We admit qualified students of any race, color, disability, religious affiliation, national and ethnic origin, and sexual orientation to all rights, privileges, programs, and activities generally accorded or made available to students at our school. We do not discriminate in violation of any law or statute in the administration of our educational policies, admission policies, scholarship and financial aid programs, and athletics or other school-administered programs.
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Published in February 2018, this book includes course descriptions available at that time. To view the most recent version of this material, which may include additions, deletions, or corrections, visit www.sps.edu/courses.
A COMMITMENT TO LEARNING

The SPS academic program offers exceptional depth and breadth, giving students both a solid grounding in the fundamentals and the flexibility to pursue varied and enriching electives. The core curriculum includes challenging courses in humanities, mathematics, sciences, languages, religion, and the arts.

At St. Paul's, students and their teachers work in collaboration – in discussion around Harkness tables, in laboratories, and in the field to investigate new and age-old questions. Through rigorous academic standards, students are encouraged to attain the highest level of scholarship and intellectual growth and development. Challenged by exceptional faculty, St. Paul's School students prepare intensively toward success in college, university, and career.

The School offers an ambitious sciences curriculum, in which students implement the scientific process and content learned from their initial course in physics to the following study of chemistry and then biology. Science students next have the opportunity to study each of these foundation courses at an advanced level, as well as opportunities in astronomy, engineering, robotics, and artificial intelligence. Students encounter a carefully designed mathematics curriculum that allows them to progress through comprehensive content and trains them as keen analytical thinkers. In our integrated, interdisciplinary humanities curriculum, students learn to think critically and to connect important notions in literature, history, philosophy, and religious studies.

St. Paul's School goes beyond the traditional language learning structure and offers courses in seven languages, as part of the SPS commitment to a global education. The School also recognizes that intense and regular involvement in the arts is fundamental to creating a well-educated person. A performance-based arts program ensures that students at all levels in music, dance, theatre, and the fine arts can develop and grow.

St. Paul's School requires participation in four other areas of community life to complement the academic endeavors of our students: living in community, community outreach, athletics, and Chapel. The School's commitment to education and caring for the whole person, as reflected in this all-encompassing view of education, supports and nurtures the intellectual, spiritual, physical, and emotional development of our students. The School's Advanced Studies, Honors, and Independent Study Programs provide additional opportunities for students to dive deeper into subjects they find most compelling. Teachers at SPS come from diverse backgrounds and bring with them a variety of world perspectives, educational excellence, and rich life experiences. Our faculty members live among the students in our fully residential community, making it easy for them to forge lifelong bonds with students. Teaching goes beyond the classroom, as faculty members serve as advisers, coaches, mentors, and friends.

GRADUATION REQUIREMENTS

The SPS diploma is awarded to the student who
1. enrolls in a minimum of 5 credits per term;
2. completes at least 25 credits during the Fifth Form and Sixth Form years and has missed no more than one term during his/her tenure at the School;
3. has no more than one Unsatisfactory final grade for any year-long course or the equivalent;
4. satisfies the requirements listed within one year of their anticipated graduation year at time of matriculation.

Credit Requirements: Arts
1. Matriculate in Third Form: 3 credits in a single discipline
2. Matriculate in Fourth Form: 3 credits in a single discipline
3. Matriculate in Fifth Form: 3 credits in a single discipline

Credit Requirements: Humanities
1. Matriculate in Third Form: 19 credits; sequence of Humanities III (6 credits), Humanities IV (6 credits), Humanities V (6 credits). Then one term course in religious studies, Encounters (1 credit)
2. Matriculate in Fourth Form: 13 credits; sequence of Humanities IV (6 credits), Humanities V (6 credits). Then one term course in religious studies, Encounters (1 credit)
3. Matriculate in Fifth Form: 7 credits; Humanities V (6 credits). Then one term course in religious studies, Encounters (1 credit)

Credit Requirements: Languages
1. Matriculate in Third Form: 9 credits; three-year sequence in the same language
2. Matriculate in Fourth Form: 6 credits; two-year sequence in the same language
3. Matriculate in Fifth Form: 3 credits
Credit Requirements: Mathematics
1. Matriculate in Third Form: 9 credits or through Precalculus (minimum of 3 credits earned in residence at St. Paul’s School)
2. Matriculate in Fourth Form: 6 credits or through Precalculus (minimum of 3 credits earned in residence at St. Paul’s School)
3. Matriculate in Fifth Form: 3 credits earned in residence at St. Paul’s School

Credit Requirements: Sciences
1. Matriculate in Third Form: 9 credits; recommended series of Physics First (3 credits), Chemistry (3 credits), Biology (3 credits)
2. Matriculate in Fourth Form: 6 credits; recommended 6 credits in two of the following: Physics (3 credits), Chemistry (3 credits), Biology (3 credits)
3. Matriculate in Fifth Form: 3 credits

Non-Credit Requirements: Athletics
1. Matriculate in Third Form: 8 terms; Third Form year (3 terms), Fourth Form year (3 terms), then 2 additional terms, one of which must be taken in the Fifth Form year; swim test*
2. Matriculate in Fourth Form: 5 terms; Fourth Form year (3 terms), then 2 additional terms, one of which must be taken in the Fifth Form year; swim test*
3. Matriculate in Fifth Form: 2 terms; Fifth Form year (at least 1 term); additional 1 term in the Fifth Form year or the Sixth Form year; swim test*

* New students required to pass a swim test within 2 years of matriculation

Non-Credit Requirements: Community Outreach
1. Matriculate in Third Form: 40 hours, 10 hours required each year in residence
2. Matriculate in Fourth Form: 30 hours, 10 hours required each year in residence
3. Matriculate in Fifth Form: 20 hours, 10 hours required each year in residence

Courses are assigned 1 credit per term, with the exception that Humanities III, Humanities IV, and Humanities V are each assigned 2 credits per term.

LIVING IN COMMUNITY
As a residential community, St. Paul’s School is committed to the development of the whole person. In order to support students’ emerging social and emotional competencies and to encourage personal reflection and commitment to the world around us, our Living in Community program provides opportunities for exploration.

THIRD FORM COURSE
(Full year, required)
This course meets once a week. The focus is on students’ introduction and transition to living in our residential community. Topics include, but are not limited to, self-awareness, respect for self and others, communication and compromise, healthy choices, and appropriate use of technology. This course encourages students to develop a balanced approach to their experience at St. Paul’s.

FOURTH FORM COURSE
(One term, required)
This course meets three times a week. Fourth Formers discuss the myriad topics that influence their growth as individuals. Topics include, but are not limited to, interpersonal relationships, diversity in all its forms, sexuality, and substance use. We explore these issues in many ways, which includes grappling with contemporary issues in an effort to understand how to live in community while making individual choices. Our goal is to provide accurate information in a trusting environment as our students develop their own perspective and identity.

FIFTH AND SIXTH FORM SEMINAR
(Fall, Winter, and Spring Term, required)
This course meets five times a term. The seminar provides an intensive training in bystander intervention and human sexuality.

COMMUNITY OUTREACH PROGRAM
The Community Outreach Program provides students with an opportunity to learn about themselves and others, while building relationships within SPS and the local community. Service outreach allows students to use their talents to become worldly and selfless leaders. The 10-hour yearly Community Outreach requirement strives to inculcate a habit of service that extends beyond a student’s time at St. Paul’s School. The goal of this program is to strengthen a foundation for good citizenship and foster active moral engagement within society.

The Program weaves service into students’ lives as they:
• Engage in service projects as members of interscholastic sports teams
• Enroll in, and study, service-learning courses offered by each department
• Participate in rigorous service projects in lieu of athletics for one term per year
• Partake in School-sponsored service trips during breaks
• Collaborate on form-wide community outreach days

The Missionary Society, the largest and oldest student-run School organization, collaborates with the Community Outreach Program office to:
• Coordinate over 20 community service projects in the Concord area
• Oversee fundraising activities for worthy causes
• Provide leadership training for our more than 50 project leaders

Students meet their required community service hours through integrated and optional programs. In addition to this service, many choose to volunteer at home during breaks. Students are driven by the intrinsic rewards of helping others, and the positive impact their service has on them, the Concord community, and the world.

OFF-CAMPUS PROGRAMS

MISSION STATEMENT
St. Paul’s School believes that a student’s education extends beyond the classroom and that a change in physical environment enriches perspective. Our educational philosophy embraces diversity and endorses the principle that as individuals we learn when we broaden our own beliefs, values, and customs and seek out the wisdom and experience of others. To foster these values, we encourage our students to pursue an authentic understanding of a culture different from their own and to engage this new culture with an open mind.

GOALS
• Complement the student’s on-campus education by offering meaningful personal connections with different cultures and other perspectives.
• Challenge students to open themselves to new voices, customs, and understanding so that, in turn, they will become more aware of their own values and beliefs.
• Represent a broad range of interests and opportunities to account for the reality that each student differs in readiness to go beyond familiar comforts.
• Balance both domestic and international opportunities because a student does not have to leave the United States to find the cultural diversity and difference that will offer a significant and enriching experience.
• Incorporate preparatory exercises, reflection, and a culminating project to provide an integrated experience that enriches the student and the School community.
• Offer a transformative experience that will foster a passion and a sense of responsibility for the world beyond the student’s familiar exposure.

THE OFF-CAMPUS EXPERIENCE
The off-campus experience is defined by a student’s significant exposure to a culture different from his or her own, as well as one or more of the following conditions:
• Specific connection to the student’s on-campus experience or program of study.
• Comprehensive immersion into a language different from his or her primary language.
• Significant participation in service-learning activity.
• Understanding of a major global issue (e.g., environmental stewardship, sustainable development, globalization, poverty, healthcare, education, social justice, inclusivity, and governance).
• Experiential leadership opportunity.

PROGRAM OFFERINGS (may vary)
• School Year Abroad in China, France, Italy, and Spain
• Term language exchange in France, Germany, and Japan
• Short-term language/cultural program in France, Germany, and Greece
• Two-week Eton cultural exchange in England
• One-week service-learning programs in Atlanta, Washington D.C., Nicaragua

ADVANCED STUDIES
Sixth formers who fully exhaust all courses in a department, including electives, may pursue Advanced Studies in a particular discipline. Advanced Studies are available in the Arts, Languages, Mathematics, and Science Departments. Advanced Studies offer an opportunity for a student to pursue independent work under the supervision of a member of a faculty member. Students interested in pursuing Advanced Studies must be highly motivated, independent learners with excellent academic records. Students must petition a faculty member to serve as the adviser to their project, recognizing that not all faculty members will be able to take on this extra time commitment. As part of the application process, a student must have written approval from his or her adviser, the Advanced Studies adviser, and corresponding Department Head. All proposals for Advanced Studies are reviewed and voted on by the Dean of Studies and the five academic department heads.
ATHLETICS

St. Paul’s School offers opportunities for students of all levels of athletic ability. By engaging in athletics, students develop key values such as teamwork, sportsmanship, personal excellence, courage, humility, and respect for others. All Third Formers must participate in the Athletic Program in each term through their Fourth Form year, either at the interscholastic or club (intramural) level. The Fitness offering is not an alternative for Third Formers. Students are required to participate in two more terms in their Fifth or Sixth Form years, at least one of which must be in the Fifth form year. A student can also receive athletic credit by being a member of the SPS Ballet Company. All new students are required to pass a swim test for graduation, completed within two years of matriculation. Free swim lessons are offered, and students may take the test as many times as necessary.

HONORS PROGRAMS

Inherently student-centered, experiential, and grounded in real-world experiences, the Honors Programs at St. Paul’s School provide passionate students the opportunity to engage in sustained research and deep scholarship in a specific area of inquiry. Honors students must demonstrate independence, creative thinking, and the ability to collaborate at a high level for the duration of the program. Distinct from our Advanced Studies and Independent Study programs, Honors Programs demand that students draw upon multiple, traditional academic disciplines in the experience of real-world applications of their learning.

Prospective Honors students are identified by their teachers in their Fourth Form year and must commit to engaging in a series of prescribed classes per discipline, independent research, and experiential or travel programs in their field through their Fifth and Sixth Form years.

INDEPENDENT STUDY PROGRAM

Students may apply for an Independent Study Project (ISP) during their Sixth Form year. An ISP is a term- to-year-long project, in which a student is able to explore an interest in depth. Independent study projects may include activities ranging from internships, terms abroad, and movie production, to writing a book of short stories, but all emphasize the experience and understanding of one’s self gained from working in an independent setting. Proposals are submitted to a committee of faculty and students, and the approved projects are overseen by a faculty adviser of the student’s choosing.

INTERSCHOLASTIC OFFERINGS

Fall Term:
Cross Country (boys/girls) 
Field Hockey (girls) 
Football (boys)
Soccer (boys/girls) 
Volleyball (girls)
Winter Term:
Alpine (boys/girls) 
Basketball (boys/girls) 
Ice Hockey (boys/girls) 
Nordic (boys/girls) 
Squash (boys/girls) 
Wrestling (boys/girls)
Spring Term:
Baseball (boys) 
Crew (boys/girls) 
Lacrosse (boys/girls) 
Softball (girls) 
Tennis (boys/girls) 
Track (boys/girls)
Full year commitment: SPS Ballet Company (boys/girls)

CLUB, INSTRUCTIONAL, AND NON-INTERSCHOLASTIC OFFERINGS (BOYS/GIRLS)

Fall Term:
Farm Team 
Tennis 
Soccer
Winter Term:
Alpine/Snowboarding 
Ice Hockey 
Nordic 
Swimming
Spring Term:
Crew 
Squash 
Farm Team
All Terms:
Fitness 
Service Learning Team
The arts are passionate. Initially solitary and ultimately public, the arts involve the whole person and address the whole community. Recognizing that a regular exposure to the arts has always had a powerful and liberating influence in the world, the Fine Arts, Theatre, Dance, and Music Programs offer students a variety of studio and performance-based classes, courses in the history and theory of the arts, and frequent exposure to a diverse group of visiting artists.

Courses that fulfill the initial year graduation requirement in the Arts – and serve as prerequisites to almost all other courses in their respective programs – include:

- In Fine Arts – a combination of three term-long courses
- In Theatre – a combination of three term-long courses
- In Dance – Introduction to Dance
- In Music – Applied Music 1-4

All students are strongly encouraged to continue to study in the Arts throughout their St. Paul's career.

**ARTS FEE: $145 PER TERM**

Students in Photography: Color or Advanced Photography courses pay additional fees for development of color slides. Students in Hot Glass pay additional fees based on the scope of their chosen projects.

The Arts Fee will not be charged to students enrolled in Art History Seminars, Introduction to Music Notation, and Music Theory.

Students in Non-Credit Music will pay a Lesson Fee in place of the Arts Fee:

- Full year, $2,000
- Winter and Spring Terms, $1,330
- Spring Term, $670

Enrollment in arts courses is subject to permission of the program head and/or the department head.

**ARTS: DANCE**

St. Paul's School provides students with the opportunity to combine a rigorous academic education with the finest dance training in a dedicated dance facility. The St. Paul's School Dance Program fosters a fun, nurturing, and artistic learning environment and prepares its students to dance at the pre-professional and college level by teaching classical ballet, modern dance, anatomical theory, and performance. The St. Paul's School faculty is committed to the idea that studying dance is a process and that dancers are always evolving and growing. Our goal is to train technically proficient dancers with a sound work ethic, promote artistic growth, and support dancers of all backgrounds.

Serious dancers may audition for the St. Paul's School Ballet Company (SPSBC), a year-round program that can be substituted for athletic participation at the varsity level. SPSBC dancers work one-on-one with faculty and guest teachers and choreographers, rehearsing daily throughout the academic calendar, and performing four different programs per school year. Its repertory includes classics as well as contemporary works. Guest teachers and choreographers have included members of internationally recognized companies such as Paul Taylor Dance Company, Merce Cunningham Dance Company, Twyla Tharp, New York City Ballet, Batsheva Dance Company, Miami City Ballet, Parsons Dance, Lar Lubovitch Dance Company, and Trisha Brown Dance Company.

**DANCE COURSES**

**MOVEMENT FOR ATHLETES**

Full year: 3 credits  
Fall, Winter, or Spring Term: 1 credit  
[100-level course.]

This fun and fast-paced, studio-based course is geared toward athletes looking to improve strength, flexibility, agility, body control, and core stability. With a focus on proper alignment, muscle balance, and injury prevention, this course draws upon several techniques including core strengthening Pilates exercises, GYROKINESIS, Yoga, Modern Dance, and Ballet to improve balance and coordination, while also exploring musicality and rhythm. Basic anatomy is introduced to develop an understanding of the function of each muscle group and how it pertains to movement.
Ballet II
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Training in classical ballet and placement audition.
This course teaches classical ballet technique at the elementary level. Classes cover barre, centre practice, and the introduction and further study of pointe work. Students with prior dance training and permission from the Dance Director should enroll in Ballet II. Throughout the year, students receive training from visiting artists from professional companies in disciplines ranging from Balanchine, Gaga, Paul Taylor, Twyla Tharp, and Merce Cunningham.

Ballet III
Full Year: 3 credits
This course teaches classical ballet technique at the intermediate level. Classes cover barre, centre practice, and pointe work. Students develop artistry and classical technique while working toward improving strength and flexibility. Students with a significant background in ballet, who are interested in continuing their training at an intensive level, will be placed in Ballet III by the Director of Dance. Throughout the year, students receive training from visiting artists from professional companies in disciplines ranging from Balanchine, Gaga, Paul Taylor, Twyla Tharp, and Merce Cunningham.

Ballet IV
Full Year: 3 credits
This course teaches classical ballet technique at the advanced level. Classes cover barre, centre practice, and pointe work at the advanced level. Students develop artistry and classical technique while working toward improving strength and flexibility. Students with a significant background in ballet, who are interested in continuing their training at an intensive level, will be placed in Ballet IV by the Director of Dance. Membership in the SPS Ballet Company is a prerequisite for placement at this level. Throughout the year, students receive training from visiting artists from the professional companies in disciplines ranging from Balanchine, Gaga, Paul Taylor, Twyla Tharp, and Merce Cunningham.

Arts: Fine Arts
The Fine Arts Program is a studio-based program, with hands-on studio assignments supplemented by a broad introduction to art history, theory, criticism, and aesthetics, and with students expected to display their work as one outcome of each course. All students are offered extensive elective opportunities in one of three major areas: drawing, painting and printmaking; sculpture, glass, and ceramics; or photography and computer graphics. Advanced Portfolio courses are offered as culminating classes in each of those three major areas of study. The program also offers courses in architecture and art history, and students may also choose to study across a variety of studio arts disciplines. The Fine Arts Program supports the beginning, introductory student through those who wish to study in the studio arts in depth and throughout their St. Paul's career.

A recommended course of study for those students wishing to explore drawing and painting in depth includes: Introduction to Drawing and Painting, Advanced Drawing, Advanced Painting, and/or Advanced Painting Seminar, and/or Advanced Drawing Seminar, and/or Advanced Studies in Painting, and/or Advanced Studies in Drawing, and culminating in Advanced Portfolio: Painting (Printmaking and the Art History Seminars are also recommended).

A recommended course of study for those wishing to explore 3-dimensional design in depth includes: Introduction to Ceramics, Advanced Ceramics, Introduction to Sculpture, Advanced 3D, Glass, Hot Glass, and/or Advanced Ceramics Seminar, Advanced Studies in Sculpture, Advanced Studies in Ceramics, and culminating in Advanced Portfolio: Sculpture (Drawing and the Art History Seminars are also recommended).


A recommended course of study for those wishing to explore architecture in depth includes Architectural Concepts, Introduction to Drawing and Painting, Advanced Drawing, and Advanced Studies in Architecture.

Fine Arts students are also encouraged to study in multiple mediums and/or studio arts disciplines.

Fine Arts Courses
Introduction to Drawing and Painting
Fall, Winter, or Spring Term: 1 credit
This introductory level course focuses on the basic techniques of drawing and painting. Beginning with the fundamentals of drawing through the use of pencil, ink, marker, pastels, charcoal, and Conté crayon, the class then transitions to similar projects in watercolor and oil painting. Elements of design and color theory are introduced and reinforced in this course. The course is designed for students from all levels of experience and serves as a prerequisite for all advanced drawing and advanced painting courses.
ADVANCED DRAWING [1–2]
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Introduction to Drawing and Painting.
This course builds on the basic techniques introduced in Introduction to Drawing and Painting and develops those skills via more extensive, conceptual works. Students develop a thematic series of works around one or two subjects, including landscape, portraiture, still life, or abstraction. Assignments are more independent in nature and individualized to the requirements of each student. Studio work is informed by art history and master artist references. Students may repeat this course up to two terms, provided that they have earned a minimum of an Honors grade in all previous drawing courses.

ADVANCED DRAWING SEMINAR [1–3]
Fall, Winter, or Spring Term: 1 credit
Prerequisite: two terms of Advanced Drawing.
[Available only to Fifth and Sixth Formers.]
An advanced-level drawing course for highly motivated drawing students that builds upon basic drawing and compositional skills, emphasizing further and more extensive work with a particular drawing medium, including graphite, charcoal, pastel, pen and ink, Conté, or other drawing media. Students propose to develop a particular conceptual idea over a series of works. Subjects include landscape, portraiture, still life, illustration, and abstraction. Students may repeat this course up to three terms, provided that they have earned a minimum of an Honors grade in all previous drawing courses.

ADVANCED PAINTING
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Introduction to Drawing and Painting.
This course builds on the basic techniques introduced in the Introduction to Painting course and develops those skills through a thematic series of works. Various landscape techniques and conceptual projects are introduced. Assignments are more independent in nature and individualized to the requirements of each student. Students may repeat this course up to two terms, provided that they have earned a minimum of an Honors grade in all previous painting courses.

ADVANCED PAINTING SEMINAR [1–3]
Fall, Winter, or Spring Term: 1 credit
Prerequisite: two terms of Advanced Painting.
[Available only to Fifth and Sixth Formers.]
This advanced-level painting course for highly motivated painting students builds upon basic painting and compositional skills, emphasizing further and more extensive work with a particular painting medium, including watercolors, acrylics, oils, and/or encaustics. Students propose to develop a particular conceptual idea over a series of works. Subjects include landscape painting in “plein air,” portraiture, still life, and abstraction. Students may repeat this course up to three terms, provided that they have earned a minimum of an Honors grade in all previous painting courses.

PRINTMAKING [1–2]
Winter or Spring Term: 1 credit
Various printmaking methods and media are introduced in this course, including both hand-printed and press-printed methods. Students develop technical and aesthetic skills through experimentation in relief printing, embossing, intaglio, and monotype. Students may repeat this course up to two terms, provided that they have earned a minimum of an Honors grade in all previous printmaking courses.

INTRODUCTION TO PHOTOGRAPHY
Fall, Winter, or Spring Term: 1 credit
An introductory photography course designed for those students with little or no previous photography experience, this course introduces students to a 35mm camera and to the traditional process for developing black-and-white film, as well as digital scanning of negatives and digital printing. The main objective is to teach students to see light rather than things and to make art using the photographic process. Students must have access to a fully manual 35mm camera. (Arrangements can be made with the photography instructor for borrowing cameras.) Each photography course is concerned with the aesthetics, history, and practice of this light-generated form of art. Except in rare instances, students begin with Introduction to Photography and move to either Black & White Photography or Photography: Color, although the sequence does not have to be in the same year; also available is Computer Graphics/Digital Imaging. Finally, with permission, students can enroll in Advanced Photography Seminar – they may take this course twice with a different individualized curriculum.
BLACK & WHITE PHOTOGRAPHY
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Introduction to Photography.
Students further develop black-and-white photography concepts covered in Introduction to Photography. The Zone System, studio lighting, and other intermediate-level techniques are explored. Students should be highly motivated and have strong critical skills in all intermediate- and advanced-level photography courses. An emphasis is placed on portraiture and self-portraiture, and the exploration of gesture and meaning. Students must have access to a fully manual 35mm camera. (Arrangements can be made with the photography instructor for borrowing cameras.)

PHOTOGRAPHY: COLOR
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Introduction to Photography.
Students continue to develop photographic vocabulary and vision while building upon intermediate-level black-and-white photography techniques. They are also introduced to computer colorization, color photography, color digital printing, and basic computer image manipulation. Emphasis will be placed on developing narratives using photographic imagery. Students must have access to a fully manual 35mm camera. (Arrangements can be made with the photography instructor for borrowing cameras.)

COMPUTER GRAPHICS/ART WITH COMPUTERS
Fall, Winter, or Spring Term: 1 credit
Students in this course learn to use scanning, drawing tablets, and various software to create art using computers. Creativity and experimentation are emphasized. Students output their work in a variety of digital media, including large archival inkjet prints. Computer Graphics students are strongly encouraged to continue with Computer Graphics/Web Design.

COMPUTER GRAPHICS/WEB DESIGN
Spring Term: 1 credit
Students in this course learn the basics of web design and create their own portfolio site as well as sites that are an art form in their own right. They also learn to maintain and remodel existing sites. Students also create new art pieces for use on their sites. Computer Graphics students are strongly encouraged to continue with Computer Graphics/Digital Imaging.

COMPUTER GRAPHICS/DIGITAL IMAGING [1–2]
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Introduction to Photography for those wishing to pursue the photo-based curriculum.
This course teaches students advanced techniques in Photoshop that are used in art-making. Students in this course learn to use scanning, drawing tablets, and various software to create art with computers. Creativity and experimentation are emphasized. Students output their work in a variety of digital media, including large archival inkjet prints. Students who have successfully completed Introduction to Photography may choose to pursue a photo-based curriculum which focuses entirely on digital image-making, using digital cameras or a hybrid technique with traditional film and scanning. No wet darkroom techniques will be employed. Digital workflow, color management, and digital darkroom techniques will be explored in depth. Enhancement of images as well as combining images in a seamless, realistic way will be the goal. Students who intend to pursue this photo-based curriculum should have access to a 10-megapixel digital camera or a fully manual 35mm camera. (Arrangements can be made with the photography instructor for borrowing film cameras.) Students may take this course a second time with the curriculum they did not take the first time, or with the instructor’s permission, to do advanced work in either area.

ADVANCED PHOTOGRAPHY SEMINAR [1–3]
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Black & White Photography and Photography: Color.
Highly motivated students continue to use the Zone System to explore advanced-level black-and-white and digital applications for photography as well as electronic flash and night photography, and other alternative techniques. Students are expected to work on a comprehensive portfolio throughout the term. Students may elect to take this course a second time and would do so using a new individualized curriculum. Students must have access to a fully manual 35mm camera. (Arrangements can be made with the photography instructor for borrowing cameras.) Students may repeat this course up to three terms, provided that they have earned a minimum of an Honors grade in all previous photography courses.

ARCHITECTURAL CONCEPTS
Fall Term: 1 credit
[Available only to Fourth, Fifth, and Sixth Formers.]
Students are introduced to the language of architecture with respect to fundamental design, drafting, and architectural history. The course begins with the study of architectural elements translated into paper models. After a brief review of perspective drawing, students explore drafting through the design of small personal spaces and structures. Online sources are used to facilitate the historical research and image-gathering needed for each project.

INTRODUCTION TO SCULPTURE
Fall, Winter, or Spring Term: 1 credit
Introduction to Sculpture is a beginning course for students who want to explore and work in sculpture. Students will be introduced to 3-dimensional design concepts, sculptural techniques, and art history. Emphasis is placed on skill development, experimentation, creative thinking, self-expression, and quality craftsmanship. Students will learn to work with clay, plaster, wire, and various other materials. This course also introduces the basics of welding.
ADVANCED SCULPTURE [1–2]  
Fall, Winter, or Spring Term: 1 credit  
**Prerequisite:** Introduction to Sculpture.  
Advanced Sculpture is designed to develop sculpture skills learned in Introduction to 3D. New techniques, skills, and processes, such as mold-making, carving, and welding are explored. Materials include stone, clay, glass, fibers, and metal. Emphasis in Advanced 3D is placed on skill refinement, material exploration, self-expression, and high-quality craftsmanship. This course may be taken a second time.

GLASS  
Winter Term: 1 credit  
Glass will introduce the basic skills of stained glass construction and glass fusing. Historical and contemporary examples of stained glass are studied. Students will learn how to cut and grind glass, solder, and experiment with glass painting techniques. The course provides the opportunity for students to create windows and 3-dimensional objects using the copper foil technique. Emphasis will be on color theory, skill development, creative thinking, and self-expression.

ADVANCED GLASS [1–2]  
Spring Term: 1 credit  
**Prerequisite:** Glass.  
This course further explores glasswork techniques introduced in the beginning Glass course. Students will also employ advanced stained glass techniques such as leaded glasswork as well as other techniques, including fusing.

HOT GLASS  
This course introduces the basics of manipulating hot glass through the use of a blowpipe and hand tools. Students learn how to gather glass from the furnace and shape it using hand tools at the glass blowing bench. Using heat, gravity, and centrifugal force, students create vessels such as tumblers, bowls, and vases. Students also are introduced to basic color applications and grinding and polishing techniques. Students study historical and contemporary examples of blown glass, as well as the artists involved with glass. Emphasis is given to developing hand skills, team work, creative thinking, self-expression, and shop safety.

ADVANCED HOT GLASS [1–2]  
This course covers manipulating hot glass through the use of a blowpipe and hand tool, as well as a continuation of the study of historical and contemporary examples of blown glass and glass artists. Advanced students assist other students in the process of glass blowing. Advanced students develop and carry out specific assignments that meet their particular level of experience.

INTRODUCTION TO CERAMICS  
Fall, Winter, or Spring Term: 1 credit  
**Prerequisite:** Glass.  
Through hand-built and wheel-thrown projects, students design and create various ceramics artworks ranging from utilitarian items to sculptural works. An emphasis is placed on the understanding of the fundamental aspects of 3-dimensional form, including volume, scale, shape, texture, and color to create original and expressive pieces.

ADVANCED CERAMICS [1–2]  
Fall, Winter, or Spring Term: 1 credit  
**Prerequisite:** Glass.  
This course is a continuation of techniques learned in the Introduction to Ceramics course. Various hand-building and wheel techniques will be covered along with an exploration of the different firing techniques used in the medium. This course may be taken a second time.

ADVANCED CERAMICS SEMINAR [1–3]  
Fall, Winter, or Spring Term: 1 credit  
**Prerequisite:** two terms of Advanced Ceramics.  
This course emphasizes the continued development of ceramics techniques through exploring clay as both functional, wheel-thrown pottery and/or as a sculptural medium. Students will also be encouraged to devise novel approaches to solving problems of design, proportion, color, and form through the development of a thematically related body of work. Students may repeat this course up to three terms, provided that they have earned a minimum of an Honors grade in all previous ceramics courses.

ADVANCED SCULPTURE SEMINAR [1–3]  
Fall, Winter, or Spring Term: 1 credit  
**Prerequisite:** two terms of Advanced Sculpture.  
[Available only to Fifth and Sixth Formers.]  
An advanced-level sculpture course for highly motivated students emphasizes conceptual thinking. Students propose to develop a particular conceptual idea over a series of works. Students may repeat this course up to three terms, provided that they have earned a minimum of an Honors grade in all previous sculpture courses.

ADVANCED PORTFOLIO: DRAWING AND PAINTING  
Full Year: 3 credits  
**Prerequisite:** Advanced Drawing, and/or Advanced Painting.  
(Printmaking and Advanced Painting Seminar recommended.)  
[Available only to Sixth Formers.]  
This highly rigorous program provides serious and dedicated advanced-level drawing and painting students the opportunity to prepare an Advanced Placement Portfolio to be submitted to the College Board. Throughout this year-long course, students develop a comprehensive body of work that fulfills the Advanced Placement Portfolio requirements of breadth, concentration, and quality; students also organize an exhibition of their work.
ADVANCED PORTFOLIO: SCULPTURE
Full Year: 3 credits
Prerequisite: any two 3-dimensional electives, or Ceramics.
[Available only to Sixth Formers.]
This course consists of an in-depth exploration of 3-dimensional art with the aim of creating a rich personal portfolio, which also will satisfy the requirements of the Advanced Placement 3-Dimensional Design Portfolio to be submitted to the College Board. Students are expected to design projects for their own area of concentration in media such as ceramics, wood, metal, stone, or plaster; and are expected to demonstrate their breadth of abilities in all aspects of their 3-dimensional work, including volume, scale, shape, texture, color, negative and positive space, and other sculptural elements. Students will also organize an exhibition of their work.

ADVANCED PORTFOLIO: PHOTOGRAPHY
Full Year: 3 credits
Prerequisite: Advanced Photography Seminar.
[Available only to Sixth Formers.]
This course provides advanced photography students the opportunity to explore their unique personal vision with the aim of producing a comprehensive Advanced Placement Portfolio to present to the College Board. Students in this year-long course will develop in-depth work in a concentrated theme and explore the breadth of the medium through experimentation with alternative themes and processes. Students will also organize an exhibition of their work.

ART HISTORY STUDIO SEMINAR: 1200 TO 1860
Fall Term 1 Credit
[Available only to Fifth and Sixth Formers or 4th Formers with Departmental approval.]
This course explores the major European art historical movements from the Gothic to Impressionism. Taught in conjunction with the SPS gallery, students study the history and techniques of various artists through research, visual analysis, and in-studio projects. A general unit will start with a full exploration of a period in the history of art followed by the creation of a work in the style of that era by employing historic materials and techniques. The course is taught in the Crumpacker Gallery and utilizes the exhibition space, permanent school collection, and gallery studios. This offering is designed for those who have no experience, or confidence, in their artistic abilities, while at the same time allowing students in advanced level art courses to explore their personal work through new and different media. Projects include, but are not limited to, creating and painting with raw pigments using tempera, oil, and encaustic methods, preparation of board and canvas supports using Medieval and modern techniques, printmaking in both intaglio and lithography, photo transfer, sculpture, and non-objective painting. Historical analysis will be done through studying actual works of art, slide studies, online research, and class discussions.

ART HISTORY STUDIO SEMINAR: 1860 TO TODAY
Winter Term 1 Credit
[Available only to Fifth and Sixth Formers or 4th Formers with Departmental approval.]
This course explores the major art historical movements from the Post Impressionism to the Contemporary world of art. Taught in conjunction with the SPS gallery, students study the history and techniques of various artists through research, visual analysis, and in-studio projects. A general unit will start with a full exploration of a period in the history of art followed by the creation of a work in the style of that era by employing historic materials and techniques. The course is taught in the Crumpacker Gallery and utilizes the exhibition space, permanent school collection, and gallery studios. This offering is designed for those who have no experience, or confidence, in their artistic abilities, while at the same time allowing students in advanced level art courses to explore their personal work through new and different media. Projects include, but are not limited to, oil and encaustic methods, printmaking in both intaglio and lithography, photo transfer, sculpture, and non-objective painting. Historical analysis is done through working with actual works of art, slide studies, online research, and class discussions.

ART HISTORY MUSEUM AND CURATORIAL STUDIES
Fall Term 1 Credit
[Available only to Fifth and Sixth Formers or 4th Formers with Departmental approval.]
Using the Crumpacker Gallery as a classroom, this course explores what is required for the collecting, handling, cataloging and exhibiting of art. Students work with the gallery director and staff as they learn the various tasks needed to curate an exhibit. The St. Paul's Permanent Collection is an important resource and teaching tool in this course. Visits to nearby museums and galleries to view exhibits and to meet with gallery directors and curators are scheduled throughout the term. Students work in the gallery lab/studios to explore techniques of restoration and presentation. The course will culminate in a proposal for future exhibits at St. Paul's School. Gallery staff will work with students to locate and to arrange summer gallery or museum internships.
ARTS: MUSIC

The Music Program at SPS is primarily performance based, with vibrant choral and instrumental ensembles involving over 20 percent of the student body. The music curriculum is designed in part to support student participation in the ensembles by enhancing their skills through private lessons and musicianship classes as part of the Applied Music Program. Students may enter the Applied Music Program at any level, depending upon their ability as determined by a placement test at the start of the school year, and may take Applied Music as many years as they wish.

Participation in at least one School ensemble (Choir, Wind Ensemble, Orchestra) is a requirement for enrollment in Applied Music. However, any qualified musician may participate in any ensemble without being enrolled in the Applied Music class. In such cases, we strongly encourage students to take non-credit private lessons. A fee is charged for non-credit music lessons. Aside from the normal Arts fee schedule, lessons for those enrolled in Applied Music are free.

All music classes and lessons are taught by highly trained professional musicians.

MUSIC COURSES

APPLIED MUSIC 1
Full Year: 3 credits

This course is offered to musicians who are new to SPS and the ensemble program, and fulfills the one-year Arts graduation requirement, through participation in one or more of the School’s ensembles (Choir, Orchestra, Wind Ensembles). The year-long Applied Music 1 curriculum consists of two basic musicianship classes (BMC), one private or group lesson on their chosen instrument, and evening ensemble rehearsals each week. Ensemble rehearsals are typically held on Tuesday and Thursday evenings, 90 minutes each. Grades are based on performance in BMC, lessons, and ensemble participation (Fall and Winter). In the spring term, a 5-10 minute public performance [jury] is required. Musicians who do not pass the audition for an ensemble, or play an instrument for which there is no ensemble offered will be required to meet an alternative requirement in lieu of ensemble and could be assigned to a music appreciation or survey course, or a guided practice session during ensemble evenings. Although the standard arts fee applies, private and group lessons are free of charge to all students enrolled in Applied Music.

NON-CREDIT MUSIC

Full Year, Winter/Spring, or Spring Term
[This course may be taken for more than one year.]

Private, year-long instruction is available to all students who want to study music for no credit/no grade. Daily practice is required. Music studied in this course is based on individual needs and abilities and may include a broad spectrum of styles and genres, based on personal interests. A fee is charged for these lessons. As the School retains contracted music teachers annually based on the full academic year registrations received, early withdrawal from these music lessons does not release the family of their financial obligations for the remainder of the academic year. Please know that students may choose the options of non-credit music lessons for the full academic year, for the Winter and Spring Terms, or for the Spring Term only.

APPLIED MUSIC [2–5]
Full Year: 3 credits
Prerequisite: Applied Music 1.
[This course may be taken for more than one year.]

This course is a continuation of the Applied Music curriculum and is offered to students who have fulfilled the basic musicianship requirement either by having taken basic musicianship, Applied Music 1, or having successfully having passed the basic musicianship placement exam. Students enrolled in this class receive two private lessons, or one private and one group lesson per week, and must participate in one or more Major Ensemble. More advanced students are encouraged to participate in smaller “splinter” groups such as Madrigal, Choir, Chamber Music, Jazz Ensemble, or other small ensembles coordinated by members of the Music Program faculty. Students perform two 5-10 minute public programs (juries) per year. Applied Music satisfies the school’s Arts graduation requirement.

MUSIC THEORY
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Applied Music 1.

This is an introductory course for students who wish to enhance their understanding of how music is structured and created. A detailed study of melody, rhythm, and harmony, in conjunction with the analysis of works by master composers, emphasizes the integration of hearing and writing. These skills are developed through daily exercises in composition and ear training. This course is the equivalent of a first-year college course and prepares students for the Advanced Placement Exam in Music Theory.
MUSIC COMPOSITION: PRIVATE STUDY
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Permission of the Director of Music.
[Full year recommended; option of one or two lessons per week.]
Using the basic knowledge of music theory, writing and performing original compositions is the aim of this credit course. Proficiency on an instrument, preferably keyboard, or in voice is recommended. No previous experience in composition is necessary, but a willingness to explore and experiment is essential in order to realize the goals of this course.

APPLIED MUSIC HONORS
Full Year: 3 credits
Prerequisite: Completion of Applied Music.
[Service Learning component.]
This course is offered to qualified Sixth Form music students who wish to continue in the Music Program at a highly rigorous level and who have satisfied the requirements of Applied Music. It is designed for those music students who have the capacity and inclination to work independently and creatively. In addition to following the Applied Music curriculum, a student in this course is expected to do significant written research according to the instrument of study in the fall, participate in the School’s Service Learning program with an applicable reflection paper in the Winter Term, present a 30-minute solo recital in the Spring Term, and perform in Chapel during the school year. Students enrolled in this Honors course will be expected to meet on a regular basis to discuss the objectives of the course.

ARTS: THEATRE
The theatre program at St. Paul’s School is broad and challenging. The panoply of opportunities available to students serves as an introduction to many of the areas central to theatre making. Practical performance skills are complemented by an expansive introduction to many areas of contemporary and classical theatre. For the four-year theatre student, advanced theatre classes are a true preparation for college or full-time vocational training at the world’s best drama schools.

While the study of theatre is often centered on acting as the principle means of expression and exploration, the interdisciplinary nature of the subject is evident throughout the curriculum, with academic rigor and creativity central to the values of the program. As such, theatre electives share the common goal that learning about theatre should be done through theatre. As such, the study of contrasting works, from Miller to McDonagh, Shakespeare to Sophocles is used to develop performance abilities, just as the practical exploration of text through performance builds a deep understanding of text, theme, and the playwright’s craft.

Areas of study include Acting, Directing, Playwriting, Drama Criticism, Set Design & Construction, Stage Management, Lighting & Sound, Filmmaking (narrative), and Screenwriting.

100-LEVEL THEATRE COURSES
FILM PRODUCTION
Fall, Winter, or Spring Term: 1 credit
This course challenges students to explore entry level production. The class focuses on the fundamentals of visual storytelling while developing an understanding of the relationship between form and content. Students are responsible for planning, shooting, and editing a number of short videos that are screened and critiqued in class. Creative use of a digital video camera is emphasized through the exploration of composition, camera movements, use of light, and editing. Different genres and shooting techniques are introduced through the viewing of film clips and discussions. Students learn to critique using the proper “language of cinema.”
FOUNDATIONS IN ACTING
Fall or Winter Term: 1 credit
Foundations in Acting serves as an introduction to all subsequent acting classes, introducing students to various forms of performance and rehearsal skills, including improvisation, ensemble-building, movement/mime-based performance, devising for performance, theatre games, Jacques LeCoq’s 7 Levels of Tension, and naturalism. This course is designed for beginning level students who want to explore theatre as their arts commitment and acts as a platform and knowledge base from which students can follow a performance path or one that takes in elements of technical theatre and theatre production. For anyone wanting to pursue theatre, this is the bedrock.

IMPROVISATION
Fall or Spring Term: 1 credit
This course is designed for beginning level students who are interested in improvisational theatre. The primary objective of this course is to utilize improv as a means to provide students with the opportunity to improve their self-confidence, spontaneity, creativity and collaborative skills. Students will participate in daily exercises, theatre games, and collaborative assignments, as they explore various forms of short and long form improv.

THE MOVING BODY: PHYSICAL ACTING
Winter Term: 1 credit
For students who are new to it and for those may have some experience of acting alike, this class challenges students to learn to use their body as the primary tool of communication in acting. This will involve the use of mask work, and the creation of physical performance. This may involve the development of skills in Rudolf Laban’s Movement Analysis and Working Actions, or it may build on the work on Jacques LeCoq’s 7 Levels of Tension, depending on the skills and strengths of those in the class. Finally, this class will look at how an actor’s use of her body supports and sustains the use of voice and the ways in which physical and vocal skills are intrinsically complementary.

THEATRE PRODUCTION
Fall or Winter Term: 1 credit
This course introduces students to the basic skills needed to provide technical support for the major productions of the Fine and Performing Arts Division. From basic construction and reading of technical drawings to practical experience with computer lighting equipment, students are involved in all facets of technical production for Dance, Theatre, Music, and Fine Arts offerings. The course may entail occasional evening commitments in support of productions. 
Theatre Production varies in the material covered and is designed to allow students to take the course more than once, in order to develop a broad understanding of the various technical and production elements in theatre making.

200-LEVEL THEATRE COURSES

ACTING: CONTEMPORARY THEATRE
Spring Term: 1 credit
Prerequisite: Foundations in Theatre, any two 100-level acting classes, or permission of the Director of Theatre.
This class introduces elements of naturalistic acting using off-text improvisation, Actioning, and Stanislavski-based rehearsal exercises. The work of various contemporaries of Stanislavski such as Michael Chekov and Uta Hagen is used to develop skills in characterization and inner life. Exploration of a range of influential works of contemporary theatre, including plays by Tracy Letts, Lucy Prebble, David Mamet and Suzan-Lori Parks, students will develop a broad understanding of the shape and state of contemporary theatre.

ACTING: SHAKESPEARE & VERSE
Winter Term: 1 credit
Prerequisite: Foundations in Theatre, any two 100-level acting classes, or permission of the Director of Theatre.
This class challenges students to learn about Shakespeare through Shakespeare, using active approaches to the study of classical works in order to help actors discover the possibilities within texts, in the same way the Royal Shakespeare Company approaches rehearsal. With a strong focus on classical verse, students will develop skills in performing verse and empathetic insight, using soliloquies, scenes, and sonnets. Alongside study of Shakespeare’s plays and sonnets, the class may look at classical Greek plays as well as modern theatrical works developed in the classical tradition.

FOUNDATIONS IN TECHNICAL THEATRE
Spring Term: 1 credit
The objective of this course is to provide an overview of technical theatre design and production, organization of personnel, as well as an introduction to the basics of scenery and lighting design. Alongside this, the class explores the history of the physical spaces and techniques used in theatre. This course focuses on the processes, tools and materials necessary for the design, planning, and execution of the non-performance aspects of theater as well as the lore etiquette and protocols of technical theatre. As theatre is inherently collaborative, many of the class assignments will be group projects. The culminating project involve design and implementation of technical support for the Advanced Directing productions, and may include the opportunity to lead a technical team for a production.
300-LEVEL THEATRE COURSES

ADVANCED FILM PRODUCTION
Winter or Spring Term: 1 credit
Prerequisite: Film Production or Screenwriting, or permission of the teacher.

This course challenges students to explore every level of production including producing, writing, directing, acting, lighting, sound design, art direction, production management, and more. Participants will be challenged at their level of ability and may also elect to concentrate in one area of the moving picture production process. This film ensemble models the operations of a professional production company and produces work for our local community, while also connecting to a worldwide audience with narratives, comedies, documentaries, and experimental art films. The course explores several levels of advanced moving picture technology while tapping into a variety of distribution outlets and recorded performance mediums. Students are expected to purchase an external hard drive for the course. It also would be helpful to have a digital camera. Students may repeat this course up to two terms.

ADVANCED THEATRE PRODUCTION
Fall or Winter Term: 1 credit
Prerequisite: Theatre Production or permission of the teacher.

This course further develops the skills necessary to provide technical support for the productions of the Arts Department. Students will be expected to take leading roles in supporting a department production, demonstrating applied knowledge of the skills built in Theatre Production. Such roles might include supervising student crews, assisting a guest designer, designing elements of a production or assuming other advanced production responsibilities.

Advanced Theatre Production varies in material covered and is designed to allow students to take the course more than once.

PLAYWRITING
Winter Term: 1 credit
Prerequisite: any 200-level acting class; Creative Writing may also be considered with permission of the Director of Theatre.

This class is aimed at those with interest in theatre and/or creative writing, who may be motivated to write a complete play for performance. The course explores key skills for the playwright, including storytelling, structure, dialogue, characterization, and the role of objectives and obstacles in building a story arc. Exploring how playwrights use elements, from subtext to dramatic irony, this class challenges students to write either a short one-act play or collection of scenes, to be showcased as a rehearsed reading or as a performance for an audience.

Though not a prerequisite, Acting: Contemporary Theatre serves as an excellent introduction to this class, just as both classes serve as ideal preparation for Advanced Directing.

SCREENWRITING
Fall Term: 1 credit
Prerequisite: Foundations in Theatre or Film Production or permission of the teacher.

Students in this class are challenged at their level of ability in all aspects of writing for the screen. Students explore cinematic narrative storytelling particular through critical analysis of films and the production of various scenes, monologues, and short scripts. Projects are designed to help them with the process of developing character and plot and how to effectively use objectives, obstacles, dialogue, and emotional underpinning to enhance a story. Students will complete this course with an original short screenplay designed to be filmable by students here at St. Paul’s School.

400-LEVEL THEATRE COURSES

ADVANCED ACTING: CONTEMPORARY THEATRE
Fall Term: 1 credit
Prerequisite: Acting: Contemporary Theatre.

This class builds on the skills in naturalistic acting developed in the Acting: Contemporary Theatre class. Going further into the techniques of Uta Hagen, in particular, students in this class gain the tools required to successfully enter elite drama schools, at vocational training or degree-level. Additional skills developed in this class include the integration of Laban’s Working Actions and a more in-depth exploration of Actioning. In order to build further understanding of contemporary theatre, students are asked to research the work of an influential playwright currently shaping the direction of theatre in the US/UK.

ADVANCED ACTING: SHAKESPEARE & VERSE
Winter Term: 1 credit
Prerequisite: Acting: Shakespeare and Verse.

This class develops on the grounding found in Acting: Shakespeare & Verse. Again, active and experiential pedagogies will be used to explore and gain understanding of Shakespeare’s works, while this class will challenge students to build a strong platform of understanding of performance methods in verse. This begins with intensive study of Shakespeare’s sonnets and challenges students to apply their technique to the work of a range of playwrights, from Tennessee Williams to Anton Chekhov.

Classical acting arguably serves as the best foundation for building the actor’s craft in any media. As such, students may repeat this course; for those with aspirations to pursue theatre at college or beyond, this is strongly encouraged.
ADVANCED DIRECTING
Winter Term: 1 credit
Prerequisite: at least three 400-level classes in acting or playwriting, or permission of the Director of Theatre.[Available only to Sixth Formers.]
This course explores the historical and contemporary role of director in bringing a play from the page to the stage. Students will discover how to analyze and envision a script and communicate that vision to actors, designers, and the audience. Students will learn how to combine theatrical elements to tell a cohesive and compelling story. Students will read scripts; develop a thorough directorial plan, and direct scenes.
*Fifth Formers intending to request this course for their Sixth Form year must do so by the spring of their Fifth Form.

ADVANCED PLAYWRITING
Winter Term: 1 credit
Prerequisite: Playwriting.
Building on the work of Playwriting, this class will develop similar skills in storytelling, structure, dialogue, characterization, and the role of objectives and obstacles in building a story arc. Students will be expected to read widely and demonstrate advanced ability in dialogue and structure in plotting. The Advanced Playwriting student will be encouraged to develop their own voice as a playwright, and develop a short a short one-act play that can be presented as a rehearsed reading, it is hoped that these plays will build towards performance for Advanced Directing students in the Spring Term.

DOCUMENTARY AND POLITICAL THEATRE
Spring Term: 1 credit
Prerequisite: Foundations in Theatre and Playwriting or permission of the Director of Theatre.
This class explores theatre as a medium of social and political change alongside the role theatre plays as a mirror, held up to life, through which we understand the social and political in which we live. The class initially explores narrative-driven political plays and satires, such as Lucy Kirkwood’s Chimerica, Mike Bartlett’s 13 and King Charles III, and various works by David Edgar. From this platform, the class examines how documentary and verbatim theatre can be used to explore political and social issues in the modern world, using the work of writers such as Anna Deavere Smith, Alecky Blythe, and David Hare.

PHILOSOPHY & ETHICS IN THEATRE
Fall Term: 1 credit
Prerequisite: Documentary and Political Theatre, Playwriting, or permission of the Director of Theatre.
This class examines how philosophy and ethics have been explored through a theatrical lens. The class will initially explore elements of classical theatre, including works from ancient Greece, in the time of Socrates. The larger part of the class will look at philosophy and ethics in two distinct forms. The elements of philosophy found in the 20th Century plays of Tom Stoppard and Samuel Beckett will be considered alongside the writings of Plato, Aristotle, Rousseau, and Machiavelli. The central strand of this class will be the exploration of ethics in the theatre, drawing links from the birth of theatre, via Shakespeare, to look at works by Bertolt Brecht, Jennifer Haley, Lucy Prebble, Nina Raine and Mike Bartlett.
The interdisciplinary Humanities curriculum helps students develop the passion for inquiry essential to a healthy and examined life. Students are challenged to become engaged citizens and responsible leaders in an increasingly complex and globalized world. They creatively interact with and draw connections between diverse “texts.” Faculty collaboration and ongoing innovation are hallmarks of the Humanities program. The interdisciplinary study is based on a developmentally appropriate model that fosters an understanding of self, community, the natural world, and the divine, while students develop critical thinking, writing, reading, and research skills.

HUMANITIES WRITING PROGRAM
The Humanities Department strives to enable students to become confident, proficient, assured writers in the fields they pursue in college and in their lives beyond. We expect students to write frequently with clarity, efficiency, integrity, and originality across a wide range of genres. Accordingly, our writing assignments are diverse, engaging a variety of media. Because good writers are good readers, students will read and explore a variety of voices and texts, thereby developing their own voices and learning that writing is about discovery and has multiple purposes in the world at large.

Students will learn to process and to reflect upon their own thinking and writing, as teachers help students create a set of developmentally appropriate skills that individualize the writing process. Through their writing, students develop necessary habits of mind such as problem-solving, creative thinking, and curiosity. Learning and practicing these habits encourages students to think critically and write articulately about themselves and their world.

HUMANITIES CORE COURSES

HUMANITIES III
Full year: 6 credits (2 credits per term)

Humanities III introduces students to what will be a four-year experience that expects collaboration, student-centered learning, and richly interactive discussions. A key aspect of this program is its focus on a very wide range of “texts.” A text, in our use of the term, might be a novel, a movie, a poem, a map, an African mask, a vase from Ancient Greece, a historical ruler, a painting, a propaganda poster and so on. We teach students to “read” such texts and to become adept at making significant connections between them. We seek to inspire in students an appreciation for the way in which terms such as man, woman, nature, God, and city differ in societies, and are not simple words at all. We also use the idea of “self as text” in order to encourage students’ personal understanding of their own complex cultures and an appreciative curiosity about the cultures of each other.

We focus on the individual, exploring the archetype of the “hero’s journey.” We look at the societies that human beings create, asking – what happens when we live together? We explore questions of power, leadership, and the place of the individual in the society. We examine how different societies and cultures have interacted and come into conflict (or, less frequently, into cooperation) across history, and we pay attention to the experience of individuals in times of change and turmoil – what happens when humans are caught within a society in conflict? Throughout their studies, students continuously develop their critical and creative thinking skills through close reading, writing, discussion, and presentations. Students work in a variety of other creative media throughout the year, including creating plays, movies, documentaries, short stories, and more.

HUMANITIES IV
Full year: 6 credits (2 credits per term)

In Humanities IV, students explore the complex relationship between individuals and their communities through a varied and integrated disciplinary approach. Building on the conception of the self considered in Humanities III and anticipating the examination of the forces and beliefs shaping our modern world studied in Humanities V, Humanities IV investigates why individuals choose to come together in community, how they cope with tension and change, and how communities develop and evolve. Considering specific periods in American history, students explore primary and secondary texts, such as historical documents, artwork, and literature. Discussion and activity-driven classes encourage students to develop a curiosity about the United States, develop their own perspectives, and value others’ viewpoints. Students practice writing as a critical means of self-expression with emphasis on analytical and creative writing. Varied
assessments foster skill building – including critical reading, research, visual image analysis, and public speaking. A major research project examining some aspect of American history or culture is conducted in the Spring Term.

**HUMANITIES V**

Full year: 6 credits (2 credits per term)

In Humanities V, students engage in a rich interdisciplinary study of the human experience in the modern world. Extending the studies of self and community explored in Humanities III and IV, Humanities V examines the forces and ideologies that have shaped the modern world, the conflicts that arise between differing ideologies, and the challenges and responsibilities of living in the 21st century. Students explore connections across cultures, timelines, borders, and “canons” in a quest to answer the question “how then shall we live?” Through a close examination of diverse texts, students imaginatively and rigorously recreate the context both informing and informed by these works. Students refine the skill of close reading and develop critical vocabularies for various disciplines. Beyond the expository essay, students engage in a variety of other assessments to develop greater appreciation for and control of the nuances of language and self-expression. Focused on creating a culture of collaborative learning, the teacher models and facilitates the development of critical listening and effective speaking skills. The course culminates in a year-end capstone project of the student’s choice.

**HUMANITIES ELECTIVES**

Elective courses are open to Fourth, Fifth, and Sixth Form students with the following prerequisites:

- **300-level electives** offer course content, context, and homework based upon the School’s guidelines for Fourth and Fifth Formers. Fourth and Fifth Form students must have earned an Honors grade in Humanities III and/or Humanities IV, and new Fourth or Fifth Form students must have the approval of the Humanities Department Head and the Dean of Studies to enroll in a 300-level elective.

- **400-level electives** offer course content, context, and homework aimed at Sixth Formers, though qualified Fifth Formers and exceptional Fourth Formers may apply. Fourth Form students must have earned a High Honors grade in Humanities III, Fifth Form students must have earned an Honors grade in Humanities IV, and new Fourth and Fifth Form students must have the approval of the Humanities Department Head and the Dean of Studies to enroll in a 400-level elective.

- **Spring Term 300-level electives** are not available to Sixth Form students.

- Priority for enrollment in 300-level electives will be given to qualified Fourth and Fifth Form students. Priority for enrollment in 400-level electives will be given to Sixth Form students.

- The Humanities electives are 400-level courses unless otherwise noted.

**AMERICAN FOREIGN POLICY**

Winter Term: 1 credit

This course asks students to examine the paradigm that governs American foreign policy and the key moments in history when the paradigm has shifted. In our study of foreign policy decisions, this course examines America’s role as an imperial power, the role of human rights in America’s foreign policy decisions, the relationship between the United States and the United Nations, and the concept of America as the world’s global police. Students are expected to pay particular attention to current events. There are several research projects as a major component of this course.

**AMERICAN GOVERNMENT**

Fall or Winter Term: 1 credit

The objective of this course is to introduce you to the institutions, processes, and actors that comprise the American political system at the national level, as well as to engage you in empirical and critical thinking regarding the nature and quality of American democracy. The course begins with an examination of the ways we can systematically examine American politics, and then turns to the structure of American government with an emphasis on the divisions of power between levels of government and branches of government. We’ll investigate the legislative and executive branches of government, looking specifically at the workings of the Congress, presidency, and bureaucracy, and how these institutions engage in policy making and policy execution. The role of American elections and the combination of forces that lead to policy change also will be examined. We will end the course by considering the American judicial system and its role in our system of government. Current events will be incorporated regularly and used as lenses into the issues we are studying.

**ART AND LITERATURE OF THE ROMANTICISM PERIOD**

Winter Term: 1 credit

[NCAA: English core course.]

Growing out of a disillusionment with the Industrial Revolution and a reaction against the Enlightenment, the Romanticism movement in Europe brought about significant changes in attitudes about art, music, literature, architecture, and more. This course will closely examine the visual art and literature of Western Europe during this period, roughly 1780-1850. We will examine works of prose and poetry, as well as paintings and sculpture. Possible texts may include works by Wordsworth, Shelley, Keats, Byron, Coleridge, Blake, Scott, Burns, Goethe, Dumas, Hugo, Friedrich, Constable, Turner, Gericault, Delacroix, Goya, Runge, and more.
THE ARTISTRY OF JAMES JOYCE: DUBLINERS AND A PORTRAIT OF THE ARTIST AS A YOUNG MAN
Fall Term: 1 credit
[NCAA: English core course.]
This course focuses on two works by James Joyce, one of the most acclaimed authors of the early 20th Century. *Dubliners* is a collection of short stories that combine to give a vivid and challenging portrait of life in Dublin as Joyce perceived and experienced it. *A Portrait of the Artist as a Young Man* is Joyce's fictional presentation of the autobiography of a young writer. It is a powerful and artistically important work that helped define the literary movement known as Modernism. Close study of these two works opens up a world of literary imagination and powerful prose that invites students to read deeply, think creatively, and write expressively.

BASEBALL: “AMERICA'S PASTIME”
Spring Term: 1 credit
This course will look closely at how the game of baseball has mirrored American social, political, and economic currents. The course will follow a chronological timeline, from the rise of the major leagues in the 1870s through the modern era, paying particular attention to the game's impact on individuals and families; racial discrimination and integration; labor relations; urbanization; roles of women; treatment of gay athletes; and implications of performance-enhancing drugs.

BLACK MUSIC, RELIGION, AND AMERICAN SOCIETY
Spring Term: 1 credit
The class examines how black music both is a reflection and a driver of different aspects of American and African American society including the conceptions of God, justice, love, the sacred, identity, and agency. We examine how these conceptions connect to and reflect American and African American cultural practices and traditions. We investigate the origins and cultural significance of Blues, Rhythm and Poetry (RAP), Gospel, and R&B music. A primary goal of this class is to provide students with political, historical, and social frames with which to approach and understand this music. Assigned readings may include poems, short stories, and essays by Terrance Hayes, Cornel West, Audrey Lorde, Ralph Ellison, Langston Hughes, Toni Morrison, and more.

BOARDING SCHOOL LITERATURE
Winter Term: 1 credit, 300-level elective
[NCAA: English core course.]
Boarding schools are consistently chosen as the setting for novels, short stories, and poems. Something about this concentration of teenagers makes for an appealing backdrop to examine the human condition. In this course, students read literature about boarding schools – such as *A Separate Peace* by John Knowles, *Prep* by Curtis Sittenfeld, and *Old School* by Tobias Wolff – and try to articulate just what it is about the adolescent experience at boarding school that makes this literature so enthralling. Additionally, students use their own experiences in conjunction with the texts to both broadly explore the utility of boarding schools in a constantly evolving societal landscape and to more narrowly examine St. Paul’s School, its community, and its culture.

BRAHMA TO BUDDHA
Fall Term: 1 credit
[Satisfies the diploma requirement in religious studies.]
This course introduces students to two of the world’s great religions: Hinduism and Buddhism. Students will engage in an in-depth study of the mythology, philosophy, imagery, and devotional practices of the two belief systems. Art, music, dance, myth, yoga, and meditation will all figure prominently in our course of study, as will field trips to Hindu and Buddhist temples.

CIVIL RIGHTS AND CIVIL LIBERTIES
Winter Term: 1 credit
This course investigates the rights and liberties provided by the US Constitution – in other words, the limitations the American people have placed on their government – both past and present. Topics will include some of the following: affirmative action, racial equality, gender equality, privacy, reproductive autonomy, medical care decisions, voting, same-sex marriage, free speech, religious freedom, search and seizure, and the rights of the accused. Readings will include both abridged decisions of the US Supreme Court as well as commentary on those decisions.

COMING OF AGE
Spring Term: 1 credit
A bildungsroman is a literary genre that focuses on the development of a protagonist as he/she grows and changes. In this course, we read a variety of coming of age tales. Students keep blogs to highlight their own travails as they seek answers and experiences. Novels we might read in this course include: *The Curious Incident of the Dog in the Night-time* by Mark Haddon, *Portrait of the Artist as a Young Man* by James Joyce, *Their Eyes were Watching God* by Zora Neale Hurston, and *The Brief Wondrous Life of Oscar Wao* by Junot Diaz.

CONTEMPORARY AMERICAN FICTION
Winter or Spring Term: 1 credit
[NCAA: English core course.]
This course surveys the trends and writers of the last forty years in American fiction, considering, among other things, the ways in which contemporary fiction has emerged out of the traditions studied in *Humanities IV* and *Humanities V*. The course focuses on multiple genres, aspects of form in contemporary prose fiction, and recurring themes involving individual identity in the conformist culture of contemporary America. Students will leave the course with a sense of some of the many directions of contemporary American fiction as well as a desire to read more works by writers who have spurred their interest through their brief encounter with them. Authors may include Joseph Heller, Jack Kerouac, Toni Morrison, Julie Otsuka, Kurt Vonnegut, and Alice Walker.
CONTEMPORARY BLACK LITERATURE
Fall Term: 1 credit
[NCAA: English core course.]
This course will evaluate the representations of the Black identity through various pieces of literature as they arise across various cultures, countries, and ideologies that make up the Black community. Students will explore diverse narratives that attempt to peek into the diverse and intersectional identities of Black folk as articulated in novels, short stories, memoirs, and essays. Readings may include Americanah by Chimamanda Ngozi Adichie, Drinking Coffee Elsewhere by ZZ Packer, How to Be Black by Baratunde Thurston, Between the World and Me by Ta-Nehisi Coates, and other various readings.

CREATIVE WRITING
Fall, Winter, or Spring Term: 1 credit
[NCAA: English core course.]
This course is designed to help young writers experiment in order to find an original voice. To develop their stamina, students work over the term towards a final portfolio of pieces in several media, which they can revise right up to the end. Its focus enables students to find their own writing voice, having an opportunity to try out poetry, fiction, personal writing, creative non-fiction, and script writing. In addition, for Sixth Formers the course yields interesting material that might be useful for the process of developing college essays, but it will not specifically prepare students for that task. Students are taught how to read texts, not in terms of literary analysis but in terms of their usefulness as writers, regularly work-shopping their drafts with the rest of the group and studying new techniques and processes through a variety of assignments. The class also has the chance to work with visiting writers who come to St. Paul’s School as Schlesinger writers-in-residence or Conroy visitors.

DYSTOPIAN LITERATURE
Spring Term: 1 credit
[NCAA: English core course.]
Could a utopian society ever exist, and why does a search for the perfect world typically backfire? How do authors use dystopian literature as a form of social commentary on their own societies, and how effective is this form of criticism? How are decades-old social commentaries relevant to our society today? In this course, we will strive to answer these questions as we study the works of Orwell and Atwood, among others. In addition, we will look at the way this genre has evolved with the emergence of several contemporary YA dystopian literature series. Besides novels, short stories and films/TV series may also be used.

ENCOUNTERS: LITERATURE OF TRANSFORMATION AND TRANSCENDENCE
Fall, Winter, or Spring Term: 1 credit
[NCAA: English core course; satisfies the diploma requirement in religious studies.]
The twentieth century Jewish philosopher Martin Buber famously noted, “All real living is encounter.” This course weaves together the disciplines of philosophy, literature, and theology, and students explore this existential assertion through the study of wisdom traditions and world literature. Readings include selections from sacred literature and variously from Milton’s Paradise Lost, Dante’s Inferno, the poetry of Wordsworth, Emerson, et al, Hesse’s Siddhartha, Goethe’s Faust, the short stories of Flannery O’Connor, T.S. Eliot’s Wasteland and The Four Quartets, Frankl’s Man’s Search for Meaning, Wiesel’s Night, and Cervante’s Don Quixote. Students employ and develop skills in close reading, comparative analysis, critical scholarship, and personal reflection, writing reading-response journals, analytical essays, and a concluding project. The Encounters curriculum builds on skills developed throughout the Humanities core courses and introduces opportunities to develop new techniques of exegetical analysis and literary criticism. While the thematic focus shifts each term, the guiding critical questions remain: What are the characteristics of the purposeful life? What is the life I’m being called to live?

ESSAY WRITING
Fall Term: 1 credit
[300-level course; NCAA: English core course.]
This course is designed to help young writers refine their prose by experimenting with non-fiction essay writing. Students work over the course of the term reading various models of essay writing by professional writers and exploring their own voices to create clear, concise, engaging prose. For Sixth Formers the course may generate good material for college essays, although this is not the goal of the course. Some of the various prose models students examine and write themselves include sharing a narrative, illustrating an idea, explaining a process, comparing and contrasting, using definition, arguing persuasively. Throughout the term, students learn ways to generate ideas, keep an active journal, help one another in regular in-class writing workshops, and discover the value of the revision process.

FUNDAMENTALS OF ECONOMIC THEORY AND PRACTICE
Fall or Winter Term: 1 credit
The three-fold design of this non-mathematical introduction to economics provides students an overview of the discipline that can serve as a background for courses in related subjects, a foundation for further study in economics, and a knowledge base for becoming an informed worker, consumer, and citizen. While briefly examining the history of economics and some of its seminal thinkers, the course concentrates on understanding basic economic theory (macro and micro),
developing a practical knowledge of the workings of principal economic institutions (e.g., the Federal Reserve system, the stock market, the banking sector, etc.), and appreciating the subtleties of national economic policy, especially in light of current economic challenges.

GOD IS GREEN: LITERATURE OF RELIGION AND ECOLOGY
Spring Term: 1 credit
[NCAA English core course; satisfies the diploma requirement in religious studies.]
This seminar class will include exploration of both contemporary and ancient texts that address the topic religion and ecology, such as writing by Norman Wirzba and Thomas Berry, as well as sacred scriptures. Students will consider what it means to be a creature, the role of humans in the environment through religious traditions and historical realities, and the bounds of human relationships. Other topics may include major trends in environmental theology, community organizing, and rights beyond humans. Experiential learning will also be a key component of the course; it will include outdoor excursions on campus and beyond, including to communities of worship engaged in a lived eco-theology such as Church of the Woods.

HISTORY OF AMERICAN JOURNALISM
Winter Term: 1 credit
[300-level course]
From the first instance of censorship in 1690 to yesterday’s news, journalism has been the backbone of American politics and culture. This course explores the beginnings of journalism, the first amendment, and the role of freedom of the press in shaping American democracy. Additionally, the course examines the shifting forms of journalism in recent years and the role of technology and social media including citizen journalism and fake news. Students will write both analyses of current news coverage and their own narrative journalism. Possible texts include Sacco’s Journalism, Daly’s America: A Narrative History of a Nation’s Journalism, Gladstone’s The Influencing Machine, and more.

INTRODUCTION TO FEMINIST LITERATURE AND MEDIA
Winter Term: 1 credit
What and who is a feminist? Who benefits from the historical and contemporary Feminist Revolution? What is my own Feminist Philosophy? This course looks at the rise of feminist movements throughout history and across continents, and the evolution of the movement to the contemporary landscape, analyze accompanying feminist literature both historical and contemporary and culminate in an action-based project at the end of the term. By the end of the term, students will have crafted their own Philosophy of Feminism that will inspire their action-based term projects. In addition to reading the seminal works Simone de Beauvoir’s The Second Sex and Bell Hooks’ Feminism Is for Everybody, students also venture into contemporary feminist theory and literature. Students examine the works of Chimamanda Ngozi Adichie with Dear Ijeawele, Or a Feminist Manifesto in Fifteen Suggestions and We Should All Be Feminists, Roxane Gay’s essay collection Bad Feminist, and other relevant works.

INTRODUCTION TO POLITICAL PHILOSOPHY
Spring Term: 1 credit
Political philosophy is the study of people in societies, focusing on the claims they have on each other in the form of rights and obligations, and their demands for justice, equality, and liberty. It is concerned with an analysis of the state and related institutions. This course studies questions about sovereignty (the power and authority assumed by the ruler) and political obligation (the duty and submission assumed by the ruled). Students examine questions such as: Under which conditions can political obligation arise and what is its extent? Are freedom and equality compatible? What is justice: An idea, an ideal or simply a routine legal process? What connection is there between justice and law? What is a law? How are laws justified and are there aspects of human life that laws should not attempt to regulate? Should we always obey the law or are there conditions under which breaking the law is justifiable?

INTRODUCTION TO SOCIAL JUSTICE: CLASSISM AND SEXISM
Fall Term: 1 credit
This course is designed to have students understand and think critically about social difference and social injustice in the world in general, and in their own lives in particular. Specifically, the course will examine classism and sexism in depth and explore how these issues affect our lives. By the end of the course, students ought to be able to act as agents of knowledge and change within and outside of their school communities.

THE LIFE AND LITERATURE OF F. SCOTT FITZGERALD
Winter Term: 1 credit
[NCAA: English core course.]
You’ve read The Great Gatsby and now what? Just who was the legendary author F. Scott Fitzgerald and his wife, Zelda, and what were their lives like? How did they live in the Roaring Twenties and through the Great Depression? This course provides historical background of the 1920s and ’30s so students may explore and analyze Fitzgerald’s works such as Tender is the Night, This Side of Paradise, The Beautiful and the Damned, or The Last Tycoon. Aside from these possible novels, students will read some of Fitzgerald’s famous short stories from his Tales of the Jazz Age collection. In addition, students read select autobiographical essays such as “What I Think and Feel at 25,” “Princeton,” or “How to Waste Material – A Note on My Generation.” This course explores F. Scott and Zelda Fitzgerald’s lives through both his iconic literature and his lesser-known material.
LITERATURE OF THE AMERICAN FAMILY
Winter Term: 1 credit

[NCAA: English core course.]

This course studies twentieth-century perspectives of the American family through contemporary fiction and nonfiction. Issues examined include how families define themselves, how they are shaped by external forces, and how individuals respond to roles they are assigned within the family. In the past few years works have included Norman MacLean, A River Runs Through It; Julia Alvarez, How the Garcia Girls Lost their Accents; Michael Dorris, A Yellow Raft in Blue Water; and John Cheever, The Stories of John Cheever.

MAKING IT STICK: METACOGNITION IN LITERATURE
Fall Term: 1 credit

[NCAA: English core course.]

Have you ever wondered about what makes a book great to read, or how and why we think about what we read? Why do some ideas and events from books stick while others are dismissed and forgotten? This course will begin by reading Make It Stick (Brown, Roediger, and McDaniel) about how we learn, how we process material and why we remember it or not. From there we will read four “great” books, not necessarily classics from the canon of Western Literature, but books notable for their content as well as their writing; books that a well educated, inquisitive and thoughtful person should read. The eclectic selections may include Stoner by John Williams, The App Generation by Howard Gardner and Katie Davis, Confederates In The Attic by Tony Horwitz, and Under the Banner of Heaven by John Krakauer. Throughout the course – as we read these great books – we will return to the ideas about learning from Make It Stick and consider how we think, how we learn, what we remember, and why we do so.

MODERN CHINA
Winter Term: 1 credit

Modern China will explore the unique history of China in the 20th and 21st centuries by reading a range of primary sources applicable to significant events. We will review some of the work of Humanities V and discuss the legacy of Mao Zedong and Deng Xiaoping in shaping modern China, a fast-growing, dynamic society that in some ways defies categorization as a Communist country. As a final project, students will be expected to tackle one major research project, to write a series of shorter papers, or to compose a TED talk demonstrating their understanding of a 21st century issue that currently faces either China’s citizens or government. The primary text for this course is China Since 1644: A History Through Primary Sources. Supplementary readings will be assigned as appropriate.

POSTWAR JAPAN
Fall Term: 1 credit

This elective focuses on the stories of Japan’s cultural, political, and personal responses to their defeat in World War II. How did this country manage to live up to Hirohito’s request and “endure the unendurable” in the years after the country was destroyed by war? Through historical readings, personal narratives, short stories, films, and novels, students examine this unique story in Japan’s history.

PRACTICAL POLITICS
Fall Term: 1 credit

[Service Learning component.]

This course offers students the opportunity to learn more about how politics “really” works, considering the electoral process in both a theoretical and a practical manner. Students will develop an increased understanding of why candidates run for office, why people support these candidates, and how the process shapes the overall effectiveness of the American political system. The course includes a service learning component in which students engage in the course material by going into the Concord community and learning through working for a campaign, a get-out-the-vote organization or any of various other groups that support the election process. This education in the field, along with classroom study of applicable texts, films, and current events, will enrich the discussions that stand at the heart of the course and will challenge students to think carefully about the democratic process and how politics functions in the United States.

THE POETRY AND PROPHETS OF JUDAISM
Spring Term: 1 credit

[Satisfies the diploma requirement in religious studies.]

Teaching the poetic and prophetic texts in the Hebrew Scriptures, through a variety of approaches to literary criticism including narrative, feminist, deconstructive, and socio-historical criticism upon a foundation of basic tenets of Judaism. The course will also look at Rabbinic interpretation of the various books in the Jewish tradition, as well as contemporary Jewish poets and prophetic voices.

RELIGION AND SCIENCE SEMINAR
Fall Term: 1 credit

[Satisfies the diploma requirement in religious studies.]

At the center of his famous painting, The School of Athens, Raphael depicts Plato in the center pointing his finger to the heavens while holding the Timaeus, his treatise on the origin of the world. Next to him, his younger pupil Aristotle holds a copy of his Ethics while describing the earth and the wide realm of moral teaching and scientific inquiry with his extended hand in an elegant horizontal gesture. One interpretation of these two figures is of them representing the perennial tension between the two classic sources of
information about the nature of reality: religion and science. This course, Religion & Science Seminar, seeks to explore this tension through the study of two historic issues, cosmology and biology. Students should expect to have their faith in both religion and science challenged!

**RELIGION, RACE, AND GENDER**

Winter Term: 1 credit

[Satisfies the diploma requirement in religious studies.]

This course examines the interrelationships between religion, race, and gender in American history and culture. Its content connects to components of the SPS Integrated Curriculum, from the LINC courses and from Fifth and Sixth Form Seminar. The course contributes to two specific forms of students’ religious literacy: the way that religions shape and are shaped by their social/historical contexts; and the ways in which religions are internally diverse. Students will think and write critically about the ways that sacred texts, the body, and material culture together shape our changing understandings of gender and race; examine the ways that understandings of gender and race influence who has authority within particular religious contexts; engage in literary analysis of sacred texts; conduct a research project on a topic of their own choosing.

**REVOLUTIONARIES OR VISIONARIES?**

Winter Term: 1 credit

This course will examine five American figures in the Twentieth century and consider whether they were revolutionaries or visionaries. Individuals to be considered are Mary McLeod Bethune, the Wright Brothers, Branch Rickey, Billie Jean King, and Gloria Steinem. This course will be writing intensive, asking students to compare and contrast the various revolutionaries/visionaries to one another, with specific attention to their impact on the American experience. The course will conclude with a culminating assessment with each student selecting and presenting their own Twentieth Century American revolutionary or visionary.

**RISE OF THE GRAPHIC NOVEL**

Spring Term: 1 credit

[NCAA: English core course.]

This course will examine the use of illustrations and art to accompany and elevate both fictitious and historical stories. In this course, students will read a multitude of narratives that grapple with complex themes and realities shared by the artists and writers. As our culminating project, students read a graphic novel of their own choosing and craft an in-depth analysis of the use of art as a literary device within the novel. The readings covered during the term may include *Maus: A Survivor’s Tale* by Art Spiegelman, *The Complete Persepolis* by Marjane Satrapi, *The Absolutely True Diary of a Part-Time Indian* by Sherman Alexie, and *Kindred* by Octavia Butler (graphic novel version).

**SHAKESPEARE’S TRAGIC HEROES**

Fall Term: 1 credit

[NCAA: English core course.] William Shakespeare is widely acknowledged as a master of the English language and an astute observer of human nature and behavior. This course focuses on the tragic heroes of these great Shakespearean tragedies: *Hamlet*, *King Lear*, *Macbeth*, *Coriolanus*, and *Julius Caesar*. Using these plays as a lens, students will examine several important questions about the human condition: What is the nature of good and evil? Why do good people do evil things? Can good triumph over evil? What is the connection between conscience and action? What is the balance between reason and passion? In addition to reading the plays, students will watch both live and filmed productions, and write extensively about the content and form of the great masterpieces.

**THE SHORT STORY**

Spring Term: 1 credit, 300-level course

[NCAA: English core course.] This elective focuses on the exploration of the medium of the short story. Students read a variety of short fiction, both individual stories and collections by various authors. In their examination of these texts, students consider character, plot, resolution, and theme as influenced by the form and constraints of the genre. Students respond to the stories by writing analytical essays, their own short stories, and book reviews of works they have read.

**STALIN, SPUTNIK, AND SUPERMAN: VISUAL NARRATIVES AND THE COLD WAR**

Spring Term: 1 credit, 300-level course

This course examines ways in which the rapid development of Mass Media after World War II helped shape America’s experience of the Cold War. Looking at television and comic books as case studies, this course also examines the relationship between social status, economic development, and cold war ideologies. Students engage in visual analysis of a variety of media. Major assessments comprise a visual analysis essay and an original script for either a graphic novel or television scene. Possible texts include: *A Cold War State of Mind: Brainwashing and Postwar American Society* (Dunne), *Cold War, Cool Medium: Television, McCarthyism, and American Culture* (Doherty), and *Comic Books and the Cold War, 1946-1962: Essays on Graphic Treatment of Communism, the Code and Social Concerns* (York).
THE VIETNAM WAR
Fall Term: 1 credit
This course will provide students with the opportunity to examine in great detail one of the most important world events in the last sixty years, the conflict in Vietnam. Specific topics such as the life of the “grunt” and turmoil on the home front will be explored, as well as larger questions about the nature of war itself in the second half of the twentieth century. In an effort to answer questions about the war as it really was, versus that seen in popular literature and film, the class will consider a broad selection of media, as well as a variety of historical texts and essays. Documentaries and motion pictures to be studied include Hearts and Minds, The Hanoi Hilton, The Green Berets, Apocalypse Now, Platoon, Full Metal Jacket, Born on the 4th of July, Casualties of War, and others. Works read will include, but are not limited to, excerpts from Philip Caputo’s A Rumor of War, Truong Nhu Tang’s A Vietcong Memoir, Tim O’Brien’s The Things They Carried, Robert Mason’s Chickenhawk, Michael Herr’s Dispatches, Stanley Karnow’s Vietnam: A History, and a selection of essays from Major Problems in the History of the Vietnam War.

WORLD WAR II
Winter Term: 1 credit
(NCAA: English core course.)
This course provides a historical overview of the Second World War so that students may effectively analyze literary works about specific aspects of the conflict. Beginning with an understanding of the Germans’ hatred of the Treaty of Versailles following their defeat in World War 1, students then take a look at the rise of Hitler in the 1930s as well as the growing isolationism in the U.S. prior to the Japanese attack on Pearl Harbor in December 1941. While this course does not review each World War II battle, significant military events (e.g., D-Day) will be studied alongside corollary elements of the war (e.g., Japanese internment; the Holocaust). Using film, oral histories and other primary sources, plus historical analysis written by leading historians, this course aims to spark students’ long-term interest in what Jackson J. Spielvogel asserts “was clearly Hitler’s war” (Spielvogel 849).

CIVIC ENGAGEMENT HONORS PROGRAM
The program provides an in-depth academic opportunity for students who have interest and aptitude in civic engagement and practice of engaged citizenship. Designed to combine rigorous scholarship with practical experience in civic engagement, the program strives to develop a combination of knowledge, skills, values, and motivation enabling students to make a difference in the civic life of their communities through both political and non-political means. Students develop a deeper and more nuanced understanding of civic engagement, the impact of technology and social media on civic engagement, and the role of civic engagement in a democracy among other relevant topics. Students complete an individual research project related to their internship.

CIVIC ENGAGEMENT HONORS SEMINAR I
Spring Term: 1 credit
Prerequisites: Honors with commendation-level performance or better in Civics Honors Seminar I and successful completion of a summer internship.

CIVIC ENGAGEMENT HONORS SEMINAR II
Fall Term: 1 credit
Prerequisites: Honors with commendation-level performance or better in Civics Honors Seminar I and successful completion of a summer internship.
The mission of the Languages Department is to develop in students the language skills that will enable them to gain a firsthand appreciation and understanding of other people’s languages, literature, histories, and cultures. Students learn to respond creatively and critically to the challenges and opportunities for communication in the world today. Our ultimate goal is to help students cultivate a healthy vision of the future that includes not only themselves but past and present peoples from around the world.

As an objective framework for our mission statement, we have adopted the five goals as set forth by the American Council for the Teaching of Languages:

- **Communication**: Communicate in languages other than English.
- **Cultures**: Gain knowledge and understanding of other cultures.
- **Connections**: Connect with other disciplines and acquire information.
- **Comparisons**: Develop insight into the nature of language and culture.
- **Communities**: Participate in multilingual communities at home and around the world.

Seven languages are offered – two classical and five modern – with Honors sections available. The Classical Honors Program attracts students who achieve a high level of competence in Latin and Greek.

The School Year Abroad program (SYA) offers students studying French, Spanish, and Chinese opportunities to improve their language skills dramatically in an immersion setting. Exchanges with the Seikei School in Japan; the École Alsacienne in Paris, France; and the Humboldt Gymnasium in Leipzig, Germany, offer similar benefits.

Enrollment in language courses is subject to permission of the department head.

### CHINESE COURSES

#### CHINESE 1
Full Year: 3 credits

This is an immersion course for beginners. Students learn to express themselves and understand others by focusing on topics closely related to their daily life. The four tones and the pronunciation are introduced through the rhythmic verses in order to help students to develop a natural ear and tongue for the language. The pedagogy known as TPRS (Teaching Proficiency through Reading and Storytelling) will serve as a backbone for both oral comprehension and reading skills. Students also write the characters daily as they build up the foundation by practicing the strokes, stroke orders, and radicals. The course evokes a high energy level with each and every in-class activity.

#### CHINESE 2
Full Year: 3 credits

*Prerequisite:* Chinese 1.

This course is a continuation of Chinese 1. Using increasingly complex vocabulary and sentence structures, students respond to a variety of functions: formulating questions, describing, and narrating. Students read and write short compositions on a weekly basis. Cultural aspects of the language are emphasized through term projects. Students are expected to regularly type their essays in supplement to intensive handwritten character writing.

#### CHINESE 2 HONORS
Full Year: 3 credits

*Prerequisite:* Chinese 1.

The course is designed for students who have a solid mastery of the grammar and vocabulary covered in Chinese 1. Students continue to build essential vocabulary in order to read and write level appropriate passages, develop speaking skills, and become acquainted with aspects of Chinese culture and society. In addition, the study of syntax is quite intense in this class and students are expected to express themselves with grammatical precision. Homework, essays, and chapter tests are completed in pencil.
CHINESE 3
Full Year: 3 credits
Prerequisite: Chinese 2.
This course builds on Chinese 2. Students have regular opportunities for meaningful communication by using more complex structures, vocabulary and idiomatic expressions. The focus of the course is to combine and expand elements previously learned in order to enable students to express themselves more accurately. Students are expected to discuss readings and write weekly journal entries. Cultural aspects of the language are emphasized through focused term research projects. Multimedia aids are used. Students are expected to regularly type their essays in supplement to intensive handwritten character writing.

CHINESE 3 HONORS
Full Year: 3 credits
Prerequisite: Chinese 2 Honors.
This course is designed for students who have a thorough mastery of the grammatical structures and vocabulary covered in the second year. Students learn to state their own opinions in longer speeches using more complex structures and vocabulary. Reading skills continue to be developed using a variety of texts which include short stories and tales. Students are expected to write regularly.

CHINESE 4
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: Chinese 3.
This course pays special attention to developing students’ oral and listening competence. Students read more extensively on various topics including short stories and other literary pieces. Idiomatic expressions are introduced through the reading of literary selections. Students are expected to write regularly. Cultural aspects of the language are emphasized through focused term research projects. Multimedia aids are used on a regular basis. Students are expected to regularly type their essays in supplement to intensive handwritten character writing.

CHINESE 4 HONORS
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: Chinese 3 Honors.
This immersion course pays special attention to developing students’ oral competence and listening skills through vocabulary, communication, listening exercises, readings and discussions around various themes. Students read more extensively on various topics including newspaper articles, short stories, and other literary pieces. Idiomatic expressions are introduced through literary selections. Students are encouraged to discuss current events and to develop their creativity through projects using posters, videos, oral presentations, etc. Multimedia aides are used.

CHINESE 5 HONORS
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: three terms of Chinese 4 Honors.
This course, designed for more advanced students, further develops overall Chinese language proficiency and knowledge of Chinese culture through movies, discussions, and extensive reading of various texts, including materials from newspapers, magazines, and other authentic documents. Students master advanced-level language structures, expressive styles, and conventions of communication through topics reflecting multiple aspects of Chinese society and culture and the use of various authentic multimedia materials in different linguistic registers.

CHINESE 6 HONORS
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: three terms of Chinese 5 Honors.
The course aims to further develop students’ overall Chinese language proficiency and knowledge of Chinese culture. History and current events in China provide the context for in-depth discussion and writing assignments. Students are expected to read various authentic materials ranging from Confucian to expository writings in a modern and contemporary literary style.

CHINESE SEMINAR
Fall, Winter, or Spring Term: 1 credit
Prerequisite: three terms of Chinese 6 Honors.
This course is designed for advanced students who have near-native fluency in Chinese. The focus is on reading, class discussion, and writing. The materials for this course are chosen mostly from modern literary writings, but classical literary pieces are introduced as well.
FRENCH COURSES

FRENCH 1
Full Year: 3 credits
This course offers students an introduction to the language and culture of contemporary French-speaking countries. Grammar, vocabulary, and syntax are studied using a film-based textbook with simple dialogues, oral and written drills, building conversational skills. Work in the Language Center reinforces the development of listening and speaking. The class is conducted mostly in French.

FRENCH REVIEW
Full Year: 3 credits
This course offers an introduction to the language and culture of contemporary French-speaking countries to students who need a thorough review of the language. Grammar, vocabulary, and syntax are studied using a film-based textbook with simple dialogues, oral and written drills, building conversational skills. The class is conducted mostly in French from the beginning.

FRENCH 1 HONORS
Full Year: 3 credits
This course is designed for students with a strong basic background in French. Emphasis is placed on refining the listening, speaking, and writing skills of the students. Proficiency is honed through work in the Language Center and the use of a variety of multimedia materials that accompany the text. Grammar is reviewed thoroughly. The class is conducted in French from the beginning.

FRENCH 2
Full Year: 3 credits
Prerequisite: French 1, French Review.
This course is the continuation of French 1 and French Review. The basic study of grammar is completed and reading selections and writing exercises of increasing complexity help students work on their language and conversational skills. The cultural component of this course gives students an understanding of the diversity of France and the Francophone world today.

FRENCH 2 HONORS
Full Year: 3 credits
Prerequisite: French 1 Honors.
This course continues and consolidates the study of grammar. Readings of increasing difficulty are introduced as the basis for expanded oral and written work through task-oriented and creative writing techniques. Texts studied represent a broad spectrum of cultures and ideas across Francophone societies.

FRENCH 3
Full Year: 3 credits
Prerequisite: French 2, French 2 Honors.
Students move from the basic study of French to an introduction to complex syntactical structures. Short readings and skits enrich the understanding of French, and they provide the basis for discussions, performances and writing exercises in French.

FRENCH 3 HONORS
Full Year: 3 credits
Prerequisite: French 2 Honors.
[Service Learning component.]
Using texts and materials that address contemporary societal trends, this course focuses on learning more about the Francophone world. Oral proficiency is emphasized, grammar is thoroughly reviewed, reading skills are honed, and analytical essay writing techniques are introduced. Specific units are devoted to Morocco, connecting with a high school in Marrakech and studying Moroccan Francophone literature, in a curriculum designed to dovetail with the School’s service learning initiative.

FRENCH 4
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: French 3.
Cultural and historical Francophone themes are explored through literature, film, and music. Critical reading skills continue to be developed using a variety of texts which include novels, short stories, plays, and poetry. This course emphasizes analytical discussions, writing assignments and projects. Grammar continues to be reviewed with particular attention to its finer points.

FRENCH 4 HONORS
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: French 3 Honors.
Using Francophone cinema as a springboard for discussion, this course delves into issues facing the 21st century French-speaking world. Excerpts from literary works and news media will be studied with each film, providing exposure to a wide array of traditions and styles of discourse. One unit is devoted to a study of French-Algerian relations as reflected in literature and film. Oral and aural proficiency are refined in conjunction with rigorous grammar review. Writing skills are honed and broadened.
FRENCH 5  
Fall, Winter, or Spring Term: 1 credit  
[Full year recommended.]

**Prerequisite:** French 4.

This course is taught in the same manner as French 4. Students continue to strengthen their reading, writing, listening/understanding and speaking skills. Francophone culture and history provide the context for in-depth discussions and writing assignments on literary works, films and news media.

FRENCH SEMINAR  
Fall, Winter, or Spring Term: 1 credit  
**Prerequisite:** French 4 Honors.

**Fall Term:** Each week of this term is divided into four parts: poetry, current events, literature with emphasis on analysis, and films that explore cultural traits of the Francophone world. Grammar is reinforced on a daily basis. Constant oral participation and analytical essays are part of the work. Songs, featuring musicians from various Francophone countries, are also part of the curriculum.

**Winter Term:** Theater is the emphasis for this term. Students explore one or a variety of authors and are expected to perform on stage. A collaborative project that explores specific traits linked to the genre, as well as an essay on theater are also part of the course.

**Spring Term:** The history of the European continent is approached during the first part of the term in order to further develop an understanding of the European Union as a political and economic project. Students then work on a Member State of their choice, explore traits that unite its inhabitants through their shared history with others in that part of the world and deepen their understanding of the values shared by modern Europeans in the Member States.

GERMAN COURSES

GERMAN 1  
Full Year: 3 credits

This course offers students an introduction to the language and culture of contemporary German-speaking countries. Grammar, vocabulary, and syntax are studied through oral and written drills and through simple conversations. Work in the Language Center reinforces the development of listening and speaking skills. The class is conducted in German from the beginning.

GERMAN 2  
Full Year: 3 credits  
**Prerequisite:** German 1.

This course is a continuation of German 1 and is taught in the same manner. The basic study of grammar is completed, and readings of increasing difficulty are introduced as the basis for expanded oral and written work. By the end of the course, students are able to use workable, basic German in normal situations they encounter and are able to enjoy works written in simple German.

GERMAN 3  
Full Year: 3 credits

**Prerequisite:** German 2.

This is a multifaceted course, designed to introduce students to German culture through literature, history, contemporary politics, music and popular culture. Materials used include shorter literary works such as short stories, novellas, plays, and poetry, as well as film and a variety of news media. Proficiency and grammatical accuracy continue to be emphasized through written and oral exercises.

GERMAN 3 HONORS  
Full Year: 3 credits

**Prerequisite:** German 2.

This is a multifaceted course, designed to introduce students to German culture through literature, history, contemporary politics, music and popular culture. Materials used include shorter literary works such as short stories, novellas, plays, and poetry, as well as film and a variety of news media. Proficiency and grammatical accuracy continue to be emphasized through written and oral exercises.

GERMAN 4  
Fall, Winter, and Spring Terms: 3-credit sequence  
[Full year recommended.]

**Prerequisite:** German 3.

Issues and themes of cultural and historical relevance are explored through literature, film and current events. Critical reading skills continue to be developed using a variety of texts which include plays, lyric poetry, fiction, and news articles. The course emphasizes discussion, analytical papers, and projects. Grammar continues to be reviewed with particular attention to its finer points and the use of idioms.

GERMAN 4 HONORS  
Fall, Winter, and Spring Terms: 3-credit sequence

[Full year recommended.]

**Prerequisite:** German 3 Honors.

Issues and themes of cultural and historical relevance are explored through literature, film and current events. Critical reading skills continue to be developed using a variety of texts which include plays, lyric poetry, fiction, and news articles. The course emphasizes discussion, analytical papers, and projects. Grammar continues to be reviewed with particular attention to its finer points and the use of idioms.

GERMAN 5 HONORS  
Fall, Winter, and Spring Terms: 3-credit sequence  
[Full year recommended.]

**Prerequisite:** German 4 Honors.

This course is a continuation of German 4 Honors and is taught in the same manner. Students continue to strengthen their four language skills of reading, writing, listening/understanding and speaking. German culture and history provide the context for in-depth discussions and writing assignments on literary works, film and news media.
GREEK COURSES

GREEK 1
Full Year: 3 credits
This course provides an introduction to Attic Greek forms, vocabulary, and grammar, employing readings of graduated difficulty. Students also learn Greek mythology, the historical origins of Greek civilization, the geography of Greece and the eastern Mediterranean, and aspects of daily life in ancient Greece.

GREEK 2
Full Year: 3 credits
Prerequisite: Greek 1.
This course begins with a review of Greek grammar, then introduces the more complex verb forms and dependent clauses using the subjunctive and optative moods. Students learn the history of the classical period, including the Athenian Empire and the Persian and Peloponnesian Wars. Toward the end of the course, students encounter readings from prose authors such as Herodotus, Xenophon, Lysias, and Lucian.

GREEK 3 HONORS
Full Year: 3 credits
Prerequisite: Greek 2.
In the Fall Term, this course concludes the introduction to Greek prose with extended readings from texts such as Plato’s dialogues and Thucydides’ History of the Peloponnesian War. In the Winter and Spring Terms, students are introduced to Greek poetry through selections from Homer’s Illiad and Odyssey, the lyric poets, or Athenian tragedy and comedy.

GREEK 4 HONORS
Fall, Winter, and Spring Terms: 3-credit sequence
Prerequisite: Greek 3 Honors.
This is a reading course with review of grammar as appropriate. Along with translation, students further their skills in analytical writing. This course may include a variety of advanced readings from epics, drama, philosophy, history, or lyrics at the discretion of the instructor.

JAPANESE COURSES

JAPANESE 1
Full Year: 3 credits
This course offers an introduction to the Japanese language and culture. Basic expressions, vocabulary, grammar, and syntax are studied through various oral and written activities assembled under the themes of “encounter” and “awareness.” Basic Japanese word processing will be learned at this time, and about 50 kanji (Chinese characters) will also be introduced by the end of the year. The textbook is Kisetsu 1: Haruichiban, and additional information on Japanese culture and society are explored through occasional research projects. This class will not satisfy a three-year language requirement.

JAPANESE 2
Full Year: 3 credits
Prerequisite: Japanese 1.
This course is a continuation of Japanese 1 and follows the conceptual themes of “discovery” and “environment.” It is project-based in which students are given some freedom and responsibility to plan, execute, and revise their tasks as well as to monitor and evaluate their progress. The varied nature of activities enables students to familiarize themselves with different communication modes and styles both in oral and written production. The study of essential Japanese grammar continues, and the learning of kanji also becomes an integral part of the course. The textbook is Kisetsu 2: Ginga.

JAPANESE 3
Full Year: 3 credits
Prerequisite: Japanese 2.
This course provides opportunities for improving both oral and written proficiency through project-based activities. It features a multimedia project in which students present their school in Japanese. Two writing styles, the expository style and the essay style, are introduced, and students write about various aspects of their school in a style suitable to their needs. The project will feature oral productions such as skits and interviews. Proficiency and grammatical accuracy continue to be emphasized through written and oral exercises, and a substantial number of kanji are introduced as well. The textbook is Kisetsu 2: Ginga and Kisetsu 3: Akimatsuri.

JAPANESE 4
Fall, Winter, and Spring Terms: 3-credit sequence
Prerequisite: Japanese 3.
This course offers a continuation of Japanese 3 and is taught in the same manner. Projects at this level include a drama production in which communication between the director and the actors is stressed. Advanced grammar, vocabulary and kanji will continue to be learned. The textbook is Kisetsu 3: Akimatsuri.

JAPANESE SEMINAR 1
Fall, Winter, and Spring Terms: 3-credit sequence
Prerequisite: all three terms of Japanese 6.
This course is designed for students with near-native fluency in Japanese. Materials are selected from among those intended for native speakers. A substantial amount of reading and writing, as well as research on selected topics, is required.
LATIN COURSES

LATIN 1
Full Year: 3 credits
This course provides an introduction to the Latin language and syntax. Graduated readings in Latin explore events in the life of a typical Roman household while also teaching vocabulary, forms, and grammatical constructions. Students also gain an overview of classical mythology, Roman history, daily life, and the geography of the ancient world.

LATIN REVIEW
Full Year: 3 credits
This course is for students who have some background in Latin. Students obtain a solid foundation in vocabulary, forms, grammatical constructions, and reading comprehension. Students also gain an overview of classical mythology, Roman history, daily life, and the geography of the ancient world.

LATIN 2
Full Year: 3 credits
Prerequisite: Latin 1 or Latin Review.
This course begins with a review of material from Latin 1. Students learn more advanced grammatical concepts such as purpose and result clauses, conditional sentences and other uses of the subjunctive, and gerunds and gerundives. Students continue to develop reading proficiency via textual narrative. Students also examine pertinent cultural and historical topics.

LATIN 2 HONORS
Full Year: 3 credits
Prerequisite: Latin 1 or Latin Review.
This course offers an accelerated approach to the language. Emphasis is placed on advanced syntax, including uses of the subjunctive, uses of the cases of nouns, and techniques for translation and reading comprehension. Students study and pursue projects on a wide variety of cultural, historical, and linguistic topics. Toward the end of the course, students encounter readings from prose authors such as Caesar, Livy, and Nepos.

LATIN 3
Full Year: 3 credits
Prerequisite: Latin 2.
This course begins with a brief review of grammar and syntax learned in the previous two years. Students continue to reinforce grammatical concepts and improve their Latin-to-English translation as they read graduated selections from adapted texts by prose authors such as Eutropius, Livy, Nepos, and Caesar. Emphasis is placed on improving sight translation and reading comprehension. The readings also introduce students to major figures, events, and cultural topics from the legends of early Rome and the history of the Roman Republic.

LATIN 3 HONORS
Full Year: 3 credits
Prerequisite: Latin 2 Honors.
This course offers a rapid review of the fundamentals of grammar combined with accelerated readings from a selection of Latin prose authors such as Caesar, Livy, and Cicero. Through these readings, students trace Rome's development from city-state to world empire and the concomitant evolution of the constitution from the Monarchy through the Republic to the Principate.

LATIN 4
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: Latin 3.
This is a reading-based course focused on selections from the poetry of Catullus, Virgil, and Ovid. Formal review of advanced grammatical concepts will be provided as necessary. The course provides students with an opportunity to analyze Roman texts as they improve their reading comprehension and sight translation skills. Various cultural and historical projects may include studies of Roman poetry, mythology and love in the Roman world, and the reception of the works read in later artists and authors.

LATIN 4 HONORS
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: Latin 3 Honors.
This course offers a rapid review of the fundamentals of grammar combined with accelerated readings from a selection of Latin prose authors such as Caesar, Livy, and Cicero. Through these readings, students trace Rome's development from city-state to world empire and the concomitant evolution of the constitution from the Monarchy through the Republic to the Principate.

LATIN 5
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: Latin 4.
This course introduces students to the comic literature of ancient Rome through advanced readings chosen from comedy, satire, invective, and the novel and culminates in the production of a play in Latin for performance on Anniversary Weekend. Authors read may include Plautus, Terence, Cicero, Horace, Petronius, Seneca, and Apuleius. Students also consult models from Greek literature in English translation and modern plays and films inspired by Roman originals.
LATIN 5 HONORS
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: Latin 4 Honors.
This course introduces students to the comic literature of ancient Rome through advanced readings chosen from comedy, satire, invective, and the novel and culminates in the production of a play in Latin for performance on Anniversary Weekend. Authors read may include Plautus, Terence, Cicero, Horace, Petronius, Seneca, and Apuleius. Students also consult models from Greek literature in English translation and modern plays and films inspired by Roman originals.

SPANISH COURSES

INTRODUCTION TO SPANISH
Full Year: 3 credits
This class is designed specifically for students interested in learning Spanish who have never studied or been exposed to a language other than English. This class moves at a slower pace than Spanish 1; aside from studying language and culture, this small group of students will spend additional time learning skills that are helpful in acquiring a new language. After Introduction to Spanish, students progress to either Spanish Review or Spanish 2.

SPANISH 1
Full Year: 3 credits
This course offers an introduction to the language and culture of Spanish-speaking countries. Grammar, syntax, and vocabulary are studied through oral and written drills and through simple conversations. Work in the Language Center reinforces the development of listening and speaking skills. The class is conducted mostly in Spanish.

SPANISH REVIEW
Full Year: 3 credits
Prerequisite: Demonstrated ability on placement exam.
This course offers an introduction to the language and culture of Spanish-speaking countries. Grammar, syntax, and vocabulary are studied through oral and written drills and through simple conversations. Work in the Language Center reinforces the development of listening and speaking skills. The class is conducted mostly in Spanish.

SPANISH 1 HONORS
Full Year: 3 credits
This course offers a thorough, rapid review of basic Spanish grammar followed by a continuation of intensive grammar and vocabulary studies. Exercises and drills, conducted both in class and in the Language Center, are an integral part of the course. A series of short videos reinforces listening skills and provides a context for dialogues in order to strengthen speaking skills. The course introduces students to the literature and culture of Spanish-speaking countries through a study of short literary selections and articles.

SPANISH 2
Full Year: 3 credits
Prerequisite: Spanish 1.
This course is a continuation of Spanish 1 or Spanish Review. A study of basic vocabulary and grammar is completed by the end of the year, and there is a greater emphasis on cultural readings and perspectives. Students further develop communication skills and are able to use basic Spanish in varied situations.

SPANISH 2 HONORS
Full Year: 3 credits
Prerequisite: Spanish 1 Honors.
This intensive course offers a challenging and thorough review of all fundamental Spanish grammar. Advanced vocabulary is introduced, increasing students’ capacity for both oral and written proficiency. The course includes the study of longer selections of Hispanic literature, frequent compositions, and required oral participation.

SPANISH 3
Full Year: 3 credits
Prerequisite: Spanish 2.
This course is designed to strengthen speaking, listening, reading and writing skills. During the year, students solidify the previously studied grammar and vocabulary and further develop communication skills. Students read and discuss short stories and poems that reflect cultural elements of Spanish-speaking countries.

SPANISH 3 HONORS
Full Year: 3 credits
Prerequisite: Spanish 2 Honors.
Students in this course are expected to develop a high level of proficiency in Spanish as we emphasize reading, writing, speaking and listening skills. Students read short stories and poems of major Hispanic authors, such as Matute, García Márquez, and Borges. Students participate in daily discussions of the literature, which include the cultural, historical, and political contexts of these works. Compositions are regularly assigned. The course also includes an intensive and fast-paced review of Spanish grammar. Proficiency and grammatical accuracy continue to be emphasized through written and oral exercises.

SPANISH 4
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: Spanish 3.
In this sequence of classes, students explore themes of cultural and historical importance through literature, film, and current events. Students are exposed to a diversity of voices and are able to develop reading skills by reading a variety of texts, which include poetry, fiction, and news articles. In addition, students review and continue their reading, writing, listening, and conversational skills. Students are expected to participate actively in discussions of literature and culture.
SPANISH 4 HONORS
Fall, Winter, and Spring Terms: 3-credit sequence
[Full year recommended.]
Prerequisite: Spanish 3 Honors.
In this course, students expand their active knowledge of Spanish through the study of literature, film, and other media. In the fall we discuss a series of plays; the winter is devoted to short stories; and in the spring, we read poetry and essays. Each term also includes a film. Assessments include expository and creative writing in Spanish, frequent quizzes on class materials, and the performance of spoken exercises. No English is used in the classroom. While occasional grammar review is provided, students are expected to improve their Spanish by constant exposure to and use of the language. The class also includes occasional discussion of strategies for language learning.

SPANISH 5
Fall, Winter, and Spring Terms: 3-credit sequence
Prerequisite: full year of Spanish 4.
In this course, students continue to explore Latin American culture and history through current events, texts, and film. Students are expected to participate actively in discussions in order to continue to strengthen their communication skills. In addition, students further hone their writing skills through weekly compositions.

SPANISH SEMINAR 1
Fall, Winter, and Spring Terms: 3-credit sequence
Prerequisite: all three terms of Spanish 4 Honors.
This course introduces students to major artistic, social, and political issues in Spain from the late 19th century until the present. The bulk of class time is dedicated to the close analysis of literary works, although we also discuss historical events, films, visual arts, music, and contemporary politics and society. Fall Term focuses on three literary innovators of the late 19th and early 20th centuries: Miguel de Unamuno, Emilia Pardo Bazán, and Federico García Lorca. During Winter Term, we study a play, a short novel, and two films about the Spanish Civil War. Several options related to contemporary Peninsular culture are options for Spring Term; in early winter, students vote for their preferred topic.

SPANISH SEMINAR 2
Fall, Winter, and Spring Terms: 3-credit sequence
Prerequisite: full year of Seminar 1.
This course consists of three thematically distinct units. In the fall, we combine a reading of the Mexican novel Pedro Páramo with an in-depth study of the contemporary political and humanitarian crisis in Venezuela. The winter term is devoted to an analysis of major works by 20th and 21st century women writers from Latin America and Spain. We conclude the year with the study of several masterpieces of early modern Spain, including the Lazarillo and two of Cervantes's Exemplary Novels. Contemporary media, including music, journalism, and film, are interspersed in each unit.

CLASSICAL HONORS PROGRAM
The Classical Honors Program offers an advanced course of study in both Latin and ancient Greek with students receiving a special Classical Honors Diploma at graduation.

The Classical Honors Program helps students develop a level of language training and critical and analytical skills comparable to that of college students and thereby enhances their opportunities for admission to the most competitive colleges and universities.

The Program provides a curriculum which, while centered in the study of the Latin and Greek languages and literature, acquaints students with the history, art, architecture, and mythology of Greco-Roman civilization and its modern reception.

Students in the Classical Honors Program are expected to continue their study of Latin at the Honors level throughout their time at SPS and to take a minimum of two sequential years of Greek. They are also expected to participate in the Study Tour of Greece and Italy as well as all honors program field trips. Financial aid for some travel expenses is available for those who qualify.

Students already at SPS who wish to join the program need to submit a letter of application. They must have completed an Honors Latin course at SPS with a final grade of High Honors (HH) and at least two terms of Greek with term grades of Honors with Commendation (H+) or above.

During their years at St. Paul's School, students accepted into the Classical Honors program:

- Meet and learn from classicists of leading colleges and universities.
- Are invited to guest lectures and plays at nearby institutions as well as on field trips to view the collections of ancient art at museums in Boston, New York, and Washington, D.C.
- Experience the ancient world firsthand by traveling to Greece or Italy during a March vacation (offered every two years). These two-week adventures allow students to visit ancient archaeological sites, witness the art and culture in context, and deepen their understanding of what they learn in the classroom.
- Complete a capstone project during their Sixth Form year.
The mathematics faculty encourages each student to achieve a working knowledge of and competency in mathematical concepts and related problem-solving strategies. We encourage students to value and develop mathematical habits of mind and to appreciate the role mathematics plays in the world. Teachers promote and maintain classroom environments that encourage student curiosity and responsibility for their own learning.

Students utilize technology in investigation, discovery, analysis, modeling, conjecturing and prediction. We use graphing calculators and computer technologies throughout the curriculum to enhance the learning process. The use of real-world applications illustrates and reinforces mathematical ideas; at the same time, mathematics itself promotes understanding of real-world phenomena.

In addition, students may engage in mathematically oriented extracurricular activities, such as competitions at the local and national level, the School’s Mathematics Society, and peer tutoring.

**Enrollment in mathematics courses is subject to permission of the department head.**

**MATHEMATICS COURSES**

**ALGEBRA 1**
Full Year: 3 credits

This course provides students with a solid foundation in their study of mathematics. The course begins with the study of signed numbers, fractions, and operations with literal expressions. We study linear equations, systems of equations, and inequalities. We also consider polynomials, factoring, rational expressions, fractional equations, quadratic equations, and radical expressions. Throughout, applications to problem solving are discussed as a transition into geometry and second year algebra.

**GEOMETRY**
Full Year: 3 credits

*Prerequisite: Algebra 1.*

This course in Euclidean geometry develops a logical and rigorous mathematical system based on definitions, postulates, and theorems. Deductive proof is the backbone of the course, which includes properties of parallel lines, triangle congruence and similarity, polygons, circles, area, and volume. Additional topics include right-triangle trigonometry and coordinate geometry. Computer applications are utilized to enhance understanding of geometric concepts. Concepts from Algebra 1 are reinforced throughout the course.

**ALGEBRA 2**
Full Year: 3 credits

*Prerequisite: Algebra 1 and Geometry.*

Students extend their knowledge of methods, skills, and concepts introduced in Algebra 1. The focus is on functions – linear, quadratic, logarithmic, polynomial, exponential, and rational. Additional topics include the complex number system. Analytic techniques are emphasized. Students are instructed in the use of a graphing calculator, a tool they use to explore and investigate, as well as to model and analyze data.

**ALGEBRA 2 HONORS**
Full Year: 3 Credits

*Prerequisite: Algebra 1 and Geometry, and permission of the Department Head.*

This is a rigorous course intended for students of demonstrated ability who have the desire and capability to learn and work independently and to think creatively. The entire content of Algebra 2 is studied in greater depth. Additionally, the course includes the study of matrices, graphing techniques, linear programming, and systems of non-linear equations. The TI-84 graphing calculator is used for exploration, confirmation, and analysis.

**PRECALCULUS**
Full Year: 3 credits

*Prerequisite: Geometry and Algebra 2.*

Students strengthen their understanding of previously learned topics in algebra and geometry and learn new conceptual notions needed for the study of calculus. Topics include trigonometry, conic sections, sequences and series, counting and probability, and exponential and logarithmic functions. Graphing technology is used throughout the course to enhance student understanding of mathematical concepts. Real-world applications illustrate and reinforce mathematical ideas. By the end of this course, students will have covered the material for the SAT Level 2 subject test in mathematics.

**PRECALCULUS HONORS**
Full Year: 3 credits

*Prerequisite: Geometry and Algebra 2 Honors.*

This is a rigorous course intended for students of demonstrated ability who have the desire and capability to learn and work independently and to think creatively. Students pursue a comprehensive study of the content of Precalculus in greater depth. Additionally, the course includes topics in advanced algebra, mathematical induction, vectors, polar and parametric equations, limits of functions, and rates of change. This material provides strong preparation for calculus. Mathematical dexterity is a focus, particularly in the writing of proofs and creative problem solving. Applications are used throughout to illustrate concepts.
INTRODUCTION TO DIFFERENTIAL CALCULUS
Fall Term: 1 credit
Prerequisite: Precalculus.

This course provides students with an intuitive approach to the fundamentals of differential calculus. Focusing on algebraic functions, students explore limits, leading to the definition of derivative. The concepts of average and instantaneous rate of change are investigated. We develop the rules of differentiation, including the chain rule and implicit differentiation, and apply them to problems in optimization, related rates, and curve sketching.

INTRODUCTION TO INTEGRAL CALCULUS
Winter Term: 1 credit
Prerequisite: Introduction to Differential Calculus.

This course is a continuation of Introduction to Differential Calculus. As such, the course limits itself to the study of algebraic functions. We expand upon the differential calculus to introduce the concepts of the finding area under a curve, the integral regarded as the antiderivative, and the Fundamental Theorem of Calculus. Applications of integration are included.

CALCULUS 1 HONORS
Full Year: 3 credits
Prerequisite: Precalculus Honors or final grade of High Honors in Precalculus.

This course is suitable for those students with demonstrated ability and interest in mathematics. Solid working knowledge of algebra, geometry, and precalculus is necessary. The course builds a solid conceptual understanding of calculus with a focus on proofs. Topics include limits, continuity, and differentiation techniques of both algebraic and transcendental functions. Applications of differentiation include optimization problems and related rate problems, curve sketching, and the relationships among position, velocity, and acceleration. Techniques of integration include integration by parts, trigonometric substitutions, and partial fractions. Applications of integration include area, volumes, arc lengths, and distance. Solutions of simple differential equations are obtained analytically and using slope fields and Euler’s method. An in depth study of sequences and series includes various tests for convergence, and representation of well-known functions expressed as Taylor and Maclaurin series. Techniques of calculus are applied to parametric and polar equations. Students who successfully complete this course are prepared to take the BC level of the Advanced Placement examination in calculus in May.

CALCULUS 2 HONORS
Fall and Winter Term: 2- credit sequence
Prerequisite: Calculus 1 Honors.

This course is a continuation of the study of calculus begun in Calculus 1 Honors. Students extend their techniques of integration, solve first order separable differential equations, and learn how to calculate arc length and surface area. Students are given opportunities to explore connections between calculus and other disciplines. Students extend differentiation and integration techniques to polar and parametric functions. An in depth study of sequences and series includes various tests for convergence and representation of well-known functions expressed as Taylor and Maclaurin series. Students who successfully complete this course are prepared to take the BC level of the Advanced Placement examination in calculus in May.

MULTIVARIABLE CALCULUS HONORS
Full year: 3 credits
Prerequisite: Calculus 1-2 Honors or Calculus 2 Honors.

Applications of mathematics in physical and social sciences, economics, and statistics often involve multiple variables. This course extends the ideas of single-variable calculus to multivariable situations. Students learn to use vectors, partial derivatives, and multiple integrals to solve complex, multiconcept problems. The use of numerical and symbolic mathematical software is integrated throughout the course. The course culminates with two-dimensional vector calculus and Green’s Theorem, with exploration of three-dimensional vector calculus as time permits.
STATISTICS
Full Year: 3 credits
Prerequisite: Algebra 2 or permission of the Department Head.

Statistics is the science and art of learning from data in order to understand our uncertain world. When studying statistics, students never ask "when am I going to use this?" because we find statistics everywhere in daily life, from sports and presidential polls to climate change and the development of new medicines. In this year-long course, students are exposed to four broad conceptual themes: Exploring Data (describing patterns and departures from patterns), Sampling and Experimentation (planning and conducting a study), Anticipating Patterns (exploring random phenomena using probability and simulation), and Statistical Inference (estimating population parameters and testing hypotheses). Students participate in several projects. Students will also use data analysis software to model statistical problems. Students who wish to take the Advanced Placement exam in May should take the Honors class or study the remaining topics on their own.

STATISTICS HONORS
Full Year: 3 credits
Prerequisite: Algebra 2 Honors, a grade of High Honors in Precalculus, or permission of the Department Head.

In this fast-paced course, students will learn in depth about four broad conceptual themes: Exploring Data (describing patterns and departures from patterns), Sampling and Experimentation (planning and conducting a study), Anticipating Patterns (exploring random phenomena using probability and simulation), and Statistical Inference (estimating population parameters and testing hypotheses). Students participate in several real-world projects to analyze current issues. To develop effective statistical communication skills, students will be required to prepare frequent written and oral analyses of real data. Statistics Honors is the high school equivalent of an introductory college statistics course. Compared to Statistics, this course will cover more topics in greater depth and will prepare students to take the Advanced Placement exam in May. It also prepares students for further study of statistics in science, economics, sociology, psychology, medicine, math, engineering, political science, geography, business, education, and more.

INTRODUCTION TO STUDY DESIGN AND DESCRIPTIVE STATISTICS
Spring Term: 1 credit
Prerequisite: Algebra 2.

Which studies and surveys should we believe? How do we collect and generate reliable data? What are appropriate ways of describing and presenting data? How are statistics erroneously employed to misrepresent reality? This course introduces students to reliable and unreliable ways in which data is collected and generated (through sampling, experimentation, and simulation), and how to become literate in reading, displaying and interpreting data and statistics. The course will focus on how data can be used to address real questions and on statistical literacy.

INTRODUCTION TO PROBABILITY
Spring Term: 1 credit
Prerequisite: Algebra 2.

Questions of probability arise naturally in any number of areas: What is the likelihood that it will rain today? Should I take this bet? What is the chance that the Red Sox will win the World Series? This course is designed to help students answer some of those questions knowledgeably and accurately. Beginning with counting principles, the course progresses through such topics as conditional probability and independence, random variables, the normal distribution and the binomial distribution.

LINEAR ALGEBRA HONORS
Spring Term: 1 credit
Prerequisite: Calculus 1 Honors.

Linear algebra is rich in applications to diverse fields such as economics, the sciences, engineering and computer science. In addition, it has significant applications to other mathematics disciplines such as vector calculus, differential equations, and statistics. The main concepts introduced are the theory of linear equations, matrix algebra, and vectors. We apply these concepts to the study of vector spaces, linear transformations, and eigenvalue theory. Advanced mathematical software and graphing calculators are utilized in this course. Students learn how to write and read mathematical proofs, while also learning practical applications of linear algebra.

MATHEMATICS SEMINAR HONORS
Fall, Winter, or Spring Term: 1 credit
Prerequisite: Multivariable Calculus.

Mathematics Seminar Honors is designed to introduce students to post-calculus mathematics. Students learn what mathematics is, what it can do, and what it cannot do. The description for this course is only a guide because it differs from year to year, depending on the interests of the faculty and students. The content of each term is independent of the content of previous terms.
INTRODUCTION TO COMPUTER SCIENCE: COMPUTATION, CODING, AND CONTROL
Fall, Winter, or Spring Term: 1 credit
Prerequisite: a full year of algebra and geometry.
In this course students engage in socially-relevant activities and interdisciplinary projects promoting computational thinking and algorithmic problem solving within the framework of: computational history and current events, algorithms and discrete thinking, creativity, abstraction, data, system design and structures (including networking, design, architecture, organization and machine learning), internet, impact, and ethics. The course enhances skills in ethical computing, programming, and other modern tools and technologies, while building team collaboration.

FINANCIAL ACCOUNTING
Spring Term: 1 credit
Prerequisite: Algebra 2.
An educated person, a decision maker, should understand the concepts of accounting. What do (do not) financial statements – income statement, balance sheet, annual report – communicate? In one term we learn about a sole proprietorship, how to account for its revenues, expenses, assets, liabilities, and equity. Inventory evaluation and depreciation will be studied. Students learn enough to be competent bookkeepers in a family business, and they should be able to analyze the financial statements of some companies. Comparisons to basic partnership and corporation accounting are considered. Although this is not a course on personal finance, as time allows, motivational examples such as investments, loans, and taxes will be included.

INVESTMENT MATHEMATICS 1
Fall Term: 1 credit
Prerequisite: Precalculus.
This seminar-style course will begin with an exploration of the broader capital markets and an examination of the fundamental principles of investing (time value of money, efficient market hypothesis, risk vs. return, supply/demand dynamics, market cycles, etc.). The focus will then shift to the technical analysis of single security price data as an ideal application of precalculus and other mathematics. We will filter time series data with moving averages and fit the data with regression curves. We will employ probability to develop cyclical tools such as oscillators to determine investment buy and sell decisions. Students will be responsible for analyzing a specific stock over the course of the term using the tools developed in the class. Throughout the course, there will be an emphasis on relating current events to the financial markets.

INVESTMENT MATHEMATICS 2
Winter Term: 1 credit
Prerequisites: Precalculus and Investment Mathematics 1.
Building upon the technical analysis done in Investment Mathematics 1, this class explores the power of TradeStation’s software. Students learn about some of the many functionalities TradeStation offers, and apply these to different price series. The class begins to develop strategies by optimizing parameters of basic analysis techniques learned in Investment Mathematics 1. An advanced statistical Walk Forward Analysis is applied to review results. Students also learn how to code using EasyLanguage.

INVESTMENT MATHEMATICS 3
Spring Term: 1 credit
Prerequisites: Precalculus, Investment Mathematics 1, and Investment Mathematics 2.
In this course, students develop hypotheses about what drives the markets from their work in Investment Mathematics 1 and 2. Students use the ability to code, developed in Investment Mathematics 2, to write an algorithmic trading program capturing gains from these observations. Students backtest their programs and evaluate their performance. Filters are used to improve performance as they continue to improve their programming skills. The class incubates algorithms and measures how they perform on real-time data. Students also learn how to manage a portfolio through the application of many different non-correlated algorithms.

MATHEMATICAL PROBLEM SOLVING
Fall or Spring Term: 1 credit
Prerequisite: Algebra 2.
Active, regular participation by each student is stressed. The content is flexible to allow the pursuit of topics of interest to members of the class. A fuller understanding of various patterns and methods of mathematical problem solving is developed through a choice of topics involving algebra, geometry, finite mathematics, and probability.

HISTORY OF MATHEMATICS
Spring Term: 1 credit
Prerequisite: Algebra 2.
This term course introduces students to key elements in the progression of mathematical thinking. In working to understand the creation of number systems, learning and applying algorithms for basic computations, studying the writings of various mathematicians and investigating historical problems, students develop a greater insight into the logical development of mathematics. The study of the diverse ways in which people of different cultures approach problems provides students with a more comprehensive understanding of topics introduced in previous courses.
Our mission is to foster fascination and enjoyment in all disciplines of science and to develop competence in scientific reasoning. The Science Department feels strongly that an understanding of scientific principles is essential for responsible citizenship. Learning to identify and collect objective data and quantitatively evaluate information are skills taught at all levels of the science curriculum.

Creativity is an essential aspect of the scientific process. Students are encouraged to realize that rote knowledge of physical laws is secondary to the ability to design an experiment or recognize connections among phenomena. A conceptual appreciation of the behavior of nature is recursively taught and leveraged throughout the core sequence of Physics First, Chemistry, and Biology.

Respect for data and written scientific communication are developed through laboratory exercises and project work. In lab reports, students are taught to accurately analyze collected data through an understanding of the equipment used and concepts involved. Computers, fabrication facilities, the observatory, School grounds, and field trips are all utilized to provide students with experiences and perspectives of the natural world and the changing abilities of humanity.

Enrollment in science courses is subject to permission of the department head.

SCIENCE COURSES

PHYSICS FIRST
Full Year: 3 credits

Physics First is designed for all entering Third Form students and forms the first of a three-year foundation series. Classical studies of motion, forces, energy, electricity, magnetism, and sound and light are coordinated with an understanding that such knowledge has had in defining the modern technological world that we inhabit. Students explore the beauty and simplicity of the fundamental laws that explain our universe. Since experimentation is key to all science, great emphasis is placed on laboratory work. The use of probes linked to computers allows students to focus on the physical objectives of the experiment while collecting accurate data. In the Fall Term, the focus is on Newton’s Laws, momentum and energy, and the interplay between forces and their impact on linear motion. Students are encouraged to ask questions and create projects to seek answers while learning to work together in small groups, allowing for the free flow of creative ideas. In the Winter Term, the course progresses to circular motion, designing an experiment to answer a self-created question about force and motion, vibrations and waves (including sound) and electrostatics. Spring Term finds students venturing into the study of electromagnetic fields, electrical circuits, motors, and generators, and an intensive series of investigations into the properties of light and optics. The final assessment in Physics First is a group project based on real life applications of a physical problem, with a formal poster presentation and peer review.

PHYSICS
Full Year: 3 credits

Prerequisite: co-enrollment in Algebra 2 or higher.

Students investigate the physical world using both traditional and computer-based data acquisition and analysis. This course introduces students to the major topic areas of physics, focusing on conceptual understanding and analytical problem-solving techniques. Extensive laboratory explorations, performed in small groups, are used to introduce concepts, which are then reinforced through discussion and problem work. Incorporating a more mathematical approach than Physics First, Physics begins with the study of mechanics including uniform motion, Newton’s Laws, momentum, energy, circular motion, and gravitation. This is followed by electrostatics, magnetism, DC circuits, and wave motion, including resonance, sound, and wave optics. The Spring Term concludes with the study of ray optics as students experiment with mirrors and lenses and more complex optical devices. Working knowledge of algebra is assumed.

HONORS PHYSICS
Full Year: 3 credits

Prerequisite: co-enrollment in Algebra 2 or higher.

[Not available to students who have completed Physics First.]

Fall Term: Mechanics. An accelerated introduction to Newtonian Mechanics for students with strong math backgrounds who are seeking a deeper understanding of their physical world. Topics include linear and projectile motion, Newton’s Laws, energy, and momentum. Laboratory exercises and classroom demonstrations are used throughout the course to solidify conceptualization and instill respect for data. Concepts are also strengthened through work in group tutorials developed specifically for students at this level as well as student-driven projects at the conclusion of the term.

Winter Term: Electricity and Magnetism. An accelerated introduction to Electricity and Magnetism for students with strong math backgrounds who are seeking a deeper understanding of their physical world. Topics include electrostatics, circuits, magnetism, and electromagnetic induction. Laboratory exercises and classroom demonstrations are used throughout the course to solidify conceptualization and instill respect for data. Concepts are also strengthened through work in group tutorials developed specifically for students at this level as well as student-driven projects at the conclusion of the term.
**Spring Term: Extended Topics.** An accelerated introduction to non-linear physical motion for students with strong math backgrounds who are seeking a deeper understanding of their physical world. Topics will build off of the previous terms of Honors Physics and will include rotational motion, simple harmonic motion, waves, and light. Laboratory exercises and classroom demonstrations are used throughout the course to solidify conceptualization, build theoretical modeling skills, develop explanations, and instill respect for data. Concepts are also strengthened through work in group tutorials developed specifically for students at this level. Students develop writing skills to produce journal-quality lab reports. Students who successfully complete this course are prepared to take the AP Physics C: Mechanics and the AP Physics C: Electricity and Magnetism Advanced Placement examinations in May.

**THE PHYSICS OF RENEWABLE ENERGY**

Winter Term: 1 credit  
**Prerequisite:** a full year of physics.

This course helps students develop both a conceptual and quantitative understanding of the most prominent forms of renewable energy, as well as innovative new forms used in the world today. Photovoltaics, wind, hydro, geothermal, and concentrated solar power technologies are explored. Students read seminal papers from peer-reviewed journal articles in the field, and the course concludes with students developing a prototype for their own form of renewable energy.

**QUANTUM MECHANICS**

Spring Term: 1 credit  
**Prerequisite:** co-enrollment in Advanced Physics.

This course will begin by examining the field of quantum mechanics from a conceptual and historical perspective, and then spend the majority of the term mathematically investigating the implications of quantum mechanics at the microscopic level. Bound states of the “particle-in-a-box,” the harmonic oscillator, and the hydrogen atom will be studied, as well as unbound examples of quantum mechanical tunneling. The course will incorporate coding in the python language to solve quantum mechanical problems numerically.

**CHEMISTRY**

Full Year: 3 credits

This course emphasizes scientific observation and investigation. Chemical principles and concepts are introduced through laboratory experiments and are expanded in lecture and class discussion. Students learn to observe, question, test, problem solve and draw conclusions. Selected experiments require both cooperative and individual investigation. Topics include properties of matter, bonding, chemical periodicity, stoichiometry, thermochemistry, kinetics, acids and bases, equilibria, and oxidation-reduction. This course is taken prior to taking Biology.
HONORS CHEMISTRY
Full Year: 3 credits
This course is an introductory chemistry course that covers an expanded curriculum of chemistry. The final grade in Honors Chemistry will consist of term work, cumulative exams, and a lab practical. Topics include properties of matter, bonding, chemical periodicity, stoichiometry, thermochemistry, kinetics, equilibria, acids and bases, and oxidation-reduction. The expectations and pace of Honors Chemistry are such that by the end of this course students will have covered the material for the SAT II subject test in chemistry. This course is taken prior to taking Biology.

CHEMISTRY 2: QUANTITATIVE ANALYSIS
Fall Term: 1 credit
[Not open to students who have taken Advanced Chemistry.]
Prerequisite: Honors Chemistry or successful completion of Chemistry with a final grade of Honors or higher.
How do chemists determine how much of a substance is present in a sample of unknown composition? In this laboratory-based course, students study various methods of quantitative analysis, including titration, gravimetric analysis, and spectrophotometry to gain a better understanding of analytical chemistry.

CHEMISTRY 2: ORGANIC CHEMISTRY
Winter Term: 1 credit
Prerequisite: Advanced Chemistry, Honors Chemistry, or Chemistry with a final grade of Honors or higher.
This laboratory-based course introduces students to organic nomenclature and the chemical and physical properties of fundamental functional groups including hydrocarbons, alcohols, carboxylic acids, and esters. Properties of biochemical compounds such as fats, oils, and carbohydrates will also be examined.

CHEMISTRY 2: REACTION RATES AND EQUILIBRIUM
Spring Term: 1 credit
[Not open to students who have taken Advanced Chemistry.]
Prerequisite: Honors Chemistry or Chemistry with a final grade of Honors or higher.
This course expands on the basic knowledge of reaction rates and equilibrium developed in first-year chemistry. Through experimentation, students are introduced to rate laws and mechanisms as well as special applications of equilibrium including buffer solutions and solubility equilibria.

ADVANCED CHEMISTRY
Full Year: 3 credits
Prerequisite: a full year of Chemistry with a grade of High Honors or a full year of Honors Chemistry with a grade of Honors or better.
Intended for those students who desire a more challenging study of chemistry, this advanced course parallels that of a college chemistry course and prepares students for the Advanced Placement examination in chemistry. The course builds on the concepts developed in Chemistry or Honors Chemistry, going into greater depth and detail. The course challenges students in the laboratory and emphasizes cooperative learning through problem solving and laboratory investigations. Areas of study in the Fall term include a review of stoichiometry, atomic structure, chemical bonding, molecular geometry, and properties of matter including gas laws, intermolecular forces, and solutions. The laboratory portion of Advanced Chemistry is designed to introduce students to the techniques used in analytical chemistry.
Areas of study in the winter term include kinetics, chemical equilibria, acid-base chemistry, solubility equilibria, and thermochemistry. Students are expected to refine their analytical techniques in the laboratory.
Areas of study in the spring term include oxidation-reduction and thermochemistry. The Fall and Winter Terms are reviewed to assist students in preparing for the Advanced Placement examination in chemistry. The year in Advanced Chemistry culminates in independent research projects on topics of the students choosing.

BIOLOGY
Full Year: 3 credits
Prerequisite: Chemistry, and Physics First or Physics.
Biology is designed to build on the physics and chemistry knowledge base while developing an inquiring point of view toward living systems in the context of a changing environment. Laboratory experiments heighten and integrate events at the molecular, cellular, and population levels of organization. Specific topics include cell structure and function, biochemical mechanisms, genetics, evolution, systems, and ecology. Scientific thinking and communication are emphasized throughout the course.

ADVANCED BIOLOGY: MOLECULAR BIOLOGY
Full Year: 3 credits
Prerequisites: one year of Biology and Chemistry.
Fall Term: Genetics and Genome, Organization and Evolution. This is an upper-level biology course designed to provide an understanding of biochemistry with an emphasis on molecular genetics. The course begins with an introduction to essential biochemistry, followed by an exploration of the central dogma of modern genetics, DNA repair, epigenetics, molecular evolution and the origin of life, and cellular senescence. Students also design and investigate adaptive mutations through an experimental evolution project involving bacteria.
Winter Term: Techniques in Molecular Biology.
The winter term of Molecular Biology covers a variety of hot topics in molecular biology including cancer, stem cell and developmental biology, gene editing, and bioethics. Further, students continue to explore the underlying causes of adaptation of experimentally evolved bacterial populations though mutant gene sequencing. Students also investigate the genetics and treatment of cancer through cell culture experiments while developing and refining skills in molecular techniques including DNA purification, PCR, gene sequencing, and bioinformatics.

Spring Term: Applied Genomics. The third term in the molecular sequence, Applied Genomics builds upon the students’ understanding of theory and techniques. Topics covered include genetically modified organisms (GMOs), immunology, and infectious diseases. Further, students will identify a question they want to investigate and design a research plan based on the techniques they have mastered over the course of the year. The class will review the proposals, and a few projects will be selected and carried out based on merit, feasibility, and interest. The project will conclude with a finished manuscript that follows the guidelines of a peer-reviewed journal.

MARINE BIOLOGY: LIMNOLOGY – FRESHWATER ECOSYSTEMS
Fall Term: 1 credit
Prerequisite: Chemistry and Biology.
This course investigates the freshwater ecology of lakes, ponds, streams, and rivers. Using the natural resources of our campus, students examine the different aquatic habitats that are inherent to New Hampshire. Energy flow, nutrient cycling, pollution and ecosystem stability are just some of the topics under investigation. Students will have the opportunity to wade into the waters surrounding school to sample water quality, survey invasive species populations and examine, collect and identify different species of aquatic flora and fauna. Students will also have a chance to work with aquaculture and begin to grow specimens here in the Lindsay center greenhouse. Field trips will include visits to a larger body of freshwater, water treatment facility, and Trout hatchery.

MARINE BIOLOGY: OPEN OCEAN
Winter Term: 1 credit
Prerequisite: Chemistry and Biology.
This course examines the open ocean in all its vastness, depth and power. Creatures of the open ocean will be at the heart of this course including marine mammals and deep-sea inhabitants. Ocean currents, tides, and water movement are examined as we consider the role humans play in this gigantic ecosystem. Mammalian diving physiology is also studied, and as part of this course students have the opportunity to participate in a PADI approved confined water SCUBA certification program. Dive lessons are conducted by a PADI certified Dive Master and will take place in the Massachusetts swimming pool.

MARINE BIOLOGY: COASTAL BIOMES
Spring Term: 1 credit
Prerequisite: Chemistry and Biology.
This course examines the marine environments closer to shore including coral reefs, mangroves, estuaries and rocky coastlines. Students will learn how to identify fish, study the interconnectedness of the sea and the land and investigate the complex relationships found in each of these biomes. Human influence and fisheries management will be major themes throughout the term.

ADVANCED BIOLOGY: HUMAN ANATOMY & PHYSIOLOGY
Full Year: 3 credits
Prerequisites: one year each of Biology and Chemistry.
This is a full-year, upper-level biology course designed to provide an understanding of the structure and function of the major human organ systems. Topics of study include neuroendocrine homeostatic control mechanisms, musculoskeletal, cardiorespiratory, digestive, immune, renal, and reproductive systems. Disease states and adaptive physiological responses to stress, exercise, and nutrient intake are considered throughout the course. Laboratory activities include microscopy, organs and cat dissections, case studies, and evaluation of human physiological responses. Scientific thinking and communication are emphasized throughout the course.

EXERCISE PHYSIOLOGY: BIOCHEMISTRY OF METABOLISM AND SPORTS NUTRITION
Fall Term: 1 credit
Prerequisites: Biology and Chemistry.
[Students taking the full-year Human Anatomy & Physiology course should not enroll in this term course.]

How do the foods we eat influence cellular metabolism, physiological health, and human performance? This is a one-term, upper level biology course. Students investigate the biochemistry, digestion, and metabolism of proteins, carbohydrates, and fats. Exploration of the interaction between nutrition and exercise on health, disease, fitness training, and athletic performance is emphasized. Laboratory investigations include anatomical dissections, biochemical analysis of foods, dietary assessments, and evaluation of metabolic rate during rest and exercise. Students will read original research, design experiments to address their own physiology and sports nutrition questions, and report their findings in end-of-term presentations or portfolios.
**EXERCISE PHYSIOLOGY: CARDIORESPIRATORY ADAPTATIONS TO EXERCISE**

Winter Term: 1 credit

[Students taking the full-year Human Anatomy & Physiology course should not enroll in this term course.]

Prerequisites: Biology and Chemistry.

*How does exercise alter our cardiorespiratory physiology and health?* This is a one-term, upper level biology course. Students begin the term by investigating normal cardiorespiratory function and health. This is followed by an exploration of the cardiorespiratory responses to acute exercise, as well as the physiological adaptations to chronic exercise (training) and selected stressors such as high-altitude training, aging, and disease. Laboratory investigations include anatomical dissections, blood pressure, electrocardiogram and pulmonary analyses, and treadmill measurements of oxygen consumption (VO2) and anaerobic threshold. Students will research and investigate the effects of one selected stressor on cardiorespiratory function and report their findings in end-of-term presentations or portfolios.

**EXERCISE PHYSIOLOGY: NEUROMUSCULAR ADAPTATIONS TO EXERCISE**

Spring Term: 1 credit

Prerequisites: Biology and Chemistry.

[Students taking the full-year Human Anatomy & Physiology course should not enroll in this term course.]

*How does resistance training and exercise alter neuromuscular physiology and health?* This is a one-term, upper level biology course. Students begin the term by investigating how skeletal muscle normally develops and functions. This is followed by an exploration of the neuromuscular responses and physiological adaptations to chronic exercise (resistance training) and selected stressors, including the use of muscle building aids and supplements, as well changes in muscle physiology with aging and disease states. Laboratory investigations include anatomical dissections, muscle metabolism and fiber type assessment, and measurements of muscular strength, endurance, and flexibility. Students will investigate, evaluate and compare reports of muscle physiology changes presented in the popular press with research published in scientific literature.

**TERRESTRIAL ECOLOGY: CYCLES AND SEASONS**

Fall Term: 1 credit

Prerequisite: one year each of Biology and Chemistry.

Students will be introduced to the basic concepts that inform issues in environmental science. Core concepts include an introduction to geology and a review of basic biology and chemistry through the field of biogeochemistry. The term will end with an introduction to soil biology and environmental issues related to agriculture.

**TERRESTRIAL ECOLOGY: UNDERSTANDING CLIMATE CHANGE**

Winter Term: 1 credit

Prerequisite: one year each of Biology and Chemistry.

Students will focus on human aspects of environmental science. The term will begin with a discussion of the ecological consequences of human over-population. From here, we will move towards aligning economic theory with sustainable development at a local, national, and global scale. Lastly, in the context of sustainable development, we will discuss the social, technical, and ecological aspects of energy development and usage on a global scale.

**TERRESTRIAL ECOLOGY: THE SUSTAINABLE SOCIETY**

Winter Term: 1 credit

Prerequisite: one year each of Biology and Chemistry.

Students will begin by looking at land use history at St. Paul’s and the New England region. We will move from this historic perspective to a more modern look at forestry and land use practices throughout the region, utilizing our extensive grounds as a living laboratory. Lastly, we will spend time working through the major causes and consequences of climate change while students are designing and conducting independent research projects that should integrate the major themes of the course.

**INTRODUCTION TO ASTRONOMY**

Fall or Spring Term: 1 credit

This is a one-term course that is designed to give students an introduction to observational astronomy. In the classroom, the basic principles of astronomy are taught, including the layout of the heavens, a study of the Solar System, a history of astronomy, and the basic principles of telescopes. At the Hawley Observatory, students work independently at least one clear night a week learning the constellations, phases of the moon, and how to use a telescope to find objects that are invisible to the naked eye. Upon completion of this course, students are then encouraged to take *Stellar Astronomy* and *Galactic Astronomy*.

**STELLAR ASTRONOMY**

Winter Term: 1 credit

Prerequisite: Introduction to Astronomy.

This course builds upon the *Introduction to Astronomy* course and is focused upon the nature of stars in our universe as we know it. During the regularly scheduled daytime classes, students will study the sun, how stars evolve, and how spectra are used to determine the properties and components of stars. A minimum of one clear night a week will be spent at the observatory collecting observations that will be used to complement the study of stars. Full use of the Hawley Observatory telescopes is available. Additional equipment used to support student-initiated projects includes digital cameras, filters, spectrometers, and sophisticated software for image processing.
GALACTIC ASTROPHYSICS
Spring Term: 1 credit
Prerequisite: Introduction to Astronomy.
This course builds upon the Introduction to Astronomy course and is focused upon the nature of galaxies in our universe as we know it. During the regularly scheduled daytime classes, students will study the variety of galactic structures in our universe and how those structures might have evolved since the Big Bang. A minimum of one clear night a week will be spent at the observatory collecting observations that will be used to complement the study of galaxies. Full use of the Hawley Observatory telescopes is available. Additional equipment used to support student-initiated projects includes digital cameras, filters, and sophisticated software for image processing.

SCIENCE ON A SPHERE: MEDIA AND DATASET CREATION
Spring Term: 1 credit
St. Paul’s Lindsay Center for Mathematics and Science is home to one of the National Oceanographic and Atmospheric Administration’s (NOAA) Science on a Sphere (SOS). Using NOAA’s custom SOS software operating in an Ubuntu Linux environment, students will create datasets in collaboration with teachers from any department for use in classes or other aspects of school life. This interdisciplinary experience will also include an introduction to the system’s hardware, operation, and maintenance. No prior programming experience required.

INTRODUCTION TO ARTIFICIAL INTELLIGENCE
Fall Term: 1 credit
During the fall term, classical artificial intelligence topics such as knowledge representation; search algorithms; and learning expert systems are explored. Students create research papers and presentations on current Artificial Intelligence research. Students read Alan Turing’s seminal 1950 paper on Computing Machinery & Intelligence and investigate definitions of intelligence. The possibilities for understanding language, thought, and consciousness are studied. Students also learn the non-procedural computer language COMMON LISP and become proficient at developing recursive problem-solving and search programs.

Although computers are used extensively throughout the course, prior programming experience is not necessary.

ARTIFICIAL INTELLIGENCE AND ROBOTICS
Winter Term: 1 credit
[Introduction to Artificial Intelligence is recommended.]
During the winter students work on studying and developing Autonomous Robotic systems. Students create research papers and presentations on current robotics systems. The VEX Robotics Systems and the EasyC programming System are used to create simple autonomous robots. As the students progress to more complex autonomous robots the students will be introduced to the system’s hardware, operation, and maintenance. No prior programming experience is necessary.

ARTIFICIAL INTELLIGENCE SEMINAR
Spring Term: 1 credit
During the spring students read extensively in the area of AI and philosophy to develop a deeper understanding of consciousness and intelligence. Science fiction is read (R.U.R. and I, Robot) and viewed (Blade Runner and 2001: A Space Odyssey). Books and movies from Daniel Dennett, Douglas Hofstadter, Rodney Brooks, and Ray Kurzweil are studied. In addition, students propose and then work on advanced projects as well as final papers on their own opinions concerning the big questions of Artificial Intelligence. The class visits engineering and AI labs at MIT.

Although computers are used extensively throughout the course, prior programming experience is not necessary.

INTRODUCTION TO COMPUTER PROGRAMMING
Fall, Winter, and Spring Term: 1 credit
This course is designed to satisfy the need for a stand-alone one-term introduction to Computer Systems, Computer Applications, and Computer Programming. The course is appropriate for students with a wide range of programming experience – from little or no knowledge to those students who have gained experience in multiple languages. The JAVA Language is the primary language used to introduce the concepts of structured programming and algorithmic problem solving, however students can take this course and use other languages, such as Python, C, Swift, etc.

During this course the students complete 4 different programming projects while learning at least one programming language. The course covers the following computer science topics:

- History of computers and programming languages
- Top-Down and Bottom-Up program development
- Self-documenting code development process
- Variables and types
- Object-oriented program design: using and creating classes of programming objects
- Debugging/troubleshooting
- Recursive problem-solving
- Using arrays and files
- Using Algorithmic Problem Solving to handle large projects
COMPUTER SCIENCE TOPICS
Fall, Winter, and Spring Term: 1 credit
This course is designed to continue the computer science curriculum after Introduction to Computer Science. It is a multi-threaded course, offered in multiple terms. Students can take the course multiple times, choosing a different thread each time. Each year the student takes the course, the course number will increase to reflect the advanced level of work.

Students will choose from one of the following tracks:
Data Structures and System Design This is the traditional next course after completing an introductory course.
Computer Logic and Machine Interfacing This track would have students designing and building electronic circuits, beginning with small logic systems and working up to arithmetic calculating systems. Students learn how to make computers (and smartphones) communicate with a variety of input and output devices, such as GPS, sensors, XBOX Kinect, Arduino, LED screens, Bluetooth devices, using various communications protocols.
Computer Game Programming Students design and develop a game, and learn the mathematics associated with representing 3-dimensional objects on a 2-dimensional screen.
Smartphone App development and Data Base design This is the track that most ASPs currently involve. Students learn the Swift language (for iPhone) or JAVA (for Android) and create apps. They also learn how to design and create SQL data bases and how to create PHP scripts to access/update the data bases. Finally they incorporate these PHP scripts into their Smartphone apps.
Online Course Students enroll in an approved online computer science course. The teacher oversees the progress the student is making during the term and provides assistance when the student runs into problems.
Student-proposed Software Engineering project For a student that has completed some of these tracks and wants to combine interests into a specific project.

ENGINEERING DESIGN [1–3]
Fall Term: 1 credit
Students will learn about the Engineering Design process through the completion of 3 major projects as well as shorter group projects. The initial project involves designing and building a game out of wood, and then modeling it using CAD software (AutoDesk Inventor and SolidWorks). Final designs are 3d-printed. The second project involves groups creating VEX Robots designed to solve the annual VEX Robotics Challenge. Finally groups of students must design a Sea Perch-style UAV for a final competition in the School’s pool. Through these projects students will learn and practice problem-brainstorming techniques and the best-practices for successful group work. Students will use the MIT 2.007 Design and Manufacturing Course notes to learn about deterministic design and basic machine components.

This course can be taken multiple times, in order to broaden a student’s experience at solving problems using the engineering-design process. Students taking the course a second time are expected to work on more advanced projects and serve as teachers/mentors to the new students.

USFIRST ROBOTICS ENGINEERING TEAM [1–3]
Winter Term: 1 credit
The students in this class are part of the St. Paul’s School Team 1512 FIRST Robotics team. The objective of this course is to engage the students in a challenging problem that allows them to put their group-work and deterministic-design techniques learned in the fall into practice. Near the start of the Winter Term, specifications for the international FIRST Robotics competition will be received and studied. In January, the students will travel to the kickoff event in Manchester to learn about the new challenge. The remainder of the Winter Term will be spent designing, manufacturing, and programming the team’s entry. At the end of the Winter Term, the team will enter its Robot in various regional competitions. Essential to the course will be the completion of periodic self-reflection journals which allow the students to reassess and refine their problem-solving and engineering-design techniques. At the end of the competitions, our students are required to write a final journal where they critically evaluate all the design solutions they saw at the competition.

Based on student interest and scheduling, students in this course are also able to enter and attend local VEX Robotics competitions.

This course can be taken multiple times, in order to broaden a student’s experience at solving problems using the engineering-design process. Students taking the course a second time are expected to work on more advanced projects and serve as teachers/mentors to the new students.

ENGINEERING PROJECTS [1–3]
Spring Term: 1 credit
Prerequisites: Engineering Design; USFIRST Robotics; or Artificial Intelligence & Robotics.

This course allows students to work on large-scale engineering projects to further their understanding of the engineering design process. Students can propose software or hardware design projects. Student projects have included:

- creating Smart-phone programs and interfacing the programs with data bases
- designing/building new robotics systems
- perfecting winter-term competition robots
- designing/building a better ballet pointe shoes and basketball free-throw tutors
- designing and building musical staircases

This course can be taken multiple times, in order to broaden a student’s experience at solving problems using the engineering-design process. Students taking the course a second time are expected to work on more advanced projects and serve as teachers/mentors to the new students.
ENGINEERING HONORS PROGRAM

The program provides an opportunity for depth and personal development for those students who have shown an interest and aptitude for engineering or computer science. The program is designed to create further chances for exploration in the field, leading to the successful completion of a research internship in engineering/technology and preparing interested students to continue with their engineering study at college and beyond.

During the fall and winter of the Fifth Form year, students will engage in a non-credit Engineering Honors prep designed to support the students in their search for acceptable summer internships. If the student has met all of the periodic milestones in this process and has secured an acceptable internship position by the end of the winter term he/she will be considered by the Engineering Honors committee for acceptance into the Engineering Honors program, and into the spring term Engineering Honors Seminar course. Parents must also provide information supporting the student’s plan. The program is limited to 12 students.

*Students accepted into the program are expected to complete three steps:*

- **Engineering Honors Seminar** course during the spring term of the Fifth Form year
- A summer internship of at least 4 weeks
- **Engineering Honors Capstone** course during the fall term of the Sixth Form year, with an option to extend into the winter and/or spring term

Due to the involved nature of this process, students must sign up for an alternate spring course, which will be dropped if the student is accepted into the **Engineering Honors Seminar** (in a similar manner to the Independent Study Program application process).

ENGINEERING HONORS SEMINAR

Spring Term: 1 credit

[Entry to the Engineering Honors Program; students are accepted by the Engineering Honors Committee (the program is limited to 12 students per year.)]

**Prerequisites:** Conceptual Physics or Chemistry and at least one engineering, computer science, or artificial intelligence course; no Fourth Form mathematics/science grades less than Honors or present for review a portfolio of designed/created hardware or software items.

Students accepted into the **Engineering Honors Seminar** have secured a summer internship. A major portion of the seminar involves corresponding with the lab and learning what skills and background knowledge should be learned in preparation for the internship. Skills that all students will learn includes mastering the Python programming language, learning the MATLAB Data Analysis application, and advanced machine-shop skills.

In addition students work on their communication and writing skills by creating research presentations and posters about their internship lab.

ENGINEERING HONORS CAPSTONE

Fall, Winter, or Spring Term: 1 credit

**Prerequisite:** permission of the Department Head.

The Engineering Honors experience culminates with a Sixth Form engineering capstone project that combines weekly seminars for all participants, poster sessions for students to share their summer research, and the chance to continue that research at St. Paul’s or to pursue and complete an engineering design project of their own choice – all with faculty supervision. Periodic self-reflective journals are required which ask the students to put their advanced engineering internship experiences into the perspective of their over-all approach to learning and their future courses of study.
Interdisciplinary courses are designed to more fully integrate understandings from multiple disciplines. Having established proficiency with the habits of mind and skills of the traditional disciplines, students in these courses are presented with an opportunity to form stronger connections between multiple areas of study and ways of thinking. These courses are created collaboratively with teachers in different departments, exemplifying how we want our own students to work with one another.

Enrollment in interdisciplinary courses is subject to permission of the Dean of Studies.

INTERDISCIPLINARY STUDIES COURSES

BIOMIMETICS IN ENGINEERING AND ARCHITECTURE
Winter Term: 1 credit
Prerequisites: one year of Biology and Chemistry.
In this course, students explore the form and function of nature’s biological models and systems in order to research and develop conceptual designs in engineering and architecture for the purpose of solving complex human and environmental issues. While learning the history of biomimetics, students utilize both traditional and contemporary drafting and modeling techniques to render their designs from concept to construction.

FOOD, ENVIRONMENT, AND SOCIETY
Spring Term: 1 credit
If we are what we eat, then what are we? In this course, students investigate the science and ethics of our relationships with food to try to answer this question for themselves. The course considers where our food comes from, the evolution of our diets, industrial and sustainable food systems, GMOs and food labeling, animal welfare, the ethics of meat eating, political and economic policies influencing food choice and price, and the biochemistry of food and flavor, among other topics. Students learn from farmers, chefs, advocates, and one another through regular discussions of course readings, multimedia content, class trips, and practical activities, including educating the School on important issues in sustainable food and practicing what it takes to cultivate a meal together.

FROM STORY TO SCREEN
Spring Term: 1 credit
[Available only to Fifth and Sixth Form students]
Prerequisite: Fifth Form students must have an Honors grade in Humanities IV.
In this interdisciplinary course offering between the Humanities and Theatre Departments, students will explore, analyze, and ultimately execute the journey a piece of literature takes as it moves from story to screen. In the first half of the term, students will read short stories such as Truman Capote’s “Breakfast at Tiffany’s,” Philip K. Dick’s “The Minority Report,” and Stephen King’s “Rita Hayworth and Shawshank Redemption” that have been adapted into feature films. Students will also watch these films, analyzing the artistic decisions made at each step. Using what they have learned in the first half of the course, students will spend the second half of the term working collaboratively to select a story and produce a short film based on this short story.

IN TUNE WITH NATURE
Fall Term: 1 credit
Prerequisite: Biology or currently enrolled in Biology.
This course will be a literary and scientific study of the natural world. Looking closely at the natural world around us, journaling about our own observations, and conducting scientific field studies are the essentials of this course, as we read and discuss the work of a number of nature writers to help inspire our own writing and reflection. How can we learn to become more environmentally aware through our close observations, labwork, reading, and discussions about nature? What makes celebrated nature writers and why are they such accomplished writers? How do we model that in our own writing? How do we become agents for change? Students will explore these and other questions.
**EIGHT SCHOOLS ASSOCIATION (ESA)**

**EIGHT SCHOOLS ASSOCIATION COURSES**

The Eight Schools Association (ESA) offers several online courses that increase independent learning opportunities through a blend of synchronous and asynchronous learning. To enroll in an ESA course, students must receive final approval from the Dean of Studies. Only sixth form students are eligible for these courses, and they may take only one ESA course per term. These courses appear on our SPS transcript with a grade of Satisfactory or Unsatisfactory. Students also will receive a transcript from the host school based on the host school’s grading system.

**Enrollment in ESA courses is subject to permission of the Dean of Studies.**

**NOW IS THE TIME**

Winter Term: 1 credit

This interdisciplinary course explores the spiritual, psychological, and medical aspects/benefits of mindfulness/meditation. The course includes research-based inquiry into case studies as well as the neurology behind the amazing benefits of mindfulness/meditation. Students will spend one day per week actually practicing. We will shift from mindfulness-based activities to guided and silent meditation from week to week. We will have at least two guest speakers from the psychosocial and medical fields. The major assessment occurs during the last two weeks of the course when each student will present a case study in which subjects used mindfulness to overcome various spiritual, psychological, and/or medical challenges. Ongoing assessment will include weekly journal entries, participation, and student-led discussions based on the topic for each week.

**ON LANGUAGE LEARNING**

Spring Term: 1 credit

*Prerequisite: Open to fifth and sixth formers enrolled in at least their third year of studying a language.*

In this elective, you will learn what it means – scientifically, culturally, and practically – to learn a language. The term is divided into four units, in each of which we will pose and then answer one or a few essential questions. In the first, we will ask, what is language, and what in the brain enables all non-disabled children to learn this system of mind-boggling complexity? Thereafter we’ll move from cognitive science to culture, asking, does the language that you grow up speaking determine or influence your worldview? The third unit concerns multilingual societies. How do they work, and how have different communities fought for the maintenance of their languages? Lastly, we will ask, how do people actually learn a second (or third) language? How have the methodologies of language teachers evolved, and what strategies do the world’s greatest polyglots practice?

**BEGINNING ARABIC**

Full year: 3 credits

This course is a team-taught online class that integrates synchronous and asynchronous web tools in teaching and learning. Students work with a variety of online media to master the Arabic alphabet and sounds, build vocabulary, develop speaking and listening skills, and acquire grammar concepts at the basic level. Students learn how to speak about themselves, their families, and their environment, to initiate and sustain conversations, and to compose several paragraphs related to their daily routine. Students also read authentic short texts on familiar topics and discuss their main ideas. This course focuses on Modern Standard Arabic with exposure to Levantine colloquial through music, songs, and short videos. By the end of the course, students gain a solid command of linguistic structures and skills in Modern Standard Arabic at the basic level as well as a deeper understanding and appreciation of Arab culture and art. Students’ progress is assessed through performance on weekly assignments and projects. This course is taught by a teacher from Choate Rosemary Hall and another from Deerfield Academy.

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DEMOCRACY, MEDIA, AND POLITICS
Spring Term: 1 credit
All politics is now “mediated.” Radio, television, and the Internet suffuse our culture and transform the presentation of issues, candidates, and the American governmental system itself. To understand politics, one must understand the role media play in politics. After a brief review of the earliest techniques of political communication in Classical Greece, this course examines the idea and practical impact of the First Amendment and 19th/early 20th century newspapering. It then considers the emergence of radio and the dominant medium of television from the 1930s to TV’s political golden epoch, the 1950s-1990s. The final unit of study focuses on the virtues and limitations of the digital age with emphasis on bubbles, echo chambers, social networks, and fake news. Instructional techniques include readings, videos, essay writing, discussions, exploration of Twitter feeds, and group project work. This course is taught by a teacher from Choate Rosemary Hall.

DESTRUCTION OF SLAVERY
Winter term: 1 credit
In this course, students consider how the Republican Party dealt with issues of slavery and race from 1850-1870. Students examine a wide variety of primary source documents each week and engage with the scholarship of Lincoln Prize-winning historian James Oakes. Discussions strive to place the Republicans in the context of their day, offering particular attention to the often-complicated legal arguments that preceded the formal abolition of slavery in 1865. At the center of the course is the much debated question of “who freed the slaves?” The class is taught by a teacher from Lawrenceville, with discussions and student collaboration occurring online each week.

THEATER HISTORY
Spring Term: 1 credit
Through this online class, students explore the history of the theater from the ancient to the modern world. Through an analysis of significant productions – from The Bacchae at the Theater of Dionysus in 405 B.C. Athens, to Noh theater in the shogun court of 14th century Japan, to Show Boat on Broadway in 1927 – the course introduces students to key moments and movements in theater history. Students investigate developments in stage architecture, the shifting “place” of the stage within culture, and the changing styles and methods of production. Students examine materials ranging from set designs and costume sketches to historical diaries, photographs, newspaper reviews, and dramatic texts. Students are required to participate with their teacher and classmates in online discussions, write a series of reaction pieces, design theater-of-the-future independent project, and produce a significant independent project pursuing the advanced exploration of a single figure, production or moment in theater history. This course is taught by a teacher from Choate Rosemary Hall.

WATER AND HUMANITY
Winter and Spring Terms: 2 credits
This two-term course examines the dynamic and tenuous relationship between water resources and human development. Looking at water from a multidisciplinary perspective, this course enables students to think more critically about the central role water has played and must continue to play in the viability and vitality of all civilizations. Students encounter diverse materials, use holistic approaches, and engage in innovative project planning to consider, understand, and propose solutions to complex water issues. This course uses a “flipped classroom” approach to learning and assessment. The course includes student-to-student videoconferencing, guided lessons, and collaboration with other students and teachers in the ESA. The course involves both synchronous and asynchronous learning through online video-conferencing, online discussions, and collaboration. There will also be necessary field research and a capstone project in the Spring Term.
The course focuses on the value of water and water issues within the contexts of religious ceremony, the human-water relationship in fine art and architecture, national and imperial infrastructure, and industrial development. This interdisciplinary, project-driven course encourages students to think about the place of water in their own local, regional, and global communities while researching and proposing their own solutions to complex multidisciplinary water issues. Through collaborative projects with all the schools in the ESA, students enjoy the advantages of this online and interdisciplinary endeavor.
We admit qualified students of any race, color, disability, religious affiliation, national and ethnic origin, and sexual orientation to all rights, privileges, programs, and activities generally accorded or made available to students at our school. We do not discriminate in violation of any law or statute in the administration of our educational policies, admission policies, scholarship and financial aid programs, and athletics or other school-administered programs.