Blake Upper School Course Catalog

2017-2018

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THE BLAKE SCHOOL (Grades 9-12)

Joseph Ruggiero, Ph.D, Director of Upper School

Upper School Philosophy Statement

The Blake Upper School believes in giving students a wide variety of academic, artistic, and athletic opportunities in order to develop their skills, expose them to new ideas, and foster their individual interests and collaborative capabilities. We believe in nurturing independent, self motivated, and self reliant individuals who assume greater and greater responsibility for their own learning, take on active and meaningful leadership roles, and become increasingly aware of, and sensitive to, their interdependent roles in our community and the world. As the curriculum progresses, classes become increasingly student centered and students will be given a considerable amount of freedom, even at the risk of temporary failure. Towards this end, we encourage all members of the community to engage in a creative and on-going process of self-inquiry. Above all, we believe in promoting the Blake School's four core values of respect, love of learning, integrity, and courage.

Graduation Requirements:

Twenty-two (22) credits are required for graduation.
One credit equals one full year course or the equivalent.
The standard course load is five or six classes each semester.

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ARTS

DEPARTMENTAL REQUIREMENT:
Minimum of four semesters during grades 9-12

MUSIC

Music Technology: Composition & Production
Open to sophomores, juniors, and seniors First Semester Course

Do you like to manipulate people? Make them feel or do something they don't expect? Film and advertising composers do it all the time - and make money doing it! This course will focus on the fundamentals of music composition and the electronic manipulation of musical sound through the use of MIDI (Musical Instrument Digital Interface) sequencing, notation and production software. Assignments will focus on technological tools to aid and enhance creativity and music composition. Culmination of the class may be a public performance of student work. Prior basic music reading skills are helpful, but not necessary.

Band
Year Course

Band is open to all students in grades 9-12 who have previous instrumental music experience. Emphasis in this course is placed on the continuing development of instrumental technical facility, the study of a broad musical repertoire in terms of structure, musical elements, historical and cultural background and terminology; and the development of an aesthetic approach to music through performance and listening. Performances include at least two concerts per year, spring band tour, solo and ensemble contest and other performance opportunities. *This course may be repeated for credit. Note: Seniors planning Senior Programs must continue in this course for both 3rd and 4th quarters and perform in the Spring Concert.*

Advanced Band Year Course (no exceptions)
Prerequisite: *Audition; open to juniors and seniors*

Students enrolling in Advanced Band are part of "**Band"** and will have all of the standard expectations and requirements PLUS elevated requirements and expectations that will enhance their musicianship and leadership skills. Students with the Advanced Band designation will be required to: Prepare a solo for Region/State Solo & Ensemble Contest; research and prepare program notes for concert repertoire; meet with instructor outside of class once every other week; and take on leadership responsibilities within the ensemble leading sectionals, doing concert and tour organization, etc. *This course may be repeated for credit.*

Chamber Orchestra Year Course

Chamber Orchestra is open to students in grades 9-12 who have previous experience with violin, viola, cello, or double bass. Emphasis in this course is placed on the continuing development of individual technical facility, the study of a broad musical repertoire in terms of structure, musical elements, historical and cultural background and terminology; and the development of an aesthetic approach to music through performance and listening. Performances include at least two concerts per year, spring concert tour, solo and ensemble contest and other performance opportunities. *This course may be repeated for credit. Note: Seniors planning Senior Programs must continue in this course for both 3rd and 4th quarters and perform in the Spring Concert.*

Advanced Chamber Orchestra Year Course (no exceptions)

Prerequisite: *Audition; open to juniors and seniors*
Students enrolling in Advanced Chamber Orchestra are part of "**Chamber Orchestra"** and will have all of the standard expectations and requirements PLUS elevated requirements and expectations that will enhance their musicianship and leadership skills. Students with the Advanced Chamber Orchestra designation will be required to: Prepare a solo for Region/State Solo & Ensemble Contest; research and prepare program notes for concert repertoire; meet with instructor outside of class once every other week; and take on leadership responsibilities within the ensemble leading sectionals, doing concert and tour organization, etc. *This course may be repeated for credit.*

Cantemus (Soprano/Alto) Year or Single Semester Course

Singing is an innate human activity, shared by people across the world since the beginning of time. This class can transport you from the tedium of the daily grind to a world of creative, expressive, and collaborative exploration. Bring the voice you have and learn to maximize its beauty and versatility by using it more efficiently and effectively. You will build your musicianship – including vocal technique and music literacy – and prepare varied repertoire from around the globe. Breathe. Sing. Move. Connect, Share, Reflect, Repeat. Cantemus choir is open to all Soprano and Alto students, grades 9-12, and is designed for singers of all skill and experience. No audition is required. Cantemus performs in one major concert each semester. Students may register for either one or both semesters. *This course may be repeated for credit.*

Vocare (Tenor/Bass/Changing Voice)
Year or Single Semester Course

Singing is an innate human activity, shared by people across the world since the beginning of time. This class can transport you from the tedium of the daily grind to a world of creative, expressive, and collaborative exploration. Bring the voice you have and learn to maximize its beauty and versatility by using it more efficiently and effectively. You will build your musicianship – including vocal technique and music literacy – and prepare varied repertoire from around the globe. Breathe. Sing. Move. Connect, Share, Reflect, Repeat. Vocare is open to all Tenor, Bass, and early cambiata (changing) voices, grades 9-12, and is designed for students of all skill and experience. No audition is required. Vocare performs in one major concert each semester. Students may register for either one or both semesters. *This course may be repeated for credit.*

A Cappella Choir Year Course (no exceptions)
Prerequisite: *Audition*

This select, mixed-gender choir is comprised primarily of 10–12 graders, although ninth graders may audition. The course emphasizes further development of already established individual vocal technique and music literacy. This group performs challenging, mixed a cappella literature from a wide variety of styles and eras. Performances include two major concerts per year and spring choir tour, as well as other performing opportunities that may arise. *This course may be repeated for credit. Note: Seniors planning Senior Programs must continue in this course for both 3rd and 4th quarters and perform in the Spring Concert.*

Student Led Ensembles (co-crricular)

Blakers' Dozen No Credit
Blakers in Treble No Credit

These choirs represent select groups of 10^{th}-12^{th} grade students who perform a variety of styles of *a cappella* choral literature, including lighter, popular music. Groups rehearse twice a week before school from on Tuesday and Thursday mornings. Performances include two concerts per year, spring choir tour, and other off-campus events. Each group is student-led under the artistic direction of the choral music teacher. Auditions are required and are held in early fall. *All members must also be enrolled in a choral music class in order to participate in this group.*

Ursa Major Chamber Ensemble No Credit

Ursa Major is a select group of motivated instrumental musicians who want to develop their chamber ensemble performance skills. They perform a variety of traditional classical and non-traditional instrumental music based on each year's instrumentation. Rehearsals are outside the school day (before school) and performances each year include two major concerts, Solo & Ensemble Contest, spring band & orchestra tour, and off-campus community events. This is a student-led ensemble under artistic direction of the instrumental music teacher. *Membership is by audition only and is limited to students enrolled in Band or Orchestra.*

Jazz Express No Credit

Jazz Express is a select combination of motivated student musicians who work to develop their jazz performance skills and improvisation. Emphasis is on performance as this group performs often for events in the community at large as well as in school. *Membership is by audition only and is limited to students enrolled in Band or Orchestra.*

SPEECH & DEBATE

Argumentation/Debate First Semester Course

This course is an introduction to the development and application of argument in debate situations. The course will concentrate on the development of speaking, listening, research, and critical thinking skills. Class requirements include participation in three Saturday competitive debate tournaments in the Twin Cities area on weekends.

Advanced Debate: .International Affairs Year Course
2 classes/week; 0.5 credit

Prerequisite: *Argumentation/Debate and instructor approval*
This course will be offered every third year. It will be offered during the 2020-2021 academic year.

This advanced course in argumentation and public speaking utilizes the competitive format of policy debate. The course includes speech writing, research, speaking, and critical thinking skill development. The course examines current issues in international affairs, including foreign affairs and relations, military capabilities of nations, international organizations, and how the United States best operates in an increasingly multi-polar world. Understanding methods of foreign policy analysis are covered within the content of the class. Class requirements include four competitive debate tournaments in the fall with other schools in the Twin Cities on weekends.

Advanced Debate: Pursuing Social Justice Year Course
2 classes/week; 0.5 credit

Prerequisite: *Argumentation/Debate and instructor approval*
This course will be offered every third year. It will be offered during the 2017-2018 academic year.

This advanced course in argumentation and public speaking utilizes the competitive format of policy debate. The course includes speech writing, research, speaking, and critical thinking skill development. The course examines current issues in social justice. The class will particularly focus on issues of race, class and gender and how argumentation can impact those issues in both a positive and negative manner. Class requirements include four competitive debate tournaments in the fall with other schools in the Twin Cities on weekends.

Advanced Debate: Contemporary Society Year Course
2 classes/week; 0.5 credit

Prerequisite: *Argumentation/Debate and instructor approval*
This course will be offered every third year. It will be offered during the 2018-2019 academic year.

This advanced course in argumentation and public speaking utilizes the competitive format of policy debate. The course includes speech writing, research, speaking, and critical thinking skill development. The course examines current issues in contemporary society and uses a variety of philosophical and public policy methods to analyze contemporary debates in our society. Topics will be generated from the current competitive debate topics released by the National Speech and Debate Association. Class requirements include four competitive debate tournaments in the fall with other schools in the Twin Cities on weekends.

Advanced Debate: United States Domestic Political Issues
Year Course
2 classes/week; 0.5 credit

Prerequisite: *Argumentation/Debate and instructor approval*
This course will be offered every third year. It will be offered during the 2019-2020 academic year.

This advanced course in argumentation and public speaking utilizes the competitive format of policy debate. The course includes speech writing, research, speaking, and critical thinking skill development. The course examines current issues in United States domestic affairs, including economics, race and class, party political processes, federalism and checks and balances in the United States system of government. Understanding methods of public policy analysis are covered within the content of the class. Class requirements include competitive debates in class. Class requirements include four competitive debate tournaments in the fall with other schools in the Twin Cities on weekends.

THEATRE

Improvisation and Acting First or Second Semester Course

Perfect for actors of all skill levels, this Improvisation and Acting course is ideal for students looking to improve their confidence and open up their creativity. Using the guiding principles of improvisation and a variety of improvisation activities, students learn the importance of quick thinking, free-flowing imagination, and collaboration within an ensemble. Students will continue to develop these skills through a combination of vocal and movement-based exercises that are then implemented into contemporary scene studies. Participants will develop a final public performance to showcase the techniques and skills they have learned throughout the course. *This course may be repeated for credit.*

Advanced Theatre Production First Semester Course
Prerequisite: *Acting or Acting and Improvisation*
This course will be offered every other year. It will be offered during the 2017-2018 academic year.

Advanced Theatre Production is a multifaceted, collaborative course that enables students to gain a broader understanding of the many creative art forms required to see a play into full production. Including units focused on set design, costume design and directing, this course also features a variety of local theatre professionals as guest lecturers. Utilizing the skills gained in the first part of the semester, the entire class works collaboratively to produce a one-act play in which students act, direct, and are responsible for the technical elements of the production. The culminating performance of this production is open to the public. *This course may be repeated for credit.*

Musical Theatre Second Semester Course
This course will be offered every other year. It will be offered during the 2017–2018 academic year.

Co-taught by theatre and choral music faculty, this course provides students with the opportunity to strengthen their skills and confidence in the combined fields of acting and vocal performance. Beginning with vaudeville and progressing through the decades, students learn the historical trends of musical theatre and explore these significant moments by learning, staging, and rehearsing a variety of full class and smaller group numbers. This course also has students select and prepare a sample musical theatre audition for which they receive both instructor and peer feedback. The class culminates with a public performance that features our favorite musical numbers from the semester. *This course may be repeated for credit.*

Advanced Acting First Semester Course
Prerequisite: *Acting or Improvisation and Acting*
This course will be offered every other year. It will be offered during the 2018-2019 academic year.

In Advanced Acting, students build upon the performance skills they developed in their Improvisation and Acting course through deeper exploration of the complexities of classical theatre texts. Students utilize a variety of new vocal and physical techniques, as well as historical context, to bring the iambic pentameter of Shakespeare and the rhyming couplets of Molière to life on stage, all while broadening their ability to create dynamic and believable characters. This course culminates in a final public performance featuring a selection of the classical scenes studied throughout the course.

Playwriting Second Semester Course
Prerequisite: *Acting, Acting and Improvisation or by the permission of the instructor.*
This course will be offered every other year. It will be offered during the 2018-2019 academic year.

Playwriting begins with a series of short, prompt based, writing exercises that enable students to practice creating realistic dialogue and meaningful character development. Students then bring these skills and techniques together to draft their own one-act play. Throughout the course, students will have the opportunity to see their work staged and performed by other members of the class, giving them the unique learning experience of hearing and seeing their work brought to life. Selections from each student's one-act play are featured in a public performance at the end of the semester, and scripts are considered for future production in the annual student-directed play series.

VISUAL ARTS

Art Now - 21st Century Art History First Semester Course
Open to 11th and 12th grade students, no prerequisite

In this course the Walker Art Center is the primary text. The 2017 version of this course will have an emphasis on sculpture, in conjunction with the re-opening of the Walker Sculpture Garden. We visit the garden and galleries weekly to uncover the people, ideas, and work that have created the trajectory we call Art History. Several artists will be studied in depth, seeing how they fit into the trajectory and how they have changed its direction. Course work will include some reading, writing, and several slide presentations. The course culminates with students curating and presenting their own dream gallery.

Design First Semester Course

Prerequisite: *One other introductory-level visual art course; open to sophomores, juniors, and seniors*

Through studio-based activities like drawing, painting, clay modeling, 3D construction with foam-core, wood, metal, plastic, found objects, and digital graphic manipulation, students learn the fundamentals of 2D and 3D design. Emphasis is on developing critical thinking and creative problem solving techniques. Project topics covered in this course include graphic designed greeting cards, logo/ brand ID design, color studies, design sketching, creating a clay chess set, fashion accessory, artist inspired electric lamp and chair. To develop perspective and strengthen original ideas, students will study global and historic design traditions and regularly participate in group critique sessions.

Filmmaking First or Second Semester Course

Whatever your style, if you have ever wanted to learn how to express yourself through filmmaking, this is a good place to start. Students will produce a number of short films throughout the semester and will develop skills in camerawork, editing, and sound. Students will shoot projects on digital video and then bring them into Final Cut Pro X, using the same tools and techniques used by professionals.
Projects will present unique opportunities to challenge every student's creativity. The course includes film screenings for inspiration and filmmaking techniques, and student work will be presented on Blake's Vimeo channel and in gallery shows.

Game Development
It will be offered during the 2018-2019 academic year

VR (virtual reality) has become the new frontier for games, with desktops, consoles, and mobile devices all serving as platforms for these new immersive experiences. This course is an introduction to the development of games and simulations, with a special focus on the VR experience. You will have the opportunity to create virtual spaces that envelop your players, while learning the fundamentals of game design, how to create the art that goes into games, and how to control the behavior of things within your game world. You'll be working with the same tools and methods used by professional game developers while making new worlds that surround your players and expressing your own vision and imagination.

Advanced Media Arts Seminar Second Semester Course
Prerequisite: *Animation, Digital Filmmaking, or Game Development*

For those students who have already taken at least one of the other Media Arts courses (Animation, Filmmaking, Game Development), this course offers an opportunity to further explore and develop their skills in a studio-based environment. Advanced projects will challenge creativity while taking existing skills to the next level. This course also offers opportunities for students to explore collaboration across different disciplines - filmmakers working with game

developers, or animators working with filmmakers, for example. *This course may be repeated for credit.*

Ceramics I First or Second Semester Course

This course introduces students to the world of clay art. Through utilizing pottery wheel processes, hand-building techniques, and surface decorating concepts, students will explore their creativity, strengthen observational skills, and make connections between their lives and cultures very different than their own. Students develop a foundational understanding of the physical nature of ceramic materials and processes while stretching their ability to express their ideas with the clay medium. Through studio work, group critique, and art historical studies, students gain fresh awareness of their visual environment and abilities to create functional and decorative objects.

Ceramics II First or Second Semester Course
Prerequisite: *Ceramics 1; open to sophomores, juniors, and seniors*

Building a diverse repertoire of pottery wheel techniques and applying them to design problems is the primary focus of Ceramics II. Students expand upon the foundation level wheel throwing skills and concepts to which they were introduced in Ceramics I to begin creating forms of greater nuance and sophistication. Through learning the skills necessary to create mugs, bottles, pitchers, vases, lidded jars, and teapots, students develop the ability to put form to their ideas with confidence. In Ceramics II, students learn to set up the electric kiln for firing, and participate in a group outdoor *raku* firing.

Ceramics III Second Semester Course
Prerequisite: *Ceramics 2; open to juniors and seniors*

Sculpting a human head from a clay block, learning to assemble multiple wheel thrown pieces into large functional objects, creating ceramic artwork by making and using plaster molds, and using the design process to create a series of themed artworks are at the core of Ceramics III. Field trips to galleries and museums, sketchbook studies, and regular group critiques complement the significant studio-based focus of this advanced level course. Ceramics III students develop a heightened understanding of the clay art process by learning to formulate and analyze glaze recipes and fire kilns. In this course students will gain significant confidence in their technical and creative problem solving abilities. *This course may be repeated for credit.*

Drawing and Painting I First or Second Semester Course

This course introduces students to the ease of seeing and recording the world around them. Using figure, portrait, and landscape, a variety of techniques and media are explored to create both realistic and abstract drawings and paintings. Students develop the ability to express their ideas with confidence and clarity. Field trips to the Walker Art Center and Minneapolis Sculpture Garden help develop an understanding of contemporary art in our city. Through studio work, group critique, and art historical studies, students gain fresh awareness of their visual environment and newfound abilities to create images with real visual impact.

Drawing and Painting II First or Second Semester Course
Prerequisite: *Drawing/Painting 1; open to sophomores, juniors, and seniors*
Permanent wall drawings, multi-media assemblages and service learning field trips, where students draw and give portraits as gifts comprise a few of the possibilities of Drawing and Painting II. A twofold approach centers on developing personal creative ideas and learning new techniques to express them. Students have ownership in defining ways to study still life, figure, landscape, portrait, and abstraction. Seeing skills, drawing and painting techniques, color theory and control, and creative ideas are all built upon in this course. Visits to the Walker Art Center and local galleries complement in-class art history studies. Students can expect to leave this course with a confident technical foundation and a portfolio that demonstrates an emerging personal voice.

Drawing and Painting III Second Semester Course
Prerequisite: *Drawing/Painting 2; open to juniors and seniors*

House paint on found objects, large-scale abstract compositions, art as gift, small traditional landscapes; in Drawing and Painting III, students define their artwork's form and content. Field trips to studios, galleries, and museums, weekly sketchbook studies, regular group critiques complement significant studio work. A balance of self-directed projects and challenging studio problems allow students the opportunity to develop fluency of visual expression. In this course students will gain significant confidence in their seeing, technical, and creative abilities. They will leave with a portfolio demonstrating a breadth of skills and depth of ideas. *This course may be repeated for credit.*

Photography I First or Second Semester Course

You have grown up in a world filled with photography. To your parent, a camera was a single-purpose device that only took photographs and was brought out for special occasions, but you know a world where the camera is so omnipresent that it's in everyone's pocket. You will learn more about cameras and photography than you ever thought possible. We'll cover digital photography, ranging from high-resolution digital SLR cameras to smartphones. We will delve into the origins of photography and use a darkroom to learn how artists and scientists worked together to find a way to write with light. Ultimately, this class provides creative, expressive ways to use the camera.
For most projects we will use 35mm film cameras and digital single-lens reflex (SLR) cameras that allow manual control of focus, aperture and shutter speed. Students need not have a personal camera to take this class.

Photography II Second Semester Course
Prerequisite: *Photo 1; open to sophomores, juniors, and seniors*

Where Photo 1 focuses more on showing you a wide range of potential subjects, Photo 2 is more about process. You'll learn alternative photographic processes that border on chemistry experiments, new cameras and lenses, composition and aesthetics, copyright law, model release forms, the history of photography, how to assemble a coherent portfolio of your work, and careers in photography.

Photography III
Second Semester Course
Prerequisite: *Photo 2; open to juniors and seniors*
This course will not be offered in 2017-18. Next offering in 2018-2019.

Continue your work with 35mm film or digital SLR, as well as learn the 120mm Holga camera. Dig deep into photography-related issues. The primary focus of class will be for students to identify themes or topics they wish to pursue in their photography in order to build and exhibit a coherent body of art.

Pr**intmaking 1** First or Second Semester Course

Printmaking differs from most art forms in its ability to make multiple, identical works of art or swiftly test out variations in color and shape. The beauty of printmaking is that it can seamlessly combine many different art techniques: drawing, painting, calligraphy, text, and photography all merge into a harmonious art form.

Printmaking II First Semester Course
Prerequisite: *Printmaking 1; open to sophomores, juniors, and seniors*

Dig deeper into the realm of printmaking and investigate a wide range of alternative methods for woodcut prints, copper etching and screen-printing. Printmaking 2 offers vast opportunities to explore your creativity as you easily and swiftly print your images in different colors. All techniques are compatible with multimedia work, so you may choose to work directly in drawing or painting to add layers to a print. And for those who need a little creative assistance, we teach heuristics – a way of overcoming the artist's version of writer's block.

Printmaking 3 Second Semester Course
Prerequisite: *Printmaking 2; open to sophomores, juniors, and seniors*

Printmaking 3 is a largely hands-on class, punctuated with field trips and a bit of critiques and research. Expand on your skills learned in prior classes; learn a few new methods of printmaking (there are so many!) and build a comprehensive portfolio of work.

ENGLISH

COURSES FOR GRADE 9

English 9 will introduce students to the arts of reading, writing and discussing literature in a variety of genres. Skills and habits of mind that are fundamental to analysis and interpretation will be the focus of the learning activities and assessments in 9th grade.

English 9: World Literature Year Course

This English course builds a foundation of skills that will empower ninth graders to be effective lifelong readers and writers. The class is also coordinated with the Social Studies course, World Cultures 9: Ancient Roots of Modern Thought. Readings may include Simon Armitage's *The Odyssey*, R. K. Narayan's *Ramayana*, Edwidge Danticat's *Krik? Krak!*, Chinua Achebe's *Things Fall Apart*, Chimamanda Adichie's *Purple Hibiscus*, Naomi Nye's *Words Under the Words*, William Shakespeare's *Twelfth Night*, and Salman Rushdie's *Haroun & The Sea of Stories*. Throughout the year, students will consider such questions as the following: Why do we read? Why do we write? Why do we tell stories? Why do we talk about the stories we read and hear? What are the conversations that stories create? How does context create meaning in literature? The power of story and the influence of perspective on story are important themes.

English 9: Ancient Roots of Modern Literature Year Course

This yearlong interdisciplinary course will look at the "big ideas" that shape our interconnected world in the 21st century. We will explore questions like: What does it mean to be human? What are the overarching philosophies of human existence? Because modern history has many roots in ancient stories and sacred texts, we will study how modern interpretations of those texts expose the values and structures of the civilizations that created them. Once or twice a week, we will have combined class meetings, team-taught by English and Social Studies faculty, emphasizing the interdisciplinary nature of the course and its assessments. This is not an answers course; it is a questions course that will uncover complexities, priming every student for a life of curiosity, discovery, and inquiry. This course will develop the same skill set as World Literature and World Cultures, emphasizing the development of discussion, reading, writing, and research skills. This course is taken with World Cultures 9: Ancient Roots of Modern Thought.

COURSE FOR GRADE 10

English 10: American Literature Year Course

Sophomores in this course will read literature of increasing stylistic and thematic complexity in a variety of genres. Students will be expected to move well beyond the literal level in their interpretations of texts, as they begin to recognize the difference between "story" and "literature." Students will think deeply about what it means to be an American and what defining characteristics make up American Literature. In particular, we will examine the texts we read for what they can teach us about issues of race, class and gender in the United States. Annotating texts and developing effective discussion skills are strands throughout the year. In their writing, students will explore a variety of forms, including creative writing and analytical essays. Texts include such titles as J.D. Salinger's *The Catcher in the Rye*, Arthur Miller's *Death of a Salesman*, Tim O'Brien's *The Things They Carried*, August Wilson's *Fences*, Zora Neale Hurston's *Their Eyes Were Watching God*, Toni Morrison's *The Bluest Eye* and F. Scott Fitzgerald's *The Great Gatsby*. Other texts are determined by individual teachers.

COURSES FOR GRADE 11

The electives for juniors are seminars that offer students both intensive literary study and a heightened focus on the process of writing. Students will engage texts that invite close reading while they develop tolerance for ambiguity, appreciation for complexity and strategies to avoid reducing any text to a single meaning or issue. Reading selections for all electives explore genres, voices and literary traditions that span the globe.
As writers, students will be encouraged to focus on process: drafting, revising, discussing, revising and revising their work, with the ultimate aim of producing thoughtful, cogent essays in a voice that feels natural to the student. The writing will strike a balance between literary analysis, where students have the opportunity to develop their insights as readers and interpreters of literature, and personal essays, where students will reflect on their own lives and the world around them. Written teacher feedback on student writing highlights progress toward stated outcomes and details opportunities for growth and revision. At least once a semester, and in most cases more frequently, students schedule one-on-one writing conferences to work with the teacher in a more detailed, focused way on some important aspect of their writing.

English 11: AP English Literature Year Course

This college-level course is intended for highly motivated students interested in rigorous reading and writing experiences that prioritize literary analysis. The course will include writers such as Morrison, Shakespeare, Joyce, Shelley, Woolf, and Kushner. This course prepares students for the AP English Literature & Composition exam without straying from the central reasons for studying literature. ***There is a supplemental charge to take an AP Exam that will be the responsibility of the student to pay. Financial aid is available.***

English 11: The Literature of War First Semester Course

This seminar will draw from stories, plays and poems about civilians and soldiers, women and men, children and adults as well as "friend" and "foe" as they experience conflict across a broad range of cultures and time periods. Opening with readings from ancient China and Greece, this course engages a pool of texts that includes the works of North and South Vietnamese soldiers, Shia and Sunni citizens of modern Iraq, child soldiers from the Biafran War, and women who survive prisoner of war experiences in Nanking, Malaya, and Kampuchea.

English 11: Creating Identity First Semester Course

"Why are we who we are?" This course will examine what literature has to say about how one's identity is constructed. Students will explore how the "forms" of race, class, gender, and sexuality determine our content as people and how language influences this content. The class will be taught as a seminar, focusing on the close reading of texts.

English 11: Honor, Glory, Greed Second Semester Course
What will people do and give up fulfilling an ideal or desire? This literary seminar will focus on the ideas and obsessions characters devote their lives to satisfying. Closely reading novels, stories, plays and poems, students will examine the meanings of these characters' achievements and the costs and consequences of fulfilling their desires.

English 11: Visions of Realism Second Semester Course
This seminar will explore the ways authors have represented what's "real," what's magical, supernatural or spiritual, and what happens when people question the distinction. Students will examine the roots and legacies of a paradoxical world where *magical* things *really* happen, a world of ghosts and witches and gods and monsters.

whose existence is not constructed as an element of fantasy or legend, but as a part of the lived experiences of people in our world today.

COURSES FOR GRADE 12 **Year Courses**

English 12: Shakespeare Year Course

Shakespeare's poems and plays are intensely profound, breathtakingly dazzling, and perpetually relevant. For over 400 years, people of all sorts have looked to them for beauty and truth, for what it means to be human, while writers and dramatic artists across the globe have been inspired by them to create connecting, responding artworks that are timeless in their own right. Shakespeare is now the quintessential global literary writer. This yearlong course will give students a chance to thoroughly know some of the most influential Shakespearean works and also investigate how they have been refashioned in multiple cultures and times. Using the original scripts, responding works of modern writers, and current film renditions from countries such as India, Russia, and Japan, students will come to know not only Shakespeare but also more central human traits like the influence of culture on meaning. By its very nature, this course will be modern, thorough, and deep.

COURSES FOR GRADE 12 **First Semester Courses**

English 12: The Literary Essay First Semester Course

In a departure from the traditional analytical essays emphasized in previous English courses, this course focuses on writing well-crafted, nuanced personal essays—that is, essays that speak from the "I" and prioritize personal experience. Students will study and practice artistic and creative use of literary techniques such as narrating with scenes, dialogue, point of view, and recording details and observations. There will also be a focus on reporting, in which students will explore and make sense out of a place, person, or idea through investigative research. Though the primary focus is on writing, students will be expected to read and discuss weekly—after all, strong writers are voracious readers. Students will study the work of professional essayists in an attempt to discover their techniques and to understand how to merge content and craft. The course emphasizes the importance of discovering one's own voice and style through writing exercises, peer workshops, class critiques, and above all, revision. Daily writing practice, short papers, and several substantially revised essays will be required.

English 12: Myth and Memory First Semester Course

If, as Frost said, poetry is what's lost in translation, then myth is a form of storytelling that transcends translation – delivering tales that still resonate within us centuries later. In this course, students will engage older texts such as the Epic *Gilgamesh*, Ovid's *Metamorphoses*, and Homer's *The Odyssey*, as well as modern retellings and "refractions" such as John Gardner's *Grendel*, Zachary Mason's *Lost Books*, and Ali Smith's *Girl Meets Boy*. After careful reading and seminar discussions, students will write a balance of analytical meditations and personal reflections on these powerful works.

English 12: Native American Fiction, Folklore, & Film
First Semester Course

In order for us to make sense of where we are going, it is vital to look not only to the past, but to listen the original inhabitants of a place. This course will read and hear the voices of indigenous people from the past and today as they steadily speak today in fiction and film. We will address the costs and benefits of an oral tradition as a form of literature, as well as questions of authenticity, the Noble Savage, the Urban Indian, the Trickster, and representations and objectification of indigenous people and culture in our nation's consciousness. The course will culminate with proposals to this question: What can Indigenous literature teach us as we move forward in a global society? Students may read fiction by Louise Erdrich, David Treuer, Leslie Marmon Silko, and Sherman Alexie and view films such as *Fast Runner*, *Smoke Signals*, and *Reel Injun*

English 12: Utopian & Dystopian Literature
First Semester Course

What are the fears and anxieties of the modern world, and how are they reflected in literature? How do individuals and groups of people confront and resolve the dilemmas presented therein? What hope is offered? Why the persistent need to imagine and construct ideal societies? By whose standards does one decide what is ideal and what is not? Who is excluded from the dominant discourse? These are the primary essential questions with which this course will be concerned. A combination of seminars and literature circles will be used to closely examine and juxtapose the imaginative worlds of utopian and dystopian works, all of which offer critical analysis or constructive visions of future possibilities and which have social, political, or ecological implications. Works include novels, poems, films, nonfiction essays and articles, and podcasts. Some student book choice is offered, both in summer reading and during the semester. The course will culminate with a major essay in which students will be asked to voice their own societal hopes and fears by imagining alternatives to present circumstances.

Literatures of South Asia First Semester Course

How do a work's audience, conditions of production, and author influence, or perhaps determine, meaning(s)? Do they all do so equally? Who gets to represent whom? What are the politics of representation? Can literature represent in ways that other media, like film or historical narrative, can't? This course will pose and answer these questions by examining a series of South Asian written texts--mostly literary but also historical and political--as well as films. We will read "Western" texts from traditions of writing and thinking that students study in 10th & 11th grade and "Eastern" ones that might be less familiar--and we will interrogate, on the one hand, the very assumptions that make such a West/East dichotomy possible and, on the other, the usefulness of such a distinction.

COURSES FOR GRADE 12 **Second Semester Courses**

English 12: African American Literature
Second Semester Course

Interested in courageous conversations? If you answered "yes," then this semester long course is for you! African American literature grew out of an oral tradition of storytelling and spirituals. In this course, you will consider this vernacular tradition and its impact on African American authors who come along after this early time period. Along with considering the content of literary works, students will explore a number of cultural, historical, and political themes, as well as examine how the issues of gender, race, sexuality and class affect the meanings of varied works. Students will leave the course with a broader, more nuanced sense of African-American writing (and authors) and will hopefully be compelled to read more varied cultural texts as they move beyond the walls of Blake. Readings may include texts by Octavia Butler, Ta-Nehisi Coates, Taiyon Coleman,Toni Morrison, Alexs Pate, Alice Walker, Colton Whitehead, and Richard Wright.

English 12: Colonized and Globalized Worlds
Second Semester Course

History has proven that even the best of intentions prove faulty when colonization occurs. Less noble intentions foster objectification and obliteration of people and their cultures. While giving voice to the oppressed and silenced, we will also deconstruct the perspective of the colonizers who more often see "a mirror image of themselves and their own assumptions than the reality of what is there" (Young). Using a variety of texts, we will examine the perceptions, relationships, and consequences of colonial history and trace the contemporary impact in Nigeria, Vietnam, Myanmar, India, England, and the Caribbean. Some address of post-colonial theory will ground the course; however, fiction will drive this course. Texts may include

Joseph Conrad's *Heart of Darkness*, Graham Greene's *The Quiet American*, and short stories and poems by Hanif Kureishi, Jhumpa Lahiri, Jamaica Kincaid, and Derek Walcott.

English 12: The Individual & Nature Second Semester Course

What is our proper place in the world? To what extent are human beings "natural"? In what ways have we transcended "nature"? How has the idea of nature shaped our identity as Americans? How might a deeper understanding of these questions impact how we live today? Possible authors include: Daniel Quinn, Alison Hawthorne Deming, Annie Dillard, John Krakauer, Luther Standing Bear, Aimee Nezhukumatathil, Leo Tolstoy, Robert Hass, and Elizabeth Kolbert.

English 12: Creative Writing–Fiction and Poetry
Second Semester Course

This class is all about creative writing. The heart of our work will be the writer's workshop, during which students present their own stories and poems to one another for peer response and review. Between writing projects, we will read stories and poems by established writers with an eye to the elements and techniques that make their work sing. When not considering the work of classmates and other writers, we will engage in playful writing exercises designed to help us enliven our own language and voices. Our goal is that all will leave this course with a handful of short stories and poems they can proudly call their own, along with a series of reusable activities and exercises designed to generate ideas for writing beyond the scope of this class. In addition to refining our own writing, we also seek opportunities to meet with published authors to discuss the art of creative writing.

English 12: Comedy Second Semester Course

Comedy has been called "the last refuge of the nonconformist mind." It is also spectacle, vitality, absurdity, and happy endings. This course will explore this diverse genre, its patterns and a variation, trying to understand what makes us laugh and why that matters. Our larger areas of inquiry will include satire, irony, parody, and theories of humor and comedy. We will read plays, watch films, analyze jokes, and perhaps even consider cartoons. In short, this course will be a study of the most happy of aspects of universal human culture. Our material will be chosen from artists such as Shakespeare, Wilde, Charlie Chaplin, Kubrick, Ionesco, Yasmina Reza, and the Coen Brothers. Students will write several essays and complete creative projects to address the larger questions rose in class.

Literature as Politics Second Semester Course

What is the intersection between literature and politics? Is all literature political--and, if so, in the same way(s)? Can literature be politics as such? How might certain styles of writing enable and disable certain political possibilities? We will approach, refine, supplement, and answer these questions through a simultaneous examination of fictive, poetic, non-fictive, and filmic texts, on the one hand, and literary theory, on the other. Students will become familiar with dominant schools in literary theory, along with their intellectual histories and trajectories. All of our texts, from different times and places around the world and with different intellectual and political commitments, converge in their conception of literature as a political form

MATHEMATICS & COMPUTER SCIENCE

DEPARTMENTAL REQUIREMENT:
Enrollment in a minimum of four semesters of mathematics offered by the Blake Mathematics Department and successful completion of Geometry and Algebra II, either at Blake or through courses that are equivalent to those offered at Blake. Computer science courses do not count toward the mathematics graduation requirement, except by permission of the department chair.

Because problems that depend upon mathematics for their solution arise in many fields, the mathematics department strongly recommends that students continue the study of mathematics in all semesters. Nearly all Upper School students complete four years of mathematics.

The department offers several courses of study to meet the varied needs of our student body:

- Students with an interest in the social sciences or humanities are encouraged during their junior and senior years to choose *Functions, Statistics & Trigonometry with Modeling* or *Probability & Statistics* or one of the other semester electives.
- Students interested in the applied sciences or pure mathematics are encouraged to take some level of *Pre-Calculus* and *Calculus* before graduation, as well as semester electives that provide an opportunity to participate in mathematics research or to explore advanced mathematics in greater depth.

The most common courses of study are outlined in the Mathematics Course Sequences flowchart found at the end of this section. Students are not locked into a mathematics course sequence and, with appropriate preparation, it is possible to switch sequences in consultation with the mathematics department.

In order to be successful, a student enrolling in a mathematics course must be proficient in preceding mathematics concepts and skills. The course prerequisites and evidence of readiness recommendations listed in this course guide provide a way for students to demonstrate mastery of prerequisite content. The mathematics department strongly recommends that a student who has not demonstrated evidence of readiness consider an alternative mathematics course sequence. If a student who has not demonstrated evidence of readiness, based on their performance in their current math class, desires to enroll in a course, the student must consult with his or her mathematics teacher to develop a monitored plan for demonstrating proficiency in prerequisite concepts and skills. The plan must be in place by May 15, 2017, and fully executed including testing by August 15, 2017 in order for the course request to be honored.

The department will place students who are new to Blake in the appropriate course based on mathematics experience, teacher recommendation, and test results. Students may be asked to take a placement exam.

Algebra IB Year Course
Prerequisite: *Algebra IA* or equivalent

Algebra IB is the second half of a two-year algebra I sequence that begins in eighth grade. Prerequisites for this course include facility with real numbers, exponents and radicals, order of operations, the distributive property, solving one-, two-, and multi-step linear equations, and writing, graphing and analyzing linear equations. *Algebra IB* builds on the foundation laid in *Algebra IA* to address topics such as inequalities, systems of linear equations and inequalities, polynomial equations and factoring, radical expressions, and rational equations, and an introduction to exponential growth and decay models. The course emphasizes both skill development and problem solving. Students new to The Blake School who have not completed the prerequisites for *Algebra IB* should consult with the mathematics department and are encouraged to complete a summer course or to pursue summer independent study in order to gain the required proficiency.

Geometry Year Course
Prerequisite: *Algebra I* or *Algebra IB* or teacher recommendation

From its earliest beginnings as a set of rules arrived at by trial and observation, Euclidean geometry was developed by the Greeks into a set of conjectures concerning figures formed by points, lines, planes and circles. This course emphasizes both deductive and inductive reasoning. Topics include congruence, logic and proof, similarity, properties and areas of circles and polygons, relationships of lines and planes in space, solids and their volumes, right triangle trigonometry and transformations.

Honors Geometry Year Course
Prerequisite: *Honors Algebra I*
Evidence of readiness: B in *Honors Algebra I*

This course gives a more rigorous treatment of the topics covered in *Geometry*, emphasizes deductive reasoning and formal proof, and approaches geometry from synthetic, analytic, and transformational perspectives. Additional topics will be chosen from symbolic logic, axiom systems, finite geometries, non-Euclidean geometry, the nine-point circle, Ceva's Theorem, proofs of the Pythagorean Theorem, advanced constructions, higher dimensions (*Flatland*), networks, topology, fractals, the Golden Section, Platonic and Archimedean solids and their duals, cyclic quadrilaterals, and Cantorian infinity.

Algebra II Year Course
Prerequisite: *Algebra I* or *Algebra 1B*, and *Geometry*
Evidence of readiness: Completion of *Algebra I* or *IB* and *Geometry*

Algebra II is a course that extends and reinforces the problem solving and symbolic reasoning found in *Algebra I*. Students learn the skills required to investigate properties and transformations of various functions, including linear, quadratic, higher-order polynomial, exponential, and radical functions, with an introduction to logarithmic and rational functions. Applications are made in the areas of inequalities, systems of equations, and mathematical modeling. Algebraic manipulation and computation are mastered in the context of reasoning and problem solving.

Honors Algebra II Year Course
Prerequisite: *Honors Algebra I* and *Honors Geometry*
Evidence of readiness: B in *Honors Algebra I* and *Honors Geometry*

Honors Algebra II incorporates aspects of a problem-based learning curriculum and is designed for students who prefer independent problem solving and who demonstrate persistence and confidence in tackling novel problems. The course gives a more rigorous treatment of the topics covered in *Algebra II* and includes additional topics such as conic sections, matrices, sequences and series.

Functions, Statistics & Trigonometry with Modeling Year Course
Prerequisites: *Geometry* and *Algebra II*

This course, which emphasizes the collection and analysis of data using tools from *Algebra II*, is hands-on in its approach. Many of the problems are of an interdisciplinary nature and the use of technology and dynamic modeling software is an integral part of the curriculum. Topics include sequences and series, functions and graphs, permutations and combinations, best-fit lines and curves, probability and statistics. The course reinforces topics from *Algebra II* and provides excellent preparation for both *Probability and Statistics* and *Pre-Calculus*.

Pre-Calculus Year Course
Prerequisite: *Geometry* and *Algebra II,* or *Functions, Statistics & Trigonometry with Modeling (FST)*
Evidence of readiness: B in *Algebra II* or B in *FST*

This course focuses on functions and their characteristics, including trigonometry. Although the course begins with a brief review of algebra concepts, students in *Pre-Calculus* must already possess a strong foundation in algebra. Topics include function notation and transformations; combinations and composition of functions; linear, quadratic, polynomial, rational, exponential, logarithmic, and trigonometric functions; sequences and series; and analytical trigonometry.

Honors Pre-Calculus Year Course
Prerequisites: *Honors Geometry* and *Honors Algebra II*
Evidence of readiness: B in *Honors Geometry* and B in *Honors Algebra II*

This course gives a more rigorous treatment of the topics covered in *Pre-Calculus*. Additional topics include parametric equations and an introduction to limits.

Calculus Year Course
Prerequisite: *Pre-Calculus* or *Honors Pre-Calculus*
Evidence of readiness: B in *Pre-Calculus*

Calculus is a mathematical tool used to analyze changes in physical quantities. It was developed in the seventeenth century by Gottfried Wilhelm Leibniz and Isaac Newton to study the major scientific and mathematical problems of the day. Students in this course will develop a deep understanding of the important ideas of calculus and a strong foundation to prepare them for continued study of calculus. Topics include limits, derivatives, and integrals, with an emphasis on application, problem solving and conceptual fluency.

ADVANCED PLACEMENT & POST-AP MATHEMATICS

AP Statistics Year Course
Prerequisite: *Pre-Calculus* or *Honors Pre-Calculus*
Evidence of readiness: B in *Honors Pre-Calculus* or B+ in *Pre-Calculus*

In this course, students will learn to be intelligent and critical consumers of data and information, to use the tools of statistics to understand and make decisions from data, and to communicate statistical information clearly and precisely. Topics encompass four major themes: descriptive statistics, which makes use of graphical and numerical techniques to study patterns and departures from patterns in data; planning and conducting a study, in which students learn to collect data according to a well-developed plan; probability and random variables, which are the tools that let us anticipate what the distribution of variable should look like under a given model; and inferential statistics, which guides the selection of appropriate models. Students enrolling in *AP Statistics* will be expected to sit for the Advanced Placement Statistics examination in May. ***The supplemental fee for taking the AP exam will be the responsibility of the student. Financial aid is available.***

AP Calculus AB Year Course
Prerequisite: *Pre-Calculus, Honors Pre-Calculus* or *Calculus*
Evidence of readiness: B in *Honors Pre-Calculus,* A in *Pre-Calculus* or B in *Calculus* or instructor permission

AP Calculus AB is a college-level course in calculus that includes limits, derivatives, integrals and their applications. The course will emphasize proof and an understanding of fundamental concepts, along with development of computational skills. Considerable time will be devoted to preparing students to take the AP exam. Students enrolled in *AP Calculus AB* will be expected to sit for the Advanced Placement Calculus AB examination in May. ***The supplemental fee for taking the AP exam will be the responsibility of the student. Financial aid is available.***

AP Calculus AB/BC Year Course
Prerequisite: *Honors Pre-Calculus* or *Calculus*
Evidence of readiness: A in *Honors Pre-Calculus*

AP Calculus AB/BC (yearlong) is a college-level course in calculus that includes limits, derivatives, integrals and their applications. The course will cover all *AP Calculus AB* topics with emphasis on proof and an understanding of fundamental concepts, along with development of computational skills. *AP Calculus BC (yearlong)* will also cover the calculus of the polar coordinate system, vector calculus, curvilinear motion as defined parametrically, specialized methods of integration, separable differential equations, indeterminate forms, infinite series and Taylor series. Students enrolled in *AP Calculus BC* will be expected to sit for the Advanced Placement Calculus BC examination in May. ***The supplemental fee for taking the AP exam will be the responsibility of the student. Financial aid is available.***

AP Calculus BC First Semester Course
Prerequisite: *AP Calculus AB*
Evidence of readiness: A- in *AP Calculus AB* or score of 4 on the AP Calculus AB examination

AP Calculus BC is the first half of a two-semester second-year calculus sequence. It is required that students enrolled in *AP Calculus BC* also enroll in *Post-AP Advanced Calculus*. *AP Calculus BC* includes the remaining topics from the AP Calculus BC syllabus that are not in the AP Calculus AB syllabus, including the calculus of the polar coordinate system, vector calculus, curvilinear motion as defined parametrically, specialized methods of integration, separable differential equations, indeterminate forms, infinite series and Taylor series. Students will be expected to sit for the Advanced Placement Calculus BC examination in May. ***The supplemental fee for taking the AP exam will be the responsibility of the student. Financial aid is available.***

Post-AP Advanced Calculus with Differential Equations
Prerequisite: *AP Calculus BC* Second Semester Course

This advanced calculus course focuses on post-AP calculus topics, including the formal e- d(epsilon-delta) definition of the limit, the expansion of vector calculus to include the T-N referential coordinate system and curvature, the Gamma function (factorials and probability distribution functions), Laplace transforms, and first-order homogenous linear and non-linear differential equations. The course emphasizes an understanding of fundamental concepts in conjunction with the acquisition of computational skills.

MATHEMATICS & COMPUTER SCIENCE ELECTIVES

Students who have fulfilled their mathematics graduation requirements or who would like to simultaneously explore additional topics in mathematics or computer science are encouraged to consider mathematics or computer science electives. Actual course offerings will depend upon course enrollment. Some semester-long electives are offered in alternate years.

Electives offered every year

Probability and Statistics First Semester Course
Prerequisite: *Functions, Statistics & Trigonometry with Modeling* or *Pre-Calculus* or *Honors Pre-Calculus* or instructor permission

This semester course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students use projects as a basis for learning how to collect data

sensibly, identify bias, and display and analyze statistics obtained from data, using technological software designed to allow them to explore many of the central questions of statistics. Students also explore probability theory and its many applications, including disease detection and casino gaming.

Fairness and Game Theory Second Semester Course
Prerequisites: *Geometry* and *Algebra II*

The branch of mathematics called game theory deals with the underlying mathematical theory of conflict and cooperation. It is applicable whenever two individuals – or companies, political parties, or nations – confront situations where the outcome for each depends on the behavior of all. In this course you will develop a structured method for analyzing complex situations involving personal decision-making, social choice, conflict, fairness, and political power. You will even start to view everyday interactions in terms of game theory. Additional topics of study may include fair division of resources, voting methods, and applications to business or economics. Through analysis of case studies, you will evaluate and apply these theories in various real-world contexts and explore the meaning of fairness and equity as applied and interpreted through a mathematical lens.

Introduction to Computer Science First Semester Course
Prerequisite: *Algebra I* or instructor permission

In this one-semester course, students will be introduced to the elements of computer science and gain experience with general computational problem solving techniques as they design, implement, test, and document programs in several programming languages. Students will also gain an understanding of digital devices and computer hardware by building computational circuits and writing programs in a machine language. The course will culminate in a final project in which students will use computational methods to investigate real-world problems. Emphasis is placed on algorithms and algorithm design, abstraction, creativity, collaboration, and the societal impacts of computing.

Electives offered in 2017-18 and alternate years thereafter

Advanced Geometry Second Semester Course
Prerequisite: *Geometry* and *Algebra II*

If you enjoyed your first geometry course and you continue to find the visual side of mathematics compelling, this course will challenge and inspire you. From classic geometric problems of antiquity through the physics of optics to special curves (see the Wankel engine), from traditional Euclidean geometry to non-Euclidean geometries (think Einstein), we'll cover ground that will give you an expanded view of the 2-dimensional (and 3-D and 4-D) world. We may even investigate space using interactive software that unites geometry and algebra: symbolic geometry! Is there a connection between Morley's triangle and Napoleon's triangle? Let's find out!

Graph Theory and Social Media First Semester Course
Prerequisite: *Geometry* and *Algebra II*

Graph Theory, the study of networks, is a branch of modern discrete mathematics with many applications in science and business; it does *not* refer to the study of x-y graphs. In this inquiry-based seminar, students will learn Graph Theory concepts by analyzing social networks: Twitter, Snapchat, Facebook, Instagram, etc. How many re-tweets are required before everyone at Blake can view the tweet? Which of your friends has the most influence on Twitter and Facebook? Questions like these relate directly to a variety of Graph Theory topics including set theory, proof by induction, isomorphism, planarity, Euler's Formula, platonic graphs, genus, graph coloring, Hamiltonian and Eulerian walks, directed graphs, trees and path optimization. Students will learn mathematics as practiced by mathematicians—not a system of rules to be followed, but a field of questions to be explored via problem solving, conjecture and valid mathematical arguments.

Research in Mathematics (Pure or Applied)
Second Semester Course
Prerequisite: Admission to this course is by application only.
Pure Research: *Honors Geometry*
Applied Research: *Honors Geometry* and *Intro to Computer Science*

The first quarter of this course prepares students to undertake beginning research in mathematics. Topics during the preparation period include problem solving and problem posing strategies, set theory, logic, methods of proof, and a comparison of computer-based mathematics and pure mathematics. Students will solve paradigmatic problems and develop the mathematical writing skills necessary for publication. During the second quarter, students will be given a larger open question to investigate using either a pure or applied approach. Students will demonstrate progress by meeting benchmarks and giving presentations to the class throughout the quarter. Students who wish to continue their mathematics research will receive assistance in identifying a university mentor for summer research (minimum of 100 hours required) and in preparing for national math and science competitions.

Computer Programming Second Semester Course
Prerequisite: *Introduction to Computer Science* or instructor permission

This semester-long course provides students with an in-depth investigation into computer programming. Students build upon the skills learned in Introduction to Computer Science as they design, implement, test, and document programs of increasing complexity and abstraction. Students are introduced to theoretical considerations and techniques of program analysis. Topics include procedural, object-oriented, and functional programming paradigms; abstract data types (stacks, queues, graphs, trees); fundamental algorithms (searching and sorting); performance and time/space complexity, and theoretical limits of computing.

Electives offered in 2018-19 and alternate years thereafter

Introduction to Logic First Semester Course
Prerequisites: *Geometry* and *Algebra II*

This course introduces students to the study of formal logic. Logic can be described as a way of thinking about thinking: the subject matter of logic is arguments. If you are interested in philosophy, mathematics, computer science or linguistics, a solid grounding in formal logic is invaluable. The study of formal logic helps develop the skills and techniques needed to present and evaluate arguments in any discipline or vocation (e.g. law, debate, politics, ethics). Students will become familiar with Venn diagrams, syllogisms, logical validity, inductive and deductive reasoning, along with a variety of symbols, concepts, principles and "languages" underlying symbolic logic.

Discrete Systems Second Semester Course
Prerequisites: *Geometry* and *Algebra II*

This course, subtitled "The Art of Math," is designed to acquaint students with examples of mathematical concepts in architecture, art, music and nature. Through the study of branches of mathematics such as knot theory, projective geometry, group theory and other disciplines within discrete mathematics, the course will offer opportunities for first-hand experience through the generation of art works, the writing of papers, and the study of real-world applications. Additional topics include fractals, chaotic systems and the development and application of the Golden Section
.

Number Theory and Cryptography First Semester Course
Prerequisite: *Geometry* and *Algebra II*

Do you know what ensures that your credit card number is protected during online purchases? Have you heard of Goldbach's Conjecture, one of mathematics' oldest unsolved problems? In this inquiry-based seminar students will explore the elegant properties of integers and prime numbers, learning how modern number theory has contributed to practical developments in cryptography and information technology. The course will emphasize methods of proof, techniques of problem solving, and reading and writing of advanced mathematics. Topics include divisibility, the Euclidean algorithm, prime factorization, properties of prime numbers, congruence, the Chinese remainder theorem, Euler's Phi function, RSA encoding, and computational complexity.

Readings in Applied & Pure Mathematics (RAP)
Second Semester
Prerequisite or co-requisite: *AP Calculus AB*

This course will involve readings, discussion, problem solving, research papers and other projects derived from original works by Aristotle, Ptolemy, Diophantus, Newton, Gauss, Weierstrass, Cantor and other renowned mathematicians. The history of their ideas and the basis of these ideas in the work of earlier mathematicians will be emphasized. From Aristotle's letter to Eratosthenes regarding the idea of center of gravity to Cantor's assigning cardinal numbers to infinity, the course will examine applications of mathematics through history as well as mathematics that had no practical application when first presented (e.g. non-Euclidean geometries).

Software Design Second Semester Course
Prerequisite: *Intro to Computer Science* or instructor permission

In this project-based course, students will explore a variety of design techniques while collaborating in teams to iteratively design and develop software. Communication, collaboration, and creativity will be emphasized as teams learn how to manage their projects, share code, and set goals and timelines. The hands-on nature of this course will encourage students to discover and learn problem solving and software design methods as they become relevant to each project. Topics may include object-oriented, functional, and/or procedural programming; abstract data structures; graphical user interfaces; and software architecture and design patterns.

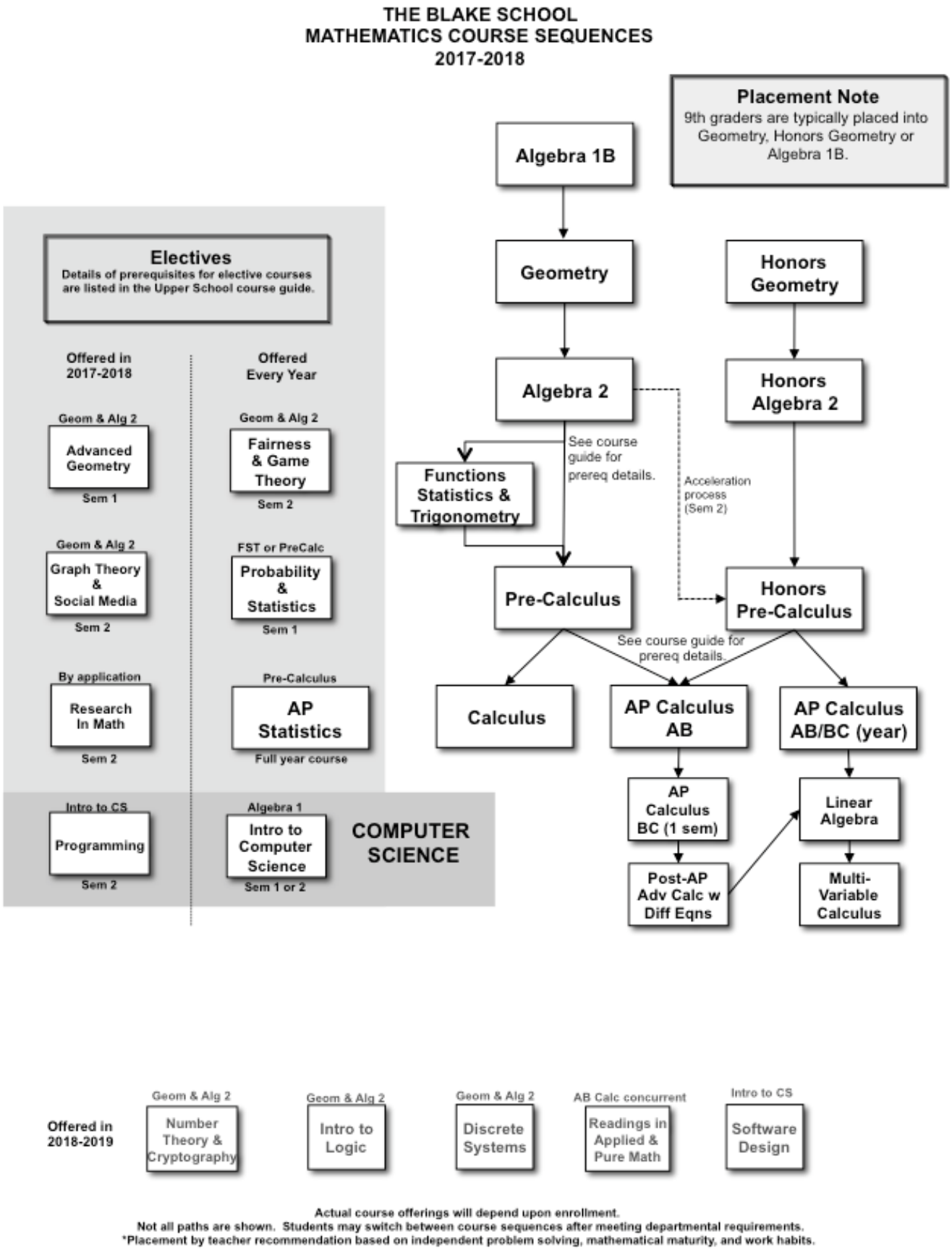
Linear Algebra First Semester Course
Prerequisite: *AP Calculus BC* or *AP Calculus AB* with instructor permission

This course covers the properties of linear maps on finite-dimensional vector spaces and inner-product spaces with real and complex coefficients. The course emphasizes the abstract definition of a vector space, and includes the study of R_n and C_n, as well as P_n (polynomials) and vector spaces defined as the solution sets of differential equations. Topics include null space and range, trace, determinant, eigenvalues and eigenvectors, the spectral theorem, standard decompositions and characteristic polynomials. A student may enroll in *Linear Algebra* before completing *AP Calculus BC* if he or she enrolls in *AP Calculus BC* the following year.

Multi-Variable Calculus Second Semester Course
Prerequisite: *Linear Algebra*

This course in multivariable calculus assumes knowledge of linear algebra. The course will treat the derivative as a linear operator and explore the relationship between partial, directional, and total differentiability of a function. Topics will include multiple integrals as well as divergence, gradient and curl. Physical applications will be highlighted, especially in discussing Green's Theorem, the Divergence theorem, and the Kelvin-Stokes Theorem. A student may enroll in *Multi-Variable Calculus* before completing *AP Calculus BC* if he or she enrolls in *AP Calculus BC* the following year.

The Mathematics Course Sequences flowchart depicts the course sequences that students may follow as they advance through The Blake School's mathematics program. Students may switch sequences with appropriate preparation and the consent of the Mathematics Department.



Actual course offerings will depend upon enrollment.
Not all paths are shown. Students may switch between course sequences after meeting departmental requirements.
*Placement by teacher recommendation based on independent problem solving, mathematical maturity, and work habits.

MODERN AND CLASSICAL LANGUAGES

DEPARTMENTAL REQUIREMENT

Satisfactory completion of level III of one language and study of that language through at least the end of sophomore year. Because language competence is increasingly required in many fields, the MCL department strongly recommends that students continue the study of language in all semesters. Most Upper School students complete four years of Modern and Classical Languages.

All rising Blake Middle School students are placed into Upper School courses according to the results of the proficiency test taken upon graduating from MS. For borderline cases, the overall performance of the student in his/her MS language study and the MS teacher's recommendation are also taken into consideration.

New students to Blake with prior language experience will be placed in the appropriate level by decision of the department. A written placement test and oral interview in the target language are required for placement.

Course sequences are usually followed as outlined. Students deemed to be of exemplary motivation and who are interested in accelerating their course of language study must consult with their MCL teacher to develop a monitored plan for demonstrating proficiency in prerequisite knowledge and skills, and complete the US MCL Acceleration Contract. The plan must be in place by March 15, 2017, and fully executed, including testing, by August 16, 2017.

The department recommends remedial work to those students whose language proficiency may prevent them from being successful in the next level. This is usually the case when a student has earned a C+ or below as the final grade in a course.

Students who want to begin their study of a language should note that, depending on enrollment, a level 1 class in a language may not be offered in a particular school year. Students entering Level 1 should be prepared to consider an alternate language choice or summer acceleration options; please contact PK-12 MCL Department Chair, Agnes Matheson for details.

FRENCH

French I Year Course

This course is an introduction to the French language and to our textbook series. The curriculum is context-based and addresses culture as well as the four language skills: listening, speaking, reading, and writing. By the end of the year students will have gained enough French so that they can express themselves in simple conversation on very familiar topics. The curriculum is supported by a robust online platform, which allows students the flexibility to do a lot of additional practice outside of class.
Please note that a minimum enrollment is needed to run this class.

French II Year Course
Prerequisite: *French I*

Through a variety of materials and methods, French II will continue to develop a strong foundation in listening, speaking, reading and writing. Class time will be devoted to aural/oral work with most written work done outside of class. Through videos or film clips, history, discussion, and digital media, students will develop a cultural perspective of France and Francophone countries.

French III Year Course
Prerequisite: *French II*

In this course, taught entirely in French, students continue to build their understanding of the French language. This is a year of intense study that deepens a student's basic foundation in preparation for advanced classes that include readings, poetry, civilization, film and music. Listening, speaking, reading and writing skills are developed within the context of language usage through a variety of materials. Students learn to speak with confidence in everyday situations as well as to successfully express a variety of ideas through writing. Grammar is presented through a variety of themes, and the textbook is supported by an online platform with additional activities.

French IV Year Course
Prerequisite: *French III*

More interdisciplinary and content-based than French III, French IV focuses on increased proficiency in language communication skills and appreciation of contemporary French and Francophone culture. Arranged thematically, the course allows students the opportunity to interpret authentic texts and produce language in diverse contexts. Through literary excerpts and articles, students are exposed to a variety of French cultural contexts. Time is devoted to the development of reading strategies, and student read novels in their entirety. Speaking skills improve greatly through daily discussion and attention to oral expression as all elements in class are conducted in French. Writing skills are enhanced through essays and journals that accompany all thematic units.

French V Year Course
Prerequisite: *French IV*

This is a Pre-AP course designed for advanced students who are interested in furthering their knowledge of the language and culture. Taught in French, the content of this course includes short stories, poetry, non-fiction readings, current events and cultural activities from a variety of French-speaking countries. Grammar practice will be reviewed in the context of the readings and by additional reinforcement exercises. Emphasis will be given to developing effective communication skills, and students will write compositions and make oral presentations on a regular basis. A robust multimedia component will support the growth of communication skills and the development of global competence.

AP French Language and Culture Year Course
Prerequisites: B in *French V*, or A in *French IV* and a score of 90% on the Advancement test.

Interdisciplinary and content based, the AP French Language and Culture course promotes both fluency and accuracy in language use while providing students an opportunity to broaden their worldviews and deepen their knowledge of French and Francophone cultures through critical study and authentic materials. Students are engaged in an exploration of culture in both contemporary and historical contexts, using their knowledge of French to understand and compare cultural products, practices, and perspectives of the French and Francophone worlds with their own communities. Taught in French, the course incorporates interdisciplinary topics across the six required themes (Global Challenges, Science and Technology, Contemporary Life, Personal and Public Identities, Families and Communities, and Beauty and Aesthetics) in the AP French Language and Culture Curriculum Framework, and provides opportunities for students to demonstrate their proficiency and ability to interpret and synthesize information from authentic resources in each of the three modes of communication (Interpersonal, Interpretive, and Presentational). The use of French is required at all times and students will be given frequent presentational writing and speaking assignments. Grammar is reviewed as needed throughout the year. The course prepares students to take the Advanced Placement French Language and Culture examination in May. ***There is a supplemental charge to take***

an AP exam that will be the responsibility of the student to pay. Financial aid is available.

Le Monde Francophone: Advanced Culture and Literature
Year Course or Fall Semester
Prerequisite: *AP French Language and Culture* and/or departmental approval

This course will be offered during the 2017-2018 academic year and alternate years thereafter.

This post-AP elective allows French students to explore and more fully develop language while also increasing their understanding of the Francophone world. Using a variety of materials, short readings, novels, press, films, podcasts and technology, students will discover the history, literature, culture and current issues of various French-speaking countries.
Please note that a minimum enrollment is needed to run this class. Due to the small number of students eligible for this course, we ask students to indicate a preference for a yearlong or a semester option. We also encourage students to identify alternatives at registration time.

Post- AP French Special Topics – Theater and Film
Year Course
Prerequisite: *AP French Language and Culture* and/or departmental approval

This course will be offered during the 2018-2019 academic year and alternate years thereafter .

This class includes feature films, documentaries, and plays that focus on both historic and contemporary issues of cultural, socioeconomic, and philosophical relevance. Main themes in the course will address issues such as colonial and indigenous realities, religion, race relations, women's issues, immigration, historic events, and economic and socio-political concerns. As students analyze films and literary plays, and work on improving their pronunciation, intonation, and dramatic expression, they will also develop a more complete appreciation of the complexities of the Francophone world.
Please note that a minimum enrollment is needed to run this class.

LATIN

Latin I Year Course

In Latin I, students will begin to study the language, history, and culture of the ancient Romans. Students will begin to build the foundational skills needed to read an inflected language, which res students to use word endings over word placement to guide meaning. In Latin, our primary modes of communication are reading and writing, and students will develop critical thinking skills by engaging in our activities and readings about mythology, history, and culture in Rome. In addition to gaining an understanding of ancient Roman culture, students will begin to make connections between the Roman world and our modern one.
Please note that a minimum enrollment is needed to run this class.

Latin II Year Course
Prerequisite: *Latin I*

In Latin II, students will continue to study the Latin language, history and culture through more advanced readings and the analysis of more complex grammar. By the end of this course, students will have a complete understanding of Latin grammar and be able to translate mostly unedited Latin from Roman authors.

Latin III Year Course
Prerequisite: *Latin II*

Latin III is a yearlong translation course designed to synthesize the application of Latin grammar learned in Latin I and II with the interpretation and study of authentic Latin texts. During the first semester, students will delve into selections from Livy's *Ab urbe condita*, specifically stories concerning the foundation and early years of Rome. During second semester, students will move from prose to poetry, reading selections from Martial, Catullus and Ovid. During their exploration of poetry, students will also learn about meter, rhetorical devices, and the expectations of poetic genres.

Latin: Readings in Roman Culture Year Course
Prerequisite: *Latin III*

This course will be offered during the 2017-2018 academic year and alternate years thereafter .

This is an advanced translation course. Students will translate and analyze Latin texts from various Roman authors in order to gain a deeper understanding of Roman culture, while solidifying their understanding of Latin grammar. Topics may include religion, daily life, family life, education and slavery. In addition to translating texts, students will conduct research on variety of aspects of Roman culture and the impact of that culture on the modern world. In the final quarter, students will have the opportunity to select an author or topic from the course for more in depth study.

Latin: Readings in Roman Biographies Year Course
Prerequisite: *Latin III*

This course will be offered during the 2018-2019 academic year and alternate years thereafter .

This is an advanced translation course. Students will translate and analyze Latin texts about Roman men and women; real and fictional, written by various authors in order to gain a deeper understanding of Roman history and culture. Vocabulary and grammar concepts will also be reviewed in the context of the Latin texts. Romans to be studied may include Caesar, Cicero, Lucretia, and the Emperors. In addition to translating texts, students will conduct research on a variety of topics to provide a broader context for the Romans being studied. In the final quarter, students will have the opportunity to select an author for more in depth study.

Latin: Readings in Roman History Year Course
Prerequisite: *Latin III*

This course will be offered during the 2019-2020 academic year and alternate years thereafter..
This is an advanced translation course. Students will translate and analyze Latin texts from various Roman authors in order to gain a deeper understanding of Roman history, from the founding through the fall of Rome, all while solidifying their understanding of Latin grammar. Authors may include Eutropius, Cicero, Caesar, and Livy. In addition to translating texts, students will conduct research on a variety of aspects of Roman history and its lasting impact on the modern world. In the final quarter, students will have the opportunity to select an author or topic from the course for more in-depth study.

Latin: AP Vergil and Caesar Year Course
Prerequisite: *Latin III* and departmental approval

Latin AP Vergil and Caesar is a year-long course devoted to the study of Vergil's epic poem, the *Aeneid,* and Caesar's *De bello Gallico* (*Gallic War*). Over the course of the year, students translate selections from both texts, working to hone strategies specific to reading both epic poetry and prose. In addition to the Latin text, students are also expected to read selections from the *Aeneid* and the

Gallic War in English. While this course remains an advanced translation course, students will also learn to analyze and interpret the Latin text as literature. Student-led discussions, journal entries and regular short response papers allow students to articulate and refine their evolving interpretation of each author. The course of study prepares students to take the Advanced Placement Latin Examination in May. ***There is a supplemental charge to take an AP exam that will be the responsibility of the student to pay. Financial aid is available.***

Advanced Classics: The Age of Augustus and Empire
Year Course

Prerequisite: *Latin: AP Vergil* and/or departmental approval
This course will be offered in alternate years. It will be offered during the 2017-2018 academic year.

This is a yearlong translation course that explores the literature, history, social dynamics and architecture during the Principate of Augustus, and the emperors who followed him. Students in this course translate from authors including, but not limited to: Suetonius, Augustus, Tacitus, Pliny, Horace, Ovid and Vergil. During this course, students also write papers, prepare presentations and engage in student-led discussions covering various topics dealing with the Roman Empire.
Please note that a minimum enrollment is needed to run this class.

Advanced Classics: Politics and Poetry Year Course
Prerequisite: *Latin: AP Vergil* and/or departmental approval
This course will be offered in alternate years. It will be offered during the 2018-2019 academic year.

This is a yearlong translation course that, in addition to translation of texts, incorporates elements of composition and dialogue about the role of a translator. During first semester, students will primarily study Cicero and the political scene during the Roman Republic. While reading Cicero, students will also delve into Latin prose composition. In the second semester, students will read Ovid while parsing out the role of a translator and the importance of that role. There will be various student-led projects throughout the year, such as preparing a Latin text, presenting compositions, and creating polished translational work.
Please note that a minimum enrollment is needed to run this class.

Beginning Ancient Greek Year Course
Prerequisite: Completion of *Latin III* and entering 12th grade

Beginning Ancient Greek will use the *Athenaze* book series to begin the study of this classical language. By reading about Dikaiopolis and his family, students will discover how Greek functions as well as learn about the culture of Ancient Greece. We will also read several tragedies in English translation to discuss both religious and philosophical beliefs of the ancient Greeks.
Please note that a minimum enrollment is needed to run this class.

MANDARIN CHINESE

Mandarin I Year Course

This is an introduction to Modern Standard Chinese (Mandarin Chinese) and to the cultures of China. With an emphasis on speaking and listening, this course also addresses reading and writing in simplified characters. Students also learn the Pinyin spelling system. Students in this course learn to talk about themselves and their families. They also use computer software programs to look up characters that share common elements, and find new words that are formed with a given character. Students will understand some common signs written in simplified Chinese, and they will also learn about Chinese holidays and festivals and the distinctive foods associated with them.
Please note that we need a minimum enrollment to run this class.

Mandarin II Year Course
Prerequisite: *Mandarin I*

This is a continuation course for students who have completed Mandarin I, or who can demonstrate that they have acquired a knowledge of the language to the required level. Emphasis will continue to be on the spoken language. This course is taught primarily in Chinese. The study of Chinese characters will focus on the simplified forms. Topics include shopping, talking about past and future events, daily and leisure activities, and home and school. Students will understand brief messages and notes written in simplified Chinese characters that they have studied previously. Supplementary materials and technology will support this course.

Mandarin III Year Course
Prerequisite: *Mandarin II*

Mandarin III is an intermediate course that is taught entirely in Chinese. Vocabulary and sentence structures from Mandarin I and II will be further developed. Topics will include home and school, going to the doctor, ordering dishes in a restaurant, getting around town and narrating a sequence of events. Students will begin to read short stories, advertisements and other authentic materials. With the use of computer software this course will offer additional practice in extended writing. Students will be working with a textbook and authentic text in simplified characters. Other resources will include music, film, and digital media.

Mandarin IV
Prerequisite: *Mandarin III* Year Course

In this course, taught entirely in Chinese, students will be working with a college level textbook and authentic Chinese texts to further develop their reading and writing in simplified character, as well as listening and speaking skills. Readings and digital media will be supplemental resources for this class.

Mandarin V
Prerequisite: *Mandarin IV* Year Course

This is a Pre-AP course designed for advanced students who are interested in furthering their knowledge of the language and culture and is taught entirely in Chinese. In order to provide a content-rich environment, this course includes short stories, poetry, non-fiction readings, current events, cultural activities, digital media, films, and songs. Students are introduced to different writing styles. Grammar practice is reviewed in the context of the readings and by additional reinforcement exercises. Emphasis is given to developing effective communication skills, and students write compositions and make oral presentations on a regular basis.

Advanced Placement Chinese Language and Culture
Year Course

Evidence of readiness: B in *Mandarin V*, or A in *Mandarin IV and a score of 90% on the Advancement test.*

The AP Chinese Language and Culture course deepens students' immersion into the language and culture of the Chinese-speaking world. This course provides students with ongoing and varied opportunities to further develop their proficiencies across the full range of language skills within a cultural frame of reference reflective of the richness of Chinese language and culture. Instructional materials and activities are carefully and strategically adapted from authentic sources to support the linguistic and cultural goals of the course. The course prepares students to take the Advanced Placement Chinese Language and Culture examination in May. ***There is a supplemental charge to take an AP exam that will be the responsibility of the student to pay. Financial aid is available.***

Advanced Chinese Culture and Literature
Year Course or Fall Semester
Prerequisite: *AP Chinese Language and Culture* and/or departmental approval

This post-AP elective allows students of Chinese to explore and more fully develop language while also increasing their understanding of the Chinese speaking world. Using a variety of materials, short readings, novels, press, films, podcasts and technology, students will discover the history, literature, culture and current issues of the Chinese speaking world.
Please note that a minimum enrollment is needed to run this class. Due to the small number of students eligible for this course, we ask students to indicate a preference for a yearlong or a semester option. We also encourage students to identify alternatives at registration time.

SPANISH

Spanish I Year Course

This course is an introduction to the Spanish language and to our textbook series. The curriculum is context-based and addresses culture as well as the four language skills: listening, speaking, reading, and writing. By the end of the year students will have gained enough Spanish so that they can express themselves in simple conversation on very familiar topics. The curriculum is supported by a robust online platform which allows students the flexibility to do a lot of additional practice outside of class.
Please note that we need a minimum enrollment to run this class.

Spanish II Year Course
Prerequisite: *Spanish I*

This course continues with the textbook series. Students will acquire standard language and grammar and develop communication skills largely through the context of the course content and activities. Oral and written stories, current events, active listening, note-taking and writing, and lots of interpersonal communication are the vehicles for delivering this content. In addition, the textbook series provides rich online audio and video content that will be assigned for homework. In class, listening, engagement, and participation are a daily expectation. By the end of this course, students will be able speak and write about everyday and familiar topics in both the present and past tenses, and they will have had fun along the way.

Spanish III Year Course
Prerequisite: *Spanish II*
Spanish III is an intermediate level course that is taught entirely in Spanish. Some time is devoted to reviewing the many structures and verb tenses introduced in Spanish II. New units will include more vocabulary topics, compound verb tenses, cultural information and longer readings. The general format of the textbook sequence continues throughout the publisher's materials supported by a robust online platform. Daily classroom activities and conversation will reinforce the daily homework exercises. Some work will involve culture projects, music videos, television program excerpts and online assignments.

Spanish IV Year Course
Prerequisite: *Spanish III*

More interdisciplinary and content-based than Spanish III, Spanish IV focuses on increased proficiency in language communication skills and global competence. A review of grammar structures, as well as new concepts, vocabulary enrichment, and reading practice will continue throughout the year. Arranged thematically, the course allows students the opportunity to interpret authentic texts and produce language in diverse contexts. Through literary excerpts and articles, students are exposed to a variety of cultural contexts from around the world. Time is devoted to the development of reading strategies. Speaking skills improve greatly through daily discussion and attention to oral expression as all elements in class are conducted in Spanish. Writing skills are enhanced through compositions and journals that accompany all thematic units.

Spanish V Year Course
Prerequisite: *Spanish IV* and department approval

This is a pre-AP course conducted in Spanish. Course content is comprised of current events, short stories, a novel, non-fiction readings, and film. Students will read and write often, research and present to small groups, read for pleasure, act out original skits, and sing and play instruments. Discussion and participation are a daily expectation. Emphasis is on the development of effective communication skills while exploring topics of interest. Students will increase their language proficiency largely through the context of the course content and activities. Students will be expected to relate their own lives to the course themes and content, and they should be prepared to share their lived experiences and ideas with their classmates.

AP Spanish Language and Culture Year Course
Prerequisites: B in *Spanish V*, or A in *Spanish IV* and a score of 90% on the Advancement test.

The AP Spanish Language and Culture course strives to promote both fluency and accuracy in language use while providing students an opportunity to expand their exposure to and deepen their knowledge of the cultures in the Spanish-speaking world through critical study of authentic materials. Taught completely in Spanish, this course engages students in an exploration of culture in both contemporary and historical contexts. Students will work with a variety of current instructional materials, including digital media, journalistic and literary sources. Literary selections will include complete plays, poems and novels from Spain and Latin America. Readings are intended to be a catalyst for active class discussion. The use of Spanish is required at all times and students will be given frequent presentational writing and speaking assignments. The course prepares students to take the Advanced Placement Spanish Language and Culture examination in May. ***There is a supplemental charge to take an AP exam that will be the responsibility of the student to pay. Financial aid is available.***

Advanced Hispanic Culture and Literature Year Course
Prerequisite: *AP Spanish Language and Culture* and/or departmental approval.

This course will be offered during the 2017-2018 academic year and alternate years thereafter .

This course is taught entirely in Spanish and is intended to further enrich the students' knowledge and appreciation of history and culture in the Hispanic world. Course content includes: literary selections, non-fiction readings on history, culture, and current events, in-depth analysis of feature films, music appreciation and performance. Students will demonstrate their understanding of course content through a variety of mediums, for example, dramatic presentations, analytical writing, formal presentations, creative writing, in-class discussion, and digital media. Grammar instruction is not an explicit part of the curriculum of this course. However, it is expected that students use clear and accurate language, and that they make every effort to develop and hone their language skills.
Please note that a minimum enrollment is needed to run this class.

Post-AP Spanish Special Topics – Theater and Film

Year Course

Prerequisite: *AP Spanish Language and Culture* and/or departmental approval

This course will be offered during the 2018-2019 academic year and alternate years thereafter .

This class includes feature films, documentaries, and plays that focus on both historic and contemporary issues of cultural, socioeconomic, and philosophical relevance. Main themes in the course will address issues such as colonial and indigenous realities, religion, race relations, women's issues, immigration, historic events, and economic and socio-political concerns. As students analyze films and literary plays, and work on improving their pronunciation, intonation, and dramatic expression, they will also develop a more complete appreciation of the complexities of the Spanish-speaking world.
Please note that a minimum enrollment is needed to run this class.

SCIENCE

DEPARTMENTAL REQUIREMENT:
Introductory Biology (grade 9) and at least one semester of chemistry and one semester of physics sometime during grades 10, 11 or 12. The Science Department strongly recommends continued enrollment in science courses during the junior and senior year.

BIOLOGY

Introductory Biology Year Course (Grade 9)

This course provides a background in basic biological concepts, theories and vocabulary. The major topics studied include the scientific process, chemical basis of life, cells, genetics, and evolution, energy and body systems. Class activities include lab experiments, simulations, presentations, projects and discussions. The focus of the laboratory experience is to allow students to investigate the basic concepts of biology and to develop skills in data collection and analysis.

Advanced Biology – Genetics First Semester Course
Prerequisites: *Introductory Biology* and *Chemistry* (any level)

How are traits inherited? How can scientists alter characteristics through genetic engineering? These questions, along with many others of high interest, are explored in this course. A variety of activities are used to study topics such as DNA structure and function, genetic variation, the chromosomal basis of inheritance, protein synthesis, recombinant DNA and DNA fingerprinting. The first portion of the course focuses on fundamental concepts while the second portion deals with the modern discoveries of molecular biology and their application to contemporary issues. Throughout the course, ethical issues related to the expanding uses of biotechnology are discussed.

Advanced Biology: Human Anatomy & Physiology
First or Second Semester Course
Prerequisites: *Introductory Biology* and *Chemistry* (any level)

Human Anatomy and Physiology covers the structure and function of the human body. The course begins with an introduction to the human body and the key chemistry concepts needed to understand its processes. Body systems will be covered in detail and an understanding of how these systems coordinate with one another will be developed. Emphasis will be placed on the structure and function of organs. Lab work, including dissection, will be a core part of the course.

CHEMISTRY

Chemistry Year Course
Prerequisite: *Introductory Biology*

In this college preparatory course, topics covered will include the study of matter, atomic structure, periodic table, bonding, stoichiometry, chemical reactions, gas laws and thermochemistry. Laboratory experiences will be an important part of the course. This is a year-long course and cannot be taken for only one semester.

Honors Chemistry Year Course
Prerequisites: Minimum grade of B+ in *Introductory Biology*, and completion of *Honors Algebra II* or department approval.

Honors Chemistry is a rigorous, year-long course designed for those students who have demonstrated an interest and aptitude in science and are willing to commit themselves to the study of chemistry at a very high level. The course will deal with the usual topics of chemistry in a manner emphasizing strong problem solving skills and should give the student an extensive preparation for further study of chemistry or related sciences in college. Laboratory experiments play an important role in the development of the concepts studied. This course is a prerequisite for *AP Chemistry*.

Advanced Chemistry: Forensic Science
First Semester Courses
Prerequisites: *Chemistry or Honors Chemistry*

This course builds on topics introduced during the first year chemistry course as well as introduces new topics that are outside of the scope of Introductory Chemistry. The discipline of Forensics is the use of science and technology to investigate and establish facts in criminal or civil courts of law. This course will explore different facets of forensics including DNA testing, organic chemistry, redox chemistry, chemical equilibrium, nuclear chemistry and kinetics. Skills that will be incorporated into the course that are not Chemistry-specific will include: non-routine problem solving, analytical thinking and the concise and precise communication of scientific information. We will be utilizing case studies and lab analyses as a means of exploring forensic science.

Advanced Chemistry: Science of Foods
Second Semester Course
Prerequisites: *Introductory Biology and Chemistry (any level)*

See your food in a different way. This interdisciplinary course approaches food through varying scientific lenses: the chemical changes produced by cooking, the biology and physiology of nutrition, the physics of food preparation, the microbiology of the kitchen and the gut, and the genetics of agriculture, and the ecological effects of food production. With a modern, integrated, scientific approach to what traditionally would be called "Home Economics," this course will not merely teach cooking, but will deconstruct the farm-to-table food production process and the science it is based upon.

PHYSICS

Physics: Mechanics First Semester Course
Prerequisites: *Introductory Biology* and *Chemistry* or department approval

NOTE: While *Physics: Mechanics* satisfies the one semester graduation requirement, students are **strongly** encouraged to register for the second semester of the two-semester series, *Physics: Electricity and Magnetism*. Class activities in both courses include laboratory investigations, concept development through small-group collaborative work, and real world problem solving. The pace is that of a typical college-preparatory course.

Physics: Mechanics is a lab-centered course that focuses on building graphical and mathematical models to better understand relationships among forces, motion, energy, and momentum. The course routinely incorporates technology, using probes with computer interfaces to collect data, and software to analyze it. The emphasis of each unit is on the co-construction of physics principles based on experimental evidence. Subsequent activities focus on concept development and problem solving. The course has a significant semester project that integrates data analysis with models of Newtonian mechanics.

Physics: Electricity & Magnetism Second Semester Course

Prerequisite: *Physics: Mechanics* or department approval
Physics: Electricity & Magnetism focuses on developing conceptual models and reasoning skills to understand life in the Electric Age. Topics include electric charge behavior, D.C. electric circuits, behaviors of permanent and ferromagnetic materials, electromagnetism in speakers and motors, physical waves, light, color, and mirror and lens optics. Much of the lab work involves using observation to construct qualitative models. Students apply models to solve quantitative problems, as well. The course includes a semester project in which students use principles developed during the term to detail how a modern electrical device works.

ADVANCED PLACEMENT SCIENCE

Juniors and seniors who have demonstrated both interest and excellence in science have the opportunity to take Advanced Placement courses in biology, chemistry and physics. Students taking these courses will meet the objectives of an introductory-level college course and, by taking the AP Exam in the spring, may have the opportunity to receive college credit for their work. Students interested in AP Science courses should confer with the teachers of these courses prior to registration. Students in AP Science courses are expected to sit for the AP Exam for that course in May. ***There is a supplemental charge to take an AP Exam that will be the responsibility of the student to pay. Financial aid is available.***

AP Biology Year Course
Prerequisites: Completion of either *Honors Chemistry* or *AP Physics I* with a minimum grade of B+, or departmental approval.

This college-level course explores fundamental biological principles at various levels of organization, from molecules to ecosystems. Laboratory work involves demonstrations and the collection and analysis of experimental data. This course will require occasional laboratory work outside the normal class times throughout the year.

AP Chemistry Year Course
Prerequisites: A minimum grade of B+ in *Honors Chemistry* or department approval.

This college course in introductory chemistry presents a critical approach to macroscopic properties, origins of atomic theory and stoichiometry, kinetics, chemical equilibrium, oxidation and reduction, electronic structure and bonding. Students are expected to carry out some summer work in advance of the fall semester, basically in the form of reviewing some chemistry topics.

AP Physics I Year Course
Prerequisites: *Honors Chemistry* and completion of, or concurrent enrollment in *Honors Pre-Calculus*, or department approval

This rigorous yearlong AP course serves as the introduction to physics for juniors who both have high interest in science and math, and are very academically motivated. The course addresses topics in Newtonian mechanics including kinematics, dynamics, conservation of energy and momentum, rotation, simple harmonic motion, physical waves, sound, charge behavior, and electric circuits. The lab component requires good functionality in a laboratory environment, and focuses on developing skills to analyze experimental data graphically and mathematically. Each unit has at least one associated lab experiment. In addition, there is a strong emphasis on problem solving at the pre-calculus level that requires a high comfort level with mathematics. Most topics are treated with significantly more rigor than a typical high school course. The pace is that of a college freshman non-calculus-based introductory physics course. *Students are expected to sit for the AP Physics I exam in May.*

AP Physics II: Modern Physics First Semester Course
Prerequisite: *AP Physics I* or *Physics (Mechanics* and *E&M)* with a minimum grade of B+ or departmental approval

Modern Physics is the first semester of a two-semester sequence. It is an Advanced Placement algebra-based course designed for students who would like to take a second year of physics, but due to their math level, would best be served by a non-calculus-based physics course. The curriculum covers a broad range of topics and prepares students for further work in sciences in college. The primary objectives of *Modern Physics* are: (1) to introduce the ideas and concepts of modern physics, (2) to provide an historical perspective on the development of key scientific ideas, and (3) to further develop scientific reasoning skills. Students will be introduced to the major experimental findings that led to the development of current theories of light and matter. The course will include selected topics on special and general relativity, the quantization of energy, particle-wave duality, theories of the atom, fundamental particles and interactions, selected applications of modern physic theories, and an overview of the most recent theories that have been proposed to account for the nature and existence of matter.

AP Physics II: Electricity & Magnetism, Thermodynamics, and Fluids
Second Semester Course
Prerequisites: *AP Physics I* with a minimum grade of B+ or department approval

Electricity & Magnetism, Thermodynamics, and Fluids is an Advanced Placement algebra-based course that builds upon the work students have done in their first year of physics and *AP Physics II: Modern Physics*. The focus of this course is on electrostatics (including fields and potentials), electromagnetism, geometrical and physical optics, thermodynamics, and fluid dynamics. Student will develop problem-solving techniques for approaching comprehensive problems in physics, and use laboratory work to further their understanding of theoretical content. The college equivalent of this course is normally taken by a wide range of students including pre-med students and those interested in careers in the biological sciences. The course is also an excellent preparation for students who wish to enter engineering fields, but have not yet taken calculus.

AP Physics (C Level) Year Course
Prerequisites: A minimum grade of a B+ in *AP Physics 1* and concurrent enrollment in *BC Calculus* or *AB Calculus* with departmental approval.

AP Physics C is a calculus-based second year physics course that examines principles and problem solving at a significantly more sophisticated level than AP Physics I. The course is divided into two parts: Mechanics, and E&M (Electricity and Magnetism). Mechanics topics are finished by winter break, and E&M topics are completed by mid-April. Late April and May are used for review and practice exams leading up to the AP exam. Students
are expected to have a high level of comfort with mathematics, as both differential and integral calculus are used extensively from the beginning of the *AP Physics C* curriculum. There is an ambitious lab component to the course that includes a quarter-long independent laboratory research project.
Note: Only capable students who are strongly motivated and highly self-disciplined with a history of successful independent work are encouraged to enroll in this course.

ADDITIONAL SCIENCE ELECTIVES

Astronomy First Semester Course
Prerequisites: Both semesters of *Physics, AP Physics I* or departmental approval.

This course takes a hands-on, multimedia approach to a subject that asks some of the most basic and profound questions about the cosmos. What explains the apparent motions of the moon, sun, stars and planets? Why do stars shine, and what happens when they die? Why do astronomers say that we are made of "star stuff?" What is the ultimate fate of the universe? Videos, computer activities, observation projects and hands-on inquiry labs supplement traditional textbook study. If weather permits, numerous "sky watching" nights are also scheduled. Learn the constellations, look at objects through a large telescope and witness various astronomical current events; students who would like to participate in such activities are especially encouraged to enroll.

Engineering Second Semester Course

Engineering will introduce students to a variety of different fields that fall under the wide umbrella of engineering through class activities, projects, design challenges, field studies, and class speakers. Most importantly, students will engage in the engineering process to gain vital experience in problem solving, design, prototyping, and implementation. Along the way, students will learn about and apply mechanics principles, coding, CAD, budget proposals, and project bidding

Environmental Science First and/or Second Semester Courses
Prerequisites: *Introductory Biology* and *Chemistry*

Environmental Science is divided into two semester long courses, and students may enroll for either or both semesters. The goal of these interdisciplinary courses is to provide students with the scientific principles, concepts, methods and experiences required to understand the interrelationships of the natural world. Students will identify and analyze environmental problems both natural and human-made, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving and/or preventing them. An overarching focus will be the human influence on the environment, coupled with the exploration of basic ecological concepts. In addition, the courses will concentrate on the "real science" behind environmental problems and issues. Classroom, laboratory, and field study will include the following topics:

Environmental Science: Understanding the Earth
First Semester Course

Topics included: Ecosystems, matter and energy in living systems, atmosphere and weather, geology, soil, water, population dynamics, human populations, local field work.

Environmental Science: People and the Planet
Second Semester Course

Topics included: Ecosystems review, biodiversity, climate and global warming, pollution, solid waste, food, energy, ozone depletion, urbanization, local field work.

Science Writing Seminar First Semester Course
Prerequisites: *Introductory Biology*, *Chemistry* (any level) and department approval.

In this course, students who had participated in a Summer Research Experience Program or another approved research program have an opportunity to write a paper, prepare a presentation and submit their work for consideration at a Regional or National Competition. Key components of this work include reading relevant journal articles, continued work on an on-going project, and peer review of each other's work. Each student will present his or her work to US Science Faculty and students at a Science Research Symposium. Students will be required to attend several off-campus presentations given by the local science community such as: Gustavus Adolphus Nobel Conference, Tate Lectures at the University of Minnesota, Malmstrom Lecture in Physics, Hamline University, etc. Additional trips could include visiting National Labs such as: Fermi Lab in Batavia, Ill, MINOS in Soudan, MN, or "virtually" through the Howard Hughes Medical Institute Lectures.

Advanced Science Research Seminar Second Semester Course
Prerequisites: *Introductory Biology*, *Chemistry* (any level) and department approval.

In this course, students will have an opportunity to participate in an on-going research or engineering program on campus. Interested students should complete an application for admission to the course, detailing their proposed research project that could include one of our current projects: QuarkNet, Robotics, Genetic Analysis, Molecular Modeling or propose one of their own design. Key components of this work include reading journal articles, continued work on an on-going project, peer review of each other's work and each student will present their work to US Science Faculty and students at a Science Research Symposium in the spring. Applications can be found on Moodle under the US Course Registration tab, and should be completed by spring break. See Ms. Phillips with questions.

SOCIAL STUDIES

DEPARTMENTAL REQUIREMENT:
Core Course (grade 9), *2 semesters U.S. History* (grade 10), and at least two semesters of social studies electives (grades 11 and 12). Students must take at least one Social Studies Elective course and one Global Elective course during grades 11 and 12.

GRADE 9 Core Courses

Modern World History Year Course

This course prepares students to analyze world events and their historical and contemporary causes through targeted practice in reading, thinking and writing like an historian. Students engage deeply with a selected set of historical turning points and core concepts from 1500 to the present. Students will also investigate a world history topic of their own choosing during the research-intensive quarter. This course is coordinated with the ninth grade English course, World Literature.

Ancient Roots of Modern Thought Year Course

This year-long interdisciplinary course will look at the "big ideas" that shape our interconnected world in the 21st century. We will explore questions like: What does it mean to be human? What are the overarching philosophies of human existence? Because modern history has many roots in ancient stories and sacred texts, we will study how modern interpretations of those texts expose the values and structures of the civilizations that created them. Most days we will have combined class meetings, team-taught by English and Social Studies faculty, emphasizing the inter-disciplinary nature of the course and its assessments. This is not an *answers* course; it is a *questions* course that will generate complexities, priming every student for a life of curiosity, discovery, and inquiry. This course will develop the same skill set as World Literature /World Cultures, emphasizing the development of discussion, reading, writing, and research skills. This course is taken with English 9: Ancient Roots of Modern Literature.

GRADE 10 U.S. History Year Course

U.S. History electives are a collegiate-style, semester-long investigation of major themes in U.S. History. They provide the foundational knowledge of a more traditional survey course and also provide students an engaging, rigorous investigation of major themes in U.S. History.

U.S. History: America in a World of Empires
First Semester Course

In this course, we will explore the influence and role of Britain, France, and Spain's colonial empires in shaping the trajectory of the American continent. Transitioning from part of an empire, we will delve into the United States' place within a world system of empires in the 18th and 19th centuries. Connecting stories from Europe, Asia, and Latin America, we will look at American history as part of larger global changes.

U.S. History: Contested Ideals in Founding America
First Semester Course

"We hold these truths to be self-evident that all men are created equal…" What is "all men"? What is "equal"? Who should be a citizen? Much like today, groups in Colonial America answered these questions in very different ways, sometimes with grave consequences. We will study competing visions and goals in the early American Republic and culminate with the explosion of conflict around the Civil War.

U.S. History: Innovation and Technology
Second Semester Course

How did key inventions of the past shape and change the United States? We will explore the historical origins and radiating consequences of major innovations throughout American History. With a lens of technology, we will investigate the past and debate the future of our country.

U.S. History: Movement and Peoples
Second Semester Course

Borders, walls, legality. Movement has been a unifying theme throughout the array of personal experiences in the United States. Students will investigate a variety of immigrant stories, immigrant identity formation, and explore internal migrations, like the Great Migration and post-WWII suburbanization. Using local resources and agencies, students will consider both the historical realities of migration and the modern forms that it has taken.

Advanced Placement U.S. History Year Course

This college-level course surveys U.S. history chronologically from the pre-colonial era to the recent past. Not all eras of U.S. history will be studied in the same depth; however, by the end of the course, students will have knowledge of the major events and themes of U.S. history and will have enhanced their historical-thinking skills. The course is designed to prepare students for the A.P. U.S. History exam in May, and accordingly it will entail extensive reading assignments, which will begin over the summer, in the textbook and other secondary sources as well as primary sources. Students will also complete several research and other writing assignments and are expected to start the course with proficient to mastery-level skills in historical research and writing. Students are expected to sit for the AP U.S. History exam in May. ***There is a supplemental charge to take an AP exam that will be there responsibility of the student to pay. Financial aid is available.***

GRADES 11 AND 12: Social Studies Electives

Students must take AT LEAST ONE course from each of the following categories during grades 11 and 12.

Social Studies Electives	***Global Electives***
Class and Race in the U.S.	AP European History
Constitutional Studies	The History of Capitalism
Economics CIS	Global Community
Gender Studies	Global Theories, Local Realities
Minnesota History	History of the Ancient World
Moral Issues	World Religions
Social Psychology	

Course with restricted enrollments:

The College in the Schools (CIS) course is taught in conjunction with the University of Minnesota. by registering with the U of M, students who successfully complete this course will receive U of M credit. ***Students who choose to register for U of M credit will be billed a tuition fee.*** (Financial aid is available.) To be eligible for this course, students who are current juniors must be in the top half of their class.

Students who would like to register for this CIS course who have not met the eligibility requirements should consult with their current social studies teacher and the department chair regarding their interest.

Economics CIS First Semester Course

How does Apple decide what to charge for an iPhone? Why do baseball players earn more money than high-school teachers? Should you stay to the end of a movie you're not enjoying in order to get your money's worth out of the ticket you bought? Explore the answers to these and many other questions in this advanced-level economics course. Economics CIS is the equivalent of the University of Minnesota's introductory course on microeconomics. The course introduces students to the principles of microeconomics and includes such topics as supply and demand, market mechanisms and competition, taxation and income distribution.

FIRST SEMESTER COURSES

AP European History Full Year Course

This rigorous and writing intensive course is intended for strong social studies students. The course examines major political, cultural and social trends in European history from the fall of Rome to the French Revolution. The course explores the medieval social order, the rise of nation states and the transition to a modern capitalist economy, the achievements of the Renaissance, the bloody conflicts of the Reformation, the discoveries and conquests of the age of exploration, the study of the new ways of perceiving the world created by the scientific revolution and the Enlightenment and the triumphs and tragedies of the French Revolution. Students will engage with these topics through a variety of highly challenging of projects, readings and activities. ***There is a supplemental charge to take an AP Exam that will be the responsibility of the student to pay. Financial aid is available.***

Gender Studies First Semester Course

In this course, we will examine three key questions: 1) How is gender constructed? 2) How does gender intersect with race, class, sexuality, nationality and ethnicity? 3) How do power structures maintain gendered realities? Topics of exploration will include the role of gender as it relates to work, the media, school, reproductive rights, and violence. Through investigation of perspectives espoused in both academia and popular culture and sharing of personal experience, students will build an understanding of the role that gender has played in shaping their lives and the opportunities available to them.

Global Community: Life on the Edge
First Semester Course

Divided territories have shaped numerous contemporary global conflicts. Using border disputes as a common thread, this course will engage in a rigorous examination of current international issues and events. Through an ongoing United Nations simulation, we will study the development of international boundaries, current controversies and efforts to resolve these disputes. We will focus our attention on the experiences of the tens of millions who have been unsettled by conflict across the globe, including Kurdistan, Crimea, Korea, Kashmir and Ireland.

Global Theories, Local Realities
First or Second Semester Course

The students in this course will undertake a critical and comparative analysis of several theories of global citizenship. Students will then apply theory to practice through hands-on field experiences, case studies and social action projects. The course will include action-oriented research and collaboration with local organizations that have developed innovative responses to challenging global issues (e.g. poverty, education for all, environmental sustainability, human rights, terrorism, disease, cultural conflicts, gender inequality, etc.). As many solutions to complex issues are multi-faceted, context dependent, and interdisciplinary, students will consider multiple perspectives, engage with others from different cultural backgrounds, and draw on expertise from other academic disciplines. Students should expect to spend working time outside of class connecting and collaborating with local entities. At the end of the course, students will present their research findings and recommended solution-oriented responses.

History of the Ancient World First or Second Semester Course

This course will compare and contrast the development of Greece and Rome and the impact of both on the Ancient World. Students will trace the development of durable social, economic, political, religious and artistic paradigms in these societies. In addition to understanding the consolidation of power and the development of empire, this course also seeks to examine the lives of all members of Greek and Roman societies through the examination of art, literature and primary sources.

U.S. Constitutional Law First Semester Course

Students will learn about significant historical and current constitutional topics. The first part of the course will focus on the philosophical and historical foundations of the constitution, the criminal justice system, [including the rights of the accused], trial procedure, and the court system. Students will participate in Mock Trials. The second part of the course will take a broader look at contemporary constitutional issues, focusing on the Supreme Court. Students will also prepare and present briefs in preparation for an appeals case (Moot Court experience) and explore many of the landmark decisions of the Supreme Court over the past two hundred years

Historical Research and Field Study: Topics in Minnesota History First Semester Course

Minnesota is more than hot dishes, lakes, and hockey games. Students in this class will engage in field work, multiple forms of research, and seek authentic voices to gain historical understanding of this great state and Blake. Students will complete various projects in Minnesota history focusing on the interpretation of primary sources, critical analysis of secondary work, and historical research and thinking. Students will visit libraries and archives as a class to work with relics and primary documents as part of the research process.

Social Psychology First Semester Course

This course focuses on the relationship between the individual and society. To what degree can individuals determine the direction of their own lives? Concepts from social psychology are used to examine topics relevant to these questions: social influence, social stratification, socialization, human development, mental illness, racism, bias and stereotypes. Students will have the opportunity to complete a research project on a topic of personal interest in the field of social psychology.

SECOND SEMESTER COURSES

AP U.S. Government and Politics

Second Semester Course

What is the proper role of government in U.S. society? Students in Political Science CIS will consider how the government institutions and electoral systems promote and limit equality and freedom. Using current domestic and international realities, students will engage in practical politics to understand how to attain change at the local and national level. Students will examine the development of the U.S. system of democracy and assess the interplay between the legislative, executive and judicial branches of the federal government. Along with learning about how political leaders fashion public policy, students will learn how individuals and groups develop attitudes about political life.
With no incumbent running we will closely follow the Gubernatorial nomination process this spring. *Students are expected to sit for the AP US Government and Politics exam in May. There is a supplemental charge to take an AP exam that will be the responsibility of the student to pay. Financial aid is available.*

Class and Race in the U. S. Second Semester Course

Which is more influential in our society – class or race? Students will investigate this question by using theoretical lenses to examine the origin, development, and contemporary manifestations of race and class as categories in the United States. We will combine history and current issues to study how race and class have become interconnected with education, migration, and employment practices. The course will integrate readings, discussions, experiential activities, speakers, film and research to help students examine the power of class and race in contemporary America and our own personal development. Students will craft an inquiry project on an issue of their choice.

History of Capitalism

Second Semester Course

This course traces the rise and fall of various economic institutions and decision-making systems of economic institutions and decision-making systems. We will explore capitalism, socialism, and contemporary economic systems among indigenous peoples including how they developed and where they exist today. A major focus will be on the historical rise of the market system and economic systems in transition. We will also discuss evolving definitions of wealth and economic well-being, including economic debates in the news.

History of the Ancient World First or Second Semester Course

This course will compare and contrast the development of Greece and Rome and the impact of both on the Ancient World. Students will trace the development of durable social, economic, political, religious and artistic paradigms in these societies. In addition to understanding the consolidation of power and the development of empire, this course also seeks to examine the lives of all members of Greek and Roman societies through the examination of art, literature and primary sources.

See descriptions under first semester courses

History of the Ancient World Second Semester Course
Global Theories, Local Realities Second Semester Course

Moral Issues Second Semester Course

This course is an experience designed to help you determine who you are, what you believe and how you want to live your values. We will read great philosophers from John Stuart Mill to Immanuel Kant, who will inform our consideration of controversial topics such as war, abortion and the death penalty. A final project will explore current events topics of students' choosing. Other paper topics will include: "What are my values?"; "How ought we act?"; "What is the meaning of *my* life?"; and "When is it acceptable to take a life?" This is a discussion-based course in which we will learn to disagree both vigorously and respectfully. Heavy emphasis will be placed on refining discussion and writing skills.

World Religions: Faith and Society Second Semester Course

This course delves into the seminal ideas, practices, and relationships that define Hinduism, Buddhism, Judaism, Christianity, and Islam. Students are asked to deepen their understanding of each religion with openness to their own traditions and curiosity about others. We will explore the powerful impact of religion on our lives as citizens of the United States and the world, using a religious pluralism framework that is
informed by The Pluralism Project at Harvard [www.pluralism.org]. Current events are incorporated into the course on a regular basis and speakers from a variety of religious backgrounds will share their perspectives. Students will engage in a three-week final inquiry project investigating a tradition or problem of their choice.

GENERAL EDUCATION

DEPARTMENTAL REQUIREMENT:
Health in grade 10
Senior Seminar in Grade 12
Senior Seminar: Communication & Society or the equivalent (see below) is required for all students during grade 12.

HEALTH First or Second Semester Course

This course will deliver health and wellness information aimed at promoting healthy behaviors, increasing responsible decision-making, and encouraging healthful living. As a result of this course, students will gain an understanding of how to make positive lifestyle changes in the areas of physical wellness, mental health, chemical health and relationships/sexual health, and they will work toward personal application of the information into their daily lives. The overarching theme of this course is to allow students to practice and model making healthy decisions (short and long term) that will reduce the risk of future health concerns. In addition to taking personal responsibility for their health and well-being, students will also use the knowledge that they have acquired to educate their friends and family.

Health is also available as a Blake Summer Programs course for students entering grades 10-12. This summer course fulfills the Health graduation requirement. For more details, please see the Summer Academic Courses section of this catalog.

SENIOR SEMINAR: COMMUNICATION & SOCIETY

First or Second Semester

(Formally Psychology of Communications)

This course provides seniors an opportunity to investigate advanced communication strategies and contexts to help the move to college and professions and to provide guidance and advice for the Senior Speech and the Senior Program.

- Course objectives include: demonstrating an understanding of basic theories and concepts of public speaking and be able to adapt them to the Senior Speech; demonstrating advanced research skills that help build the Senior Speech and Senior Program; evaluating the implications of cultural dynamics and communication behaviors and their influences on individuals and groups in intercultural, professional, interpersonal, and public speaking contexts; and, demonstrating what it means to be an ethical communicator in interpersonal and social advocacy contexts. The course will offer seniors a method to reinforce the school's commitment to pluralism, cultural competence and the exploration of identity.
- The Senior Program is an individual learning opportunity that offers students the space and time to execute a self-designed project that falls outside the standard school day and/or curriculum. Each senior must meet academic and attendance eligibility requirements to participate in a self-designed senior program. Please consult the Upper School Handbook for details. In their Senior Seminar course, seniors will write a persuasive project proposal and defend their proposal through an oral defense to a committee of faculty and administrators. Once approved, the project will be conducted during the last two weeks of the school year.

Exemption

- A very small number of students will qualify for exemptions from Senior Seminar: Communication & Society. Eligible students must apply for an exemption during the spring of junior year using the form available from the Director of Speech and Debate. Exempt students are required to work independently with the Director of Speech and Debate on the Assembly Speech and the Senior Program project.

Exemption Eligibility -- Departmental approval and one year or more of Advanced Debate prior to the senior year and enrollment in Advanced Debate during the senior year.

JOURNALISM (SPECTRUM NEWSPAPER)
First or Second Semester Course
0.25 semester elective credit

This course enables the editorial staff of *Spectrum*, Blake's student newspaper to work on the writing, editing, and layout of the paper using InDesign. Fundamentals of print and online newspaper design and press law will be discussed. Enrollment for this course is open to all students in grades 10-12 who would like to contribute to the production of this award-winning school newspaper. In addition to the print publication, students will maintain www.blakespectrum.org, the online extension of the media, which includes broadcast journalism. Students who intend to apply for editorial positions are strongly encouraged to enroll for the full year. Co-curricular involvement on the Spectrum staff prior to joining this editorial class is encouraged, but not required. Course may be repeated.

Yearbook First Semester or Year Course
2 classes/week; 0.25 semester elective credit

This course provides an opportunity to work on the design and production of a tangible publication: *Reflections*, the Blake Upper School yearbook. Students will learn multiple aspects of book production: concept, design, layout, photography, and copywriting. Using an all-online workflow – meaning you can work on the book anywhere at any time – students will create a publication that defines the personality and character of each class. The final product will be a lasting collection of memories, events, and relationships.

This course is open to grades 10-12. Leadership positions exist for juniors and seniors; students with leadership positions must enroll for the full year. Course may be repeated.

SUMMER COURSES FOR UPPER SCHOOL GRADUATION CREDIT

The Blake School is excited to offer summer courses for academic credit. Students successfully completing a course described below will earn a semester credit that can be applied to departmental requirements or elective credits. Consistent, regular attendance is essential to earning credit due to the intensive nature of the courses; please review our website for attendance policies prior to registering. Students can register for summer classes with their other 2017-18 selections. Payments for the courses are made online at http://www.blakeschool.org/summer.

Health

This coed course will explore topics aimed at promoting healthy behaviors, increasing responsible decision-making and encouraging healthful living. Studies and discussions will focus on physical, mental, chemical and sexual health, where students will gain an understanding of how to make positive lifestyle choices based on their personal values. Overarching themes of this course include accessing reliable wellness resources and learning to make healthy decisions that will reduce the risk of future health concerns. This course fulfills the Blake health requirement.

For: ages 14 – 18, entering grades 9 – 12
Dates: June 12 – June 30
Time: 9:00 a.m. – 2:00 p.m. (includes lunch break)
Homework Expectation: 1 – 1.5 hours/day
Location: Hopkins campus, Middle School
Cost: $1,880 per student
Min/Max Students: 5/16

Woodworking I

This intensive, shop-based course will engage artists in the design and craft of wood sculpture and furniture. The physical properties of wood and its potential as an expressive medium will be explored. Students will be introduced to power and hand tools used for woodworking and will develop an understanding of the social and environmental implications of materials used for furniture design and production. This course fulfills an arts requirement for Blake students.

For: ages 14 – 18, entering grades 9* – 12
Dates: June 12 – June 23
Time: 9:00 a.m. – 4:00 p.m. (includes lunch break)
Homework Expectation: .5 – 1 hour/day (design tasks)
Location: Hopkins campus, Middle School
Cost: $1,880 per student
Min/Max Students: 5/15

*Students entering 9th grade must seek approval from the Art Department at The Blake School. Please complete form found at www.blakeschool.org/summer

Global Online Academy is a consortium of top national and international independent schools offering students rigorous courses taught by a member school faculty. Class size is limited to 18; no more than two students from each school may enroll in a given course. Coursework takes place asynchronously–via blog posts, voice streams and independent projects–and students also engage in real-time discussions with teachers and classmates via Skype and other technologies.

The academic experience is collaborative, creative, and demanding; therefore, Blake students who wish to enroll in a GOA course should consider it as a replacement for a Blake course, not as an addition to a full course of study. Juniors and seniors are eligible to enroll; occasionally, sophomores with a strong history of successful, self-directed academic work may also be eligible.

Blake students will earn graduation credit for GOA courses (0.5 credits per course) as they would for a semester-length Blake course; GOA courses do not, however, satisfy Blake's departmental graduation requirements. GOA courses will appear on students' transcripts, and the final grades will be included in their Blake Grade Point Averages. Students may not enroll in a GOA course that replicates an existing Blake course (e.g. Social Psychology), except in the rare instance that a scheduling conflict prohibited them from enrolling in that Blake course; students are eligible for all GOA courses listed below.

Students may indicate their interest for these courses via online registration, but they will need to contact Blake's GOA Site Director, Jim Mahoney, to formally enroll.

Please see www.globalonlineacademy.org for additional information about the program.

Year-Long Courses

World Languages
Arabic Language and Culture I
Arabic Language and Culture II

Japanese Language and Culture I
Japanese Language and Culture II

Summer Courses

Health and Science
Introduction to Psychology
Medical Problem Solving I
Global Health

Social Sciences
Entrepreneurship in a Global Context

Fall 2017 Courses

Art, Media, and Design
Citizen Artist's Studio
Creative Nonfiction
Digital Journalism
Digital Photography

Health and Science
Bioethics
Introduction to Psychology
Medical Problem Solving I
Global Health

Mathematics and Technology
iOS App Design

Social Sciences
9/11 in a Global Context
Advanced Topics in Economics
Applying Philosophy to Modern Global Issues
Genocide and Human Rights
Introduction to Investments

Learning Studios
Power: Redressing Inequity with Data
Water

Spring 2018 Courses

Art, Media, and Design
Architecture
Graphic Design

Health and Science
Abnormal Psychology
Bioethics
Introduction to Psychology
Medical Problem Solving I
Medical Problem Solving II
Neuropsychology
Organic Chemistry

Mathematics and Technology
Computer Science II: Analyzing Data with Python

Social Sciences
9/11 in a Global Context
Comparative Politics
Entrepreneurship in a Global Context
Macroeconomics

Learning Studios
Energy

ART, MEDIA, AND DESIGN

Art, Media, and Design courses focus on developing students' creative and practical skills in fields such as graphic design, architecture, and digital photography.

Citizen Artist's Studio First Semester Course

In this course, each student is an artist who utilizes the world of apps, memes, gifs, loops, views, posts, subs, and tweets to build an understanding of how digital art attracts audiences, affects social media platforms, sparks political activism, and transforms wherever you are into a production studio. The first half of the course is dedicated to tinkering with a plethora of software choices and media for self-expression: websites like YouTube, Giphy, Twine, and Pixlr; apps like Sketch, Paper 53, ProCreate, Boomerang, Aurasma, Prisma, Pic Collage, and Meme Generator; and social media classroom accounts on Instagram, Snapchat, and Twitter. Throughout, we'll explore how art can aid in seeking unity, defending or defying norms, responding to opposing views, and envisioning better worlds. In the second half of the course, students use the Design Thinking model to identify a need in their community and fulfill the role of the citizen artist by addressing it through use of digital tools. Curricular content includes study of the effects of digital art on current events, lessons and tutorials on artistic techniques, and a history of citizen artwork both on and offline. Throughout the course, students engage in discussion and critique with each other, with students from other GOA classes, with their community contacts, and with professionals invited as guests of the course. *Prerequisites: Students should have daily access to a tablet or smartphone with reliable internet access.*

Creative Nonfiction First Semester Course

This course will focus on shaping real experiences into powerful narratives. Students will learn how to identify the genre of creative nonfiction both through the examination of professional examples of this genre and their own work of creative nonfiction. Students will learn how to write in the genre of creative nonfiction both by exploring great stories in their lives and in the world around them while developing their own voice through writing and by effectively and respectfully write about other people and their experiences. Feedback is an essential component of this course, and students will gain experience in the workshop model, learning how to effectively critique and discuss one another's writing in a digital environment. In addition, students will have the opportunity to use technology to transform written work into audio experiences.

Digital Journalism First Semester Course

In a time when anyone and everyone has the right to write and the ability to publish, what does it mean to be a journalist? Students in this course learn fundamentals of reporting and shaping stories in text and multimedia; they learn to implement standards for copyright and fair use; and they learn to recognize excellence and bias in journalism from professional and amateur sources. As they gain skill and fluency in digital journalism, they will have the opportunity to publish their work on *The Atlas*, GOA's news blog. In addition, students will gain skills in media literacy, becoming informed and thoughtful consumers of news in an increasingly rich but fragmented information landscape. This introductory course is intended for students with little to no experience with the craft of journalism. Students invested in the study and practice of journalism is encouraged to pair this course with Digital Journalism II.

Digital Photography First Semester Course

Photography can be a powerful and persuasive tool. This course is designed for students to learn how to give an emotional context to social, political, environmental, and global issues through photography. Students will learn how to prepare for and execute specific types of photographs, as well as the technical elements of digital editing. While students work on photo-based projects they will simultaneously engage in discussions about topics such as the appropriate use of Photoshop, or the ethics of digital advertising. Students will be given opportunities to interpret specific global issues through their own photographs. In addition to taking photographs, students will write descriptions and reflections, and give constructive feedback on their peers' work. *Note: Students enrolled in Digital Photography must have access to a digital camera*.

Architecture Second Semester Course

In this course students will explore the field of architecture through a series of units covering elements architectural design, materials and structure, architectural analysis and 3D design. The course will start will students learning the basic elements of Architectural design and then using Google SketchUp to build models of these elements. In the second unit students will study buildings like the Stonehenge, the Parthenon in Athens, the Roman Aqueduct of Pont du Gard in France, and the Pantheon in Rome to develop an understanding of materials and structures. At each stage students will learn how changes in materials, technology and construction techniques lead to the evolution of architecture over time. In the third unit students will learn how to analyze structures using Ancient Greek temples as an example. The course will end with a final project in which each student will have the opportunity to design and build a sacred structure of their choice based on their new understanding of architecture, construction, and engineering.

Graphic Design Second Semester Course

This course will explore the relationship between information and influence from a graphic design perspective. What makes a message persuasive and compelling? What helps audiences and viewers sort and make sense of information? Using an integrated case study and design-based approach, this course aims to deepen students' design, visual, and information literacies. Students will be empowered to design and prototype communication projects they are passionate about. Topics addressed include: principles of design & visual communication; infographics; digital search skills; networks and social media; persuasion and storytelling with multimedia; and social activism on the internet. Student work will include individual and collaborative group projects, graphic design, content curation, some analytical and creative writing, peer review and critiques, and online presentations.

HEALTH AND SCIENCE

Health and Medicine courses focus on understanding the natural world from both biological and sociological perspectives.

Bioethics First or Second Semester Course

Ethics is the study of what one should do as an individual and as a member of society. In this course students will evaluate ethical issues related to medicine and the life sciences. During the semester, students will explore real-life ethical issues, including vaccination policies, organ transplantation, genetic testing, human experimentation, and animal research. Through reading, writing, and discussion, students will be introduced to basic concepts and skills in the field of bioethics, will deepen their understanding of biological concepts, will strengthen their critical-reasoning skills, and will learn to engage in respectful dialogue with people whose views may differ from their own. In addition to journal articles and position papers, students will be required to read Rebecca Skloot's *The Immortal Life of Henrietta Lacks*.

Introduction to Psychology First or Second Semester Course
Summer Course

What does it mean to think like a psychologist? With this question anchoring Introduction to Psychology, students explore three central psychological perspectives -- the behavioral, the cognitive, and the sociocultural -- in order to develop a multi-faceted understanding of what thinking like a psychologist encompasses. The additional question of "How do psychologists put what they know into practice?" informs study of the research methods in psychology, the ethics surrounding them, and the application of those methods to practice. During the first five units of the course, students gather essential information that they apply during a group project on the unique characteristics of adolescent psychology. Students similarly anticipate a case study on depression, which also enables application of understandings from the first five units. The course concludes with a unit on positive psychology, which features current positive psychology research on living mentally healthy lives. Throughout the course, students collaborate on a variety of activities and assessments, which often enable learning about each other's unique perspectives while building their research and critical thinking skills in service of understanding the complex field of psychology. This course is an excellent partner with, but not a prerequisite for, Neuropsychology and Abnormal Psychology.

Medical Problem Solving I First or Second Semester Course
Summer Course

In this course students will collaboratively solve medical mystery cases, similar to the approach used in many medical schools. Students enhance their critical thinking skills as they examine data, draw conclusions, diagnose, and treat patients. Students will use problem-solving techniques in order to understand and appreciate relevant medical/biological facts as they confront the principles and practices of medicine. Students will explore anatomy and physiology pertaining to medical scenarios and gain an understanding of the disease process, demographics of disease, and pharmacology. Additional learning experiences will include studying current issues in health and medicine, building a community-service action plan, interviewing a patient, and creating a new mystery case. Students interested in continuing their studies in Semester 2 are encouraged to take Medical Problem Solving II.

Global Health First Semester Course

What makes people sick? What social and political factors lead to the health disparities we see both within our own community and on a global scale? What are the biggest challenges in global health and how might they be met? Using an interdisciplinary approach to address these two questions, this course hopes to improve students' health literacy through an examination of the most significant public-health challenges facing today's global population. Topics addressed will be the biology of infectious disease (specifically HIV and Malaria); the statistics and quantitative measures associated with health issues; the social determinants of health; and the role of organizations (public and private) in shaping the landscape of global health policy. Students will use illness as a lens through which to examine critically such social issues as poverty, gender, and race. Student work will include analytical and creative writing; research, and peer collaboration; reading and discussions of nonfiction; and online presentations.

Abnormal Psychology Second Semester Course

This course focuses on psychiatric disorders such as schizophrenia, eating disorders, anxiety disorders, substance abuse, and depression. As students examine these and other disorders, they learn about their symptoms, diagnoses, and treatments. Students also deepen their understanding of the social stigmas associated with mental illnesses. This course may be taken as a continuation of Introduction to Psychology, although doing so is not required

Medical Problem Solving II Second Semester Course

This course is an extension of the problem-based learning done in Medical Problem Solving I. While collaborative examination of medical case studies will remain the core work of the course, students will tackle more complex cases and explore new topics in medical science, such as the growing field of bioinformatics. Students in MPS II will also have opportunities to design cases based on personal interests, discuss current topics in medicine, and apply their learning to issues in their local communities. **Prerequisite: completion of Medical Problem Solving I.**

Neuropsychology Second Semester Course

This course is an exploration of the neurological basis of behavior. It will cover basic brain anatomy and function as well as cognitive and behavioral disorders from a neurobiological perspective. Examples of illnesses to be covered include: Alzheimer's disease, traumatic brain injury, and stroke. Diagnostic and treatment issues (including behavioral and pharmaceutical management) will be addressed. Additional topics include: professional standards and the code of ethics governing all psychologists; psychometrics; and the history of neuropsychology. This course can be taken as a continuation of Introduction to Psychology, although it is not required.

Organic Chemistry Second Semester Course

This course is designed with two goals in mind; one pragmatic, and one philosophical. Pragmatically it will provide a few foundational blocks for further studies in the organic chemistry field, giving students a small window on future, more traditional organic courses. Philosophically it aims to open an infinite world of discovery of complex molecules, their properties and reactions and application that hold the keys to confronting and solving the world¹s most challenging, future scientific problems. The emphasis of the course is on stimulating interest in organic chemistry through an exploration of the molecules relevant to modern life. Students can use this course as a springboard for further learning, as the beginning of a longer journey.

WORLD LANGUAGES

Intercultural Studies courses focus on the study of cultural perspectives, religion, and world languages.

Arabic I: Language Through Culture Year Course

This full-year course will highlight Modern Standard Arabic and some of the spoken dialect of the Levant. With an emphasis on Arabic culture, students will learn commonly used expressions and phrases from the Levant area. Students will develop their skills in listening, reading, writing, forming grammatically correct structured sentences, and most importantly, conversation. This will be accomplished through podcasts, videos, culture circles discussions, web conferencing, and collaborations in group projects. In addition, students will have direct conversations with native speakers of Arabic through a virtual club called "Shu Fe Maa Fe," where students are required to meet online with their assigned partner and learn about a certain cultural topic every week, such as traditional food, greetings, gestures, values, history and more. Since Arabic is becoming one of the most functional languages in the world, especially in the areas of commerce, business, and trade, students participating in this course can avail themselves of the opportunity to learn the language in a highly stimulating and rich cultural context.

Arabic II: Language Through Culture Year Course

This full-year course continues the work of Arabic Language Through Culture I, highlighting Modern Standard Arabic and the spoken dialect of the Levant. Grammar topics include continued exploration of the essential structures of Arabic (root/pattern systems) and verbs. Mastery of the alphabet (writing and reading) is an early goal of the course as it underlies more sophisticated work on sentence-writing skills. As in the first course, students develop their skills in listening, reading, writing, forming grammatically correct structured sentences, and, most importantly, conversation. Using these fundamental skills, students will explore and discuss current events related to cultural topics and have the opportunity to design their own inquiry projects to simultaneously build language skills and cultural understanding. The focus of this course is 60 percent on language and 40 percent on culture. *Prerequisite: Arabic Language through Culture I or permission from the instructor.*

Japanese I: Language Through Culture Year Course

This full-year course is a unique combination of Japanese culture and language, weaving cultural comparison with the study of basic Japanese language and grammar. While examining various cultural topics such as literature, art, lifestyle and economy, students will learn the basics of the Japanese writing system (Hiragana and Katakana), grammar and vocabulary. Through varied synchronous and asynchronous assignments, including hands-on projects and face-to-face communications, students will develop their speaking, listening, reading and writing skills. The cultural study and discussion will be conducted in English, with topics alternating every two to three weeks. The ultimate goal of this course is to raise awareness and appreciation of different cultures through learning the basics of the Japanese language. The focus of this course will be 60 percent on language and 40 percent on culture. This course is appropriate for beginner-level students.

Japanese II: Language Through Culture Year Course

Through language learning, students in this course share their voices, cultivate global perspectives, and foster appreciation of self and others. Students expand their knowledge of the basic skills introduced in Japanese Language Through Culture I while further developing their speaking, listening, writing, and reading skills. Each unit follows the IPA model (Integrated Performance Assessment), blending three modes of communication: interpretation of authentic material in Japanese, synchronous and asynchronous practice in speaking and writing, and oral and written presentations. Each unit focuses on one of the following cultural topics: Design and Expression, Ecology, Entertainment, East meets West, Harmony, and Nature. In addition, students will have the opportunity to select and pursue topics of their own interest. Grammar topics will cover the essential forms that are typically introduced in the second and third year of a high school Japanese program. By learning the Dictionary Form, Nominalizer, TE form, TA form, NAI form, and Noun Modifier, students are able to add more complexity to their sentence construction. In doing so, they shift from forming simple sentences to communicating in a coherent paragraph. As online learners, students are expected to exhibit superb time management and communication skills, as well as to take ownership of their learning. While grammar instruction will be delivered through asynchronous work and face-to-face meetings, much of the course content will be curated and created by students through their research and collaboration. The focus of this course is 60 percent on language and 40 percent on culture. *Prerequisite: Japanese Language through Culture I or permission from the instructor.*

MATHEMATICS AND TECHNOLOGY

Mathematics and Technology courses are focused on the application of quantitative reasoning, logic, and associated skills.

IOS App Design First Semester Course

Learn how to design and build apps for the iPhone and iPad and prepare to publish them in the App Store. Students will work much like a small startup: collaborating as a team, sharing designs, and learning to communicate with each other throughout the course. Students will learn the valuable skills of creativity, collaboration, and communication as they create something amazing, challenging, and worthwhile. Coding experience is NOT required and does not play a significant role in this course. *Prerequisite: For this course, it is required that students have access to a computer running the most current Mac or Windows operating system (Mac OS X is necessary only if you plan to try your hand at publishing). An iOS device that can run apps (iPod Touch, iPhone, or iPad) is also highly recommended.*

Computer Programming II: Analyzing Data with Python Second Semester Course

In this course, students will utilize the Python programming language to read, manipulate and analyze data. The course emphasizes using real world datasets, which are often large, messy, and inconsistent. The prerequisite for this course is familiarity with and hands-on experience using some high-order programming language, such as Java, C++, VisualBasic, or Python itself. Because of the powerful data structures and clear syntax of Python, it is one of the most widely used programming languages in scientific computing. There are a multitude of practical applications of Python in fields like biology, engineering, and statistics. Prerequisites: Completion of an introductory programming course OR permission from the instructor.

SOCIAL SCIENCES

Social Sciences courses focus on questions of human decision-making in today's global societies.

9/11 in a Global Context First or Semester Course

September 11, 2001 was a tragic day that changed the world in profound ways. In this course students will explore the causes of 9/11, the events of the day itself, and its aftermath locally, nationally, and around the world. In place of a standard chronological framework, students instead will view these events through a series of separate lenses. Each lens will represent a different way to view the attacks and will allow students to understand 9/11 as an event with complex and interrelated causes and outcomes. Using a variety of technologies and activities, students will work individually and with peers to evaluate each lens. Students will then analyze the post-9/11 period and explore how this event affected the U.S., the Middle East, and the wider world.

Advanced Topics in Economics First Semester Course

What is the economic impact of professional sports teams on their local community? How does pollution in China affect vineyards in Italy? Why did the US financial market collapse in 2008 and how can we use this experience to predict our next global business cycle? In this course, students will choose current events to explore through an economic lens. By building upon the principles discussed in microeconomics and macroeconomics, students will analyze how the presence of scarcity affects the behaviors of individuals, businesses and governments. This course will reiterate the rational expectations of the principles courses while also introducing irrational behaviors to provide students a better look at their local economy. With guidance from the instructor, students will choose topics related to the stock market, environment, entertainment industry, politics and

more. Students will research and analyze their economic issue and use their findings to formulate a solution to the problem. Through this course students will build upon their understanding of economic principles and their application. Student work will include the synthesis of data, analytical writing, peer collaboration and conclude with a defense of their findings to a committee. **Prerequisite: Completion of an introductory courses in microeconomics OR macroeconomics**

Applying Philosophy to Modern Global Issues
First Semester Course

This is an applied philosophy course that connects pressing contemporary issues with broad-range philosophical ideas and controversies, drawn from multiple traditions and many centuries. Students will use ideas from influential philosophers to examine how thinkers have applied reason successfully, and unsuccessfully, to many social and political issues across the world. In addition to introducing students to the work of philosophers as diverse as Confucius, Kant, John Rawls and Michel Foucault, this course also aims to be richly interdisciplinary, incorporating models and methods from diverse fields including history, journalism, literary criticism, and media studies. Students will learn to develop their own philosophy and then apply it to the ideological debates which surround efforts to improve their local and global communities.

Genocide and Human Rights First Semester Course

Students in this course study several of the major genocides of the 20th century (Armenian, the Holocaust, Cambodian, and Rwandan), analyze the role of the international community in responding to and preventing further genocides with particular attention to the Nuremberg Tribunals, and examine current human rights crises around the world. Students will read primary and secondary sources, participate in both synchronous and asynchronous discussions with classmates, write brief papers, read short novels, watch documentaries and develop a human rights report card website about a nation in the world of their choice.

Introduction to Investments First Semester Course

In this course, students simulate the work of investors by working with the tools, theories, and decision-making practices that define smart investment. We explore concepts in finance and apply them to investment decisions in three primary contexts: portfolio management, venture capital, and social investing. After an introduction to theories about valuation and risk management, students simulate scenarios in which they must make decisions to grow an investment portfolio. They manage investments in stocks, bonds, and options to learn a range of strategies for increasing the value of their portfolios. In the second unit, they take the perspective of venture capital investors, analyzing startup companies and predicting their value before they become public. In the third unit, students examine case studies of investment funds that apply the tools of finance to power social change. Throughout the course, students learn from experts who have experience in identifying value and managing risk in global markets. They develop their own ideas about methods for taking calculated financial risks and leave this course not just with a simulated portfolio of investments, but the skills necessary to manage portfolios in the future.

Comparative Politics Second Semester Course

In 2012, the Economist issued a report entitled "Democracy at a Standstill." This course uses the comparative model to ask students to consider whether democracy is in fact at a standstill, but more importantly, if and why we should care. By looking at current events, reading scholarly research, analyzing data, conducting personal interviews and engaging in a series of debates, students will assess the status of democracy in the world and also explore the challenges and alternatives to democratic systems. In so doing, they will constantly reevaluate their own beliefs and understandings about how power should be distributed and utilized.

Entrepreneurship in a Global Context
Second Semester Course
Summer Course

How does an entrepreneur think? What skills must entrepreneurs possess to remain competitive and relevant? What are some of the strategies that entrepreneurs apply to solve problems? In this experiential course students develop an understanding of entrepreneurship in today's global market; employ innovation, design, and creative solutions for building a viable business model; and learn to develop, refine, and pitch a new start-up. Units of study include Business Model Canvas, Customer Development vs. Design Thinking, Value Proposition, Customer Segments, Iterations & Pivots, Brand Strategy & Channels, and Funding Sources. Students will use the Business Model Canvas as a roadmap to building and developing their own team start-up, a process that will require hypothesis testing, customer research conducted in hometown markets, product design, product iterations, and entrepreneur interviews. An online start-up pitch by the student team to an entrepreneurial advisory committee will be the culminating assessment. Additional student work will include research, journaling, interviews, peer collaboration, and a case study involving real world consulting work for a current business.

Macroeconomics Second Semester Course

In this course students will study macroeconomic theory as it relates to domestic and global policies on employment, national income, government spending, and the impact of foreign spending on domestic economies and foreign exchange markets. Students will use real world events and data as case studies in order to develop a better understanding of the driving forces behind domestic and international macroeconomic markets. In the final portion of the course, students will have the opportunity to develop their own solutions to a local/global issue of their choice (such as poverty, environmental pollution, and limited access to education) based on their new understanding of macroeconomic theory. This course is an excellent partner with, but not a prerequisite for, Microeconomics. It can serve as a prerequisite for Advanced Topics in Economics.

LEARNING STUDIOS

Learning Studios explore interdisciplinary topics through student-driven learning. Led by a teacher who designs the overall structure, these courses ask students to craft their own projects based on their interests and develop strong relationships with classmates through frequent conversation and feedback. Students can expect to learn how to identify relevant local and/or global issues to explore deeply, how to craft their own plans for structuring and exploring the issue, how to test new ideas both in and out of class, and how to be an active part of a community of learners. Learning Studios demand a high level of organizational and interpersonal skills, curiosity, determination, and flexibility.

Power: Redressing Inequity with Data First Semester Course

Students utilize research, data, their own sense of social justice, and the application of all three to right wrongs in our world. A collaborative track and an independent track will run concurrently throughout the semester. Collaboratively, the full class will work through a unit on Power Frameworks (Nietzsche, Foucault, Weber, and French & Raven) followed by a series of inequality case studies that will provide insight into and practice with all six steps of the Power and Inequality Assessment (PIA) approach: (1) identify specific inequality; (2) provide and analyze data to substantiate the inequality; (3) identify type(s) of power that created and are maintaining the inequality; (4) provide and analyze data to substantiate power claim; (5) present and explain specific action steps

to redress inequality; (6) identify type(s) of power necessary to implement action plan. Independently, all students will apply the PIA approach to a specific local, national, or global inequality of their choosing. Past PIA projects have explored gender inequality in NCAA collegiate coaching; racial inequality in the American police force; and economic inequality in the treatment of immigrants, to name only a few. Regular, guided peer review will help students to hone their final products. Final PIA products will be presented in multimedia formats asynchronously online. Invited audience members will include GOA classmates; site directors and other members of home school communities; and experts from relevant fields.

Water First Semester Course

This inquiry-based course will examine water as a physical element of the earth, an essential element of life, and a driver of human experience. Short case studies will introduce students to the range of disciplines through which water can be studied, including oceanography, literature, and international relations. Then, the class will develop a master list of questions such as: how is water used in human cells? How does it get to our homes? How do people live on and around it in low-lying areas? How does it shape mountains and vegetation? What happens when rivers change course at international borders? How do drought and flood influence history, art, and cultural practices? Working in small groups, students will tackle such questions through online research, observation, and interviews with local experts. Their findings will be collected in a publicly available website which will serve as the basis for "action projects." These student-designed projects will be created for specific audiences; they might involve building a prototype, creating a short film, or writing a formal proposal to an agency or organization.

Energy Second Semester Course

Students will develop a keen ability to analyze global energy issues. A historical and scientific exploration of fossil fuels gives students the foundation to tackle economic and environmental concerns related to traditional and alternative energy. Students do technical analyses of the rates of depletion of the reserves of major oil-producing countries, and investigate the motivations for an oil-producing nation to become member of OPEC. Students will take sides in major energy debates on topics like "fracking" or the international movement of energy supplies. In their final project, students present to their peers on all key aspects of an alternative energy source, including technical and economic viability and environmental sustainability.

ATHLETICS

DEPARTMENTAL REQUIREMENT:
Participation as a playing member of a Blake athletic team for one season during both grades 9 and 10.

Students involved in a significant and ongoing individual sport or physical activity may petition the Athletic Director to use this sport or activity to fulfill the athletic requirement. Students can also fulfill their athletic requirement by participating on Blake club teams such as the Blake Area Equestrian Team, Blake Sailing Team, Ultimate Frisbee Team and Synchronized Swimming.

FALL
Cross Country (Boys and Girls)
Football (Boys)
Soccer (Boys and Girls)
Swimming (Girls)
Tennis (Girls)
Volleyball (Girls)

WINTER
Alpine Skiing (Boys and Girls)
Basketball (Boys and Girls)
Fencing (Boys and Girls)
Hockey (Boys and Girls)
Nordic Skiing (Boys and Girls)
Swimming (Boys)

SPRING
Baseball (Boys)
Golf (Boys and Girls)
Lacrosse (Boys and Girls)
Softball (Girls)
Tennis (Boys)
Track & Field (Boys and Girls)

28 total sports (14 Boys, 14 Girls)

COLLEGE SEMINAR: SOPHOMORES

In the fourth quarter of the sophomore year and continuing into the fall of the junior year, the College Seminar introduces the different phases of the college search process. The College Counseling Office staff objectives for each student follow:

- Develop an understanding of self and how that impacts college criteria and the process in general
- Develop an understanding of how colleges review student files and determine outcomes
- Identification and understanding of application format, admission plans, visits, interviews, essays, resumes and recommendations
- Develop familiarity with exploration resources
- Understand standardized tests: PSAT, ACT, SAT Reasoning Test and SAT Subject Tests
- Develop an understanding of the student, college counselor and parent(s) role in the college search process

COLLEGE SEMINAR: JUNIORS — STANDARDIZED TEST PREP COURSE

Blake's test prep course for the ACT test begins in September of the junior year and includes two weeks of PSAT preparation. Although enrollment in this prep course is optional, we strongly encourage all juniors to register for this course, which is offered at no additional charge. Registration for ACT prep occurs along with the regular class registration process. Some of the materials for the course come from actual ACT tests used in recent years, and the goal of the class is to maximize test-taking speed without sacrificing accuracy. The primary advantage of this type of course is reduction in test anxiety. Many students become so worried about the test they can't concentrate or work effectively. The 14 weeks of practice greatly reduces stress and gives confidence, which leads to better results.

INDEPENDENT STUDY

An independent study program is an opportunity for a student to explore an area of study that is not offered in our curriculum. It is open primarily to seniors, but sophomores and juniors may apply. An Independent Study program should be a rigorous course of study that adheres to high academic standards.

Students must apply by the middle of the quarter prior to the beginning of the proposed independent study program. A proposal form is submitted to the supervising faculty member, the department head and the Grade Dean for approval. They will review the proposal along with the student's entire academic program, and if they support the proposal, it will be submitted to the US Director for approval. If approved, meeting times between the student and the advisor will be determined, but they should occur for at least two hours per week.

Student will maintain a minimum course load (five classes) in addition to an independent study program. An independent study program may not satisfy a departmental requirement. A student is permitted to pursue only one independent study program at a time. The pass/fail option is available for independent study programs under the same guidelines as other courses.

NINTH GRADE SEMINAR

Ninth Grade Seminar is a course that meets during the first three weeks of a student's Upper School experience. The seminar is led collaboratively by members of the ISS department, the Office of Equity and Community Engagement and the grade dean.

The focus of our Ninth Grade Seminar is empowering individual students to build safe, supportive community both in the digital space and in their daily face-to-face interactions with each other. Students learn practical tools like how to write a clear, effective email and how to make an iMovie. They also learn relationship– building strategies such as when to text, when to call, and when to find a peer or a faculty member in order to solve a problem or find support.

The Blake Board has asserted that a diverse, inclusive Blake community is essential for academic excellence, and building that community requires intention, vigilance, and courage. Our Ninth Grade Seminar offers students language and basic frameworks to help them communicate and work effectively across differences. It also sends a clear message that building a diverse, inclusive community is work that everyone can and must engage in throughout their four years at Upper School.

To that end, Ninth Grade Seminar offers a safe, challenging, and welcoming environment. No grades are given and no homework is assigned: however individual students may choose to do optional activities to enhance their experience**.**

P.S.E.O. (Post-Secondary Education Option)

The State of Minnesota's Post Secondary Education Option Program (PSEO) enables high school juniors and seniors who have exhausted the curriculum of their schools an opportunity to take college courses for high school credit. As Blake reserves the right to define its own graduation requirements and academic standards, juniors and seniors are eligible to participate in PSEO under the following conditions:

- The course is not offered in The Blake School curriculum.
- A student must remain enrolled in at least four full credit courses each semester at Blake.
- Participation must have the approval of the Grade Dean, the College Counseling Office and the Director of the Upper School.
- Students interested in participating in a PSEO program must inform the Grade Dean at least two months prior to the proposed enrollment date.
- Students are solely responsible for contacting the prospective colleges to get information about the application process for the PSEO program.

Note: Deadlines for the PSEO program vary from college to college and admission into these programs is very competitive. We recommend that students who are interested in these programs inquire early.

SUMMER COURSES FOR UPPER SCHOOL GRADUATION CREDIT

The Blake School is excited to offer summer courses for academic credit. Students successfully completing a course described below will earn a semester credit that can be applied to departmental requirements or elective credits. Consistent, regular attendance is essential to earning credit due to the intensive nature of the courses; please review our website for attendance policies prior to registering. Students can register for summer classes with their other 2017-18 selections. Payments for the courses are made online at http://www.blakeschool.org/summer.

Health

This coed course will explore topics aimed at promoting healthy behaviors, increasing responsible decision-making and encouraging healthful living. Studies and discussions will focus on physical, mental, chemical and sexual health, where students will gain an understanding of how to make positive lifestyle choices based on their personal values. Overarching themes of this course include accessing reliable wellness resources and learning to make healthy decisions that will reduce the risk of future health concerns. This course fulfills the Blake health requirement.

For: ages 14 – 18, entering grades 9 – 12
Dates: June 12 – June 30
Time: 9:00 a.m. – 2:00 p.m. (includes lunch break)
Homework Expectation: 1 – 1.5 hours/day
Location: Hopkins campus, Middle School
Cost: $1,880 per student
Min/Max Students: 5/16

Woodworking I

This intensive, shop-based course will engage artists in the design and craft of wood sculpture and furniture. The physical properties of wood and its potential as an expressive medium will be explored. Students will be introduced to power and hand tools used for woodworking and will develop an understanding of the social and environmental implications of materials used for furniture design and production. This course fulfills an arts requirement for Blake students.

For: ages 14 – 18, entering grades 9* – 12
Dates: June 12 – June 23
Time: 9:00 a.m. – 4:00 p.m. (includes lunch break)
Homework Expectation: .5 – 1 hour/day (design tasks)
Location: Hopkins campus, Middle School
Cost: $1,880 per student
Min/Max Students: 5/15

*Students entering 9th grade must seek approval from the Art Department at The Blake School. Please complete form found at www.blakeschool.org/summer

THE BLAKE SCHOOL
COURSE PLANNING WORKSHEET

- The recommended course load is six classes, including an arts class, each semester. The minimum required course load is five classes each semester (5 total credits per year).
- Write course names on the appropriate department lines. Use elective lines for additional courses in a department. Each grade has different required courses and those should be included as you plan your registration.
- **Arts and Senior English Courses, as well as Math, Science and Social Studies semester electives**: It is imperative that you choose **one** alternate course for each of these selections.

Semester One Courses

Department	Course	
Art		**Alt:**
English		**Alt: (for grade 12)**
Modern and Classical Language		
Math		**Alt: (if choosing an elective)**
Science		**Alt: (if choosing an elective)**
Social Studies		**Alt: (if choosing an elective)**
Elective(s)		**Alt:**

Semester Two Courses

Department	Course	
Art		**Alt:**
English		**Alt: (for grade 12)**
Modern and Classical Language		
Math		**Alt: (if choosing an elective)**
Science		**Alt: (if choosing an elective)**
Social Studies		**Alt: (if choosing an elective)**