STATEMENT OF PHILOSOPHY
The Derryfield School’s purpose is twofold: to guide a student’s academic growth through the acquisition of sound study habits and the development of analytical, independent thinking skills; and to foster each child’s social, emotional, and ethical growth.

We value our distinctive role as a day school, providing a rigorous program in academics, athletics, and the arts to children whose families want them to live at home during their middle and high school years. Dedicated to providing individual attention to every student, we strive to create an informal, yet structured environment offering challenge and support where students can develop their unique qualities of mind, body, and spirit.

We respect diverse ideas, beliefs, and cultures, and are committed to personal integrity and fairness. We value tradition as well as the willingness to institute thoughtful change. Recognizing that academic achievement without compassion and concern for others is meaningless, we are committed to purposeful involvement in the world outside our school in both the local and the global community.

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KEY
IS Independent Study
AT Advanced Topics
MSON Malone Schools Online Network
F Fall Trimester Elective
W Winter Trimester Elective
S Spring Trimester Elective
Note: If a course is designated as (F, W, S), it is offered three times a year. A student may take it during any term, and in some cases all three terms. If two terms are joined with an ampersand (&), the course duration is two terms.

THE UPPER SCHOOL PROGRAM OVERVIEW
Students entering the Upper School (grades 9–12) should plan their course of study in the context of graduation requirements, college plans, and interest. A well-balanced program that expands perspectives and deepens experiences in interest areas is desirable. All students must take a minimum of five (5) academic courses each term.

GRADUATION REQUIREMENTS
Students must successfully complete a fundamental liberal arts course of study, develop essential physical skills, and expand interests and competence in creative arts and co-curricular activities. A total of eighteen (18) academic credits is required with the following departmental distribution:

- English: 4 credits
- History: 2 credits (Asia: East and West and U.S. History / AT American Public History)
- Mathematics: 3 credits (in grades 9-12 and completing at least Algebra II)
- World Language: 3 credits (must successfully complete level three of one language; two levels must be completed in the Upper School)
- Science: 2 1/3 credits (Biology and Chemistry, plus one trimester elective)
- Creative Arts: 1 credit (three trimesters, one of which is Visual Foundations in 9th grade)
- Computer Science: (Computer Science Practice and Principles in 10th grade)
- LEAD (Leadership, Ethics, and Development): All students must satisfactorily participate in LEAD each trimester.
- Athletics: All students must satisfactorily participate in either a team sport, an independent sport, or a noncompetitive sport two (2) out of three (3) trimesters each year.

THE UPPER SCHOOL PROGRAM OF STUDIES
Grade 9
Standard:
- English IV, Honors English IV
- Advanced Algebra, Geometry, Algebra II, Honors Algebra II
- Biology, Honors Biology
- World Language
- Asia: East and West
- LEAD (Leadership, Ethics, and Development)
- Visual Foundations (required) and other Arts electives
- STEM X electives
- Academic Foundations elective

Note: A student need not take six courses during grade nine in order to fulfill requirements for graduation. Students who express interest in art electives should pay attention to the prerequisites. Academic Skills is available for credit for one trimester.
Grade 10
Standard:
- English V, Honors English V
- Geometry, Algebra II, Honors Algebra II, Honors Algebra II & Precalculus
- Chemistry, Honors Chemistry
- World Language
- Riots, Revolution, and Reforms or Environmental Studies
- LEAD (Leadership, Ethics, and Development)
- Computer Science (required) and other STEM X electives
- Creative Arts electives
- Academic Advancement elective

Grade 11
Standard:
- American Literature and Composition, AT English: Exploring Effective Civil Discourse in American Literature and Culture
- Algebra II, Honors Algebra II, Honors Algebra II & Precalculus, Precalculus, Honors Precalculus, Calculus, Honors Calculus, AT Calculus, Statistics
- Lab Science or STEM X
- World Language
- U.S. History, AT American Public History
- LEAD (Leadership, Ethics, and Development)
- STEM X electives
- Creative Arts electives
- Academic Advancement elective

Grade 12
Standard:
- English electives, AT English: The Literature and History of Consumer Culture
- Precalculus, Calculus, Statistics (Embedded Honors), AT Calculus, AT Investment Math
- World Language
- Lab Science or STEM X
- History electives, AT History: US Since 1960
- LEAD (Leadership, Ethics, and Development)
- STEM X electives
- Creative Arts electives
- Academic Advancement elective
ONLINE LEARNING OPPORTUNITIES

THE MALONE SCHOOLS ONLINE NETWORK
As a member of the Malone Schools Online Network (MSON), highly motivated and strong independent juniors and seniors can take synchronized, online classes from other independent schools from around the country. If a student is accepted to the program, Derryfield covers the cost of the class, and the class can count as a fifth or sixth class and earn full Derryfield credit. Due to space and placement criteria, sign-up for a Malone class does not guarantee enrollment in the course. All the Malone classes are listed below under their appropriate department. Interested students should see Mrs. Ek for more information.

For more information about online language learning, please see the World Language part of this guide.

THE INDEPENDENT SENIOR PROJECT (ISP) PROGRAM
During the final five weeks of spring term all seniors are required to complete an Independent Senior Project. The nature of the project is completely up to the student, although the program philosophy encourages “real world” structured experiences. The Alumni Coordinator, who serves as a liaison with alumni and the Derryfield community at large, can suggest possibilities for internships and apprenticing.

Seniors can also refer to the documentation of earlier projects undertaken since the program’s inception in 1985. These projects have been as diverse as the individuals who participate: interning in hospitals and law firms, acting as teachers’ aides, doing site work in archeology, studying ecology in Costa Rica, or interning at radio and T.V. stations.

Courses required for graduation may not be dropped. During the project period, a maximum of one sport may be taken. Details are outlined in the preliminary packet distributed in November of senior year; however, it is not too soon for juniors to plan ahead, given that their course selection and athletic requirement will influence their ability to do an ISP.

In planning the spring term of senior year, for example, a student would not want to be required to complete more than a sports credit and a departmental requirement. Successful completion is a graduation requirement. Contact Dr. Myers for further details.

EXPLORATION COURSES IN THE UPPER SCHOOL
Exploration Courses, which are offered two blocks out of our eight day rotation, are designed to immerse students and faculty in experiences and pursuits that inspire new interests, broaden skills, and sharpen awareness of the community outside of the classroom. Rooted in academic and real world skills, they are designed to encourage students and faculty to risk, to be playful, and to venture into new territory such as beekeeping, forensics, sports casting, podcasting, journalism, academic competitions such as robotics, Model UN and Math Team, and more. Student sign-up for these classes will take place in the late spring. These courses are pass/fail
UPPER SCHOOL COURSE OFFERINGS

LEADERSHIP, ETHICS, AND DEVELOPMENT (LEAD)

THE PHILOSOPHY
The Leadership, Ethics, and Development program (LEAD) is designed to foster each student’s social, emotional, physical, and ethical growth. Intentional and age appropriate curricula will encourage students to develop skills to confidently navigate adolescence and prepare them to be purposeful citizens in any community. Through active experiences and intellectual opportunities students will engage in character development, personal and peer leadership, and support a healthy school and community culture. Each year classes will focus on a specific theme: 6th grade = breaking the ice, 7th grade = embracing community, 8th grade = self-advocacy, 9th grade = identity, 10th grade = belonging, 11th grade = influence/immersion, 12th grade = purpose. Subtopics explored in age appropriate ways each year include self-awareness, relationships, effective communication, feedback, decision making, coping strategies, ethical engagement, team building, and self-care. These courses are Pass/Fail.

Ninth Grade: Identity
Ninth grade LEAD classes will explore the theme of identity. Initially, the focus will be on a successful transition to high school, understanding the norms and expectations of Derryfield, and developing positive relationships with peers and adults in the community. Ongoing skill development will include time management, healthy decision making, self-care, communication, personal leadership, and self-reflection. Throughout the year, students will ponder: How their identity is shaped; How the choices they make impact themselves, those around them, and the events in their lives; and How they choose and refine the aspects of their identity they decide to share.

Tenth Grade: Belonging
Tenth grade LEAD classes will explore the theme of belonging. Building on the self-awareness gained in the ninth grade, this year will focus on helping students understand their impact on their community and how the community impacts them. Ongoing skill development will include building emotional intelligence, resilience, healthy coping strategies and decision making, understanding leadership frameworks, and utilizing personal reflection. Throughout the year, students will recognize how they bring value to the community in their own unique way and how to share those talents and skills with the rest of the community.

Eleventh Grade: Influence and Immersion
The 11th grade LEAD classes will explore the themes of influence and immersion. Students will be asked to explore the influence they have in their community and will allow for immersive experiences that encourage students to engage with others and contribute to the common good. The fall will be an opportunity for juniors to assume leadership roles in guiding the underclass LEAD offerings and begin collaborative and innovative design thinking projects that will carry into the winter. In the late winter and spring, students will immerse themselves in an
introspective and intentional beginning to their college search that matches their understanding of who they are with what they want for the years ahead and within their college experience.

Twelfth Grade: Purpose and Transference
The 12th grade LEAD classes will explore the themes of purpose and transference. The curriculum supports students in continuing to explore and articulate who they are by providing the time, space, and guidance to continue the important work of planning for and applying to colleges, to solidify Independent Senior Project (ISP) opportunities, and to intentionally approach issues of transition to life beyond high school. In the fall, seniors will work closely with the college counseling office and English teachers to create compelling applications and essays that reflect their unique strengths and articulate their contributions to a college community. In the winter, students will develop concrete plans for their ISP experience, developing networking skills and learning to be self-advocates. In the spring, students will consider the transition to life beyond Derryfield including building important life skills and exploring issues common in the college experience.

ACADEMIC SUPPORT

Academic Foundation (F, W, S)
This course is designed for ninth grade students, or those new to Derryfield, who wish to sharpen the basic reading, writing, and study skills necessary for success in the upper school curriculum. Students learn and practice techniques based on the latest brain science that require them to take an active role in their learning. Topics include understanding individual learning styles and memory, organizing materials, planning and using time efficiently, note taking, listening, active reading, test taking, and self-advocacy. Writing process and self-editing skills are also addressed. The student planner, course texts, and class notebooks serve as important materials for applying various learning strategies and developing sound study habits.

Academic Support (F, W, S)
This course is designed for the student who has completed Academic Foundation, has been introduced to a variety of study techniques, and is seeking a program tailored to meet his or her individual learning needs. Each student works with the instructor to develop a plan and practice the specific skills and strategies needed to achieve personal goals. The objective of the course is for the student to gain an understanding of how he or she learns, to adapt study strategies to support learning, and to develop sound study habits.

Prerequisite: Academic Foundation
Course fee is $1000.00

Academic Advancement (Grades 10-12) (F, W, S)
Students who have taken Academic Foundation may wish to continue to have support in a more independent way. This course meets as needed as a transitional step from the structure of Academic Foundation to the informed and effective self-advocacy needed to take control of learning in subsequent years of education.

Prerequisite: Academic Foundation
Course fee is $500.00
Academic Writing for the International Student (F)
In preparation for the rigors of higher level academic writing, this course is designed specifically with the international student in mind. Topics such as analytical writing, the persuasive essay, grammar and syntax, introduction to research skills using scholarly sources, expansion of vocabulary and the nuances of the English language will be addressed. Emphasis will be in building writing skills through a more sophisticated use of the language.

*Course fee is $1000.00*

**CREATIVE ARTS**

**THE PHILOSOPHY**
The Creative Arts Department faculty is committed to promoting artistic excellence through self-discovery, creative expression, and collaboration. Through creative risk-taking and the application of technical skills, our program builds confidence and discipline in students. The Creative Arts program promotes empathy and an appreciation for the artistic contributions of others.

**CREATIVE ARTS OBJECTIVES**
In the creative arts we are a learning community that:

- Fosters creativity
- Encourages risk taking
- Demonstrates empathy
- Instills confidence
- Promotes technical skills
- Supports collaboration
- Requires discipline
- Enriches interdisciplinary connections

**VISUAL ARTS**

**Visual Foundations**
Visual Foundations provides a guided investigation of fundamental concepts and techniques in two and three-dimensional visual art and design. Students will become familiar with approaches used to communicate ideas with visual aesthetics, utilizing the Elements of Art and Principles of Design. Hands-on classroom and homework assignments, in both traditional and digital media, explore the creation of the visual image and form, and also provide connections to both historical and contemporary concepts and themes in the arts and the world around us. This course not only provides a foundation for learning in the visual arts, but it will also help students to develop essential skills for becoming a more effective communicator in all areas of the Derryfield curriculum and beyond.

*This course will be taken as an Explorations class.*

*Required for 9th grade (Students new to the tenth grade may take any visual arts elective to meet this requirement.)*
Introduction to Studio Art (F, W)
This course provides an opportunity for students to sample four different courses in one! An introduction to studio art practices, this course will prepare students for further visual art experiences at Derryfield. Students will be introduced to introductory techniques in drawing, painting, printmaking, and sculpture, creating artwork that is relevant and meaningful to their life and learning process. Student’s engagement and willingness to get involved in the creative process is a more important requirement than the student’s talent or previous experience.

Drawing (S)
Drawing is the foundation of all visual art. This class is designed to refine skills and discover how fun and easy it is to draw both accurately and expressively. In this concentrated study of drawing we will learn to use pencils, pen and ink, markers, graphite, charcoal, colored pencils and other media to define what we see. Drawing from life, the human figure, interior settings, and landscapes, this course will introduce the fundamental elements of a good drawing: accurate perspective, interesting composition, varied values, rich textures, and intriguing space. This class is recommended for all painters, designers, and interested art students.

Painting I (F)
This course is an introduction to color theory and practice. The elements of design and the unique characteristics of colors are explored using watercolor and acrylic paints on paper and canvas. Painting from life, students will solve the creative challenge of representing the world they see. The thrill of putting paint on a surface will be experienced daily.

There are no prerequisites for this class, but it is recommended that students take drawing first.

Painting II (S)
This course is designed for students who wish to pursue more advanced work in the painting medium. After refining their understanding of color theory and brush techniques in the introductory class, students in Painting II will approach more complex projects. The class will be introduced to concepts of deconstruction and reconstruction, hard-edge paintings, and will culminate in a large canvas composition that calls on students to present a higher level of creative exploration. This experience is designed to push the student's ability to take risks, to create original visual representations and, at the same time, raise their skill level to new heights.

Prerequisite: Painting I or permission of department chair

Ceramics (W)
This course will cover the expressive and creative aspects of clay. Students will learn the fundamentals of hand building— from coiled vessels to slab-built sculptures. Mold-making, stamping, glazing, and painting techniques will all be explored as students create decorative, sculptural, and functional objects. Students will develop proficiency in working with clay, developing at least five unique ceramic forms over the course of the term. Assignments will explore sculptural form, surface marking, and color aspects of ceramic art.
Digital Photography (F, S)
This course provides students with a foundation in digital photography techniques and composition. Students will develop their technological understanding by primarily working in a manual setting with DSLR cameras, and continue to strengthen their application of the elements of art and principles of design. Their growth as artists will be supported through their exploration of composition as it relates to portraiture, photomontage, landscape, abstraction, and the narrative. Daily use of digital editing software like Adobe Lightroom and Photoshop will help students to refine their photographic images. Presentation of historical and contemporary photographers and techniques, weekly digital sketchbook assignment, as well as regular class and one-on-one critiques will further support student understanding and growth.

*All students are expected to use their own digital camera. There are limited loaner cameras available.*

Digital Art (W)
Digital art introduces students to the uses of contemporary media as an art-making tool. By combining traditional art concepts, like the elements of art and principles of design, with various digital technologies, students have the opportunity to develop a diverse digital art portfolio. Topics covered in this course may include image editing and manipulation, digital drawing and illustration, animation, and augmented/virtual reality. Students will use various contemporary media like Adobe CC Suite, digital drawing tablets, and their personal digital devices to develop creative artworks. Regular class critiques will enhance student understanding and support artistic growth.

*There are no prerequisites for this class, but it is recommended that students take drawing first.*

Graphic Design (F)
Graphic design is the art of visual communication. By combining imagery and text, graphic designers communicate ideas through a variety of dynamic graphic media. Integrating art with technology, students in this course will utilize fundamental art principles with industry standard computer programs like Adobe Photoshop and Adobe Illustrator to effectively communicate a message. Students will develop original works that integrate typography and visual imagery through logo and brand design, promotional materials, and advertising. Regular class critiques will enhance student understanding and support artistic growth.

*There are no prerequisites for this class, but it is recommended that students take drawing first.*

Printmaking (S)
This course introduces students to a wide array of printmaking processes and techniques that promote experimentation and compositional development. Students will build a diverse print portfolio using various printing techniques, not limited to, monotype, block printing, drypoint etching, and screen printing. Historical and compositional aspects of printmaking, as well as reference to foundations of art and design, will enrich the studio experience and inspire student creativity. Regular class critiques will enhance student understanding and support artistic growth. For students wishing to pursue more advanced studies in this medium are encouraged to enroll in an independent study in advanced printmaking.
**2D Mixed Media (W)**
2D Mixed Media will include color pencil, Prismacolor pencil, Pigma Micron archival ink pen, and acrylic paint, introduced individually and together. Studies in each are designed to gain control and understanding of the media. Still life, life drawing compositions, original projects, and series pieces will be explored. Students will research known artists who excel in these mediums and learn to develop their individual style.

**Art History & Studio Art: Creative Connections (W)**
A hybrid of art history and studio art, this course offers students the opportunity to observe carefully and learn to look, to make connections across the curriculum, and explore the power and purpose of art. Dive into the historical, social, and political context of art and artistic practice. Create your own studio work using the same techniques and materials as the artists studied. Connections between historical and contemporary artists will be explored both analytically and visually. Specific studio practice will include approaches in drawing, painting, printmaking, and sculpture. Opportunities for experiential learning at regional museums and galleries will enhance classroom practice.

**Exploring Forms in Art: Sculpture and 3D Art (S)**
Students will learn to problem-solve creatively through traditional and contemporary ways of working in three-dimensions. Students will learn how to manipulate a variety of materials and use sculpting tools safely. They will analyze other works of sculpture through reading, discussion and critique and examine geometric, abstract and organic forms. Projects will include recycled and found-object, site-specific, and conceptual sculptures.

**Advanced Studio Art I: 2D Concentration (F)**
This course is designed for students wishing to pursue advanced work in any two-dimensional media (drawing, painting, printmaking, photography, illustration, etc.). The curriculum of this course is based on individually directed goals and requires a high level of student investment. Particular attention to the elements of art and principles of design, and how they apply to fundamental 2D design techniques, will support student’s exploration and artistic approaches. Outside readings, sketchbook assignments, class critiques, and collaborative projects will further enhance and support student artistic appreciation and growth. In-studio efforts beyond the scheduled class time are required to meet the expectations of this class. A weekend or day trip to regional museums and galleries will further enrich the studio experience. Students who wish to develop a portfolio for college applications will find this class especially useful, and are encouraged to enroll for the year.

**Prerequisite: Visual Foundations and two additional visual arts electives (ex. VF, Drawing, and Printmaking), or with permission of the department chair.**
Advanced Studio Art II: 3D Concentration (W)
This course is designed for students wishing to pursue advanced work in any three-dimensional media (ceramics, fashion design, 3D design, sculpture, etc.). The curriculum of this course is based on individually directed goals and requires a high level of student investment. Particular attention to the elements of art and principles of design, and how they apply to fundamental 3D design techniques, will support student’s exploration and artistic approaches. Outside readings, sketchbook assignments, class critiques, and collaborative projects will further enhance and support student artistic appreciation and growth. In-studio efforts beyond the scheduled class time are required to meet the expectations of this class. A weekend or day trip to regional museums and galleries will further enrich the studio experience. Students who wish to develop a portfolio for college applications will find this class especially useful.

Prerequisite: Visual Foundations and two additional visual arts electives (ex. VF, Drawing, and Sculpture), or with permission of the department chair.

Advanced Studio Art III: Refining and Presenting the Artist Portfolio (S)
An intensive studio art practice, advanced students develop focused projects determined by individually directed goals. These projects culminate in an end of term student curated exhibition in The Derryfield School Lyceum Gallery. This course offers students an opportunity to refine their studio practice, by creating multiple works related to a specific theme or a big idea, in a medium of their choice. Working collaboratively with their peers, students develop and undertake the marketing and entrepreneurial practices that are required by working artists in order to promote their artwork. This will include developing an artist website and the promotional materials for the gallery reception. Outside readings, sketchbook assignments, and class critiques will enhance and support student artistic appreciation and growth. Further, students will examine and discuss contemporary artists relevant to their studio practice. In-studio efforts beyond the scheduled class time are essential to meet expectations of this class. To that end, students are encouraged to participate in the Open Studios in the Klee Art Studio. Juniors who wish to develop a portfolio for college applications will find this class especially useful. A weekend or day trip to regional museums and galleries will further enrich the studio experience.

Prerequisite: At least one previous trimester of Adv. Studio Art (Fall or Winter)

Independent Studies in Art (F, W, S)
This course is available to motivated students who have taken all related classes offered and who wish to explore a specific interest in depth. Students are required to submit a written proposal of the project goals for pre-approval, and are expected to prepare a concluding written evaluation of their studies. Some successful independent studies projects include advanced architectural design, jewelry making, photojournalism, Chinese Art and Culture, and preparation for AP Art History.

Prerequisite: One trimester of Adv. Studio Art and permission of department chair

MUSIC

Concert Choir (F, W, S)*
This choral ensemble is for any student who has a desire to sing (no previous experience required). Concert Choir members learn vocal techniques, how to sing in multiple voice parts, healthy singing habits, music reading, and group dynamics. The repertoire is chosen from many
different eras and with differing styles from sacred and spiritual text to modern popular or musical theatre pieces. There are three required performances (one per term) at our concerts, as well as field trips and smaller performances throughout the year. Students in the class will also have the opportunity to audition for the NH All-State Chorus, and all students will participate in the All New England Choral Festival at Plymouth State University in November.

*US Instrumental Ensemble and Concert Choir meet during the same block. Any student may enroll in both courses with permission from the instructors. Students may enroll in this course as one or more trimester electives.

Upper School Instrumental Ensemble (F, W, S)*
This course is designed to improve your skill as an ensemble and solo performer. Students will have lessons emphasizing music literature from various periods of history. The ultimate goal of the ensemble course is for all students to perform at a high level while being exposed to a variety of musical literature. The course is designed to be flexible with the opportunity for student-driven small group ensembles. Through mentorship, leadership, and musicianship, this community grows together and prepares music for All School Assemblies, talent shows, school concerts, and other on and off-campus activities. Individual attention will be given to students in preparation for music festivals, solo, and small ensemble performances. This course is open to anyone with two or more years of experience on their instrument, or with the approval of the instructor.

*US Instrumental Ensemble and Concert Choir meet during the same block. Any student may enroll in both courses with permission from the instructors. Students may enroll in this course as one or more trimester electives.

Concert Choir/Instrumental Ensemble Combined (F, W, S)
The Combined Concert Choir/Upper School Instrumental Ensemble program allows ninth through twelfth grade students, beginner through advanced, to all meet during the same period, and learn about and make music together. Throughout the week there are large ensemble rehearsals, small group coaching sessions, and the opportunity for student driven small group ensembles. Through mentorship, leadership, and musicianship this community grows together and prepares music for All School Assemblies, talent shows, concerts in the winter and spring, and other on and off campus activities.

Introduction to Piano (F)
The piano is a popular instrument in all genres of music, and it is one that anybody can learn to play! In this class, you will have opportunities to learn different playing styles from classical to contemporary, Mozart to Billy Joel, Disney to Broadway show tunes. This is a course for anyone who wants to learn how to play their favorite songs, accompany themselves or a friend, or just sit down and experiment with a keyboard for a while. Students will learn playing technique, basic music-reading skills, proper scale fingerings, key identification, and chord progressions. They will then apply these skills to both standard and lead-sheet notation. The class is for beginner piano students, and is designed to go at a comfortable pace for a deeper foundational understanding. If you are an experienced piano player, speak with Mr. Hunton about more opportunities to practice and perform at Derryfield.
Project: Mixtape – Exploring Music in Our Everyday Lives (W, S)
Come explore your creativity as we dive into the music that we experience in our everyday lives. In this course, we will explore modern popular music, movie and video game scores, electronic music, recycled percussion, musical science, and more! You will be guided in choosing and creating multiple collaborative and individual projects that will stretch your creativity and connect you with the music in the world around you. No prior music experience needed, all are welcome!

Music Theory (W, S)
Music is the universal language. Through this engaging course, students will develop their musical skills, and basic understanding of music. Students will explore melody, harmony, rhythm, and form while refining understanding of notation, scales, key signatures, and intervals. By the end of the course, students will be able to confidently read and write music. There will be many opportunities to interact and collaborate with one-another on projects and assignments. Perfect for the beginner or the advanced musician, this course is designed to bring your musicianship to a higher level.

DRAMA

Public Speaking (F, W, S)
At some point or another, we are all called upon to speak in public, be it a commencement speech, speaking at an assembly, a business presentation, or a toast at a wedding. This course is designed to help those students seeking to improve their skill at speaking before a live audience by focusing on the techniques of voice and body control (breathing, intonation, volume, articulation, gesture, posture) that will give them the self confidence to deliver a successful speech. Students will learn the various forms of public speaking: informative, demonstrative, persuasive, and extemporaneous speeches, as well as learning the necessary skills for one-on-one and team debating. They will examine famous historical speeches and TED talks to decipher what makes a speech successful. Students will experience writing original speeches and presenting them in a public forum.

For students in Grades 9–12, this course fulfills one third of the Creative Arts departmental requirement. This course may be applied to English departmental graduation requirements in grade 12 by written permission.

The Composition of Film (F, W, S)
Storytelling has been the lifeblood of civilization. The rules for telling those stories, however, changed forever with the advent of moving pictures. Students will look at the advancement in American filmmaking by viewing, analyzing, and critiquing some of the most important films that changed the techniques of how movies are made from such esteemed directors as Charlie Chaplin, Orson Welles, John Ford, Alfred Hitchcock and Martin Scorsese to the present day directors such as Kathryn Bigelow, Greta Gerwig, Spike Lee, and Jordan Peele. They will analyze how film narratives have changed as people of color and women have become major voices in Hollywood.

For students in grades 9–12, this course fulfills one third of the Creative Arts departmental requirement. This course may be applied to English departmental graduation requirements in grade 12 by written permission.

Filmmaking (F)
In this course, students will have the opportunity to be their own directors, cinematographers, and producers, creating original works and telling myriad stories via the camera. They will learn
various ways to tell a story through film be it a movie, documentary, commercial, or music video. They will learn the basic principles of composition and how camera angles, lighting, and sound create the mood and tone of any given scene. By using Adobe Premiere Pro, students will be able to edit their assignments into the final product that they envisioned. They will learn about scheduling a film shoot and all of the requirements that go along with that (gathering talent, scouting locations, etc.). At the end of the term, each student will have created their own five-minute film. This course is open to students with all levels of experience.

**Theatre Technical Arts (W)**
In theater, much of the magic is created behind the scenes. This course will introduce students to the technical skills such as lighting, sound, costume, and set design, necessary to help create a successful stage production. It will also teach them the foundations of successful stage management. In class, the students will help with creating the Upper School musical, by hanging and focusing lights and organizing the backstage area. For those students that are interested, they can also apply their newly acquired skills on any of the actual after-school productions and school events such as becoming lighting, sound, or costume designers.

**Shakespeare for Performance (S)**
If you are looking to finally understand what really makes Shakespeare the greatest playwright in the English language, this course is for you. Shakespeare’s plays are meant to be performed, not just read. The primary goal of this course is to show that academic study of Shakespeare illuminates performance, and that bringing the characters to life on stage clarifies the meaning on the page. Initial focus will be on what can be derived from the text, such as character and theme, in preparation for getting the work on its feet and performed. By inhabiting the characters and bringing them to life through performance, students will have a much deeper and visceral understanding of what Shakespeare’s original intent might have been. Students will be asked to perform scenes from selected plays and analyze the characters from a literary and a performance perspective. This class is designed for students who are eager to newly discover and have a deeper appreciation for Shakespeare.

*For students in grades 9–12, this course fulfills one third of the Creative Arts departmental requirement. This course may be applied to English departmental graduation requirements in grade 12 by written permission.*

**ENGLISH**

**THE PHILOSOPHY**
In our English classes, we cultivate students’ creativity, empathy and personal and intellectual growth through extensive reading, writing, listening, and speaking. At the same time, we strive to develop students’ appreciation of and skill with the English language. All of this begins with the close examination of literature—the artful expressions of our language which touch on the universal questions of the human condition. In a natural circle, this study of literature helps students’ writing, while their writing deepens their appreciation of literature and life. We promote personal growth through deep thinking about moral and ethical questions raised in reading and explored in discussion and writing. We pursue a way of critical thinking more than a set of moral answers, pushing students to develop their own independent beliefs. Similarly, we pursue students’ individual writing processes, rather than strict writing formulas, preparing them to
formulate creative questions and conceptual frameworks as they approach increasingly challenging material.

To promote further independence, we provide students with a variety of teaching styles and writing expectations, balancing this with common goals for our work with the language and literature. To encourage wider perspectives, we study diverse texts from various cultures and eras. In sum, we hope to instill a love of words and books and effective expression, and the depth of thinking and feeling that one experiences in this lifelong pursuit.

THE OBJECTIVES
The department will provide opportunities for students to:

• develop study skills, including strategies for reading, note-taking, and annotation of digital and print materials;
• practice close reading in a variety of literary genres and written and visual media;
• sharpen critical and analytical skills with sophisticated literature;
• enhance skills of oral and visual expression through presentations and online and classroom discussion;
• experiment with crafting fiction, poetry, creative nonfiction and multimedia;
• write literary essays and formulate a thesis from evidence in a text; acquire composing skills from sentence to paragraph to essay;
• write and rewrite extensively to develop a mature writing style and to build confidence in their own writing process;
• master the fundamentals and terminology of English grammar through class lessons and IXL software;
• enrich vocabulary.

THE PROGRAM
The English program builds incrementally through yearlong courses until the senior year, when students select from a rich offering of diverse electives. English I-V, grades 6-10, include common reading and writing experiences at each level that are built upon in each succeeding year. In grade 11, students may select American Literature and Composition or Advanced Topics in English: Civil Discourse in American Literature and Culture. In grade 12, students may take either the yearlong Advanced Topics in Literature course or trimester courses in literature and writing. Derryfield students are required to take a full year of English courses every year (or three trimesters at the senior year).

English IV: “Coming of Age in Our World” (Grade 9)
Daily reading, discussion, and writing to interpret texts are the heart of English IV. Through individual study, feedback, creativity, and collaboration, this course moves ninth graders into deeper levels of interpretive reading and writing. Students practice writing analytical essays, short fiction, and poetry. We challenge students to develop flexibility in their writing process and control over structure and mechanics through frequent analytical responses, a poetry chapbook, short stories, multimedia projects and presentations, and a culminating portfolio. We emphasize active reading of challenging texts and require students to take responsive notes while reading. Our texts may include Henry IV Part 1; The Catcher in the Rye; The Poet X; Girl Rising: Changing the World One Girl At a Time and Just Mercy. Students will also study contemporary
poems and read independently chosen novels, short fiction, and view films. Through interacting with a diverse body of work, students will seek to understand what it means for individuals and ourselves to come of age; we will grapple with the themes of loyalty, duty, and honor to selves, to families, and to communities. Through individual reading and shared inquiry, we push students to make meaning of texts through social and historical connections, intertextuality, and reflections on personal experience. To help them in this process, students practice integrating SAT vocabulary into their working vocabularies and recognizing the grammatical underpinnings of their own powerful sentences.

**Honors English IV: “Coming of Age in Our World” (Grade 9)**
The honors option is designed for students who possess an intellectual curiosity and a strong desire to engage in perspective taking around a variety of high level discussions. Students applying should be excellent collaborators and fluent readers and writers with the ability to make inferences and contribute daily to class discussions. We will grapple with the same themes of loyalty, duty, and honor and mirror some of the same texts that are read in English IV. In addition, students may also read *Their Eyes Were Watching God, Antigone, Good Talk; Born A Crime*; and *Speak*. This fast paced class is an option for students who possess a passion to read and write and who are looking for the opportunity to discuss key course concepts in high level seminars. In addition, students will continue to build their vocabularies and expand their knowledge of grammar to create effective written work. Lastly, this course will culminate with a self-reflective project asking students to synthesize major themes from multiple sources and present their findings in a medium of their choosing.

**English V: “The World’s Stories” (Grade 10)**
Tenth-grade English invites students to explore the richness and complexity of human experience and cultural interaction through global literature. With the goal of seeking differing perspectives and identifying common threads, students read texts such as Chinua Achebe’s *Things Fall Apart*, Aldous Huxley's *Brave New World*, Shakespeare's *The Tempest*, and a variety of international poetry and short stories. Students are encouraged to participate actively in a seminar classroom, and to develop their thinking, speaking, and writing skills in response to literature. The course concentrates on the writing process as students write both analytical and creative pieces. Students do extensive work on revision and editing, supported by targeted weekly grammar and vocabulary study. Students will be asked to read closely, to develop meaningful interpretation through cultural and historical connections, comparisons between texts, and personal experience. A capstone project for tenth-grade English is the creation of the “This Sophomore Life” podcast: using individual personal essays as the building blocks, students work in teams to develop a thematically-linked audio narrative.

**Honors English V: “The World’s Stories” (Grade 10)**
The honors option is designed for students who possess an intellectual curiosity and a strong desire to engage in perspective taking around global views. Students applying should be excellent collaborators and fluent readers and writers with the ability to make inferences and contribute daily to seminar style discussions. Through reading and studying world literature, students will grapple with the same themes of culture, independence, and connectedness, and reading selections will mirror some of the same texts that are read in English V. In addition, students may also read *1984; The Handmaid’s Tale; Tiger; Fathers and Sons;* and *Under the Red Flag*. This fast-paced class is an option for students who are passionate about reading and writing and who are looking for the opportunity to discuss key course concepts in high level
seminars. Writing assignments will include complex analytical essays asking students to explore themes and shared ideas across texts in addition to compare/contrast pieces around culture and identity. In addition, students will continue to build their vocabularies and expand their knowledge of grammar to create effective written work. Finally, the year will end with a student driven project that reflects their understanding of the course topics and essential questions.

ENGLISH FOR GRADE 11

In the junior year, students may select one of the following courses: American Literature and Composition or Advanced Topics English: Exploring Effective Civil Discourse in American Literature and Culture. In addition to the primary required yearlong course, each term juniors may select one senior elective for additional credit; to do so requires written permission from the head of the English Department and the course instructor.

Advanced Topics English (Grade 11): Exploring Effective Civil Discourse in American Literature and Culture

In this course, we will explore critical moments in history when our country was polarized over issues such as race, gender and class, in order to define and explore what makes for effective civil discourse. We will focus, among other topics, on the Civil War and the national conversation on race as well as the emergence of the New Woman and later waves of feminism as lenses into our national debate on freedom. We will examine moments when an exchange of text, art, and/or action--such as a speech, a protest, a novel, a film, or other media--shifted our understanding, our actions, the law, or even the tide of the culture. We will ask what is civil discourse and why are some media more effective in a given time than others? In addition to studying historical models, stories, and poems, we will also analyze current events and create our own modes of civil discourse, practicing effective communication that can inform, persuade, illuminate, entertain and transform. Writing in the course will emphasize fine tuning the art of analysis, as well as practicing various narrative modes throughout the year. The year will conclude with a student-driven research paper and a final multimedia project.

Literature may include: In Our Own Words: Extraordinary Speeches of the American Century (Torricelli, Carroll); The Narrative of the Life of Frederick Douglass (Douglass); The Awakening (Chopin); The Underground Railroad (Whitehead); The Great Gatsby (Fitzgerald); A Room of One’s Own (Woolf); Just Mercy (Stevenson); Dissent: The History of an American Idea (Young); poetry and contemporary short stories.

American Literature and Composition

What does it mean to be American and to represent America? What are the social and cultural forces that shape American identity? In this course, students investigate through critical reading, engagement with, and discussion of a variety of texts the ways in which America and American culture has been expressed, represented, and evolved since the birth of the republic to the present day. We will consider if and how these texts delineate an idea of a “traditional” or normative American, and then how subsequent texts respond to and challenge this idea of a “traditional American.” Through the representations of a diverse array of American identities in an assortment of texts that progress historically from post-colonial short fiction and non-fiction essays to 19th century Transcendentalists (Emerson, Douglass, Hawthorne, Thoreau), who lay the groundwork for Twain’s Huckleberry Finn, Fitzgerald’s The Great Gatsby, and eventually post-modern and contemporary texts, students will investigate how an array of social forces
have influenced the way these authors and artists have represented America and Americans. Together we will question if the very idea of America and American culture creates a counter-traditional American to the normative, often dominant culture initially expressed by texts from the early republic.

Alongside our exploration of the cornerstone texts that have represented America students will explore and develop their own representation of America through a series of writings. Through studying several different modes of writing, including personal narration, argumentation, analysis, memoir, creative nonfiction, and digital storytelling, students will then have the opportunity to experiment with these forms, writing to discover their writing process, their ideas about American cultural identity, and their own distinct voice. By year’s end, students will have built the skills, confidence, and independence to read and write critically, while also continuing to develop a mastery of vocabulary, grammar, an economy of style, and their own unique writing voices through frequent drafting, deep revision, and careful editing of their vocabulary

ENGLISH FOR GRADE 12
In the senior year, students may select the yearlong Advanced Topics English course or term-long electives. After the fall term or if a student’s schedule does not align with an English offering in the fall term, students may earn English credit by taking a Creative Arts course, such as Shakespeare for Performance; to do so requires written permission from the head of the English Department.

Advanced Topics English (Grade 12): The Literature and History of Consumer Culture
In 1826 the French physician Anthelme Brillat-Savarin claimed, “You are what you eat,” but in our modern consumer societies, are we not also what we buy and consume from our cultures? By asking this question, students in this year-long course will actively participate in a deep study of the relationship between the consumer and the cultures they consume. To explore this relationship, students will examine the factors that led to the rise of mass-produced, mass-consumed popular cultures in Western society, and then investigate the effects of consumer culture on the individual through engaging with texts from a variety of media and disciplines: fiction, drama, art, music, film, television, philosophy, sociology, and economics. Adopting both a historical and theoretical approach, students will study how the combined onset of industrialization, imperialism, and scientific revolution allowed for the rise of a massive consumer culture in both America and Britain and then how this consumer culture shaped and was shaped by worldwide consumers. With the objective of mastering the challenging skill of cultural analysis, students will read a host of theoretical and philosophical texts from Benjamin Franklin, Adam Smith, Friedrich Nietzsche, Karl Marx, Max Weber, Simone de Beauvoir, bell hooks, and Michel Foucault, among others, and then apply these theories to a wide range of texts and films, such as Shelley’s Frankenstein, Morrison’s The Bluest Eye, Garcia Marquez’s Love in the Time of Cholera, Palahnuik’s Fight Club, and Doyle’s The Commitments. Students will express their engagement with the course content through various writings that range from formal analyses to creative digital productions. Ultimately students will culminate their study of consumer culture by answering this question: How do I create a meaningful life in the context of a massively popular, globalized consumer culture? (Open to seniors)
Senior Writing Seminar (F)
This trimester elective offers an ambitious and supportive environment for student-writers to hone their craft and art. Students will have the opportunity to focus on their writing skills and refine their personal craft. The class will explore the dynamic and often complex blending of genres, with an emphasis on creative nonfiction. Mechanics, style, form, and structure will also be explored. By reading the work of published writers and exploring how these types of writing are generated, the elements that characterize them, and their effectiveness, students will gain valuable insight into the overall writing process. Through guided exercises, longer writing pieces, and peer review workshops, participants will have the chance to explore and play with language and develop their own unique voices and practice skills needed to craft outstanding college application essays.

Humor and Horror in Literature and Film (W)
The writer Stephen King explains our attraction to horror as “lifting a trap door in the civilized forebrain and throwing a basket of raw meat to the hungry alligators swimming around in that subterranean river beneath.” While horror may allow us to safely explore the darker side of the human psyche, humorous writing and satire provide a way to address fraught social issues in a lighter, less threatening way. In this course, we will examine the role that the genres of horror and humor play in the world of literature and film and in our psyche. In what ways do these texts comment on society? Why does the gothic arise in certain times? What deep-seated human fears do they stem from? How do they provide catharsis, and how are horror and comedy intertwined? Texts may include selected Grimm’s fairy tales, essays by Freud, short stories by Stephen King, Edgar Allen Poe, and David Sedaris; the novels The Picture of Dorian Grey by Oscar Wilde and Where’d You Go Bernadette by Maria Semple; and the films Get Out by Jordan Peele and Dr. Jekyll and Mr. Hyde by Rouben Mamoulian.

Creative Writing (S)
This exciting and ambitious course will examine the craft and technique of creative writing. Students will have the opportunity to explore fiction and poetry. Through in-class exercises, journaling, and longer pieces, students will work to find and hone their own unique voices. They will heighten their imaginative sense of seeing, structure, and narrative movement. Readings of both traditional and modern authors will supplement discussions of form and technique, and students will participate in several workshops throughout the term. The course will conclude with a final self-designed project of substantial length.

Public Speaking (F, W, S)
At some point or another, we are all called upon to speak in public, be it a commencement speech, speaking at an assembly, a business presentation, or a toast at a wedding. This course is designed to help those students seeking to improve their skill at speaking before a live audience by focusing on the techniques of voice and body control (breathing, intonation, volume, articulation, gesture, posture) that will give them the self confidence to deliver a successful speech. Students will learn the various forms of public speaking: informative, demonstrative, persuasive, and extemporaneous speeches, as well as learning the necessary skills for one-on-one and team debating. They will examine famous historical speeches and TED talks to decipher what makes a speech successful. Students will experience writing original speeches and presenting them in a public forum.
For students in grades 9–12, this course fulfills one third of the Creative Arts departmental requirement. This course may be applied to English departmental graduation requirements in grade 12 by written permission.

The Composition of Film (F, W, S)
Storytelling has been the lifeblood of civilization. The rules for telling those stories, however, changed forever with the advent of moving pictures. Students will look at the advancement in American filmmaking by viewing, analyzing, and critiquing some of the most important films that changed the techniques of how movies are made from such esteemed directors as Charlie Chaplin, Orson Welles, John Ford, Alfred Hitchcock and Martin Scorsese to the present day directors such as Kathryn Bigelow, Greta Gerwig, Spike Lee, and Jordan Peele. They will analyze how film narratives have changed as people of color and women have become major voices in Hollywood.

For students in grades 9–12, this course fulfills one third of the Creative Arts departmental requirement. This course may be applied to English departmental graduation requirements in grade 12 by written permission.

Shakespeare for Performance (S)
If you are looking to finally understand what really makes Shakespeare the greatest playwright in the English language, this course is for you. Shakespeare’s plays are meant to be performed, not just read. The primary goal of this course is to show that academic study of Shakespeare illuminates performance, and that bringing the characters to life on stage clarifies the meaning on the page. Initial focus will be on what can be derived from the text, such as character and theme, in preparation for getting the work on its feet and performed. By inhabiting the characters and bringing them to life through performance, students will have a much deeper and visceral understanding of what Shakespeare’s original intent might have been. Students will be asked to perform scenes from selected plays and analyze the characters from a literary and a performance perspective. This class is designed for students who are eager to newly discover and have a deeper appreciation for Shakespeare.

For students in grades 9–12, this course fulfills one third of the Creative Arts departmental requirement. This course may be applied to English departmental graduation requirements in grade 12 by written permission.

Creative Writing in the Digital Age (MSON, F) (Grade 11-12)
Storytelling is as important today as it was hundreds of years ago. What has changed, in many cases is the media through which writers tell their stories. Today’s literary artists take advantage of digital tools to spread their messages and tell their stories in new ways that combine narrative and contemporary form. Students will begin with the traditional forms of poetry, short prose, and literary non-fiction and then go beyond those forms to explore how contemporary tools can enhance expression. We will study master writers in each of the traditional forms and be inspired by their examples. Then, we will look at how communication in the 21st century has provided us with even more ways to share our thoughts and to be creative. Possible explorations include hyperlinked narratives, social media as inspiration and tool, animated text, audio, videos, and all manner of non-linear narrative. The class will ask an essential question:
what happens when communication becomes wider and has an instant audience? The class routine, based around writing, reading, and discussion, will include weekly critiques of student work and required writing, including in some non-traditional, contemporary formats.

**Instructor: Julia Maxey, Severn School, Severna Park MD Monday / Thursday 10:00–11:00 a.m. EST**

**Think Global, Debate Local (MSON, F) (Grade 11-12)**

Water justice. Gentrification. Housing. Education. Race Relations. Public Safety. Environmental Issues. Is it wrong to shut off water service to households that are delinquent on their water bills? Is access to affordable housing a human right? Should environmental issues take priority over the needs of businesses? Do we have an obligation to help asylum seekers? People all around the world struggle with these and other challenges. In Think Global, Debate Local, we use issues in our own neighborhoods to take deep dives into the facts and philosophies underlying the challenges, values, and perspectives that shape our world on scales ranging from the personal to the global.

The overarching goal of this course is for students to teach each other about important topics in their own neighborhoods, towns, states, and regions, and to use debate as a tool to examine the perspectives surrounding those topics. Other goals include achieving a better understanding of complex issues by taking on and arguing for the viewpoints of various stakeholders; discovering ways to shift from an adversarial to a cooperative relationship when disagreements arise; and understanding the ways different values can be used as filters through which a given issue can be viewed. Please note that this course is geared toward beginning debaters with an emphasis on basic argumentation, not competition, although more experienced debaters are welcome.

**Instructor: Dan Jacobs, Roeper School, Bloomfield Hills MI Tuesday / Thursday 4:40 – 5:40 p.m. EST**

**Creative Nonfiction Writing Workshop: If Only You Could See This Place (MSON, S 2022) (Grade 11-12) Alternating Year Offering**

How do we write great non-fiction (and this includes all flavors of essays – college essays, literary journalism, memoir, and more), so that our stories have an injection of narrative tension that invites the reader to sit down inside our stories and stay awhile? This workshop will help you become a better writer so that your stories contain an electrical charge that starts at the sentence level and travels through the entire piece. This tension, or electrical charge, is the engine that great non-fiction runs on. Students will search the places in one’s life that have mattered most, and using a series of fun writing prompts, generate new writing, using place as a portal to help land on the life stories that students’ most want to tell.

Later, the class will move into class workshops of each student’s work. Each session will also look at other specific craft aspects: primarily beginnings, endings, and the weaving of multiple story lines in one essay. This is an ideal course for juniors beginning to think about ideas and drafts of their personal essay for college.

**Instructor: Susan Conley, Waynflete School, Portland, ME Tuesday / Thursday 2:30–3:30 pm EST**
HISTORY

THE PHILOSOPHY
Knowledge of the past provides students the essential foundation for democratic participation and global citizenship in a rapidly changing and interrelated world. Our students graduate with a strong grasp of both US and global history, and the ability to learn independently and see issues from a variety of perspectives, which leads to a clearer understanding of the present. While the core skills of analytical reading, writing, debating, and researching are consistently taught, creativity and flexibility in the classroom are also hallmarks of Derryfield’s history department. All of these skills combine to enhance individual learning and to develop within each student a love for historical inquiry.

THE OBJECTIVES
The department expects students to:
• develop close reading skills for primary and secondary sources;
• construct and articulate arguments both orally and in writing;
• write essays and formal papers using a variety of evidence;
• take effective notes from reading, discussion, and lecture;
• improve research skills using print and online resources;
• display knowledge and understanding using technology;
• develop an awareness of world cultures and geography;
• pursue areas of individual interest;
• evaluate and cite sources properly.

THE PROGRAM

HISTORY FOR GRADE 9 (Required for graduation)

Asia: East and West (Grade 9)
This course introduces students to the modern political and cultural history of the Asian continent. Using primary and secondary sources, students examine China since 1644; the Korean peninsula since 1910 (particularly North Korea); and the Middle East since the Sykes–Picot Agreement. Day to day, the class consists of Socratic discussions about the role of competing ideologies in Asia and how they shaped the ways that men and women defined the meaning of progress amid sweeping change. Students, in the process, analyze the historical significance of Confucianism, Abrahamic traditions, Communism, and Authoritarianism. Artwork, music, and films provide extra insight into the experiences of individuals, ordinary and extraordinary. Concerning skills, this course provides a strong foundation for thesis-driven writing, note-taking, presentation, and research tools that students will utilize over the next three years and into college.
HISTORY FOR GRADE 10
The tenth grade curriculum offers two courses students can choose from based on their content area interests. What is common between the two courses is a shared commitment to developing the skills of close reading, analytical writing, study and time management, and the integration of technology—so that sophomores emerge as digitally aware 21st century students able to navigate across a range of web-based platforms when researching and sharing their ideas.

Europe: Riots, Revolution, and Reforms (Grade 10)
European History from the 17th through the 20th centuries is a story of riots, revolutions, and reforms, exposing the foundational ideas and aspirations that define our contemporary lives. The broad social history of those decades, from the beginnings of Enlightenment thought in the 17th century to the implosion of the extravagant Soviet authoritarian experiment in 1991, tracks the pressures and opportunities that Europeans experienced in the process of modernization. This course asks students to consider what it was like to mount the Parisian barricades in 1789, survive in the trenches in 1915, experience the Russian Revolution, witness the Holocaust, and be on the Berlin Wall during the collapse of communism. This exploration engages close readings of primary and secondary sources as well as literature, such as Primo Levi’s Survival at Auschwitz and George Orwell’s Animal Farm, encouraging students to apply their historical understanding to the analysis of such works. Students will emerge with an understanding of the ways in which political thought and upheaval not only redefined the historical landscape, but also the lives and legacies of those touched by European history.

Environmental Studies: Past, Present, and Future (Grade 10)
As humans move into the third decade of the 21st century, sustainable solutions to our shared environmental problems are becoming more and more necessary. This course starts from the presumption that we are facing a significant environmental crisis, which is putting an unsustainable level of stress on our natural resources and our natural world. It is our responsibility to become knowledgeable about where our energy, food, and water come from, and where our waste goes. How do we maintain hope and remain optimistic when environmental problems can seem insurmountable? Where are solutions to be found? Through a variety of complex and conflicting sources, we will come to understand the competing debates, politics, and solutions surrounding our most pressing environmental challenges — climate change, energy, food, water, and waste. We will examine these issues in their local, national, and international contexts. The class explores the debates over environmental policy and action from a social science perspective, and not whether humans are responsible for climate change. In the end, the course asks students to make their own interventions into environmental debates in the form of podcasts, videos, articles, and other modes of expression. This course will help students to develop skills of inquiry, analysis, dialogue, and debate that will shape contributions to a variety of pressing issues in the world today.

HISTORY FOR GRADE 11 (required for graduation) & Grade 12
The eleventh grade curriculum offers students the chance either to explore United States History topically or to engage in AT American History, which will focus on public history and the making of memory. As in tenth grade, both courses share a commitment to reading complex text and developing close reading skills while focusing student-writing on rigorous analysis and
argument. Students must take one of these two courses for graduation. In rare instances, juniors might defer taking the required American history course until their 12th grade year.

Juniors also have the opportunity to enroll in additional electives in global issues or political science. Both of these courses offer an embedded honors designation.

Seniors are strongly encouraged to consider taking the above mentioned history electives during their final year of high school or enrolling in AT History: US Since 1960.

**United States History (Grades 11–12)**
This study of United States history asks students to consider the ways that Americans are shaped by their past and the ways that we shape our understanding of it. Students use books, letters, photographs, songs, film, television and everything in between to study contrasting views from historians and historical participants and draw their own conclusions. The class is designed to encourage student interaction, and students are asked to take sides and defend their opinions on significant historical questions as they make connections across the long term of American history. The course introduces students to the varieties of historical argument as well as the different kinds of evidence that can underpin them. Students will consider important debates on issues ranging from the radicalism of the American Revolution to the effectiveness and origins of the New Deal. In the process, students develop key skills in effective reading, analytical writing and substantive discussion.

**Advanced Topics History (Grade 11): American Public History**
This course is designed around the notion that history matters to Americans today. Students will explore the ways that Americans make their memories of American history and how those memories shape views of contemporary issues in American life. In this course, students will come to understand the story of American History, but will also become historians as they dive into seven particular debates that have puzzled the best historical minds. Students will interrogate the complex arguments made by professional historians before evaluating the merits of those arguments by investigating the sources and evidence used by those historians. As students develop conclusions about these contentious issues in the American past, they will consider how the public remembers these issues and how they should be remembered. Students will shape historical memory as they develop public interventions related to these topics in modes from museum exhibit designs to web pages. This course will culminate in an individual research project as students choose one major issue discussed throughout the year and conduct their own historical research in physical and digital archives across the country.

**HISTORY FOR GRADE 12**

**Advanced Topics History (Grade 12): US Since 1960**
Open only to seniors, US History Since 1960 offers the academic rigor of a college course. It enables students to recognize that recent American history—like historical scholarship at large—doesn’t offer a neat list of “historical lessons” so much as it imparts greater caution about the country’s challenges in the present. The complexity of recent American life, students learn, defies partisan summation even as the political climate has grown vastly more dogmatic. As a result, students come to appreciate that the ultimate fate of the American Republic remains undecided—there is no certain Hegelian curve towards progress; the world’s greatest modern experiment in democratic governance can still fail. Topics include U.S. foreign policy from the Cold War through the War on Terror; the American presidency since John F. Kennedy; and
Political Science (F)  (with embedded Honors option)
This course uses 20th century Communist Russia and Fascist Germany as case studies to explore the relationship between Totalitarian government and the governed. Stalin’s and Hitler’s methods of control will be examined through the literature and poetry of dissident physicists and humanitarians, as well as scholarship in political science theory and history on the nature of Totalitarian popular movements and governance. Having established an understanding of totalitarianism, the students will undertake independent research on an historical or contemporary regime of choice to determine whether, or to what extent, it is “totalitarian”. We will explore whether contemporary totalitarian regimes can endure in the face of modernity, and what steps some contemporary regimes have taken to compete in a media-driven world.

International Relations (W)  (with embedded Honors option)
In this course we will look at theory within the discipline of securities studies, and will test that theory to explore contemporary issues like the South China Sea and Iranian nuclear weaponization. This will allow us to build a vocabulary and an intellectual structure to examine the failures of diplomacy in the periods leading up to World War I and World War II. By investigating timeless behaviors of alliance management, cooperative agreements, arms procurement, deterrence and brinkmanship, students will acquire the tools of international relations analysis and the opportunity to use them in historical and contemporary inquiry.

The Cold War (S)  (with embedded Honors option)
This course will examine the Cold War through period film. Three subtexts of the Cold War will be explored through their cinematic expression: Communism’s subordination of the individual to the collective, strategic nuclear deterrence, and McCarthyism. These subtexts will be examined through such films as *Invasion of the Body Snatchers*, *The Manchurian Candidate*, *Dr. Strangelove*, *The Day the Earth Stood Still*, documentary footage of Germany in the late 1940s and the McCarthy hearings. Support for class discussion and analytical writing will be the historical scholarship and political science theory that illuminates the political and historical context of the period.

Global Issues: Terrorism in the Contemporary World (F) (with embedded Honors option)
Students will spend the Fall Term considering the role of terrorism in the world today. Students will consider the motivations that cause young people of their own age to join terrorist groups around the world and then consider the social, ethical and practical questions raised by the different approaches states take to combat terror. This section of the course will ask students to present their findings as a mock report to the United States Senate Judiciary Subcommittee on Crime and Terrorism concerning the best ways to stop the spread of terrorism and combat its use in the world today. Those students who experience the first term will ask themselves how the issues explored in the first term create or exacerbate the conditions for terrorism and why humans are willing to turn to this horrible “solution” to political and social problems.
Global Issues: Development, Sustainability and Inequality (W)  (with embedded Honors option)
During the Winter term of Global Issues, Students will tackle the question: how can a billion people move out of poverty without irreversibly harming the natural world upon which human life depends? Using the United Nations’ Sustainable Development Goals, students will encounter key ideas and debates surrounding the topics of foreign aid, social entrepreneurship, and the role of government in addressing global poverty while ensuring an environmentally sustainable future. Each student will follow a particular country in the Global South throughout the term as they learn about the economic, security, environmental and human rights issues that this country faces in the context of global institutions such as the World Bank, the International Monetary Fund and the United Nations. Students will consider the legacies of colonialism and the future of the developing world as they consider the best ways to lift the world further out of poverty while protecting the fragile biosphere. Much of the term will be devoted to the University of New Hampshire Social Innovation Challenge, in which students use design thinking to develop a market-based, innovative solution to a global problem.

Global Issues: Human Rights and International Law (S)  (with embedded Honors option)
Students will complete the year in Global Issues by considering the pressing human rights concerns facing the world today. Students will begin the term by exploring the history of human rights as a concept from the French Revolution to the United Nations Universal Declaration of Human Rights. Students will then move to consider a series of case studies of the development of international law related to issues ranging from the 1994 Rwandan Genocide to the 2015 European Migrant Crisis. These case studies will form the foundation of a mock International Legal Symposium in which students will develop new model treaty law that can address the most pressing questions of human rights today from conflict zones to communities challenged by climate change and beyond. This course is intended both to help students wrestle with the difficult questions posed by the idea of universal human rights and to develop an understanding of the use of both customary and treaty law in the international system.

Advanced Macroeconomics (MSON, F) (FALL 2021) Alternating Year Offering
Advanced Macroeconomics is a semester course that covers the study of an economic system as a whole. Topics include economic performance measures, price-level determination (inflation and deflation), the financial sector, monetary and fiscal policies, economic growth, productivity, unemployment, and international trade and the balance of payments. Students will manipulate economic models and “think like an economist.” While the course does not follow the AP curriculum, students will be positioned, with extra work on their own, to take the AP exam if they wish.

Prerequisite: Students who have not taken a microeconomics course will need to read some chapters of the text and watch some screencasts prior to the beginning of the class

Instructor: Julien Meyer, Severn School, Severna Park, MD Wednesday / Friday, 10:00 a.m.–11:00 a.m. EST

Advanced Microeconomics (MSON, F) (Fall 2022) (Grade 11 - 12) Alternating Year Offering
Advanced Microeconomics is a semester course that covers decisions at the individual consumer, producer and market level. Topics include scarcity, supply and demand, elasticity, international trade and the theory of the firm. The role of the government, both distortive and restorative, in the areas of regulation, public goods, market failures and the environment, will be
debated. Students will manipulate economic models and “think like an economist.” While the course does not follow the AP curriculum, students will be positioned, with extra work on their own, to take the AP exam if they wish.

**Prerequisite:** Completion or concurrent enrollment in Precalculus I

**Instructor:** Julien Meyer, Severn School, Severna Park, MD Wednesday / Friday, 10:00 a.m.–11:00 a.m. EST

The American Food System: Past, Present, Future (MSON, F) (Grade 11-12)
The American Food System consists of the interrelated components of how we get food from “farm to fork,” including the producing, harvesting, processing, transporting, marketing, distributing, and the eating of food. Through a humanities-based, interdisciplinary approach the course will examine the political, social, economic, and environmental aspects of the system, as well as the challenges and opportunities in moving from our current industrial food system to a more sustainable one. Students will engage in a variety of projects, allowing them to understand their regional and local food systems, while learning from their classmates throughout the country. Topics to be covered include animal agriculture, organic farming, local production and distribution, the debate over GMOs, the marketing of unhealthy food to children, and the problem of hunger in America.

**Instructor:** Lindley Shutz, The Derryfield School, Manchester, NH Monday / Thursday, 11:05 a.m.–12:05 p.m. EST

Are We Rome? (MSON, S) (Grade 11-12)
Inspired by Cullen Murphy’s 2007 book of the same name, “Are We Rome” will examine the similarities between the Roman empire and the United States. This course is designed to be a capstone for study in classics and history. The interdisciplinary nature of this course will serve as a vehicle by which students of Latin and history can expand their knowledge and apply that knowledge in an intercultural comparison. Since 1776, from our system of government to the architecture of government buildings, the United States has used Rome as a foil for itself, and forefathers of the US created many institutions using Rome as a model. This course will be structured around one basic question: How can the United States learn from Rome?

We will examine, among other things, political and social ideologies, privatization, globalization, borders, and exceptionalism. Taking our beginnings from the founding of these two nations, we will discuss the governing practices and bodies, the rhetoric of politics, and the public view of governmental institutions with emphasis on how these progress and change. The course will culminate with analysis of the most recent political and social events in the United States and form a final conclusion on our topic. Our class discussions will be centered around primary sources from both Rome and the US. Weekly reading and writing assignments will be required. This course does not strictly follow the AP curriculum.

**Prerequisite:** U.S. History (prior or concurrent); background in Classics not required

**Instructor:** Michael Leary, The Derryfield School, Manchester, NH Monday / Thursday 11:05-12:05 p.m. EST

Bob Dylan’s America (MSON, F) (Grade 11-12)
Arguably the most influential, important, and closely scrutinized American artist of the past six decades, Bob Dylan is as difficult to define as the nation that produced him. Connecting his work to contemporary theories of cultural memory, this course looks at the ways in which Dylan, both in his music and his cultivation of various public personae, maps the contours of the
national imagination and explores the prevailing attitudes of class, race, gender, and place in American culture.

We will organize our investigation around three symbolic American geographies: the frontier, the city, and the south. Using Dylan’s masterworks and subsequent official “bootleg” recordings as touch-stones, students will consider a variety of texts, including poetry, fiction, and cultural history; biography and autobiography; and popular and documentary film. Works may include Bob Dylan’s Chronicles, Volume I (2005), Greil Marcus’ The Old, Weird America: The World of Bob Dylan’s Basement Tapes (2001), Don DeLillo’s Great Jones Street (1973), Michael Ondaatje’s Coming Through Slaughter (1976), D.W. Griffith’s Birth of a Nation (1915), Alan Croland’s The Jazz Singer (1927), Sam Peckinpah’s The Wild Bunch (1969), D.A. Pennebaker’s Don’t Look Back (1967), and Martin Scorsese’s No Direction Home (2005).

**Prerequisite:** Previous or concurrent enrollment in American literature and American history

**Instructor:** Dean Masullo, University School of Nashville, Nashville, TN Monday / Wednesday, 4:40 - 5:40 p.m. EST

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Building Utopia (MSON, F) (Grade 9-12)

Utopia, “a good place,” as defined by the Greeks, is a term coined by Sir Thomas More referring to a fictional ideal island society. The act of intentionally shaping one’s environment to be “a good place” modeled after sustainability, economy, and delight is a uniquely human endeavor. This semester-long study examines the course of Western Architecture from the Ancient Egyptians to the 21st century through the lens of the primary philosophic ideas that have been the drivers of aesthetic vision of Western civilization architecture through the ages. The course will offer an introduction to design principles, the visual language of architecture, and design analysis. The necessities, desires, and spiritual beliefs which go into the shaping of a culture’s aesthetic vision of their ideal built environment will be examined in a series of seven units of the course of the semester:

1. Forming the Human Universe: Mark Making and the Necessity of Shelter
2. Creativity and Humankind: Beauty Defined and the Building of Civilizations
3. Immortality and the Gods: Building for the Greater Glory
4. Getting Perspective: Perfect Geometry in Design and Building in the Humanist and Rational World
5. Power and Production: Society and the Machine
7. Back to the Future: Palimpsest and Irony

**Prerequisite:** Background in Ancient and European History recommended

**Instructor:** Mary Ellen Carsley, Severn School, Severna Park, MD Monday / Wednesday, 3:35-4:35 p.m. EST

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Diversity in a Global Comparative Perspective (MSON, F) (Grade 11-12)

This course examines the ways our human family has sought to create, marshal, contest, and maintain identities through culture and relations of power. These identities can be appreciated through “lenses of analysis.” The course critically engages the traditional “Big Three” lenses of analysis: race, class, and gender, understanding that culture serves as an important backdrop against which these identities emerge.
Once students appreciate the important ways the social sciences have engaged with, written about, and debated these three core modes of analysis, the course expands to incorporate other, equally rich, lenses: age, ableism, intellectual diversity, geographic diversity, cognitive and neurological diversity, and the business case for diversity, as well as how to study synergistically intertwined phenomena. Film and Critical Film Studies, as well as the role colonialism has played in the major conflicts of the last 500 years, each serve to enrich student understandings of diversity.

Instructor: John Aden, Canterbury School, Ft. Wayne IN Tuesday / Thursday, 3:35-4:35 p.m. EST

Native American Literature (MSON, S) (Grade 11-12)
Native American literature and history are often overlooked in the conceptualization of what it means to be American. This course uses novels, short stories, poetry, primary and secondary sources to introduce students to Native American literature and to foster discussion about American identity. Students also discuss oral and written traditions, issues of nationality, and Native American relationships with the US government.

Instructor: Joseph Addison, Hopkins School, New Haven, CT Tuesday / Friday 2:30-3:30 p.m. EST

Philosophy in Pop Culture (MSON, S) (Grade 11-12)
Have you ever had a realistic dream that you were sure was true and then woke up confused? How do you know that you are not in the Matrix? What is real and what is not? This course will investigate the nature of existence. It will combine classic philosophical works, like Descartes, with contemporary movies like The Matrix and Inception, to contemplate what it is to exist and what the meaning of life is or should be.

No prerequisite, but some familiarity/experience with logic will be helpful.

Instructor: Joyce Lazier, Canterbury School, Fort Wayne IN, Wednesday / Friday, 1:20-2:20 p.m. EST

Positive Psychology (MSON, F&S) (Grade 10-12)
This course begins by providing a historical context of positive psychology within broader psychological research, and helps explain why the field is of particular importance to those in a high school or college setting. Students will be introduced to the primary components and related functions of the brain in order to understand the biological foundation of our emotional experiences. Current research will be used to develop a broader sense of what positive psychology is and is not, and how it can be applied in students’ own lives. Additionally, students will gain an understanding of basic research methods and their application to the science of psychology.

This course will require substantial reading (sometimes on par with 100 level college courses) and writing. Students will be asked to reflect regularly on their individual experiences in order to integrate course material into their daily lives. One of the key learning outcomes is to have each participant identify his or her own strengths while simultaneously recognizing and respecting the attributes others bring to the course.

Instructor: Blake Keogh, Waynflete School, Portland, ME Monday/Thursday 3:35-4:35 p.m. EST
Sugar, Tobacco, Iron And Silicon: An Economic History Of The United States (MSON, F) (Grade 11-12)
By 1871, the United States had emerged as the world’s largest economy and was well on its way to achieving dominance across a number of fields, including manufacturing. Is it an accident that this growth occurred so soon after the Civil War? What linkage does it have to the end of slavery? And why is it, so close to this date, that America become what many referred to as “the Imperial Republic?”

Students in this course will be deeply engaged with examining the causes and consequences of the US’s rise to global economic dominance over the past 150 years. They will critically analyze key primary texts as they explore relevant historical content and methodologies. Additionally, students will be taught how to use introductory micro and macroeconomic analysis, including the use of supply and demand and aggregate supply and aggregate demand graphs. Texts used in the course include Sidney Mintz’s Sweetness and Power (1986) and Scott Nations’ A History of the United States in Five Crashes (2017).

* Notes: Reading A National Newspaper Is Recommended

Instructor: Benson Hawk, Newark Academy, Newark, NJ Wednesday / Friday 2:30–3:30 p.m. EST

Wartime Dissent in American History (MSON, F) (Grade 11-12)
Benjamin Franklin said that “They that can give up essential liberty to obtain a little temporary safety deserve neither safety nor liberty.” An oft-cited quotation by champions of American civil liberties protections and anti-war activists. Franklin’s passage illustrates how dilemmas regarding the balance between free speech and national security have tested and often perplexed American politicians, courts, and citizens since the inception of the country. During wars the government reserves the right to draft men into the armed services, confiscate the property of individual citizens, set prices, ration food and fuel and drastically increase taxes. Viewing them through the prism of the nation’s existential crisis, most citizens accept these compromises on their liberty. Ben Franklin, however, lived in a premodern world devoid of anthrax, drones, Internet communication, and long-range nuclear weapons. The Founding Fathers could not have foreseen the awesome power nor puissant pressure of commanders-in-chief who, obligated to protect the lives of millions, regularly criticize dissenters. And thus lines must be drawn between civil liberties and national security—but where?

Through reading, discussing, and critically analyzing primary and secondary sources from each American war (from the Revolutionary War through the War on Terror), students will emerge with a better understanding of American wars, their dissenters, and the meaning of freedom under its most intense stress tests.

Prerequisite: AP US History or equivalent suggested
Instructor: John French, Prairie School, Racine, WI Tuesday / Friday, 8:30-9:30 a.m. EST

Environmental Bioethics (MSON, S) (Grade 11-12)
This course will focus on such cases as environmental sustainability, global energy and food resources, gathered from sources in literature, journalism, and film. The academic study of ethics examines how people make decisions. Curricula will build on a foundation of theoretical moral theories, more specifically, how one makes decisions when faced with complex, often controversial, issues. No prior knowledge of philosophy is assumed, however, authentic
assessment of students’ initial facility with logical analysis will ensure that all students are challenged to grow and deepen their theoretical and practical understanding of the subject.  

**Instructor: Ellen Johnson, Wilmington Friends School, Wilmington, DE Tuesday / Friday, 3:35-4:35 p.m. EST**

**Etymology Of Scientific Terms (MSON, F) (Grade 11-12)**

The purpose of the course is, to quote the textbook, “By teaching ... the root elements of medical terminology – the prefixes, suffixes, and combining forms of Greek and Latin ... not only to teach students modern medical terminology, but to give them the ability to decipher the evolving language of medicine throughout their careers.”

This is in many ways a language course and deals with elements that are used to create terms to meet the specific needs of medical scientists. As material is introduced, students will complete practice exercises during each class meeting, as well as complete approximately one quiz per week. Outside of class, students are expected to analyze and define fifty terms each week. Additional material deals with complex etymologies, the history of our understanding of certain aspects of medical science, and relevant material from Greek and Latin texts.  

**Instructor: David Seward, Winchester Thurston School, Pittsburgh, PA Tuesday / Friday 2:30–3:30 pm EST**

**Making Ethical Medical Choices in a Diverse World (MSON, F) (Grade 11-12)**

The objective of this course is to provide students with the tools and experience necessary to better make difficult, ethical decisions. In order to achieve this, we will study and evaluate critically several different ethical theories including Utilitarianism, Virtue Ethics, and Deontology. Which framework students choose to use as their guide is up to them, but by the end of this course they should be able to defend their choices and ethical decisions clearly. The course strives to develop a cross conversation between two academic disciplines - philosophy (ethics) and biology (medical research, molecular genetics).

This is a collaborative teaching effort between Joyce Lazier (background in philosophy and ethics) and Ellen Johnson (background in biology and genetics), and an evolution of two previously existing courses. Both teachers will be present for all classes, focusing on the growth that comes from a shared discourse.  

**Instructors: Ellen Johnson, Wilmington Friends School, Wilmington, DE Joyce Lazier, Canterbury School, Ft. Wayne, IN Wednesday / Friday 3:35-4:35 p.m. EST**

**Political Identity, American Democracy and Civic Engagement (MSON, F) (Grade 11-12)**

Political Identity, American Democracy, and Civic Engagement is a study of our political beliefs and behaviors, the American form of Democracy, and what it means to be an engaged citizen. Students will learn how individual citizens form a political identity and how those identities form the foundation of U.S. political culture. We will look at the unique form of government found in the United States and have an opportunity to get involved with contemporary politics in an election year. We will pay particular attention to federalism, the separation of powers, and checks and balances.
The course takes advantage of the broad geographic diversity inherent in the Malone School Online Network to experience how political ideology and perspectives on democracy differ in various parts of the country. In this course, special emphasis will be placed on engaging in respectful conversation across the political divide.

Instructor: Geoff Wagg, Waynflete School, Portland, ME Monday/Wednesday 1:20-2:20 p.m. EST

MATHEMATICS

THE PHILOSOPHY
The primary purpose of the Mathematics Department is the development of a student’s ability to think logically. We believe that even if mathematics is not to be their main area of interest, logical reasoning will be invaluable both in a student’s chosen field and in everyday living. We do not believe, however, that this type of logic must be developed at the expense of a firm knowledge of mathematical facts and concepts, but that instead the thinking process should make the facts and concepts easier to understand.

We are also firmly committed to challenging students, encouraging them to the limits of their capacities. Ideally, we accomplish this by allowing students to progress at their own pace through the program, within the structural limitations of the classes. We emphasize the development of the individual as a mathematician.

Finally, we feel a strong commitment to and take great pride in the number of students who remain in the mathematics program for their entire high school career. We believe that we can be flexible enough with course offerings to fit the needs of a particular group. This may require sections of the “same” course moving at quite different speeds, but we are willing to expend the extra effort to make this possible.

THE OBJECTIVES
To implement our philosophy, we believe that each student should:
• understand mathematics as a logical system;
• have a knowledge of, and be competent with basic mathematical processes and concepts;
• develop efficiency and accuracy in computation;
• acquire the ability to solve problems;
• use logical thinking to discover both generalizations and applications;
• develop the skills and vocabulary essential to future mathematical study;
• develop creativity and curiosity;
• understand the relationship between mathematics and the other academic disciplines;
• understand and appreciate the role of mathematics in society.
THE PROGRAM

Below are the topics covered in each of the mathematics courses offered at Derryfield. The ability of a particular class may dictate some variance from the outline, but would involve only slight changes. A student must complete at least three full years of Math in the Upper School and progress at least through Algebra II in order to graduate. Most students are encouraged to study math for all four years and, based on their interests, continue to take one or more of the advanced math courses offered beyond Algebra II. **Note: Students new to 9th grade will be enrolled in Geometry.**

**Advanced Algebra**

This course begins with a brief refresh of pre-algebra skills, including the order of operations, operations with fractions, negative numbers, and solving simple equations. Advanced Algebra is designed to provide students with a foundation for their progression through the remainder of the Mathematics Curriculum. Emphasis is placed on manipulating functions and expressions on the coordinate plane, while also reinforcing basic mathematical skills.

- Linear equations and inequalities in one and two variables
- Graphing in the plane
- Operations with polynomials
- Factoring
- Laws of exponents including negative exponents
- Rational expressions
- Linear and quadratic functions

**Geometry**

This Geometry course is the tool through which problem-solving skills are delivered and strengthened in new Derryfield Students. This course is designed to be taken independent of a student’s progression through an algebra curriculum, and is typically taken by in-coming freshman and sophomore students.

- Angles in the plane
- Parallel and perpendicular relationships
- Congruent triangles
- Quadrilaterals and regular polygons
- Similar triangles
- Special triangles
- Circles and angles in circles
- Areas of polygons and circles
- Deductive proof and applications to three dimensions emphasized throughout
- Trigonometry of right triangles

**Algebra II**

The philosophy behind Algebra II lies in tying functions to their graphs to widen student’s perspectives from pinpointing specific values of functions to the wider relationships and trends represented by graphing including such concepts as asymptotes, end behavior, and continuity.

- Linear Functions
- Functions Library
- Equations and Inequalities
• Rational Functions
• Exponential Functions
• Inverses
• Logarithmic
• Analytical Geometry (Conics)
• Systems of Equations and Inequalities
• Polynomials
• Data Interpretation

**Prerequisite: Advanced Algebra**

**Honors Algebra II**
This course begins with a quick review of Algebra I, moves to linear functions, and rapidly progresses through the Algebra II curriculum. It is designed for motivated students who are ready to work through material at a quick pace in preparation for multiple years of advanced math electives. Group work is a major component of the course and students are expected to take significant personal responsibility for their own learning.

• Simplifying expressions
• Solving equations
• Inequalities (including compound and absolute value)
• The coordinate plane/graphing, linear equations and functions/function notation
• Systems of linear equations
• Linear inequalities/systems of inequalities
• Polynomials and factoring
• Solving polynomial equations by factoring
• Polynomial inequalities
• Rational expressions/equations
• Laws of exponents
• Radicals, complex numbers
• Solving radical equations
• Quadratics (solving, graphing)
• Logarithms and logarithmic equations

**Honors Algebra II & Precalculus Combined**
Algebra II & Precalculus Combined combines two courses which naturally blend into each other into a single school year. It is designed for motivated students who are ready to work through material rapidly in laying a solid foundation for advanced mathematics. Collaboration in the classroom is a major component of the course and students are expected to take significant personal responsibility for their own learning.

• Prerequisites & Quadratic Functions
• Functions Library
• Rational
• Exponential
• Inverses
• Logarithmic
• Equations and Inequalities
• The Unit Circle
• Sinusoids
• Trig Identities and Equations
• Further Applications of Trig
  ○ Law of Sines and Cosines
  ○ Polar Coordinates
  ○ Parametric Equations
  ○ Vectors
• Sequences, Probability and Counting Theory
• Polynomials

**Precalculus**
Trigonometry forms the core of PreCalculus with exploration of additional topics related to Calculus woven into the year. A special emphasis will be put upon recognizing patterns, trends, and relationships which tie algebra outcomes to graphing.

• The Unit Circle
• Sinusoids
• Trig Identities and Equations
• Law of Sines and Cosines
• Further Applications of Trig
• Conics
• Sequences, Probability and Counting Theory
• Rational Functions
• Polynomial Division
• Systems of Equations and Inequalities

**Honors Precalculus**
Honors Precalculus will cover the same topics as the Precalculus course but it will cover the material in greater depth, at a faster pace, and at a greater level of abstraction. Additional topics like polar coordinates, countability, and transfinite sets will be covered to enhance the depth and rigor of study. Honors Precalculus is a rigorous, fast-paced course and is intended for highly motivated students who have demonstrated an enthusiasm for math. The expectations and workload placed on the students are much higher than in Precalculus. From homework assignments to in-class study, students in Honors Precalculus are expected to solve more complex questions and problems. This higher expectation of work, quality, and depth of ideas will directly challenge students’ conceptual understanding of higher-level mathematics.

• Transformations of functions
• Composition of functions
• Inverse functions
• Polynomial and rational functions
• Exponential and logarithmic functions
• Trigonometric functions
• Analytic trigonometry
• Combinatorics and probability
• Sequences and series
• Conic sections
• Matrices
Calculus

*It is important to note that Calculus does not create a pathway to Advanced Topics: Calculus; after completing this course, students may advance to Honors Calculus, Statistics, or AT Investment Math.* This course provides students with an intuitive approach to the fundamentals of differential and integral calculus. Focusing on functions, students explore limits, leading to the definition of derivative. The concepts of average and instantaneous rates 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. We introduce the concepts of finding area under a curve, the integral regarded as the antiderivative, and the Fundamental Theorem of Calculus. Applications of integration are included.

Topics of study will include:
- Limits and continuity
- Derivatives including the chain rule and implicit differentiation
- Applications in curve tracing, related rates, and optimization problems
- Integration including area approximation and the substitution method
- The fundamental theorems of calculus
- Analytic and graphical solutions of simple differential equations
- **Prerequisite: Precalculus**

Honors Calculus

Honors Calculus will cover the same topics as the Calculus course but it will cover the material in greater depth, at a faster pace, and at a greater level of abstraction. Students who take Honors Calculus are expected to be able to possess a strong command of algebra and trigonometry. Our emphasis throughout the course is to transcend the mechanical aspects of the mathematical work to achieve a deeper understanding of the beautiful patterns that arise from rates of change. Applications to science, economics, and other fields are also explored. *This course is a prerequisite to Advanced Topics Calculus.*

Topics of study will include:
- Limits and continuity
- Derivatives including the chain rule and implicit differentiation
- Applications in curve tracing, related rates, and optimization problems
- Integration including area approximation and the substitution method
- The fundamental theorems of calculus
- Analytic and graphical solutions of simple differential equations
- **Prerequisite: Precalculus**

Advanced Topics Mathematics: Calculus

What skills, habits of mind, and experiences are needed to be an effective mathematician in the 21st century? How can theory, application and modern technology help us answer this question? In this advanced topics calculus course we will develop a framework for advanced theoretical understanding and application of calculus, and how to apply calculus in fields of study such as engineering, physics, biology, and economics.
Topics of study will include:
- Volumes of revolution and of a known base
- Improper integrals
- Conic sections and the general second degree equation
- Calculus of parametric, polar, and vector functions
- L'Hôpital’s rule and its application to convergence of improper integrals and sequences
- Integration by parts and partial fractions
- Application of integrals to area, volume, length of curve, and surface area
- Analytic solution of variable separable and logistic differential equations
- Solution of differential equations graphically by slope fields and numerically by Euler’s method
- Infinite series of numbers; tests of convergence
- Power series, Maclaurin and Taylor series with Lagrange remainder
- *Prerequisite: Honors Calculus*

Statistics (with Embedded Honors option)
This course includes three major areas of emphasis: data collection, data description, and data analysis as described below.

Data collection:
- Surveys
- Comparative experiments

Data description:
- One-variable statistics: measures of central tendency and variability
- Graphs—histogram, box plot, dotplot, normal quantile plot
- Two-variable statistics—measures of linearity and transformation to linear graphs
- Scatterplot, residual plot

Data analysis:
- Probability and probability distributions, including binomial and geometric distributions
- Normal density curves
- Sampling distributions and the Central Limit Theorem
- Hypothesis tests and confidence intervals for means and proportions
- Chi-squared analysis of categorical data
- Inference on slope of a regression line
- Power of a test, Type I and Type II errors
- *Prerequisite: Precalculus*

Advanced Topics Mathematics: Investment Math
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. 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. The class will explore the power
of TradeStation’s software (see hardware requirements below). We will learn about some of the many different functionalities that TradeStation offers, and we will apply these functionalities to different price series. We will begin to develop our first strategy by optimizing parameters of basic analysis techniques learned in the fall. We will apply an advanced statistical Walk Forward Analysis to review our results. Then we will learn how to code using EasyLanguage. We will then develop hypotheses about what drives the markets and use our ability to code to write an algorithmic trading programs that try to capture gains from these observations. We will backtest our programs and evaluate their performance. We will then learn about how to manage a portfolio through the application of many different non-correlated algorithms.

**Prerequisite: Precalculus**

*This course is cross-listed with the STEM X Department*  
*Required: Windows Based computer or Apple computer with Bootcamp and Windows installed. Chromebook or Tablet/iPad are not acceptable.*

**STEM X Electives (for math credit)**

In some cases, when a student has completed the three credits of math required in grades 9-12, the math department may recommend that a student take a STEM X course as their math credit. The math department believes that, in these cases, the problem solving, design thinking, and critical analysis involved in the STEM courses is a valuable extension of their math study.

**STEM: Design Thinking (F) (Grades 9-12)**

*Please see STEM X section of the guide for complete description.*

**STEM: Innovation (W) (Grades 9-12)**

*Please see STEM X section of the guide for complete description.*

**STEM: Entrepreneurship (S) (Grades 9-12)**

*Please see STEM X section of the guide for complete description.*

**A Mathematical Modeling Approach To Social Justice (MSON, S) (Grades 11-12)**

The main purpose of this course is an introduction to mathematical modeling through graphical, numerical, symbolic, and verbal techniques. We will focus on data from and explore social justice issues such as the Wealth Gap, Achievement Gap, Climate Change and others. We will use elementary functions (polynomial, exponential, logarithmic, etc.) to build models and address questions with the goal of developing scientific reasoning and problem-solving skills. Students will also use technology in a range of ways to effectively communicate their hypotheses and conclusions.

**Prerequisite: Precalculus (prior or concurrent)**

**Instructor:** Jay Noland, Mounds Park Academy, St. Paul, MN Tuesday / Thursday 4:40–5:40 p.m. EST

**Multivariable Calculus (MSON, year) (Grade 11-12)**

The mathematics of three dimensions is the emphasis of this college-level course. Multivariable Calculus will explore the geometry of three-dimensional space, including vector arithmetic. It will also explore three-dimensional surfaces, using the tools of derivatives and integrals expanded into multiple dimensions. A robust unit on differential equations will allow students to review the topics of single-variable calculus. The emphasis throughout the course will be on
problem-solving and on real-world applications of the tools students learn in fields such as economics, astronomy, physics, engineering, and medicine.

**Prerequisite:** Completion of BC Calculus. Laptop required

**Section A:**
**Instructor:** Josh Link, Maret School, Washington, DC  Monday / Thursday, 8:10–9:10 a.m. EST

**Section B:**
**Instructor:** Erika Amaya, Chadwick, School, Palos Verdes, CA Monday / Wednesday, 2:30-3:30 p.m. EST

**Advanced Applied Math Through Finance (MSON, S) (Grade 11-12)**
This one-semester course will provide students a mathematical and conceptual framework with which to make important personal financial decisions using algebraic tools. Specifically, the class will investigate i) the time value of money (i.e., interest rates, compounding, saving and borrowing) using exponential functions; and ii) the characteristics and risk/reward tradeoff of different financial instruments/investments, such as stocks, bonds and mutual funds, using algebra, probability and statistics. Other financial algebra topics selected with student input may include financial accounting, depreciation methods and foreign currency exchange.

The course will stress use of the TI-83/84 calculator, Excel spreadsheets and iPad apps. Students should be comfortable with exponential growth models and, preferably, the concept of the number e for continuous compounding. They should be willing to exhibit an interest in mathematical reasoning and display a hefty dose of curiosity about the language and problem solving nature of personal finance.

**Prerequisite:** Completion of Algebra II

**Instructor:** Julien H. Meyer III, Severn School, Severna MD Monday / Thursday, 10:00–11:00 a.m. EST

**Linear Algebra (MSON, Fall 2020. Alternating year offering) (Grade 11-12)**
A standard treatment of linear algebra as presented to university-level science and engineering majors. Course topics will include row-reduction, matrix equations, linear transformations, matrix operations, invertibility, LU-factorization, subspaces of Euclidean space, dimension, rank, determinants (elementary product definition, expansion by minors, and row-reduction), vector spaces, null and column spaces, linear independence, bases, change of basis, eigen-theory, algebraic and geometric multiplicity, diagonalization, inner product, length, orthogonality, orthogonal sets, projections, the Gram-Schmidt process, QR-factorization, and the method least-squares. Time permitting, the remainder of the course will be spent exploring applications of linear algebra to various disciplines. Regular problem sets will allow the students to practice and master the techniques introduced in class. Topic mastery will be exhibited through both written and oral exams.

**Prerequisite:** Calculus BC

**Instructor:** Jon Gray, Indian Springs School, Indian Springs Village, AL  Monday / Thursday, 4:40 –5:40 p.m. EST
SCIENCE

THE PHILOSOPHY
Science education for our students provides them with science process skills, scientific concepts, and the resources necessary for the development of scientific literacy. The curriculum uses an inquiry-based approach appropriate for the developmental level of upper school students. The purpose of the curriculum is to encourage and develop an appreciation of science and the enjoyment of learning.

THE OBJECTIVES
A scientifically literate student:
• uses science concepts, process skills, and values in making everyday decisions;
• understands that the generation of scientific knowledge depends upon the inquiry process and the ability to propose hypotheses;
• distinguishes between scientific evidence and personal opinion;
• identifies the relationship between data and interpretation;
• recognizes the limitations as well as the usefulness of science and technology;
• recognizes the human origin of science and understands that scientific knowledge is subject to change as evidence accumulates;
• has sufficient knowledge and experience to appreciate the scientific work carried out by others;
• has a richer and more exciting view of the world as a result of their science education; and
• continues to inquire and increase scientific knowledge throughout life.

THE PROGRAM
Biology (Grade 9)
This course increases the student’s awareness of the relationships between scientific thought, current knowledge in biology, and everyday living. In addition, there is an emphasis on helping students become biologically literate through thoughtful experimental design and a spirit of inquiry about the living world. Topics covered include evolution, ecology, basic biological chemistry, cell structure and function, metabolism, inheritance, molecular genetics, and systems of the human body. A variety of assessments comprised of laboratory investigations, projects, papers, quizzes, and debates of current issues in biology will assist students in understanding the major concepts being covered.

Honors Biology (Grade 9)
Honors Biology provides students with a strong biological foundation in scientific principles that will guide future decisions. Through a variety of exercises, including oral and written projects, and experimentation, students will incorporate the scientific approach to question concepts and solve problems. Success in this course will be evaluated, in part, by the extent that students apply what they know to solve new problems. This course covers the basic biological concepts as they apply to plants, animals, and bacteria. Emphasis is given to the major biological themes including: cellular structure and function, molecular biology, genetics, and evolution. Special attention will be given to the structure and function of cells and to the role genomic variations play in the success of an organism. In addition to designing several of the labs undertaken
throughout the year, students will design and conduct their own long-term research project in the spring term.

**Chemistry (Grade 10)**
Chemistry introduces students to the relationships between the composition and structure of matter and the ways in which matter behaves. Students develop competency in and knowledge of the language of chemistry, the use of the periodic table, the properties of common substances, and the pattern and process of chemical reactions. The course emphasizes understanding reactions both theoretically as well as through classroom demonstrations and student laboratory work.

**Honors Chemistry (Grade 10)**
Honors Chemistry covers similar topics as Chemistry, but explores the material in greater depth, both conceptually and mathematically. Additional topics of study include equilibrium systems, thermodynamics, solution chemistry, acids and bases, and electrochemistry.

*Prerequisite: Biology and Algebra I*

**STEM: Design Thinking (F) (Grades 9-12)**
*This course can be taken for Science credit. Please see STEM X section of the guide for complete description.*

**STEM: Innovation (W) (Grades 9-12)**
*This course can be taken for Science credit. Please see STEM X section of the guide for complete description.*

**STEM: Entrepreneurship (S) (Grades 9-12)**
*This course can be taken for Science credit. Please see STEM X section of the guide for complete description.*

**STEM: Research, Entrepreneurship and Design for X (F, W, S) (Grades 9-12)**
*This course can be taken for Science credit. Please see STEM X section of the guide for complete description.*

**Physics (Grades 11–12)**
Physics studies the interaction of forces and energy in our everyday lives, focusing on the topics of mechanics, electrostatics, electric circuits, and magnetism. In the fall and winter, students learn to describe the motion of an object, and then apply Newton’s laws of motion and conservation of energy to the situation. In the spring, students explore the interaction between electric and magnetic fields and forces. Laboratory experiments and projects play a significant role in helping students develop their understanding of each concept. While mathematical relationships are used throughout the course, phenomena are described conceptually to balance the impact of the mathematical component of the class.

*Prerequisite: Geometry*

*Recommended: Current enrollment in Algebra II or higher*

**Honors Physics (Grades 11–12)**
Honors Physics covers the same topics as Physics, but does so in greater depth, both conceptually and mathematically. Honors Physics also explores additional topics such as
rotational motion and magnetic induction. Laboratory experiments play a significant role in helping students develop their understanding of each concept. This in-depth course is designed for highly motivated students who have demonstrated an enthusiasm for science. The expectations and workload are much greater than in Physics. From homework assignments to laboratory experiments, students in Honors Physics are expected to solve more complex questions and problems. This higher expectation of work quality and depth of ideas directly challenges students’ conceptual understanding and mathematical skills. Students contemplating careers in the physical sciences, medicine, engineering, and other related fields of study are encouraged to take Honors Physics.

**Prerequisite: Geometry, Algebra II**

**Recommended: Current enrollment in Precalculus and strong mathematical skills**

Environmental Science (Grades 11–12) (This course will not be offered 2020-2021, but likely will be offered 2021-2022.)

This course is an interdisciplinary study of earth’s systems and the human impact and experience within them. Topics bridge several branches of science (physical, life, social, and earth sciences) and overlay human history and perspectives by investigating current and historical topics in environmental ethics, the history of environmentalism, and philosophical views on nature. The course will entail a significant amount of group projects, discussion, research, group and individual presentations, and written work. Students are asked to interpret scientific data and philosophical texts fluidly, and to think and produce work through historical, cultural, and scientific lenses, mirroring the complexity of these issues and proposed solutions in a rapidly changing and dynamic global society. A primary objective of this course is for students to develop the ability to investigate complex and relevant topics from scientific, historical, and cultural perspectives, and to effectively communicate for a variety of audiences and purposes.

**Environmental Science: Earth and People (F)**

**Environmental Science: Ethics of the Natural World (W)**

**Environmental Science: Pressing Issues (S)**

Human Anatomy and Physiology (Grade 11-12) (with Honors option)

In a world in which rising healthcare costs and increasing disease states are prevalent, understanding the details of one’s own body’s functioning is crucial. In order to make students more educated about future personal, political, and medical issues, this course explores the human body systems in depth and give students an idea of what “normal” physiology looks like. This allows students to better understand how a divergence from this homeostatic norm can lead to disease. During “Organization of the Human Body” and “Physiology of Performance,” students work toward fluency in the language of anatomy while utilizing principles from biology and chemistry to explore the concepts of the muscular and skeletal systems. Students apply their knowledge of the musculoskeletal systems while learning how the cardiovascular and respiratory systems affect performance. During “Physiology of Addiction” students explore the nervous and endocrine systems and how they control the other systems. “Nutrition, Food, and Society” focuses on the influence of digestion and nutrition on the state of health in the US. In each unit, the role of the systems on regulation of homeostasis in the body and the use of negative feedback loops is emphasized, along with hands-on opportunities to observe what is studied. A focus on personal wellness is thread throughout the course, allowing students to become critical consumers in an increasingly profit-based world.

**Prerequisite: Biology and Chemistry**
Senior Physics (Grade 12)
Senior Physics is a laboratory-based physics course with an emphasis on discovery learning. Students explore and learn about a variety of topics by creating their own experiments and develop their own definitions to physical phenomenon. Various assignments call on the class to share collected data and collaborate to develop the best conclusions and definitions to their original questions. The course studies such topics as waves and optics, fluid mechanics, thermodynamics, and heat transfer.

Prerequisite: Physics or Honors Physics. Either the fall or winter term must be taken in order to take the spring term.

Senior Physics: Light and Waves (F)
Senior Physics: Fluid Mechanics and Heat Transfer (W)
Senior Physics: Project-Based Exploration on Previous Topics (S)

Advanced Topics Science: Biology (Grades 11–12)
The Advanced Topics in Biology course is a capstone course for the biology curriculum at Derryfield. This course is comparable to a first-year biology course at the college level. This course is open to all students who did high quality work in Biology and Chemistry (honors and non-honors), and have outstanding motivation and interest in biology and the field of science. Successful students in this class will be those who have developed responsibility for their own learning.

As part of the biotechnology lab skills component of AT Biology, students complete a series of industry-relevant lab investigations ranging in complexity from DNA extraction to using protein profiles of fish muscle to determine evolutionary relationships. This section of the course is approximately 75% lab based, with the remainder spent discussing concepts, techniques, and ethics related to the use of biotechnology. Throughout the course, students learn to decode technical language in primary scientific literature. In the immunology and microbiology portion of this course, students gain a basic understanding of immune cell types and a range of pathogens. Students participate in many group projects utilizing creative as well as scientific approaches to diseases. Specifically, students investigate functions of monoclonal antibodies and develop a novel therapeutic approach for this technology. They present their final idea to a group of PhD scientists in addition to their peers and other Derryfield teachers.

Prerequisite: Biology and Chemistry

Advanced Topics Science: Chemistry (Grades 11–12)
The Advanced Topics Chemistry course is a capstone course for the chemistry curriculum at Derryfield. The course is open to all students who did high quality work in Chemistry or Honors Chemistry and have outstanding motivation and interest in chemistry or the field of science. Successful students in this class will be those who have developed responsibility for their own learning as well as a curiosity and drive to understand deeper and more subtle chemical questions. AT Chemistry covers selected topics with greater depth and detail, both conceptually and mathematically, including stoichiometry, nuclear chemistry, reaction kinetics, equilibrium, acid/base chemistry, and electrochemistry. Laboratory experiences are similar to those in a first-year college course. Students will also complete several projects with foundations in chemistry but related to other fields of study.

Prerequisite: Chemistry (Honors Chemistry recommended)
Advanced Topics Science: Physics (Grade 12)
The Advanced Topics Physics course is a capstone course for the physics curriculum at Derryfield. The course builds on material covered in the Honors Physics and Physics courses by introducing calculus solutions to previous topics. The course focuses on mechanics, electricity and magnetism, and then moves onto other topics like thermodynamics and fluid mechanics. AT Physics utilizes open-ended laboratory experiments and research projects to help students master the course material in a variety of learning environments and display their knowledge in creative and exciting mediums. The AT Physics course is designed to be a college preparatory experience for students who are interested in pursuing majors in science and engineering.

**Prerequisite: Precalculus, Physics or Honors Physics, current enrollment in Calculus and strong mathematical skills**

Advanced Topics STEM: Research, Entrepreneurship and Design for X - Competition Track (F, W) (Grades 10-12)
This course can be taken for Science credit. Please see STEM X section of the guide for complete description.

Advanced Topics in Chemistry (MSON, S) (Grade 11-12)
This semester course explores aspects of chemistry that are often skimmed over or omitted in most chemistry courses—chemical applications and the history of chemistry. Real-world applications abound in areas such as nuclear, medical, atmospheric, industrial, food, water, and consumer product chemistry. We will begin with an exploration of energy sources such as nuclear power, solar power, and lithium ion batteries. We will then explore computing—both the properties of the elements that power the computers we use every day as well as computational techniques that have revolutionized the ability of scientists and students to visualize and understand chemical processes at a molecular level.

Throughout the semester, we also explore the history and life events of scientists who discovered the chemical elements and have impacted the history of the world through chemistry. In independent projects, students will explore the periodic table for daily applications and technologies, from cell phones to photovoltaic cells to medical treatments. This course will be heavy in applications and theory, with less of the traditional problem-solving found in other courses.

**Prerequisite: Completion of Chemistry. Laptop required.**
**Instructor: Jocelyn Rogers, Maret School, Washington, DC  Monday / Thursday, 2:30–3:30 p.m. EST**

CSI: Forensic Science (MSON, S) (Grade 11-12)
This course is designed for those interested in learning the discipline of forensic science and crime scene investigation. Students will be introduced to some of the specialized fields of forensic science and topics will include blood spatter and pattern analysis, death, ballistics, trace and glass evidence, toxicology, entomology, anthropology, serology, and DNA fingerprinting. Students will explore the forensic analysis of substances such as glass, soil, hair, bullets, gunpowder, blood and drugs. This class includes a mixture of laboratory experiments, demonstrations, and speakers who are experts in the field.

**Prerequisite: Completion or concurrent enrollment in Chemistry or Biology and Algebra II. Lab kit required (sent by teacher)**
**Instructor: Carrie Lopez, Trinity Preparatory Day School, Winter Park, FL Tuesday / Thursday, 1:20-2:20 p.m. EST**

**Genetics and Genomics (MSON, F) (Grade 11-12)**
This course will emphasize classic Mendelian genetics, molecular genetics, and population and evolutionary genetics. The topics include structure and function of genes (and the genome), biological variation, and regulation of gene expression. Subsequently, the course will explore current genome analysis methods, and genome manipulation technologies such as CRISPR. We will also discuss the implication of our use of this information in society. Topics include recombinant DNA technology, mathematical models and statistical methods for data analysis. Papers from the current and classic literature will supplement lecture materials.

*Prerequisite: Completion of Chemistry and Biology. Access to compound microscope, laptop required.*

**Instructor: Audrey Yeager, Manlius Pebble Hill School, Syracuse NY Wednesday / Friday, 12:15–1:15 p.m. EST**

**Introduction to Organic Chemistry (MSON, F) (Grade 11-12)**
This semester course will provide useful background information in organic chemistry by covering topics not typically found in high school chemistry courses. The course will give insight into the importance of the chemistry of carbon compounds to our daily lives. Topics covered will include organic nomenclature, structural formulas, stereochemistry, bonding, reaction mechanisms, and chemical transformations of functional groups. Completion of the course should make students more confident in their chemical background when entering college biology or chemistry courses.

*Prerequisite: Completion of Chemistry*

**Instructor: Jocelyn Rogers, Maret School, Washington, DC Monday / Thursday, 2:30–3:30 p.m. EST**

**STEM X**

**THE PHILOSOPHY**
Our STEM X department offers courses with a strong project-based component that help students grow their capacity to be confident and creative problem solvers in a fast-paced world where the rapid evolution of technology presents an astounding range of challenges and opportunities. STEM X draws inspiration from problem solving methods at innovative organizations around the world, ranging from Google X to MIT. The courses are interdisciplinary in their application of Science, Technology, Engineering and Mathematics (“STEM”) and STEM X students learn how to tackle the unknown variable in a situation, or “X,” by discovering interesting problems, experimenting with novel creative solutions, documenting their work and sharing their findings.

Participants in the program immerse themselves in projects that range broadly from developing and prototyping products using physical and digital technologies to coding in a world marked by the transformative impact of Artificial Intelligence. Students work both individually and as part of teams to develop the research skills, analytical rigor, creative thinking and entrepreneurial attitudes needed to investigate and tackle real world problems in original ways.
STEM: Design Thinking (F) (Grades 9-12)
This upper school interdisciplinary STEM X course immerses students in project based learning experiences that allow them to explore their interests as they relate to the various strands of Science, Technology, Engineering and Mathematics. The course introduces students to design thinking, an iterative problem solving approach that has been researched and disseminated by the Institute of Design at Stanford University, also known as the d.School. Students use design thinking and technology, such as 3d printers, Arduino and laser cutters, to create prototypes of products that solve specific problems. Principally a workshop experience taking place in the Science and Innovation Center, this class provides students with the guidance, space and resources to design and realize “X projects” that they are interested in and that meaningfully connect with their lives and their communities. These X projects will be published on the DIY website, Instructables.com.

STEM: Innovation (W) (Grades 9-12)
This STEM X course in X Studio introduces students to systems thinking and phenomenon based analysis as problem solving tools that can be used to creatively tackle local and global challenges. These innovation “X challenges” are aligned with the grand challenges that MIT chooses every year through its Solve program and they include and extend beyond the traditional STEM (Science, Technology, Engineering and Mathematics) disciplines. The course blends case studies with projects that are primarily student interest driven, focused on problems that are discovered, investigated and solved by students. Students will also be able to participate in both individual and group competitions, such as the Conrad Spirit of Innovation Challenge (Derryfield students were winners and finalists in 2017 and 2018!) and the AT&T Inventor's Challenge (won by Derryfield students in 2016 and 2017!). Students learn to approach projects with an innovator’s mindset, which includes collaboration, grit, empathy, experimentation, investigation, reflection, creative problem solving, and storytelling.

STEM: Entrepreneurship (S) (Grades 9-12)
Through this STEM X course, students will learn how to use an entrepreneurial mindset to answer critical business questions and confidently pitch their ideas about how to solve a problem (“X”) to different audiences through authentic role play. Students will become proficient in using the Google Ventures design sprint process to design, prototype, and test solutions for problems that face a STEM startup. This course will challenge students to work both individually and as part of teams to develop the research skills, analytical rigor, creative thinking and entrepreneurial attitudes needed to investigate and tackle real world problems. Students will learn business concepts ranging from minimum viable business product to total addressable market, which are critical to successfully executing business projects. Ultimately, students will create a business plan for a startup and may pitch their “X startup” in a business competition.

STEM: Research, Entrepreneurship and Design for X (F, W, S) (Grades 9-12)
Research, Entrepreneurship and Design for X, or RED X, offers the opportunity for strong, highly motivated students to design and undertake their own interdisciplinary projects as part of an independent study under the guidance of Dr. Masoni. Selected students will work independently on their projects and regularly exchange ideas, resources and updates. In order to be considered for this course, the projects must: (1) have a central STEM research, entrepreneurship and/or design component; (2) be aimed at solving for the unknown, or X, through innovation; and (3) generate a public product that engages people outside the
classroom as participants and/or audience. Mentors who have expertise in relevant areas may also be assigned to students to support particularly complex projects. If a student is accepted to the course, RED X can count as a sixth class and may be taken for one or more terms (starting in Fall, Winter or Spring), depending on the project. Due to space limitations, sign-up for RED X does not guarantee enrollment. Interested students should see Dr. Masoni for more information. Please note that certain projects may lend themselves to a team based approach, in which case students who are interested in collaborating as part of a team should also schedule a meeting with Dr. Masoni.

**Advanced Topics in STEM: Research, Entrepreneurship and Design for X - Competition Track (year long) (Grades 10-12)**

Research, Entrepreneurship and Design for X - Competition Track, or RED X - Compete, offers the opportunity for strong, highly motivated students to compete in an academic competition such as the New Hampshire Science and Engineering Expo under the guidance of Dr. Masoni. Selected students will work independently on their competition projects and meet regularly in class to exchange ideas, resources and updates. In order to be considered for this course, the projects must: (1) have a central STEM research, entrepreneurship and/or design component; (2) be aimed at solving for the unknown, or X, through innovation; (3) generate a public product that engages people outside the classroom as participants and/or audience; and (4) match the submission requirements of the New Hampshire Science and Engineering Expo. Mentors who have expertise in relevant areas may also be assigned to students to support particularly complex projects. Due to space limitations, sign-up for RED X - Compete does not guarantee enrollment. Interested students should see Dr. Masoni for more information. Please note that many projects may lend themselves to a team based approach, in which case students who are interested in collaborating as part of a team should also schedule a meeting with Dr. Masoni.

**Computer Science Lab, Levels I, II, III (F, W, S)**

The Introduction to Computer Science course is intended for any student, regardless of prior experience. This course aims to introduce students to a wide range of topics relating to computer science by providing a workshop environment where students complete interest driven projects. Students are guided through two different technology strands with real world connections. The first strand consists of an online coding platform called freeCodeCamp that is used by programmers to earn computer programming certificates as a qualification for software engineering jobs. Students work with the building blocks of the internet, HTML, CSS, and JavaScript. The second strand centers on Arduino microcontrollers used by industrial engineers and designers as a tool to prototype new products. As the year progresses, experienced students have the opportunity to mentor new students entering at the first level. Opportunities will also be presented for students to engage in hack-a-thons, field trips, and other outreach events.

**Computer Science Practice and Principles (Grade 10)**

This exposure course is designed to give all sophomores an introduction to the principles of computer programming and the impact that computational technologies have on modern society. We will work in the Python programming language and learn basic control structures, object manipulation, and get introduced to data structures. We will also consider other topics such as cryptography and security, big data, digital humanism, virtual/alternate reality and artificial intelligence. Students will be able to transfer and apply the knowledge from this course to make better informed decisions about how to leverage technology using interdisciplinary
approaches. Computer Science Practice and Principles also serves as a gateway to future coding and STEM courses.

This course will be taken as an Explorations class and is graded Pass/Fail.

**Software Design with Java (year) (Grades 9-12)**
This course is an extensive and detailed introduction to computer programming and software design using the Java programming language. We assume some understanding of basic programming structures, including variables and assignments, program flow and decision statements, and iterative looping structures. These topics will be reviewed in detail for Java, before proceeding to deeper topics including arrays and array lists, interfaces and polymorphism, inheritance hierarchies, recursion, sorting, and searching. We maintain a focus on the larger aspects of computer language design, so that our understanding will translate to other programming languages. We will also explore the impact of computers and software in our daily lives, look at some of the theoretical underpinnings of computer science and artificial intelligence, and discuss cybersecurity and privacy.

**Prerequisites:** Introduction to Computer Science or teacher approval and a laptop running Windows, Linux, or MacOS is required.

**Advanced Topics Computer Science: Software Design with Java (year)**
This course allows students with a stronger background in programming to learn Java and additionally manage our Derryfield hackathon, DS Hacks. This is an annual programming event for local high school students. Given a theme or problem to solve, groups of coders work intensively to produce a working software product over the course of several hours. The programs are judged and prizes are awarded to participants. Students in the AT version of this course will plan, organize, market, run, and judge the event, applying the lessons of the course to the experience, ensuring its success. Students are expected to be motivated, willing to learn some additional coding skills over the course of the year, and put in many extra hours of work on the hackathon outside the classroom.

**Prerequisites:** Teacher approval is required for the AT version of this course.

**Advanced Topics Mathematics: Investment Math**
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. The class will analyze data and fit the data with regression curves as well as employ probability to develop tools 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. Building upon the technical analysis done in the fall term, this class will explore the power of TradeStation’s software. We will learn about some of the many different functionalities that TradeStation offers, and we will apply these functionalities to different price series. We will begin to develop our first strategy by optimizing parameters of basic analysis techniques learned in the fall. We will apply an advanced statistical Walk Forward Analysis to review our results. Then we will learn how to code using EasyLanguage. In the spring, we will develop hypotheses about what drives the markets. We will use our ability to code to write an algorithmic trading program that tries to capture gains from these observations. We will backtest our programs and evaluate their performance. We will use filters to try to
improve performance, and we will continue to improve our programming skills. We will incubate these algorithms and see how they perform on real time data. We will then learn about how to manage a portfolio through the application of many different non-correlated algorithms.

**Prerequisite: Precalculus**

**This course is cross-listed with Math**

### Data Structures and Design Patterns (MSON, year)

This course is a yearlong course that will give advanced students the strong foundation needed to build complex applications using object-oriented principles. This course covers the design and implementation of data structures including arrays, stocks, queues, linked lists, binary trees, heaps, balanced trees (e.g. AVL-trees) and graphs. The course will also serve as an introduction to software design patterns. Each pattern represents a best practice solution to a software problem in a specific context. The course covers the rationale and benefits of object-oriented software design patterns. Numerous problems will be studied to investigate the implementation of good design patterns.

**Prerequisite: Completion of AP Computer Science or equivalent.**

**Instructor: J.D. DeVaughn-Brown, Chadwick School, Palos Verdes, CA Monday / Thursday, 4:40–5:40 p.m. EST**

### Einstein’s Relativity and the Evolution of the Quantum Model (MSON, F)

This is a mathematically rigorous course in which students study contemporary physics. The course begins with Einstein's theory of relativity, and then takes on a chronological exploration of the development of quantum mechanics. Time travel, quantum tunneling, and the acceptance of seemingly impossible dualities mark highlights of this course.

**Prerequisites: Physics or AP Physics 1; Co-requisite: AP Calculus AB**

**Instructor: Ben Taylor, Hopkins School, New Haven, CT Monday / Thursday 2:30–3:30 p.m. EST**

### Explorations in Computer Science: Solving Multidisciplinary Problems with Computational Methods (MSON, year)

This project-based course will teach computational thinking skills through problem solving in computer science. Students will choose real projects based on their interests in the arts, humanities, STEM, and the world around them and then leverage the power of computer science to approach them. For example, students might design a website to bring attention to an issue in their communities, draw on big data to answer an environmental or historical question, compose music through code, or explore autonomous vehicles through robotics. For each project, students will break down a problem into pieces, build a sequence of steps to solve the problem, and translate those steps into a digital or technological solution. Students will often work collaboratively in groups, give one another feedback, and discuss/debate ethical questions related to current topics in computer science and the world. The course will function at the introductory level and is suited for students who wish to gain a broad exposure to computational methods, coding, and other tools of computer science.

**Prerequisite: None. Students will need access to a laptop and other devices and equipment, up to about $100.**

**Instructor: Page Lennig, Waynflete School, Portland, ME Tuesday / Thursday, 11:05 a.m.–12:05 p.m. EST**
THE PHILOSOPHY
The purpose of the World Language Department is to teach students the necessary skills to communicate and to interact effectively and empathetically in an increasingly interconnected world. The study of language develops the student’s ability to compare and connect his or her own way of life to the global community. We encourage our language students to use their linguistic skills and cultural knowledge beyond the classroom. The World Language Department believes that the study of other languages and cultures is a vital part of a student’s secondary-school education.

THE OBJECTIVES
Guided by the philosophy and guidelines for language learning in the 21st Century of the American Council of Teachers of Foreign Language [ACTFL], we focus on student engagement and construction of understanding through critical-thinking, creative collaboration, and communication in the target language. Derryfield’s World Language Department guides students to:

- communicate with confidence utilizing essential language skills (listening, speaking, reading, and writing)
- think logically as they learn the structure of the language
- be comfortable taking risks in the language
- enhance their understanding of the culture through language, literature, and other sources such as media and news
- enable them to adapt within and contribute to a global environment using skills learned
- remember that respect for other languages and cultures is at the core of being a productive and positive global citizen.

THE PROGRAM

Latin I
Latin I provides an introduction to the fundamentals of the Latin language, with an emphasis on grammar, morphology, and proper pronunciation. Class activities include practice in reading out loud, Latin composition, and Latin-to-English translation, as well as ongoing discussions about various aspects of Roman culture and history. The course provides a foundation for language learning, including improved facility in English composition and oral expression.

Latin II
In Latin II students will begin with a thorough review of the grammar covered in Latin I. From this point, students will seek mastery in more difficult constructions and vocabulary through increasingly complex readings and Latin composition. The class will read texts exploring various aspects of Roman history, culture, and mythology. In addition, the students will encounter aspects of Roman culture through supplemental readings and projects.

*Prerequisite: Latin I*

Latin III
In Latin III, students are introduced to Latin literature through a variety of Classical authors including Cicero, Caesar, Livy, and Ovid. Readings of Latin texts are supplemented by continued practice in grammar and composition. Students will explore Latin grammar and Roman culture through projects and supplemental reading.

**Prerequisite: Latin II**

**Honors Latin III**
This fast-paced course is designed for students who wish to delve into a deeper level of Latin III. Students are expected to do extra written work and read at a higher level. We will read selections from Cicero, Caesar, Livy, Ovid, Catullus, and Vergil. Along with translation, students will explore Roman culture through projects and supplemental readings. Emphasis will be placed on fluency in translation and more advanced vocabulary. Students who complete this course will receive an honors designation on their transcripts.

**Prerequisite: Latin II and recommendation of teacher**

**Latin IV/V**
A combined class, this two-year sequence will deepen students' understanding of both the language and culture of ancient Rome. The students will read passages from Vergil's Aeneid and Julius Caesar's De Bello Gallico in alternating years. While reading these texts, students will be asked to analyze writing styles and parse difficult grammar and syntax. Along with their translations, students will explore the Roman world through papers, presentations, and projects. Students receiving credit for Latin V, in addition to the required course work, will be expected to do independent research on some of the topics covered and present their findings to the rest of the class.

**Prerequisite: Latin III or Latin IV**

**Advanced Topics Latin: Survey of Roman Prose Authors**
In this course, we will read important works of Latin prose, or works not written in meter, from several genres with an emphasis on both translation and interpretation. We will begin our study with historical works from Caesar, move to the speeches of Cicero, delve into the more difficult histories of Suetonius and Tacitus among others, and finish with a unit chosen by the students. While reading these authors, students will delve into the background and style of each author through projects and research and into a composition unit, where they are expected to write in the style of each author. A thorough review of grammar will be included with the readings.

**Prerequisite: Honors Latin III or Latin II**

**Advanced Topics Latin: Poetry in the Golden Age of Rome**
This course will serve as the capstone to a student’s study of Latin. Readings will be selected from a variety of Roman poets from the period from the Late Republic to the Early Empire. Authors will include Vergil, Catullus, Ovid, Lucretius. In combination with the main Latin readings, the students will learn about elements of style in metered Latin poetry from Roman sources such as Cicero and Quintilian. Research projects and class presentations will coincide with the units where students will be expected to write explications on different facets of the poems presented. The course will conclude with a composition unit where students will write Latin poetry in meter.

**Prerequisite: AT: Survey of Roman Prose Authors or AP Latin in 2018-19.**

**Spanish I**

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The objectives of this course are to familiarize the student with the basic communicative skills and patterns of Spanish. Vocabulary and grammar are presented and reinforced in thematic units. Students learn about events and customs in the Spanish-speaking world and Hispanic communities in the U.S. through the use of the textbook and its rich online resources. Students are fully engaged with the lessons in Spanish and enrichment is developed through film, music, readings, and other cultural materials.

**Spanish II**
With the same objectives and format as Spanish I, this course offers practice in more complicated structures and speech patterns. Thematic vocabulary is expanded, more idiomatic expressions are introduced, and the past tense is explored. Daily routines, food, and holidays are some of the topics discussed. Oral presentations are expected on a routine basis.

*Prerequisite: Spanish I*

**Spanish III**
The level III class will enhance students’ continued progression in the study of Spanish. This intermediate-level course focuses on developing students’ communication skills. Students will review and expand their knowledge of grammatical structures and speech patterns and they will expand their vocabulary through thematic units. There is an increased emphasis on speaking and writing, and culture is integrated throughout the curriculum. The class will be conducted primarily in Spanish with a strong emphasis on communication.

*Prerequisite: Spanish II*

**Honors Spanish III**
This honors level III class will enhance students’ continued progression in the study of Spanish at an accelerated pace. It is a course designed for students who wish to study at a higher level and faster pace than the Spanish III course. Students will review and expand their knowledge of grammatical structures and speech patterns and culture is integrated throughout the curriculum. There is an increased emphasis on speaking and writing. Students frequently read and present articles and examine authentic sources written in Spanish about current events which are often related to thematic units. This class will be conducted in Spanish and the students are expected to speak only in Spanish.

*Prerequisite: Spanish II and recommendation of teacher*

**Spanish IV**
Students continue to hone their communication and writing skills in this course which is aimed at expanding students’ vocabulary and grasp of advanced grammatical structures and at improving overall fluency. Students learn and work with thematic vocabulary which is embedded in cultural and literary readings as well as in authentic short films from Spain and Latin America. This class will be conducted almost exclusively in Spanish and the students are expected to speak only in Spanish.

*Prerequisite: Spanish III, Honors Spanish III or special permission of teacher and department chair*
Spanish V
This course is designed for Spanish students who want to continue their studies of advanced grammar topics and to improve their reading and writing skills through literature and current events. Students continue to study complex grammar topics as well as read and analyze short stories by Gabriel García Márquez, Isabel Allende, Jorge Luis Borges, and Julio Cortázar and also read several chapters of Miguel de Cervantes’ famous novel, *El ingenioso hidalgo don Quijote de la Mancha*. Students will submit literary analyses and investigate and present current events from the Spanish-speaking world. This course will be taught in Spanish and students will be expected to discuss and write only in Spanish as well.

*Prerequisite: Spanish IV or special permission of teacher and department chair*

Advanced Topics Spanish students will develop and strengthen their linguistic and analytical skills in Spanish through examining authentic poetry, prose, plays, film, and other media sources. This AT Spanish course will explore emerging voices and themes centering on the fight against social injustice and the pursuit of equal rights for all, especially for the disempowered. Some titles include poetry by Alfonsina Storni, Julia de Burgos and Sor Juana Inés de la Cruz, *La vida de Lazarillo de Tormes y de sus fortunas y adversidades* by an anonymous author, *San Manuel Bueno, mártir* by Miguel de Unamuno, and the documentary film, *El silencio de otros* by Spanish directors, Almudena Carracedo and Robert Bahar. Students will reflect and present through creative and analytical writings, skits, debates, journal entries, interactive presentations, poetry recitations, and podcasts. Students will continue to study and be tested on advanced grammar units. This course will be taught exclusively in Spanish and students will be expected to discuss and write only in Spanish as well.

*Prerequisite: Recommendation of teacher and department chair, typically after Honors Spanish III, Spanish IV or another AT Spanish course*

AT Spanish: Language and Culture through Literature and Media (2021-2022)
This course is designed for advanced Spanish students interested in attaining fluency in Spanish by exploring major contemporary and historical themes and perspectives from the Spanish-speaking world. We will examine authentic sources including literature, film and other media sources such as news, podcasts, music, social media, and television programs. Some titles include medieval and modern works such as *La casa de Bernarda Alba* by Federico García Lorca, *El burlador de Sevilla* by Tirso de Molina, *El ingenioso hidalgo don Quijote de la Mancha* by Miguel de Cervantes, and films including *La lengua de las mariposas* by Spanish director, José Luis Cerda. Students will work both collaboratively and independently to research, analyze, and present cultural and literary topics. Proficiency in Spanish is developed and enhanced through class discussions, dialogues, debates, formal writing, and presentations as well as through intensive review of language structure, including vocabulary amplification from our readings and other course materials. This course will be taught exclusively in Spanish and students will be expected to discuss and write only in Spanish as well.

*Prerequisite: Recommendation of teacher and department chair, typically after Honors Spanish III, Spanish IV or another AT Spanish course*
ONLINE OPTIONS FOR LANGUAGES NOT OFFERED AT DERRYFIELD

Students have the option to fulfill their language graduation requirement through online learning in a language not offered at Derryfield. This option gives students the flexibility to study such languages as French, German, Japanese, Arabic. Students still must complete level three of their language in order to graduate. This option is designed for highly-motivated and passionate students. The Language Department Co-Chair and the student’s academic advisor will work closely with interested students to determine if such an option is feasible for a student, based on their academic standing and other non-academic commitments. Just as we would ask that students think of proper balance for their course loads during the course selection process, we would help the student/parents weigh the pros and cons of taking an online language program.

If students are interested in exploring this option, they should contact Mike Leary, Language Department Co-Chair, at mleary@derryfield.org. Please consider the following:

- As with all online options at Derryfield, except for Malone classes, this will be a student’s sixth class.
- Students must submit a formal proposal via email to the Language Department Co-Chair by May 15 (or a later date arranged by the Language Department Co-Chair). This proposal should include the following information:
  - A 1-2 page essay proposal detailing their proposed plan and their rationale for taking an online course versus a course at Derryfield. This proposal can include program curricular information as well.
  - Materials and/or link from the online program showing its rigor, expectations, and general course outline.
  - A signed form or email from the student’s parents indicating support of the proposal and a clear understanding of the graduation requirement component of the program.
  - The proposal will be evaluated by the Department Co-Chair and recommended to the Division Head and Dean of Academic Program for approval.
- Derryfield acknowledges it cannot ensure that a student will have the same level of experience or success with an online provider as he or she will have with a Derryfield language course. As a result, the responsibility rests with the parents to choose a program that will serve their child and to help monitor their child’s progress.
- Families will incur the cost of online tuition, sign-up, monitor progress, and address technology needs and issues.
- Except for Malone classes, which are taught twice a week during the school day, students must enroll in a language program that does not conflict with any other Derryfield commitments.
- Students/Families will be asked to provide us with a progress report/certificate/documentation/transcript at the end of each Derryfield trimester and also upon completion of their online language course by June of that academic year.
- Online language courses are listed as "Pass/Fail" on the Derryfield transcript.

Ancient Greek I (MSON, Year Long) Target Grade Level: 11-12
This is a beginning course for students who have not studied ancient Greek before or whose background in Greek is not sufficient for more advanced work. Students proceed through a
study of grammar and vocabulary to the reading and writing of sentences and short narratives in the language of Athens of the fifth century B.C.E. Selected topics in Greek history and art are also considered.

Instructor: Briana Titus, Casady School, Oklahoma City, OK, Monday/Wednesday, 3:35–4:35 p.m. EST

Arabic I (MSON, year, first part of a two-year sequence) (Grade 9-12, juniors receive priority)
This first-year course of a two-year sequence is an introduction to Modern Standard Arabic, the language of formal speech and most printed materials in the Arab-speaking world. Students will learn to read and write the Arabic alphabet and will develop beginning proficiency in the language. Through frequent oral and written drills, students will develop their basic communication skills.

Section A:
Instructor: Farha Mohamed, Hopkins School, New Haven CT Tuesday / Thursday 12:15–1:15 p.m. EST.

Section B:
Instructor: Kaveh Niazi, Stanford Online High School, Stanford CA Tuesday / Thursday 3:35 –4:35 p.m. EST.

Arabic II (MSON, year, second part of a two-year sequence) (Grade 10-12)
This course is a continuation of the introduction to Modern Standard Arabic, the language of formal speech and most printed materials in the Arab-speaking world. Students will learn to read and write the Arabic alphabet and will develop beginning proficiency in the language. Through frequent oral and written drills, students will develop their basic communication skills.

Prerequisite: Completion of Arabic I
Instructor: Farha Mohamed, Hopkins School, New Haven CT, Tuesday / Thursday 12:15–1:15 p.m. EST

Chinese V (MSON, year) (Grade 11-12)
This intermediate level course, conducted entirely in Chinese, involves the reading of authentic texts of modern Chinese society and culture. Students explore current cultural topics through stories, dialogues, and documentaries using multimedia materials ranging from Internet, television, and films to traditional textbooks. Throughout the year, students write papers, critique films, and participate in oral discussion and debates.

Prerequisite: Completion of Chinese IV or Honors Level
Instructor: Lan Lin, Hopkins School, New Haven, CT Wednesday, 11:05 a.m.-12:05 p.m. / Friday 12:15-1:15 p.m. EST
ATHLETICS

THE PHILOSOPHY
Derryfield offers a comprehensive interscholastic athletic and physical activity program on several levels. The school competes in numerous sports in both the Middle and Upper Schools during all three seasons. There are also opportunities to participate in non-team activities. While time of involvement may vary from activity to activity, the school’s goal to develop mentally and physically healthy individuals does not. Our main objective is to develop in our students both skill and understanding, as well as an appreciation of maintaining an effective level of fitness. In athletics, we also seek to develop sportsmanship and team attributes such as cooperation, unity, and pride. To help meet this end, students have access to a registered nurse/wellness coordinator, school counselor, athletic trainer, and PE teacher. Services that are available to students include, but are not limited to, treatment for injuries, care for illnesses, prescription and non-prescription medication administration per the medication policy, and counseling related to health, physical activity, and sports. The Wellness Center is open daily starting at 7am and provides students access to various physical fitness activities, such as cardio and strength training, volleyball, pickleball, rock climbing and open gym, throughout the day until closing at 6pm. Physical activity and athletic commitments are firm obligations and must be met as faithfully as all other school appointments.

Each upper school student is required to participate in two seasons of physical activity each year. Only one independent activity per school year is permitted. Missing a practice or a game is considered as serious as missing a class. Failure to complete the physical activity requirement will jeopardize graduation.

THE PROGRAM
Derryfield offers a wide range of physical activities and interscholastic athletic competition.

Varsity teams compete in soccer, golf, basketball, alpine and Nordic skiing, swimming, baseball, tennis, crew, cross-country running, track, lacrosse, ice hockey, and field hockey. Membership on a varsity team requires a moderate level of playing ability and demands a strong commitment of time and effort including some weekends and vacation time. Tryouts are held for a place on a varsity team.

Interscholastic competition is also available at the junior varsity level in field hockey, soccer, crew, tennis, basketball, and lacrosse for less experienced students. The teams provide experience for developing athletes and an opportunity to participate for any underclassman who is willing to make the commitment.

While recognizing that providing a variety of sports and activity choices is inherent in the concept of requiring participation in two seasons of physical activity, it is not always possible that every student will be able to participate in their first choice activity. Each sport/activity does have a maximum number of participants allowed, some of which are dictated by facility restrictions. For example, only 24 girls and 24 boys will be allowed to participate in tennis, and only 14 students in golf. NHIAA golf rules allow only six players to participate in varsity matches.
Due to course restrictions, an additional eight students will be able to participate as JV players. Pre-season tryouts will be held for these 14 positions in the golf program. Students should have a second choice activity in mind if, after tryouts for both Varsity and JV, the maximum numbers are reached and they are not able to participate in their first choice. Students should contact the coach of the sport in which they wish to participate as early as possible, in order to be included in initial sign-ups. If maximum numbers are not reached, then all interested students will be allowed to participate.

The School also offers noncompetitive activities, which include yoga, fitness/weight training, and dance. Another option for upper school students is the Independent Physical Activity (IPA) contract, which allows students to design an activity program under the supervision of the Director of Athletics and their advisor. The IPA is designed to accommodate the student who is involved in a physical/athletic activity not offered by the school. Students wishing to pursue an IPA must submit an application for approval to the Director of Athletics. Forms are available online and in the athletic and main school offices. In addition, a trimester of community service or a music/drama commitment in a school production may be substituted for a physical activity once (each year) during a student’s upper school career. Please note that a community service waiver and a musical waiver may not be used in the same year.

Independent Physical Activity Application

Managers and scorekeepers are needed to work with the various teams. A student can complete one season of his or her athletic requirement by working conscientiously with a competitive team as a manager or scorekeeper. This option demands a season-long commitment to the team. There is an exercise component attached to this option. To apply for a manager position, students should fill out the IPA application and submit to the Athletic Director for approval. Some sports, such as crew, golf, skiing, ice hockey, swimming, and tennis may require students to pay for some use of practice facilities. The school handles the bookkeeping and billing for these charges. Each year there is usually some used equipment (such as cleats, lacrosse gloves, field hockey/lacrosse sticks, etc.) available at a reduced price. Please see the Director of Athletics for details.