering missed material from Spanish 3 Honors) in August, before the school year begins.

Spanish 5: Women Writers of the Spanish Speaking World (Fall)
In this course, students will read and discuss selected works (both prose and poetry) by women writers from Spain and Latin America. The readings (and supplemental films) will center on the themes of feminine identity, gender stereotypes and coming of age within the constraints of Spanish and Latin American society. Some grammar review will be included as the students build their reading comprehension, speaking and writing skills in Spanish.

Spanish 5: Two Masters: Federico García Lorca and Gabriel García Márquez (Spring)
In this course, students will continue to develop their speaking, writing and reading comprehension skills as they study selected works by two of the most important writers of the 20th century: García Lorca (Spain) and García Márquez (Colombia). Grammar review will continue to be an integral part of the course.

Advanced Topics: Spanish 5 – Masterpieces of Spanish Literature (Fall)
This course serves as an introduction to literary movements and genres in 19th and 20th century Spanish literature. The authors studied will include Espronceda, Bécquer, Pardo Bazán, Unamuno and García Lorca. Special attention will be given to literary analysis and the writing of competent critical essays.

**Prerequisites:** Placement requires departmental approval.

Advanced Topics: Spanish 5 – Masterpieces of Latin American Literature (Spring)
Selected works of Latin American literature (from the poems of the late 19th century “Modernismo” period to the magical realist texts of the “Boom” generation) are studied within their cultural and socio-historical contexts. Students will continue to develop their critical analysis skills through reading, discussion and written and/or oral projects.

**Prerequisites:** Placement requires departmental approval.

Spanish Travel Program
Upper School Spanish students will have the opportunity to travel to the south of Spain in the spring of 2022. They will stay with families and take classes at the Colegio Maravillas in Benalmádena, a town near Málaga.
Mathematics

Graduation Requirements: 3 credits

Each passed full-year course receives 1 credit. Each passed semester course receives 0.5 credit.

The Math department strives to create critical thinkers and students who appreciate the beauty of math. Through a broad-ranging curriculum that allows students to pursue the highest levels of math, we encourage thoughtful exploration through individual study, collaborative problem-solving and creative inquiry. Mathematical reasoning is an important way to analyze and understand much of our world, and we believe our students can use these skills across a variety of fields.
**Algebra 1**
This course covers topics from beginning algebra through quadratic equations.

*Note:* For students new to Baldwin who do not qualify for Algebra 2.

**Algebra 2**
This course extends algebra skills and investigates topics including quadratic equations, parabolas, circles, right triangle trigonometry, exponents, logarithms and the theory of functions and graphs.

**Prerequisites:** Algebra 1

**Honors Algebra 2**
This course extends problem-solving skills to all algebraic situations. Topics include quadratic equations, complex numbers, matrices, logarithms, conic sections, right triangle trigonometry, probability, the theory of functions and graphing techniques.

**Prerequisites:** Algebra 1 (Honors or department exam). See Honors Prerequisites below.

**Geometry**
Geometric properties of plane and solid figures are the focus of this course. Algebra skills are reinforced in the context of problem-solving involving geometric concepts. A formal system of deductive proof is used to confirm student conjectures.

**Prerequisites:** Algebra 1 and 2

**Honors Geometry**
This course in plane and solid Euclidean geometry emphasizes logical reasoning. Non-Euclidean geometry is introduced as a contrast. Inductive and deductive proofs provide the basis for discovery of geometric properties and algebra skills are reinforced.

**Prerequisites:** Algebra 2 (Honors or department exam). See Honors Prerequisites below.

**Precalculus**
This course is an extended study of logarithms, conic sections, quadratic functions, complex numbers, trigonometry, the theory of functions and graphing techniques. The graphing calculator is used to encourage and support student conjectures about functions and their graphs.

**Prerequisites:** Algebra 2 and Geometry

**Honors Precalculus**
This course develops skills in problem-solving, while building a deeper understanding of algebraic concepts. The focus is on the properties of functions. Trigonometry is covered thoroughly in this course. Use of the graphing calculator and Desmos encourages an interactive instructional approach.

**Prerequisites:** Algebra 2 and Geometry (Honors or department exam). See Honors Prerequisites below.

**Prerequisites for all Honors courses:** Honors courses provide students an opportunity for more independent and deeper learning. An honors student should be able to demonstrate the capacity to generalize from specific examples to broad concepts, to learn through understanding rather than memorization, to separate the key ideas from the less significant. It is expected that students in honors will not be tutored outside of school in the course. Each student will be advised, after review from the department, as to which class would likely provide the best learning environment for her individually. To qualify for a move from standard to honors the following must occur: a year grade of an A, no less than a B+ on March exam for US (Final Exam for MS), teacher recommendation and a B or higher on the honors exam given in August.
MATH ELECTIVES

Advanced Topics Calculus
This course is a full year, covering differential and integral calculus. Topics include limits, continuity, derivatives, optimization, related rates, linearization, particle motion, integrals, area and volume, and differential equations. Examples from sciences, economics and the arts, among others, are used to clarify the concepts.

Prerequisites: Honors Precalculus (with a B for the year or better) or Precalculus (with an A or higher for the year, department recommendation and a B+ or better on the department exam).

Calculus – Derivatives (Fall)
This course introduces students to the theory of limits and derivatives. Motion equations, optimization and related rates will be included. The focus is on applications of the study of change in areas such as environmental science, physics, economics and medicine.

Prerequisites: Precalculus or Honors Precalculus.

Statistics 1 - Descriptive Statistics and Data Analysis (Fall)
This course begins with numeric and graphical methods for data summary and presentation, followed by exploratory data analysis using scatterplots, correlation and regression. The normal distribution (“bell curve”) is studied in detail. The second half begins with a qualitative study of issues in designing a statistically valid sample survey, with applications to market research and opinion polling. The course concludes with the principles of experimental design and their application to randomized, controlled, comparative studies such as clinical trials.

Prerequisites: Precalculus or Honors Precalculus; may be taken concurrently.

Advanced Topics: Linear Algebra - Matrices and Linear Transformations (Fall)
This course begins with vector algebra (including the dot product) and matrix multiplication. Systems of linear equations are solved by Gauss-Jordan elimination. Applications include computation of matrix inverses and matrix factorization. Vector spaces, subspaces, dimension, rank and nullspace of a matrix are studied in detail. The four subspaces associated with a matrix are summarized in the Fundamental Theorem. Applications include computer graphics, Fourier series, differential equations and Markov processes.

Prerequisites: Calculus or Advanced Topics Calculus; may be taken concurrently, with department permission.

Advanced Topics: Calculus 2 (Fall)
This is a third semester of Calculus, augmenting and expanding on topics from first-year calculus. Additional topics include parametric functions, polar curves, infinite series, Taylor series and further methods of integration and differential equations.

Prerequisites: Advanced Topics Calculus

Mathematics of Finance - Personal Finance and Economic Issues (Fall or Spring)
This course begins with an overview of individual and family budgeting and lifetime income/savings/expenditure scenarios. This includes the algebra of compound interest, including present value, effective rate of return and annuities.
Students will analyze amortizing loans (student loans, auto financing, mortgages) and the basis of securities investing: stocks, bonds, derivatives, risk vs. yield, portfolio diversification. The course concludes with an introduction to probability and mortality tables, leading to a discussion of the basics of life insurance and pensions.

**Prerequisites:** Precalculus or Honors Precalculus: may be taken concurrently.

**Calculus (Spring)**
This course introduces students to the theory of Riemann sums and integrals. Motion equations, area and volume and differential equations will be included. Applications to problems in economics, biology, physics, environmental science and medicine will be the focus.

**Prerequisites:** Calculus - Derivatives

**Advanced Topics: Statistics 2 - Probability and Inferential Statistics (Spring)**
The theory of probability is the mathematical foundation of statistical inference. Topics include algebra of probabilities, conditional probability, Bayes’ Theorem, random variables, expected value and standard deviation. Sampling distributions of means and proportions are derived. Topics in statistical inference include large sample confidence intervals for means and proportions and hypothesis tests, including calculation of p-values.

**Prerequisites:** Statistics 1

**Advanced Topics: Discrete Mathematics (Spring)**
Where Calculus courses deal with real numbers, continuous functions and infinitely large or infinitely small quantities, Discrete Mathematics deals with integers, step-by-step processes and finite structures. Functions are defined recursively, in terms of the previous value, as in the creation of a fractal. Matrix and polynomial algebra are used to determine patterns and the method of proof is called mathematical induction. Discrete Math has a large number of applications, especially to Computer Science but also to Engineering, Statistics and the Social Sciences. Topics include set theory, sigma notation, algorithms, recurrence relations, combinatorics, inclusion-exclusion and graph theory.

**Prerequisites:** Precalculus or Honors Precalculus, may be taken concurrently.

**Introduction to Multivariable Calculus (Spring)**
Multivariable calculus is differential, integral and vector calculus for functions of more than one variable. These mathematical tools and methods are used extensively in the physical sciences, engineering, economics and computer graphics. Topics include vectors and matrices, functions, partial derivatives, double and triple integrals, and vector calculus in 2 and 3 dimensions. The course begins with analytic geometry in 3 dimensions using vector methods. Parametric equations are used to represent first lines and planes, and then general curves and surfaces. Then the partial derivatives of a scalar-valued function are introduced, leading to the concept of the differential of a function and the gradient operator. Vector valued functions (vector fields) are introduced, leading to the divergence operator. Multiple integrals are defined and used to calculate volumes, surface areas and flux in 3 space. The course concludes with Gauss’ Theorem relating, for a vector field defined over a closed surface, the volume integral of the divergence to the surface integral of the normal component.

**Prerequisites:** Calculus 2
Science

Graduation Requirements: 3 credits
Required: Physics, Chemistry and Biology. Each passed full-year course receives 1 credit. Each passed semester course receives 0.5 credit.

Our purpose is to arouse curiosity, promote interest in and understanding of humans in their environment by experimentation, observation and guided reasoning from data and observations, reach conclusions and develop basic concepts about the natural world. Frequent laboratory work permits students to discover and appreciate relationships and principles used to describe the physical and biological world. General techniques for problem solving are stressed and students are urged to apply these skills and the information gathered in specific situations to the investigation of new problems within the broader scope of their world.
**Physics**

Physics is everywhere and a part of our daily life from the very small to the very large. This course uses an experimental approach and incorporates laboratory exercises with an emphasis on measurement, graphing and written laboratory reports to investigate the physical world. The areas of mechanics, electricity, light and waves and modern physics are studied by discussing the concepts and laws and solving numerical problems. Necessary and useful mathematical concepts are covered. Examples from everyday experiences are used to illustrate the principles of physics and as an aid to understanding.

**Honors Physics**

Physics is everywhere and explains everything we encounter in daily life from the microscopic to the macroscopic. Honors Physics investigates the physical world by studying mechanics, electricity, light and waves and modern physics. The laboratory emphasizes basic concepts and allows the student to discover these concepts for herself through experiments utilizing measurement, graphing and mathematical treatment of data and to explain these concepts in written laboratory reports. Laws and relationships are discussed and derived and numerical problems are solved as a means of cementing the understanding of these laws and relationships.

*Prerequisites:* See Honors Prerequisites below.

**Chemistry**

This course introduces the fundamental concepts of Chemistry by building off of the understanding of forces and energy developed during Physics. This course will explore the forces within and between atoms and these forces’ effects on properties, potential and thermal energy changes, structures and geometric shapes of molecules and several types of chemical reactions. Students will focus on developing a deep conceptual understanding and applying this understanding to solve quantitative problems. Laboratory experiences will be central in solidifying the concepts throughout the course.

**Honors Chemistry**

In addition to the topics covered in Chemistry, this rigorous course will delve into more complex topics, higher-level quantitative problems and more in-depth laboratory experiences in each unit of the curriculum.

*Prerequisites:* Students must have completed a year-long, laboratory-based high school level class in Physics. See Honors Prerequisites below for more information.

**Biology**

Biology involves a study of the unifying characteristics of the living condition as well as the evolution of life processes and the diversity of organisms on earth. Course work explores the structure and function of cells and organisms, mechanisms for securing energy for life, the structure and function of DNA, genetic control of life processes, inheritance and the development of diversity among living things. There is emphasis on laboratory exploration of concepts in which students gain experience in laboratory techniques, the use of models and the collection, presentation and evaluation of data. The use of techniques of biotechnology is introduced; functional vertebrate anatomy is explored by dissection of the fetal pig. Bioethical issues are discussed as are issues of the impact of human activity on the environment.

*Prerequisites:* Students must have completed a year-long, laboratory-based high school level class in Physics and in Chemistry.
Honors Biology
Honors Biology explores the topics studied in Biology in more depth. The molecular basis of biological structure and activity is the unifying theme of the course and draws heavily upon a background in Chemistry. Considerable time is devoted to a study of chemical energy for life and the molecular model of DNA structure and function in protein synthesis and genetics. Questions of the origin of life on earth and the evolution of biochemical processes are discussed. 

Prerequisites: Students must have completed a year-long, laboratory-based high school level class in Physics and in Chemistry. See below for more Honors prerequisites.

Prerequisites for all Honors courses: Honors courses provides an opportunity for more independent learning with the added challenge of reduced supports. A student may choose to take Honors based on her depth of understanding of the concepts and her level of success in working independently. It is expected that students in honors will not be tutored outside of school in the course, and they will be stretched to expand their understanding outside of the class independently. Each student will be advised as to which class would likely provide the best learning environment for her individually. Any student earning a B+ or lower in their current science class will be recommended for the standard course. Students choosing Honors despite a recommendation of the standard course must meet with the department chair to discuss this choice.

SCIENCE ELECTIVES

Advanced Topics: Physics
Isaac Newton developed mechanics, which is the study of motion and the very foundation of physics. This full-year, calculus-based course builds on key concepts of mechanics first explored in the 9 Physics and 9 Honors Physics courses. Topics covered in the fall emphasize Newton's laws of motion and include: limits, derivatives and integrals; 1-D and 2-D motion with constant or variable acceleration, including projectile motion; static and dynamic equilibrium; and friction. In the spring, topics include: work, potential and kinetic energy and power; linear momentum; oscillation and simple harmonic motion, including springs and pendulums; and Newton's law of gravity. We will explore these topics and develop understanding through lecture, problem solving and laboratory exercises. 

Prerequisites: Concurrent or prior enrollment in Calculus is required. Students must have earned an A in Physics and no less than an A- on both exams, or an A- in Honors Physics and no less than a B+ on both exams; have a responsible work ethic, and receive permission from the Science Department. Any junior interested in taking Advanced Topics Physics must earn an A for the year and no less than an A- on the comprehensive exam in Honors Physics, as well as receive permission from the Advanced Topics Physics teacher. Students who had standard Physics are eligible to take AT as a senior.
Advanced Topics: Chemistry
Advanced Topics in Chemistry is a demanding, year-long course designed to provide students a rigorous understanding of general chemistry and to prepare them for success in future college science courses. The topics and depth of material is comparable to a college freshman chemistry course and is designed primarily for students who intend to major in science or engineering in college and/or who have a sincere interest in understanding chemical principles in greater detail. The first semester will cover topics in physical chemistry dealing with electrochemistry, thermodynamics, kinetics, equilibrium and acids and bases and will rely heavily on quantitative problem solving. The second semester will cover topics in analytical chemistry dealing with atomic structure, bonding, intermolecular forces and gases. A number of labs will be performed that reinforce the topics learned in the lecture and discussion.

Prerequisites: Students must have earned an A in Chemistry and no less than an A- on the comprehensive exam or an A- in Honors Chemistry and no less than a B+ on the comprehensive exam, have a responsible work ethic and receive permission from the Advanced Chemistry Teacher. Any junior interested in taking Advanced Chemistry must earn an A for the year and no less than an A- on the comprehensive exam in Honors Chemistry as well as receive permission from the Advanced Chemistry Teacher. Students in standard Chemistry are not eligible to take Advanced Chemistry as a junior.

Advanced Topics: Molecular Biology - Signal Transduction Pathways, Gene Regulation and Viral Evolution (Fall)
This is a rigorous college-level course that will be offered only in the Fall semester. The course will review the structure and function of biological membranes and then expand the discussion into the importance of these membranes in the reception of external signal molecules. The study of various signal transduction pathways will form a basis for the exploration of genetic regulation such as how genes control patterns of cell differentiation and communication among cells. Principles of evolution will be an underlying theme across all units culminating with an in-depth look at evolutionary principles through viral population dynamics and virulence thresholds. This course requires substantial out-of-class work including a summer reading and essay assignment.

Prerequisites: Physics, Chemistry and Biology. Admission to this course requires that students are academically independent with a strong foundation in Biology. Furthermore, students must demonstrate a dedication to the study of Biology supported by a responsible work ethic and receive the permission of the Science department after consultation with the teacher of the Grade 11 Biology course.

Advanced Topics: Cell Biology, Immunology and Neuroscience (Spring)
This is a rigorous college-level course that will be offered only in the Spring semester. We will cover cell biology in the context of evolution, cell migration, embryogenesis and organogenesis and then expand these concepts into the fields of neuroscience and immunology. This course employs a thematic approach to the study of the relationship between the anatomy and physiology of the human organ systems. For example, the theme of selective pressure will include the molecular arms race between pathogens and the immune system. We will discuss advanced topics and research into the endocrine, immune and nervous systems including aberrant organogenesis and optogenetics as a tool for manipulation of neural networks. This course requires substantial out-of-class work including a summer reading and essay assignment. The year-end grade is the average of the two semesters, for students taking both semesters.

Prerequisites: Physics, Chemistry, Biology and AT Molecular Biology. See Advanced Topics Molecular Biology above.
Environmental Science – Natural Resources, Consumption and the Environment (Year-long course)

The root of many global environmental problems is the accelerating human consumption of natural resources. Modern patterns of consumption stress the availability of limited natural resources and threaten the health of current supplies. This course aims to explore the planet’s health through a detailed examination of its resources and how they are consumed through the following topics: commons and regulation, energy, atmosphere and pollution, population dynamics and our modern system of agriculture. In each unit students will be required to explore various texts (articles, podcasts, documentaries, etc.) in order to stimulate engaging class discussion. The students will assess their own lives in comparison to global and national norms, learning how to lessen their ecological footprint and make more sustainable decisions for the future. Grades will be based on traditional assessments as well as on projects and seminar-style discussions.

Prerequisites: Physics, Chemistry and Biology

Astronomy (Year-long course)

The last 50 years have revolutionized our perspective of Earth’s place in the cosmos. All the known planets in our own solar system have been visited by spacecraft, and only recently, we’ve discovered thousands of planets orbiting other stars. In the fall, Astronomy will concentrate on planets and the possibility of life (especially intelligent life) elsewhere in the universe. Invited Baldwin faculty speakers will offer us their perspectives on the biology of extraterrestrial life, the consequences of contacting new civilizations and how we might communicate with very different kinds of creatures. In the spring, we will concentrate on Earth’s place in the universe. How does our own star, the Sun, compare with other stars? Are other galaxies like our own Milky Way? How did the universe begin, and how will it end? This course extends the physics of light and gravity from 9th grade Physics or Honors Physics at the Algebra 2 level of math.

Prerequisites: Prior or concurrent enrollment in Biology or Honors Biology and a grade of C+ or better in Physics or Honors Physics.
**Fine Arts:** Visual and Performing Arts

**Graduation Requirement:** 2 credits
The graduation requirement in Fine Arts may be fulfilled by successful completion of two credits of courses in Visual Arts, Theater or Music or any combination thereof.

**VISUAL ARTS**
Courses receive credit based on whether they are a semester (0.5) or year-long (1.0) class. Students are advised to start their study of Art in Grade 9.

Meaningful engagement with art encourages imagination and observation, creativity, the cross-pollination of ideas and the consideration of multiple perspectives that can lead to an increased capacity for empathy. Students experience art in multiple forms throughout their foundational experience.

All courses in the Art Department strive to develop in each student an awareness of her ability to think, feel and learn through her visual and imaginative powers. Each studio course has its own method of teaching aspects of problem solving through design, sequential elements of a project and the practice of skills. Critical and aesthetic judgements become part of the analytic and synthetic process. These courses are not just for the especially talented; the Art Department encourages all students to find their own learning potential and to recognize the value of the eye and the imagination as learning tools. Throughout the year, students have the opportunity to show their work both within and outside the school environment, and all students participate in the Art Exhibition held at the end of the school year in the art gallery.

**Art 1: Foundations**
Art I is a foundation-level class dedicated to experiencing the design elements of line, shape, value/color and texture through the mediums of drawing/painting, clay, sculpture, computer graphics and metalsmithing. The student-artist is part of the team working to discover her particular set of interests. After this foundation-level experience, the student-artist is able to concentrate in one studio, create an independent fusion between two or more studios or move onto the study of digital photography or graphic arts.

**Note:** This is a full-year, one credit class.
Fine Arts: Visual and Performing Arts

Art History 1: The Roots of Visual Experience (Fall)
This course explores architecture, sculpture, pictorial expression and decorative and functional arts from the Paleolithic through the Gothic eras. Students consider the art through the lens of several perennial issues in human history: sacred/private/public space, rites and rituals, power and authority, the body, nature and family relationships, among others. Students juxtapose those issues with contemporary visual culture, 20th- and 21st-century art, our daily lives and art from outside the Western Canon. The class involves student discussion, readings, slide quizzes, exploratory learning and essay writing. No previous studio experience is necessary; art and design elements and principles will be explored, analyzed and applied in context to specific works of art.

Note: This is a semester-long class (0.5 credit) open to Grades 10, 11, 12.

Art History 2: The Modern World in the Making (Spring)
This course studies architecture, painting, sculpture and the graphic arts from the European Renaissance through Post-Modernism. Major themes include the rise of the artist as an individual maker, patronage, the role of women in art and society, the evolution of technologies, public/private/sacred space and the increasing interaction between cultures. Frequent juxtapositions with contemporary visual culture and contemporary world art will augment the students’ study. Discussions, exploratory learning projects, readings, slide quizzes and essay writing will demonstrate student learning.

Prerequisites: This can be taken with no prerequisite but Art History 1 is strongly recommended.
Open to Grades 10, 11, 12.

Drawing & Painting 2
This course introduces the time-honored use of oil paint and advances the study of observation to more complex still lifes, interiors, landscapes and figure/portrait work. Occasional forays into working abstractly or from imagination enhances the power of observation and is encouraged. Pastel, charcoal, collage and printmaking are also options for individual student expression and exploration.

Prerequisites: Art 1 or permission from the Chair of the Art Department. This course may be taken for a semester (0.5 credit) or the full year (1 credit).

Drawing & Painting 3/4
This course is based on the premise that the student now sets the parameters and content of her studio experience. She learns to recognize problems, invent solutions and increases her awareness of artistic precedents. Most importantly, she has the opportunity to create her own path by designing and developing her individual course of study.

Prerequisites: Art 1, Drawing & Painting 2 or permission from the Chair of the Art Department. This course may be taken for a semester (0.5 credit) or the full year (1 credit).

Sculpture & Three-Dimensional Design 2-4
These courses investigate contemporary sculptural issues through individual projects based on given assignments. Projects explore construction techniques and tools, using increasingly advanced methods and concepts. Students pursue individually set goals and select the material and type of artistic expression that best suits the creative experience.

Prerequisites: Art 1 or permission of Chair of the Art Department. This course may be taken for a semester (0.5 credit) or the full year (1 credit).
Ceramics 2-4
Ceramics classes include all levels and combine Grades 9-12. Beginning students learn the basic techniques traditionally used to create pottery: pinching, slab construction, coil building and the potter’s wheel. Students learn glazing methods with each work. More advanced students are assigned a problem or an idea that they then solve in any way they choose, using the technique they feel is best suited to the idea and the creative solution. Students have the freedom to work at their own pace. **Note:** This course may be taken for a semester (0.5 credit) or the full year (1 credit).

Jewelry 2
Students learn the foundational skills for making individually-designed pieces of jewelry. Skills are taught in a logical sequence allowing each student to complete pieces of quality craftsmanship while gaining independence and confidence in the studio. The basics of metalsmithing (cutting metal with a saw and soldering with a heat torch) are emphasized. After mastering the basics, students go on to more complex, personalized work with different metals and materials. **Prerequisites:** Art 1 or permission of Chair of the Art Department. This course may be taken for a semester (0.5 credit) or the full year (1 credit).

Jewelry 3-4
These advanced jewelry classes build directly on the skills learned in Jewelry 2 while exploring new techniques, materials, designing formats and conceptually based pieces. This project-based curriculum includes designing and making conventional jewelry along with sculptural works of art. As more skills are mastered and independence grows, curiosity, risk taking and invention are especially encouraged. **Prerequisites:** Art 1 or permission of Chair of the Art Department. This course may be taken for a semester (0.5 credit) or the full year (1 credit).

Graphic Design
Graphic design is a creative process that combines art and technology to communicate ideas. Students will work with drawn, painted, photographed and computer-generated images. Students are taught the technical skills necessary to work in the applications Adobe Illustrator and Adobe Photoshop. This class will focus on the similarities between art and graphic design, and reinforces the common foundation of technique, materials and craft. In higher levels of Graphic Design, students will address communication problems and work to interpret ideas by representing them with images and words. Students will create logos, signage, symbols, advertising design and packaging design. **Prerequisites:** Art 1 or permission of Chair of the Art Department. This course may be taken for a semester (0.5 credit) or the full year (1 credit).

PERFORMING ARTS
Courses receive credit based on whether they are a semester (0.5) or year-long (1.0) class. Students are advised to start their study of Theater or Music in Grade 9.

The Performing Arts Department allows students to explore creative expression through music and theater. Students may choose to participate in a vocal group, a musical ensemble or concentrated drama study. Through participation in these collaborative groups, students learn the importance of practice and working together. Whether taking center stage, working behind the scenes or coordinating with an ensemble, students in the performing arts build confidence.
THEATER

A well-rounded theater education prepares students to be strong communicators, collaborative out-of-the-box thinkers and creative team players. Students engaged in the dramatic process mature in their use of body, voice, on-the-spot thinking, while developing control of emotions and expression. They gain self-awareness, develop self-esteem and grow in their ability to communicate effectively. Various drama classes are offered each semester.

Introduction to Theater

Different material is shared in each semester, so it is recommended that this course be taken for the full year. Intro provides an overall exploration of basic theater concepts with experiences on both sides of the stage (acting/directing/tech). A strong basis in script analysis is emphasized for those interested in being actors, directors, designers, dramaturgs, stage managers and/or theater critics. Students are required to see a live stage performance each semester outside of class and are encouraged to participate in after-school theater productions. It is recommended that all students take Intro before moving onto advanced classes in the department as it establishes a vocabulary and technique that may be expected in future coursework.

Actor’s Workshop (Fall and/or Spring)

An acting and improvisation class that allows students to explore different performance material and styles each semester and may be repeated multiple times. Focus varies each quarter based on student experience with a goal toward advancement in technique and skill building. Topics may include on-camera acting, theatrical styles, creating character, applying makeup, musical theater, etc. May also be taken as an independent study with sufficient advanced classes completed if a student is interested in creating a one-woman or small cast show, or developing an actor’s toolkit of monologues and songs for audition. Students may expect to leave each acting workshop with at least one new monologue or song to add to their audition toolkit.

Prerequisites: Intro to Theater or instructor permission. This course may be taken for a semester (0.5 credit) or the full year (1 credit).

Director’s Workshop (Fall and/or Spring)

A directing class that allows students to explore different performance material and styles each semester and may be repeated multiple times. Depending on level of experience, Director’s Workshop may culminate in directed scene performances, or in completed fully staged productions. May also be taken as an independent study with sufficient advanced classes completed and permission of instructor.

Prerequisites: Intro to Theater or instructor permission. This course may be taken for a semester (0.5 credit) or the full year (1 credit).

Playwright’s Workshop (Fall and/or Spring)

A playwright studies class that allows students to create, write and workshop their plays. Culminates in completed play and staged reading of works created in the class. Students are expected to do some out-of-school laboratory time while working on their final presentation project. May also be taken as an independent study with sufficient advanced classes completed or previous plays produced.

Prerequisites: Intro to Theater or instructor permission. This course may be taken for a semester (0.5 credit) or the full year (1 credit).
### Stagecraft, Management and Design Workshop

A repeatable stagecraft class that will focus primarily on creating the designs and sets for the department’s three shows while also doing an independent project notebook that can be used for college application. Since each class focuses on a different stage production (or productions) from the Maskers season, this class will change each semester based on Middle School production needs. Students are expected to do some out-of-school laboratory time while working on the season productions. May also be taken as an independent study for designers with significant experience.

**Prerequisite:** *Intro to Theater strongly encouraged, but not required. This course may be taken for a semester (0.5 credit) or the full year (1 credit).*

There are also at least two Upper School Drama productions each year where students may participate by audition or application. One is usually a drama or comedy without music and the other is usually a musical. In addition, small independent projects produced by the Maskers are frequently presented. The production season is part of the Maskers Club program and participants are encouraged to join the Maskers Club.

### MUSIC

#### Music Theory and Arranging (Fall and/or Spring)

This course will explore formal compositional techniques developed by the masters of Western Music, as well as fundamentals in jazz and pop arranging. The course will cover rhythmic, melodic and harmonic notation, key signatures, scales, modulations, chord structure, voice leading, form and style. This is a project-based course, including two large projects, one in composition and one in arranging. This course is open to all interested students and meets every other day.

**Prerequisite:** *Students should be able to read music in at least one clef. This course may be taken for a semester (0.5 credit) or the full year (1 credit).*

#### The History of Popular Music (Fall or Spring)

In this course, students will explore the development of American popular music starting in the early 20th century as it relates to aesthetic norms, societal perception, political influence and cultural significance. Content begins with fundamental listening skills and progresses by genre through traditional folk, the folk revival, blues, country, Motown, soul, British invasion, '60s music festivals and more. Students will read articles, write reflective journal entries, explore the development of music through various media and have listening and written assessments. Students will learn how to recognize components of each genre, categorize musical styles and analyze cultural innovation, while also having the opportunity to share their own musical tastes.

**Note:** *This course is open to all interested students and meets every other day for either the fall or spring semester (0.5 credit).*

#### Jazz Band (0.5 credit)

Jazz Band is open to instrumental students who have played their instrument for at least two years and are interested in exploring and playing different styles of jazz and pop. Fundamentals of jazz theory, sight-reading, improvisation and confident solo expression are stressed. This group rehearses every Wednesday from 6 - 7:15 p.m. and performs in two required concerts per year. Members must continue to take private instrumental lessons.

**Prerequisite:** *Students must meet and have an informal hearing with the Jazz Band director before participating.*
The Baldwin B-Flats (1 credit)
The Baldwin B-Flats are a select vocal ensemble of 18-20 singers. Singers audition for this group and are selected for their ability to sight-sing, demonstrate healthy and confident vocal technique, sing expressively and hold a close harmony part independently. The audition for B-Flat membership occurs in late April/early May of each school year. The ensemble rehearses during the Music Block in addition to a required rehearsal every Monday evening from 6 - 8 p.m. There are approximately 8-10 required performances a year. **Prerequisite:** All B-Flat candidates must be a reliable member of the Baldwin Chorus for one year before the auditions in April/May. Accepted singers must commit to continuing as a member of the Baldwin Chorus in addition to being in the B-Flats.

The Baldwin Chorus (0.5 credit)
The Baldwin Chorus provides a large choral experience for any interested singer, regardless of their past experience. Basic sight-reading, vocal technique and diction in several languages will be introduced. All types of great choral repertoire, both sacred and secular, will be performed during the three required concerts, including collaborative performances with other schools. The Chorus rehearses during the Music Block.

The Eliza-B-thans (0.5 credit)
The Eliza-B-thans are a select vocal ensemble of 10-20 singers who are serious about learning to sing in harmony to a variety of musical literature, although they perform mostly popular music. This group meets during the second portion of the Music Block. Three to four performances will be required during the school year. No audition is necessary and the students do not need to be in the Chorus to be a member.

The Baldwin Bronze (0.5 credit)
The Baldwin Bronze is one of two Upper School handbell choirs, each comprised of 13 ringers selected through audition. The group meets during the first half of the Music Block and participates in four to five required performances each year. Students in this ensemble master more advanced ringing techniques, develop exceptional rhythmic precision and learn to ring musically through careful observance of tempo, dynamics and articulation. **Prerequisite:** Must have experience performing in a handbell choir and demonstrate very good rhythmic accuracy.

The Baldwin Belles (0.5 credit)
The Baldwin Belles is one of two Upper School handbell choirs, each comprised of 13 ringers selected through audition. The group meets during the second half of Music Block and participates in four to five required performances each year. Students in this ensemble master more advanced ringing techniques, develop exceptional rhythmic precision and learn to ring musically through careful observance of tempo, dynamics and articulation. **Prerequisite:** Must have experience performing in a handbell choir and demonstrate very good rhythmic accuracy.

Ensemble (0.5 credit)
The Upper School Ensemble is an instrumental ensemble. Students prepare a variety of pieces from different musical genres. It is expected that girls playing in this ensemble will have played their instruments for at least four years; outside practice and participation in all scheduled performances are expected and required. This ensemble meets during the second half of the Music Block.
Graduation Requirements: Non-credit.
Participation in either a Physical Education class or a team sport is required each season for four years.

The goal of Baldwin Athletics is to provide a safe and fun environment that supports each student-athlete and team as they strive for excellence, on and off the playing field. Through our physical education and athletics programs, we teach our students important lessons of health and balance that they will carry throughout their lives.

Interscholastic Athletics
The Interscholastic athletic program is an integral component of the student-athlete’s overall experience at Baldwin. The opportunities for personal growth and achievement are abundant in the athletic arena. The goal of the athletic department is to not only provide a wide variety of athletic experiences, but to help each student and each team to have opportunities to reach a high level of success defined by progress and winning.
Membership on an athletic team is a privilege; high standards are set for the Baldwin athlete. Through athletics at Baldwin, student-athletes will be given the opportunities to develop their self-management and leadership skills, self-esteem, cooperation and teamwork, personal values, coping skills, sportsmanship and physical fitness while being instructed and motivated to strive for excellence in sport.

Baldwin athletes are expected to commit to the full athletic season including practice during the holidays and weekends. Practices are after school and typically run for two hours. The practice and game schedule can vary depending on the sport. Upper School students who compete on a Junior Varsity or Varsity athletic team are exempt from physical education classes for that season.

The Upper School competes in the Inter-Ac League. The Inter-Ac League consists of the following schools: Agnes Irwin, Episcopal Academy, Germantown Academy, Academy of Notre Dame, Penn Charter, Springside Chestnut Hill Academy, The Haverford School and Malvern Preparatory School. In addition, Baldwin is a member PAISAA (Pennsylvania Association of Independent Schools Athletic Association) which qualifies teams to compete for state honors. Baldwin teams also compete with other schools, including Friends Schools and parochial and independent schools at both junior varsity and varsity levels. Local public schools are often found on our schedule varying from sport to sport. The full details of philosophy, eligibility and expectations for student athletes and parents can be found on the athletic website and in the parent athlete handbook.

**Athletic Offerings by Season**

The Baldwin School strives to have as many students as possible involved in athletics. Every effort will be made to keep athletic opportunities the same each year, but it may be necessary to re-evaluate athletic teams and modify them in consideration of student interest, available coaches, available competition, budgetary allocations, etc. Some teams may accept only limited participants because of limited facilities, staffing or nature of the sport. With these factors in mind, we offer the following athletic opportunities:

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<thead>
<tr>
<th>FALL</th>
<th>WINTER</th>
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<tr>
<td>V/JV Cross Country</td>
<td>V/JV Basketball</td>
<td>V/JV Novice Crew</td>
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<td>JV Field Hockey</td>
<td>V Dance</td>
<td>V Golf</td>
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<td>V/JV Soccer</td>
<td>V Indoor Track</td>
<td>V/JV Lacrosse</td>
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<td>V/JV Tennis</td>
<td>V/JV Squash</td>
<td>V/JV Softball</td>
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<td>V/JV Volleyball</td>
<td>V Swimming &amp; Diving</td>
<td>V Track &amp; Field</td>
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<td>BRC*</td>
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*BRC is the Baldwin Running Club, a hybrid between Athletics and PE.*
Physical Education
The Physical Education curriculum is multi-faceted and combines both personal fitness training and activity-based sports and games. Each student will be provided with a comprehensive personal fitness program that she will perform each class period. She will then decide to either continue with a fitness class or elect to participate in the daily activity or sport offered. In addition, she will be assessed in four areas of fitness through the FITNESSGRAM. This is a comprehensive health-related fitness assessment tool.

Physical Education activities/sports by season:

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<tr>
<td>Archery, Learn to Swim/fitness swim, recreation sports (croquet, bocce), court sports (badminton, squash, tennis), strength &amp; conditioning class</td>
<td>Court sports (badminton, squash), indoor soccer, team handball, volleyball, recreation sports (bowling, curling, shuffleboard), strength &amp; conditioning class</td>
<td>Archery, Learn to Swim/fitness swim, court sports (badminton, squash, tennis), recreation sports (croquet, bocce), strength &amp; conditioning class</td>
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Independent Physical Education
A student may apply for I.P.E. if she meets three out of the five criteria listed below. She will NOT be eligible for I.P.E. during the season that Baldwin offers the same sport.

1. Achieved a current high level ranking for your sport. Appropriate ranking will be approved by Baldwin coaching staff.
2. Participation on an Upper School Varsity (letter winner) Baldwin team or A level Middle School team for the sport that you are applying.
3. Participation in a sport that Baldwin does NOT offer.
4. Practice & competition time with your sport for a minimum of 10 hours per week.
5. Participate in competitions during the season that you are applying for an I.P.E.