



P R O G R A M O F S T U D I E S

2019-2020

Dear Families,

Rising Tide Charter Public School (Rising Tide) offers a choice in public education to families. While Rising Tide has many components that families would expect in a middle and high school, there are also many unique aspects to the program at Rising Tide. Our school culture is centered around trust, honesty, respect and responsibility; our staff and students work together to create an environment that is safe physically, emotionally, and intellectually. Our teachers are devoted to creating the best education possible for all children, including those who have excelled in school as well as children who have struggled in school. At Rising Tide, the adults work hard to know each child. In such an environment, we are able to focus our attention on teaching and learning, where students can develop the self-confidence to take risks, ask questions, and work to find solutions. Central to the identity of our school program is our approach to teaching and learning. At Rising Tide, we use an inquiry and skills-based approach, for both personal and academic growth.

The inquiry and skills-based approach is used to support personal growth by encouraging students to reflect, take ownership for their actions, and build skills to resolve conflicts. Questioning is at the heart of the inquiry and skills-based approach. When a challenging social or disciplinary issue arises with a student, the adult takes time to listen to and question the student about the situation. In this way, the student is given an opportunity to reflect upon the situation and is supported in the process of understanding and resolving the issue. Student mistakes are treated as teachable moments from which students may learn and grow. In a social or disciplinary setting, this approach encourages students to take responsibility, advocate for themselves, and develop an awareness of themselves and others.

The inquiry and skills-based approach is used to support academic growth by encouraging students to think critically and ask questions. Teaching and learning at Rising Tide is approached as a process of exploration rather than a reporting of information and memorization of facts. In an inquiry and skills-based classroom, teachers and students engage in meaningful questions and discussions, collect and analyze information, draw conclusions, and communicate an understanding of the material. The inquiry and skills-based approach is not limited to project-based learning; the approach may be used in posing challenges where direct skill instruction is taking place, such as working with a piece of literature, a mathematical pattern, or a scientific problem. In this academic environment, a teacher acts as a facilitator for student learning, encouraging and leading the questioning, listening and directing student discovery, and constructively critiquing for better understanding or development of skills. At Rising Tide, each student is acknowledged as a critical thinker who brings valuable prior knowledge and experiences to the classroom. Students are expected to be active learners, and teachers are expected to help students build skills as well as navigate and make sense of the world.

This Program of Studies provides an overview of the program at Rising Tide program. If you have questions, feel free to visit our school website, come to an informational Open House session, or call to schedule a tour.

Sincerely,

A handwritten signature in blue ink, appearing to read 'M O'Keefe', written in a cursive style.

Michael O'Keefe
Head of School

TABLE OF CONTENTS

Curriculum Overview	2
Mission and Goals	3
Schoolwide Objectives, Benchmark Skills, and Guiding Questions.....	3
Middle School Program	8
Upper School Program and Graduation Requirements	9
Academic Disciplines: Guiding Statements, Essential Questions, and Course Descriptions	10
The Arts: Dance, Music, Theater, Visual Art.....	10
English	19
Mathematics and Computer Science	22
Physical Education	27
Science.....	29
Social Studies	33
World Languages: Classics, Modern World Languages	37
Elective Courses.....	42
Middle School Discover	42
Middle School Exposition.....	53
Upper School Electives	61
Advisory Curriculum	80
Sources	81

CURRICULUM AT RISING TIDE CHARTER PUBLIC SCHOOL

At Rising Tide, the faculty designs the curriculum. Teachers work together with Curriculum Coordinators and School Leaders to develop courses that reflect our school's philosophy, explore the central questions and ideas in each discipline, and align with state requirements.

The curriculum at Rising Tide is guided by our Mission and Goals and by the four Schoolwide Objectives listed on the following page. By the time each student graduates from Rising Tide, he or she should feel confident in his or her ability to be an effective Communicator, Investigator, Self-Directed Learner, and Community Steward. Teachers use these Schoolwide Objectives to set expectations, design teaching and learning activities, and assess student progress in all school-related activities. The Schoolwide Objectives and Benchmark Skills remain the same across grades levels; however, as students move into higher grade levels, they are expected to complete tasks with greater complexity, independence, and awareness. Additionally, each grade level has a guiding question, which the faculty uses to design teaching and learning opportunities and connect the work of school with the daily lives of students.

Each academic discipline has developed a Guiding Statement and a set of Essential Questions from which to design units of study. Each unit is designed to help students build skills, gain content knowledge, and develop understandings. This process of curriculum development has been strongly influenced by design frameworks such as those found in *Understanding by Design* (McTighe and Wiggins) and *The Teaching for Understanding Guide* (Blythe, et al.).

As a public school, we are required to align our curriculum with the Massachusetts Curriculum Frameworks. When designing units, teachers use the Frameworks to help determine what content knowledge and skills should be included when exploring a particular topic. Teachers collaborate to ensure that our courses are aligned with each of the Frameworks: Arts, Comprehensive Health, Digital Literacy and Computer Science, English Language Arts and Literacy, Foreign Languages, History and Social Science, Mathematics, Science and Technology/Engineering, and Vocational Technical Education. The faculty also reviews the national frameworks for various academic disciplines when designing units.

Using Rising Tide's inquiry and skills-based approach, teachers have the flexibility and autonomy to teach the students in front of them, differentiating instruction to ensure that all students have opportunities for success. We provide a rigorous program in which all students are held to high academic standards. Courses at Rising Tide are not leveled, and we do not weight grade point averages or rank students.

Through our curriculum design and implementation, we foster the development of skills, the exploration of content, and the deepening of understanding. We believe that this approach fully prepares students for success on outside measures. Students in grades five through ten take the Massachusetts Comprehensive Assessment System (MCAS), and students in the upper grades are encouraged, though not required, to take the SAT, ACT, SAT Subject Area, and/or the Advanced Placement exams. Students in grades seven, nine, and eleven take the College and Work Readiness Assessment (CWRA+) in the fall. At Rising Tide, we are committed to preparing all students for college and beyond.

MISSION

The Rising Tide Charter Public School will provide a strong academic program rooted in the history of Plymouth, Massachusetts. Our students will harvest opportunity from the practice of language, the reasoning of mathematics, the analysis of science and the reflection of history. We want children to hone skills through rigorous studies, but skills alone do not make a whole education. The Rising Tide Charter Public School will also cultivate within its students a sense of belonging to our community, a tie with those who have come before them and a seed of continuity between the Plymouth of today and the Plymouth of tomorrow. The Rising Tide Charter Public School will graduate capable and prepared young adults who have already sown within themselves a sense of place and belonging that will be the bounty of the future, whether they remain among us or venture from our harbor.

GOALS

- To foster in each student a love of learning and high achievement through encouragement to continuously improve in the acquisition of basic skills through work on integrated projects that reflect life’s real challenges.
- To create a safe, supportive environment where each person treats others with respect, and where a student can try new things and take risks without fearing teasing or failure.
- To encourage each student to grow and take increasing responsibility, both academically and socially.
- To create and develop in each student an awareness of the diversity both within and outside of the Rising Tide community and encourage tolerance, acceptance, and celebration of differences.
- To create a close community of students, teachers, parents and community members who work together to encourage students to develop into successful students and, later, into successful members of their local communities.

GUIDING QUESTIONS

Overall: Who am I?

Grade 5: What is my place in the community?

Grade 6: How can I connect with others?

Grade 7: How can we face challenges?

Grade 8: How can we take responsibility for ourselves and one another?

Grade 9: How can we recognize and demonstrate courage?

Grade 10: How can we recognize and demonstrate integrity?

Grade 11: How can we be mindful of and prepare for the future?

Grade 12: What is my place in the world?

SCHOOLWIDE OBJECTIVES AND BENCHMARK SKILLS

Communicator

Receptive Skills

Expressive Skills

Investigator

Inquiry Skills

Innovation Skills

Self-Directed Learner

Self-Awareness Skills

Skills in Taking Responsibility

Community Steward

Skills in Awareness of Others

Collaboration Skills

COMMUNICATOR

Receptive Skills

Skills related to observation, discrimination, and comprehension

An individual with receptive skills:

1. Attends
2. Uses available senses: sees, hears, touches, tastes, smells
3. Surveys
4. Notices details
5. Identifies
6. Sorts
7. Determines relevant information
8. Decodes
9. Perceives the intended meaning of the expression of others
10. Remembers

Expressive Skills

Skills related to organization, construction, and articulation

An individual with expressive skills:

1. Organizes ideas
2. Develops purpose
3. Selects and employs mode of communication
4. Considers audience and circumstance
5. Selects and employs tools and techniques
6. Selects and employs format and structure
7. Attends to the use of standard expectations and conventions
8. Selects and employs basic units of expression
9. Arranges parts and/or elements of expression
10. Follows logical sequence
11. Maintains clarity
12. Maintains focus
13. Demonstrates fluency
14. Adapts for change in audience and/or circumstance
15. Conveys intended meaning

INVESTIGATOR

Inquiry Skills

Skills related to curiosity, critical thinking, and meaning making

An individual with inquiry skills:

1. Wonders
2. Examines
3. Questions
4. Prioritizes questions
5. Identifies prior knowledge and experience
6. Connects prior knowledge and experience
7. Conjectures
8. Identifies sources
9. Evaluates sources
10. Gathers data
11. Analyzes data
12. Connects data
13. Synthesizes data
14. Builds evidence
15. Develops a claim
16. Evaluates claim using new data
17. Amends claim, as needed
18. Generates new questions

Innovation Skills

Skills related to creativity and problem-solving

An individual with innovation skills:

1. Plays
2. Imagines
3. Challenges assumptions
4. Takes reasoned risks
5. Identifies problems
6. Applies prior skills, knowledge, and understandings
7. Transfers prior skills, knowledge, and understandings
8. Contextualizes problems
9. Frames problems from different angles
10. Creates a vision
11. Strategizes approaches
12. Experiments
13. Designs solutions
14. Makes representations
15. Incorporates personal voice and style
16. Invents

SELF-DIRECTED LEARNER

Self-Awareness Skills

Skills related to mindfulness, reflection, and self-management

An individual with self-awareness skills:

1. Recognizes own body and movement
2. Recognizes own feelings, interests, curiosity, motivation, and effort
3. Analyzes causes of own feelings, interests, curiosity, motivation, and effort
4. Manages feelings, interests, curiosity, and motivation
5. Recognizes own strengths and successes
6. Analyzes the circumstances, beliefs, and practices that enabled strengths and successes to develop
7. Leverages strengths and successes
8. Recognizes own challenges and acknowledges mistakes
9. Analyzes the circumstances, beliefs, and practices that led to challenges and mistakes
10. Identifies areas for own growth
11. Identifies own need for guidance, support, or collaboration
12. Monitors own progress
13. Evaluates own products
14. Analyzes own processes
15. Recognizes own personal bias
16. Recognizes own place in a community
17. Recognizes own behavior and how it relates to a community's established norms

Skills in Taking Responsibility

Skills related to organization, time-management, growth, self-advocacy, commitment, and perseverance

An individual with skills in taking responsibility:

1. Engages
2. Prepares
3. Seeks to understand assigned expectations
4. Clarifies and fulfills assigned expectations
5. Sets goals for self based on assigned expectations and self-identified areas for growth
6. Identifies or develops and clarifies a process for achieving goals
7. Follows and evaluates a process for achieving goals
8. Identifies need for, creates, and uses systems of organization of materials and time
9. Prioritizes tasks that best achieve goals
10. Initiates, works through, and completes tasks
11. Follows up on any missed or incomplete tasks
12. Manages own time
13. Challenges oneself
14. Puts forth effort even when faced with challenges
15. Seeks and uses available resources and supports
16. Incorporates feedback
17. Revises, practices, and refines work
18. Assumes ownership of ideas, words, and actions
19. Advocates for own ideas
20. Credits the work of others when it is incorporated into own work
21. Adapts based on past experiences, including successes, challenges, and mistakes

COMMUNITY STEWARD

Skills in Awareness of Others

Skills related to consideration, professionalism, empathy, and taking different perspectives

An individual with skills in awareness of others:

1. Demonstrates respect, patience, and open-mindedness toward individuals and groups
2. Demonstrates respect toward others' personal space, our shared spaces, and our environment
3. Seeks to understand a community's established norms
4. Recognizes others' differences, including strengths and challenges
5. Recognizes others' perspectives, feelings, and needs
6. Observes others' non-verbal communication
7. Listens to others
8. Relates to the experiences of others through remembering how one felt or imagining how one might feel in similar situations
9. Clarifies others' perspectives, feelings, and needs
10. Looks at events, experiences, and objects from diverse points of view
11. Recognizes own impact on others
12. Makes amends for own mistakes
13. Makes connections to the experiences, perspectives, and feelings of others

Collaboration Skills

Skills related to leadership, cooperation, flexibility, compromise, and advocacy

An individual with collaboration skills:

1. Seeks to understand and achieve the goals and scope of the collaboration
2. Supports others to understand and achieve the goals and scope of the collaboration
3. Identifies or develops and clarifies a process for achieving the goals of the collaboration
4. Follows and evaluates a process for achieving the goals of the collaboration
5. Manages time with others
6. Participates in a variety of roles in the collaboration
7. Takes on the appropriate amount of responsibility for one's role
8. Asks that others take on the appropriate amount of responsibility for their roles
9. Demands evidence-based contributions
10. Makes contributions based on own perspectives, experiences, and ideas
11. Seeks out contributions from others based on diverse perspectives, experiences, and ideas
12. Considers and responds to the contributions of others
13. Seeks and analyzes feedback to own contributions
14. Advocates for the contributions that best achieve the goals of the collaboration
15. Incorporates contributions that best achieve the goals of the collaboration
16. Relinquishes contributions that do not best achieve the goals of the collaboration
17. Prioritizes goals of the collaboration
18. Motivates and inspires others
19. Supports others through words and actions
20. Encourages others to support one another

MIDDLE SCHOOL PROGRAM

Courses

The Middle School operates on a six-day, cascading block schedule. Each day includes six 60 minute periods, including an elective period. Each core class meets five out of six days in the cycle. Additionally, students meet at least twice each day with their Advisory groups.

Grade 5

English
Mathematics
Physical Education (one semester)
Science
Social Studies
STEM
Visual Art (one semester)

Grade 6

Dance & Theater (one semester)
English
Humanities
Mathematics
Music (one semester)
Science
Social Studies

Grade 7

English
Latin 1A
Mathematics 7 or Pre-Algebra
Physical Education (one semester)
Science
Social Studies
Visual Art (one semester)

Grade 8

English
Dance & Theater (one semester)
Latin 1B
Mathematics 8 or Algebra I
Music (one semester)
Science
Social Studies

Elective Period

In the period before lunch each day, all students participate in four components of the Rising Tide program: Advisory, Academic Support, Skills Workshop, and Exposition or Discover.

For further details about Advisory, please see the Advisory Curriculum section later in this Program of Studies.

Academic Support affords teachers and students the opportunity to work together to further develop students' skills, content knowledge, and understandings. Some students may also participate in targeted academic assistance during this time. Academic Support occurs once or twice per cycle, depending on the term.

The Skills Workshop provides an opportunity for students to practice Benchmarks Skills while exploring Digital Literacy, Library Skills, Mindfulness, and Team Dynamics. Skills Workshop occurs once per cycle.

Exposition courses allow students to investigate questions on topics connected to our local community through project-based learning. These courses are part of the elective program in the first term. Students explore topics such as agriculture, tourism, and ecology, conducting field work and developing their inquiry skills. The investigations culminate in a schoolwide exposition in which students share their findings or products with the school community. Discover courses are designed by teachers to help students build skills while exploring academic, artistic, and athletic topics. These courses are part of the elective program in the second, third, and fourth terms. A wide range of offerings have included courses such as Robotics, Cross-Stitching, Music Tech, Animation, and Jump Roping. Some students may also participate in targeted academic assistance during this time. Discover and Exposition courses occur twice per six day cycle.

UPPER SCHOOL PROGRAM

The Upper School operates on a six-day, rotating block schedule, with four 85 minute periods per day. Courses meet on alternate days, and students have an expected course load of eight courses, including six core courses and two elective courses per semester. Additionally, students meet two to three times a week with their Advisory groups and have Academic Support twice a week for 45 minutes.

Graduation Requirements

Twenty-eight (28) credits are required for graduation from the Upper School at Rising Tide. Full-year courses are given one (1) credit. Semester courses are given a half (.5) credit. Once a student is enrolled at Rising Tide, only credit earned at Rising Tide is accepted for the student's course placement or graduation requirements. Each student must also earn a Competency Determination from the state in English, Mathematics, and Science and Technology/Engineering.

English 4 credits
Mathematics 4 credits
Science 4 credits
Social Studies 3 credits

World Languages 3 credits in one language
Arts 3 credits
Physical Education 2 credits

Grade 9

Arts: Theater Foundation (one semester)
Visual Art Foundation (one semester)

English I

Mathematics: Algebra I or Geometry

Science: Introductory Physics

Social Studies: U.S. History II in the World

World Languages: Latin or Spanish

Grade 11

English III

Mathematics: Algebra II, Algebraic Functions & Trigonometry, Pre-Calculus

Science: Biology

Social Studies: Civics & Economics

World Languages: Latin, Spanish

One Choice Block: Offerings in Arts, Mathematics, Science, Social Studies, World Languages

Grade 10

Arts: Dance Foundation (one semester)
Music Foundation (one semester)

English II

Mathematics: Geometry or Algebra II

Science: Chemistry

Social Studies: Global History I

World Languages: Latin or Spanish

Grade 12

English IV

Mathematics: Algebraic Functions & Trigonometry, Pre-Calculus, Calculus, Applications of Probability & Statistics, Advanced Statistics & Programming

Science: Advanced Biology, Advanced Chemistry, Advanced Physics, Earth & the Environment, Technology & Engineering

Three Choice Blocks: Offerings in Arts, Mathematics, Science, Social Studies, World Languages

In exceptional cases, a student may be offered an option for an Independent Study course if the student excels in a discipline and the existing program offerings are not sufficient to meet the student's needs.

Elective Block

During the elective block, students participate in academic elective courses and fitness classes. Some students may also participate in targeted academic assistance or Individualized Support. All freshmen participate in a Digital Literacy and Computer Science Principles course.

Semester-long, academic elective courses offer students choice beyond the core program offerings. Elective courses either introduce students to or allow students to explore in greater depth topics, fields, or skills in a cohesive manner. A wide range of offerings have included courses such as Astronomy, Chamber Ensemble, Personal Finance, Public Speaking, Psychology, and Software Development.

Seniors may, through an application process, participate in the Senior Internship Course, a community-based internship program during the elective blocks for one semester. Students gain career experience in an unpaid internship in a field of their choice, and meet regularly at school with a faculty member.

ACADEMIC DISCIPLINES

THE ARTS

The Arts in the Rising Tide curriculum represent a wide array of opportunities for students to further develop their communication skills and gain exposure to the many ways artists use various tools, techniques, and concepts to observe and creatively respond to life.

DANCE

Guiding Statement

The Dance program enriches and invigorates students physically, cognitively, and creatively, using movement as a springboard for investigation and as a modality of self-expression. Through the continued practice of dance, students can expect to improve their flexibility, coordination, rhythm, muscle memory, endurance, strength, and overall mind body connection. Students develop awareness of their individual bodies in space and in conjunction with the group ensemble to enhance kinesthetic awareness and spatial reasoning. Each course focuses not only on the technique and practice of particular styles, but also highlights pertinent historical and cultural connections through research projects and presentations. Tools to develop individual and group choreography aid in the development of the total artist. Most importantly, the dance program is guided by the intention of giving each student an outlet to experience joy through movement and to create meaningful connections to and through dance.

Essential Questions

- What are the benefits of a dance practice?
- Where can we find dance in everyday life?
- How can we use dance to broaden our understanding of human emotion, experience, history, and traditions?
- What tools do we use to create, critique, and refine choreography?
- What makes a great performer?
- What can we glean from watching various types of dance from different countries and time periods?
- What are the principles of various traditional dance techniques?
- What role does movement play in my own life?
- How can I contribute to the ensemble?
- How can we challenge ourselves to reach our fullest physical potential and performance ability?
- How can we use dance as a method of self-expression and communication?
- How can we achieve balance and prevent injury through the practice of dance?
- How can I design movement, independently and through collaboration?

Course Descriptions

Grade Six: Dance & Theater

In this course, students explore the genres of theater and dance, building basic skills and increasing their comfort in presenting and performing. Students learn the fundamentals of acting, creating theater, and telling stories using their voice, body, and imagination. They also learn basic dance warm-ups, steps, and short combinations, completing across the floor work and choreographed dances. Throughout the course, students explore what it means to work as an ensemble, creating and performing tableaux and short scenes in groups and with partners. Students develop communication and critical thinking skills through presenting, performing, and completing regular written reflections.

Grade Eight: Dance & Theater

Students build upon their exposure to theater and dance and deepen their skills and experience with these genres. Students further explore voice and body work through Laban, Meisner, and other techniques. They investigate acting motivation, objective, and obstacle in preparing scenes and monologues to present and perform. Students explore different styles of dance, discussing dance history and participating in warm ups, across-the-floor steps, and choreography. Continuing to focus

on working as an ensemble, students create their own scenes utilizing props, fight choreography, and movement. Throughout the course, students practice critical thinking and textual analysis through reading and writing assignments and keeping a weekly journal.

Grade Ten: Dance Foundation

This course is aimed to pique students' interest and develop their confidence in dance. Dancers navigate their way through the course with the overall goals of developing a solid dance technique, gaining exposure to historical dances in America, and expressing themselves through their own choreography. Dancers investigate the technique and history of Jazz dance and learn several challenging phrases within this genre. They come to understand basic dance etiquette by ritualistically going through a rigorous warm up, across-the-floor, and final phrase section of class. Choreographic skills are introduced and put to work through individual, duet, and small group assignments. Through open discussion and personal journals, students are encouraged to track their unique experience and to draw connections between dance genres and information from other disciplines. The course concludes with a public performance of a class-choreographed piece. Understanding of the rehearsal and performance process is developed and assessed in this final culminating experience.

Upper School Dance: Choreography

This course challenges students to create, rehearse, refine, and present choreography in a formal performance setting. Dancers learn how to design using AB, ABA, base phrase and remix, rondo, canon, storytelling, and narration methods. Dancers create movement using a variety of resources as a catalyst including, but not limited to, videos, poems, and current events. Students discuss safe and effective ways to constructively critique their own work as well as the work of their peers so that they can continuously enhance their signature work. The course concludes with a final presentation of a group work including student run costume, lighting, and sound design, program notes, and promotional materials. *Prerequisite: Dance Foundation*

Upper School Dance: Contemporary

In this course, dancers delve into modern, contemporary, and post contemporary techniques through practice and analysis. The course includes a modern-based warm up utilizing the legacy of Cunningham, Horton, and Dunham techniques with an emphasis on floor work, release swing, the x, and other codifications. Dancers experience increasingly complex spatial and rhythmic patterns and movement sequences in order to advance their movement proficiency. Dancers are exposed to and critique current work in the form of excerpts, collaborative films, and live performances when possible. Dancers learn reconstructed and/or new repertory to be shared in a culminating performance. *Prerequisite: Dance Foundation*

Inactive Courses for 2019-2020

Upper School Dance: Ballet

Students develop their dance knowledge and technique through the exploration of the artistic form of ballet. Students build ballet skills and vocabulary based on a blend of Vaganova and Cecchetti techniques. Through the creation of original choreography, students communicate with their peers. Students place ballet in its historical context and observe its communicative power through observation of full-length ballets in both the classical and contemporary styles. Dancers in this course enhance their overall endurance, flexibility, and traditional technique. Proper ballet attire and slippers are required. *Pre-requisite: Dance Foundation*

Upper School Dance: Cultural Traditions

Students explore and perform dances connected to particular cultures. Dancers learn new technique specific to those dances. Students investigate how cultural values and norms are expressed through dance practices in cultures both of others and of their own. Students have the opportunity to learn about additional cultures of interest and their associated dances through a long-term research project. Dances that have been learned in the past include West African, Samba, and Bhangara. *Prerequisite: Dance Foundation*

MUSIC

Guiding Statement

Music education should help to develop each student as a musician and an artist. Students gain knowledge of music history, instruments, and concepts, while developing the skills necessary to create, perform, and analyze music. Music education develops multiple intelligences and combines physical and cognitive skills often into one activity. Students not only learn to create their own music but also gain an understanding and appreciation of music and the arts. Through creating and analyzing music, students are able to experience the arts in a uniquely immediate and personal way.

Essential Questions

- How does music communicate and convey meaning?
- What are the tools that musicians use to communicate?
- How can we communicate music effectively through writing and performance?
- What is the purpose of music?
- How has music played a role in history?
- How does culture and environment shape music?

Course Descriptions

Grade Six

Students begin by discussing the definitions of fundamental music concepts such as beat, tempo, volume, and rhythm, exploring examples of these in and outside of music, and emphasizing the universality of these concepts. The class also discusses how these concepts can be used to communicate certain emotions and meanings, connecting to the essential question of how artists communicate through music. Students especially focus on pitch and how to combine pitch with rhythms onto the music staff, which is the conventional system used for reading and writing music. Students practice applying these concepts to composition, as well as to their playing skills and technique on instruments, particularly on a variety of percussion instruments such as drums and pitched percussion instruments such as glockenspiels. The class explores some influential artists throughout history, as well as the musical traditions of other cultures, continuing to emphasize the universality of essential music concepts, and connecting to the overall themes of creativity and communicating through music.

Grade Eight

In this course, students continue to develop their musical skills and knowledge on an increasingly advanced level. They continue to explore more complex rhythms, particularly syncopation, which are common in many musical traditions around the world. Students continue to focus on the concept of pitch and practice combining it with rhythms when composing on the music staff. Students utilize more advanced compositional techniques and apply concepts such as chords, arpeggios, tempo, volume, and texture, to communicate various emotions and meanings through their music. They are asked to compose music that tells a story and conveys the appropriate emotions, which connects to the overall essential question of how artists can communicate through music. Students explore the role that music has played throughout history, starting with the innovations and influence of great Classical music composers, as well as African American music and its role and influence on American music and history.

Grade Ten: Music Foundation

In this course, students explore the basic technical and conceptual aspects of music through the exploration of various musical genres. Students learn to apply their understandings of theoretical concepts such as harmonies, chord structures, progressions, and time signatures to their own musical compositions. Music Foundation provides students of all skill levels and experience with regular opportunities to practice and perform music with keyboards and other instruments using a variety of skills and strategies. In addition to providing a well-rounded introduction, this class encourages all students to make new personal connections with the art of music and establish an authentic place for music in their lives.

Upper School: Improvisation Studio

Students in this course explore the creative, technical, and academic considerations musicians use for improvisation. Students explore the variety of sounds that can be made on an instrument, which may include the voice. They expand their musical vocabulary by examining music, including the blues, modal jazz, rock and pop, common chord progressions used in jazz and popular tunes, and contemporary styles of improvisation. Students study music theory concepts, including scales, harmony, and form, to determine the structure and options for a tune involving improvisation. Students listen to the great improvisors of blues, jazz, and rock and pop and observe how these musicians use improvisational tools in their playing. Students practice improvisation both individually and in a small ensemble setting. The semester concludes with an ensemble performance featuring several improvised solos. *Prerequisite: Music Foundation. N.B. Owning an instrument is not a prerequisite.*

Upper School: Musicianship Studio

Students in this course explore the expressive and creative choices a musician makes when preparing and performing a piece of music. Students study solo and small-ensemble works from a variety of styles, cultures, and historical periods, and learn how music theory, music history, and other factors help inform the decisions that musicians make when interpreting a work. Students have several opportunities throughout the semester to demonstrate their creativity through informal performances. Each performance includes an opportunity for students to give and receive feedback and discuss the creative process. The semester concludes with a formal performance of solo and ensemble works. *Prerequisite: Music Foundation. N.B. Owning an instrument is not a prerequisite.*

Inactive Courses for 2019-2020

Upper School Music: Composition

Students learn concepts and techniques to compose music and experiment with how different sounds communicate and express various emotions, moods, and ideas. Students explore topics such as melody, rhythm, harmony, counterpoint, and orchestration, and apply them to compositions for the instruments learned in Music Foundation, the piano and ukulele, as well as other instruments that interest students. *Prerequisite: Music Foundation*

Upper School Music: Cultural Traditions

In this course, students explore multiple musical traditions from around the world, including styles originating by cultures from the continents of South America, Africa, Asia, and Europe. Students investigate questions such as “How are cultural values and norms expressed through music practices from around the world?” and “How do our own current musical practices reflect our cultural values?” Performance opportunities conclude this course. *Prerequisite: Music Foundation*

THEATER

Guiding Statement

The purpose of Theater education is to help students develop the skills they need to collaborate with others, demonstrate leadership in a variety of situations, communicate effectively, and be confident in their own creativity, knowledge, and identity as artists. Students need to work effectively as members of an ensemble or community, demonstrate support and observation skills as members of an audience, and give constructive feedback to others. Theater education provides the opportunity for students to work on understanding different perspectives through analyzing a variety of dramatic texts as well as writing their own. Students gain the courage to express their thoughts and ideas in an artistic way, learning the skills of self-assessment and revision throughout the rehearsal process. Students should demonstrate spontaneity and quick thinking, taking positive risks while exploring and developing a variety of characters. Theater education helps students to believe in the strength of their own creativity and share that creativity with the world.

Essential Questions

- Why is improvisation an important part of theater and life?
- How can actors portray believable characters and scenarios on stage?
- How do the physicality and movement of the actor affect the way an audience sees a character on stage?
- How important is facial expression in acting? How can I use my voice to its full potential?
- How can I prepare and perform a monologue?
- What makes a strong acting ensemble?
- How can we effectively rehearse for a performance?
- What makes a “good” scene?
- What makes a production successful?
- What is the role and responsibility of the director?
- What keeps an audience member engaged in a performance?
- How can we interpret the text of a scene or play?
- How and why do people write plays?
- What processes do playwrights use?

Course Descriptions

Grade Six: Dance & Theater

In this course, students explore the genres of theater and dance, building basic skills and increasing their comfort in presenting and performing. Students learn the fundamentals of acting, creating theater, and telling stories using their voice, body, and imagination. They also learn basic dance warm-ups, steps, and short combinations, completing across-the-floor work and choreographed dances. Throughout the course, students explore what it means to work as an ensemble, creating and performing tableaux and short scenes in groups and with partners. Students develop communication and critical thinking skills through presenting, performing, and completing regular written reflections.

Grade Eight: Dance & Theater

Students build upon their exposure to theater and dance and deepen their skills and experience with these genres. Students further explore voice and body work through Laban, Meisner, and other techniques. They investigate acting motivation, objective, and obstacle in preparing scenes and monologues to present and perform. Students explore different styles of dance, discussing dance history and participating in warm ups, across-the-floor steps, and choreography. Continuing to focus on working as an ensemble, students create their own scenes utilizing props, fight choreography, and movement. Throughout the course, students practice critical thinking and textual analysis through reading and writing assignments and keeping a weekly journal.

Grade Nine: Theater Foundation

This course explores theater for one semester. Through group projects, oral presentations, class discussions, scene work, reading and writing scenes and plays, performances, and other projects, students are able to make connections from the Theater and apply the new skills they learn to their own lives. The first unit of the course is devoted to theater games and improvisation designed to develop the performance skills of spontaneity, listening, and creating with a group. Students spend the second unit learning the fundamentals of acting by working on scenes from published plays, culminating in an in-class performance. The last unit is devoted to the production and public performance of a short play with the entire class.

Upper School Theater: Acting

How do you portray a character realistically and believably on stage? In this course, students explore this question by acting in a variety of monologues, scenes, and improvisation activities. Throughout the semester, students work on both contemporary and classical texts in order to understand how to fully develop characters in many different styles of theater. At various times during the course, students also participate in mock auditions in which they receive feedback on their work and preparation. For students interested in Musical Theater, there is also an opportunity to work on songs and scenes from musicals. This is not a required part of the course but is available to students who are interested.

Prerequisite: Theater Foundation

Upper School Theater: Playwriting and Production

What does it take to write and produce a 10-Minute play? In this course, students explore this question. During the beginning of the course, students learn about play structure and different techniques used by playwrights. We read a variety of 10-Minute plays as a class, and then students have the opportunity to write plays and submit them for production. A small number of these plays are selected to be produced and performed for a public audience. Students learn about the variety of roles and responsibilities both on and off stage when working on a play, and then they take on some of those roles. At the end of the semester, students perform original 10-Minute plays that are completely student directed, acted, technically designed, and produced. *Prerequisite: Theater Foundation*

Inactive Courses for 2019-2020

Upper School Theater: Directing and Technical Design

In this course, students direct and are directed in short works that include technical elements. As a result, they acquire skills related to directing, technical design, and performance. Specifically, students learn to develop leadership abilities, transfer the written word to the stage, and communicate with an audience through technical design in the areas of lighting, scene, costume, and sound. Throughout the process, students work to take the audience's perspective while also investigating and communicating their own points of view and those of their peers. The course culminates with a public performance.

Pre-requisite: Theater Foundation

Upper School Theater: Improvisation

Students build on the improvisational skills they developed in Theater Foundation. Students begin the course with an exploration of the genre of improvisation and its place in the world of theater and our lives. Students examine the many forms of improvisation before beginning to build skills in them through playing improvisational games, completing mime work, creating and sustaining characters, acting in sketch comedy, and completing short- and long-form improv including Harold structures. With this foundation in place, students will create, design, and produce a final improvisation project to present for the community. Throughout the course, students learn to collaborate as part of an ensemble, listen and respond spontaneously, and take artistic risks. *Prerequisite: Theater Foundation*

VISUAL ART

Guiding Statement

Visual Art education empowers students to observe, break down, and reassemble visual elements, furthering their understanding of the physical visual world and providing students with the opportunity to develop ideas through multiple stages. Idea development is nurtured by giving students time for brainstorming and developing comprehensive sketches to ensure clear and convincing visual communication. Students' overall communication skills are strengthened through guided practice and experimentation and editing while working with the creative process. Students practice the skills of observation and critique, analyzing a variety of successful examples, in class and during museum visits. In Visual Art, fundamental concepts and skills are presented and mastered, empowering students to expand on them with a variety of multi-step projects.

Essential Questions, Technical

- What is an aesthetic vocabulary?
- How does a visual artist communicate convincingly?
- What are the tools and techniques used in successful visual communication?
- What does proficient mean? How is proficient different from effective?
- What are successful (drawing, building, etc.) habits?
- How does the brain process visual information / observed subjects?
- How do we take what we see (input) and portray / represent it (output) effectively?
- How does the space around subject matter define the shape of a form as much as the form itself does?
- How does / can the medium that an artist works in affect the conceptual outcome of the visual expression?

Essential Questions, Conceptual

- Why do we make art? What role does art play in my life?
- Does art reflect the world as it is? Does art reflect the world as it should be? Does art reflect the world as it could be?
- How do artists choose their subject matter?
- What is portraiture? Who is portrayed in a portrait? Why?
- In what ways can visual communication convey meaning more effectively (powerfully, conclusively, emotionally) than other forms of communication? What are the limitations of visual communication?
- What is the message that I'm trying to convey with my work? What is my artwork about?
- Who is the audience of my work? Who will receive my communication? What is my responsibility to them? How can my communication be strengthened?

Course Descriptions

Grade Five

This course focuses on establishing the core drawing, painting, sculpture, and compositional skills needed to present representational subjects accurately and with confidence. Throughout the semester, students are given the opportunity to explore demonstrated techniques and experiment with a variety of drawing mediums such as graphite, oil pastel, and India ink in an encouraging and empowering classroom studio. Best practices and successful habits for visual representation are reinforced daily along with regular instructor demonstrations and regular opportunities to view and respond to the works of artists in group discussions. Additionally, students explore the conceptual side of art making and work to refine their communication skills both representationally and abstractly.

Grade Seven

This course builds on students' existing structural and observational drawing skills and offers an opportunity to develop their compositional skills while expanding their visual communication skills through focused studio practice. Students begin with an in-depth exploration of perspective and the representation of spatial depth. Through an exploration of structural drawing, students learn to accurately represent basic three-dimensional geometric volumes using one- and two-point linear

perspective and then progress to increasingly complex forms. Students practice observational skills and spend an extensive amount of time working with the strategies of life drawing. Additionally, students examine the concept of visual contrast and light source within two-dimensional compositions. Working with value-rich mediums such as charcoal and paint, students learn practical approaches to rendering realistic forms with convincing highlights and shadows. The students' observational skills are further strengthened through an introduction to figure drawing basic human proportion and anatomy. The course culminates with a self-portraiture project that offers students the opportunity for the creative application of all of the technical and conceptual skills introduced in class.

Grade Nine: Visual Art Foundation

In this foundational course, students establish strong observational drawing skills using a variety of demonstrated techniques and media. With focused studio time, students are given the opportunity to apply the concepts of class to their compositions in an inspiring atmosphere. Students also maintain a sketchbook throughout the course that serves as both a place for skill building as well as a vehicle for concept development. Additionally, students explore and make connections with the works of historical and contemporary artists.

Upper School Visual Art: Drawing

This course is a studio class designed for students who want to build upon the fundamental aspects of art production and focus specifically on the completion of two-dimensional work using charcoal, graphite, pastel, colored pencil, ink, and watercolor. Studio projects focus on the development of an advanced technical skill set and allow students an opportunity to explore a personal connection to their artwork. Specific projects are assigned and are general enough so that students can form their own approach to each assignment. Students are expected to exhibit an increasing level of responsibility and initiative in the completion of projects, and are the guiding force behind the ideas found in the work.

Prerequisite: Visual Art Foundation

Upper School Visual Art: Printmaking

This class explores the fundamental aspects of relief-block printing. Students learn to carve multiple surfaces, including foam, rubber, and wood, and explore various ways to apply and print with water-based ink. The semester culminates with a reductive-block print, for which students follow a multi-step process that allows each printmaker to work with a multi-color palette. During this project, students gain experience with registration techniques and the strategy of printing from lighter to darker values. Students generate their own content for each project and are expected to explore the technical and conceptual facets of their projects. *Prerequisite: Visual Art Foundation*

Inactive Courses for 2019-2020

Upper School Visual Art: Painting

Students apply observational drawing skills learned during Visual Art Foundation to establish strong observational painting skills. They explore color theory and become acquainted with the color properties of paint through a variety of assignments, demonstrated exercises, and paint-handling techniques. With focused studio time, students have the opportunity to apply the concepts of class to their compositions in an inspiring atmosphere. Students also maintain a sketchbook throughout the course that serves as both a place for skill building as well as a vehicle for concept development. Additionally, students explore and make connections with the works of historical and contemporary artists. *Prerequisite: Visual Art Foundation*

Upper School Visual Art: Sculpture

Students explore additive and subtractive sculpting using wire, clay, plaster, and foam. They develop a collection of their own work based on assigned thematic projects that stress advanced application of the foundational principles of Visual Art. Through regular critique of their work and extended self-directed studio time, students refine and focus both their technical and conceptual skills, producing work that represents their individual artistic strengths. Students take more responsibility for the conceptual goals of their work and continue their understanding of the technical aspects of art

production. Students maintain a sketchbook throughout the course that serves as a place for skill building, concept development, and artist research. *Prerequisite: Visual Art Foundation*

ENGLISH

Guiding Statement

The purpose of English Language Arts education is to develop the skills that students will need for the diverse literacy demands that they will face throughout their lives. Students need to be capable of critical thinking, listening and reading, and skilled in speaking and writing. Students need to effectively use language for obtaining and communicating information, for comprehending and evaluating texts, for literary response and expression, for learning and reflecting, and for problem solving and application. They need to develop clear, organized, and engaging ideas with respect to audience and purpose. Students need to read for understanding, expanding comprehension by questioning, analyzing, interpreting, and synthesizing sources of information to help them connect to and understand others, the world, and themselves. Through reading a broad range of texts (both literary and informational), writing, listening and speaking, students should build an understanding of their own identities and develop empathy for diverse perspectives in order to gain insight into the human experience.

Essential Questions

How do we convey ourselves clearly, creatively and persuasively to be better understood?

- What processes do writers use?
- How do we use writing to demonstrate what we understand?
- How can we attract and hold an audience's attention?
- How can we develop and express a unique voice?
- How does the order and structure of our ideas impact our ability to communicate effectively?
- How do we adjust our speech and writing to respond to specific audiences, purposes and situations?
- How does the use of evidence help to support our ideas and to make an argument more convincing?

How do we best understand and interpret what others are communicating with us?

- Why is questioning important?
- How can we be effective listeners?
- What strategies can we use to figure out the meaning of a word?
- What strategies can we use to comprehend a text?
- How can we use evidence from a text to support interpretations?
- How can we use the organization of a text to help us understand what we are reading?

How does reading, understanding and responding to literary texts and to one another help us to better understand ourselves and the world we live in?

- How can the analysis of literature help us to make connections, to deepen our own knowledge, and to help us to understand others' viewpoints and perspectives?
- How do authors use different genres to communicate in different contexts, for different purposes and with different audiences?
- How can we use evidence from a text to form and support our opinions?
- How can we gain critical thinking skills through reading?
- How can discussion deepen our own understanding and help us to understand others' perspectives?

How do our language choices impact our own thinking as well as the thinking of others?

- Why do we have rules for language?
- How can grammar and punctuation help us to communicate clearly?
- How do we use a system of shared conventions to communicate with one another?
- How can word choice and word order impact meaning?

Course Descriptions

Grade Five: English 5

Readers' and Writers' Workshop is used to introduce students to prewriting strategies and the steps of the writing process. Students practice techniques for narrowing their focus in a piece of writing and learn the value of using precise language when communicating a point. In addition, they regularly review the parts of speech and basic sentence structure. Students explore nonfiction texts, as well as a variety of genres of literature including poetry, folklore, fantasy, and historical fiction. Texts that have been read include the following: Natalie Babbit's *Tuck Everlasting*, Avi's *The Fighting Ground*, Ellen Raskin's *The Westing Game*, and Lois Lowry's *Number the Stars*.

Grade Six: English 6

Readers' and Writers' Workshop is used to target and strengthen specific reading and writing strategies, with an emphasis on expository and paragraph writing. Additionally, word attack strategies and grammar are included in lessons to expand students' vocabulary and sentence development, focusing on a variety of sentence types and structures. Students continue to explore a variety of writing genres, including fiction, non-fiction, and poetry. Texts that have been read include the following: Mildred Taylor's novel, *Roll of Thunder, Hear My Cry*; Margarita Engle's memoir, *Enchanted Air*; Gary Schmidt's novel, *Lizzie Bright and the Buckminster Boy*, and Linda Sue Park's novel, *A Long Walk to Water*.

Grade Six: Humanities

Students in this course explore topics and skills connected to gaining insight into the human experience with an emphasis on literacy and communication as a means to understand and document that experience. Students work to hone their oral communication skills, focusing specifically on listening, public speaking, and debate. Through the study of philosophy, students build skills in logic and argumentation. Students also practice the skills of close reading and analysis, particularly of nonfiction texts. Throughout the course, students connect their experiences to those of people in the local region from both the past and the present.

Grade Seven: English 7

In this course, students strengthen their skills in paragraph and multi-paragraph writing for persuasive, explanatory and narrative purposes. Vocabulary is developed through studying challenging words in texts, using literary terms, and deciphering context clues. Students study grammar and usage, emphasizing sentence structure and the use of phrases and clauses. Reading comprehension focuses on analyzing elements of fiction and nonfiction and interpreting essential ideas, arguments and perspectives of a text. In addition to a variety of short stories and poems, texts that have been read include the following: Homer's *The Odyssey*, Lois Lowry's *The Giver*, Markus Zusak's *The Book Thief*, Edmond Rostand's *Cyrano De Bergerac*.

Grade Eight: English 8

Students hone their comprehension and critical thinking skills by reading a variety of fiction, nonfiction and poetry. They practice persuasive speaking and writing techniques, paying particular attention to the value of effectively organizing and supporting their points in assertion-proof and concession-assertion essays. Finally, students expand their knowledge of literary devices, text-based vocabulary, and grammar, particularly clauses. Texts that have been read include the following: Harper Lee's *To Kill a Mockingbird*, John Steinbeck's *Of Mice and Men*, Lorraine Hansberry's *A Raisin in the Sun*, and Nic Stone's *Dear Martin*.

Grade Nine: English I

Students explore the four genres of fiction, poetry, drama, and nonfiction while strengthening specific reading and writing skills, with an emphasis on textual analysis and communicating through different styles of writing. Text-based vocabulary acquisition and a comprehensive review of grammar and usage are included to foster students' continued growth as writers. Texts that have been read include the

following: William Shakespeare's *Romeo and Juliet*; Julia Alvarez's *In the Time of the Butterflies*; Elie Wiesel's memoir, *Night*; Jeannette Walls's memoir, *The Glass Castle*, and Susan Glaspell's *Trifles*.

Grade Ten: English II

Students explore the four genres of fiction, poetry, drama, and nonfiction with the goal of thoroughly grounding students in more refined understandings of these literary types. Skills emphasized are close reading of the text, critical and informative writing based upon textual details, and clear, precise oral and written communication. Texts that have been read include the following: Nathaniel Hawthorne's *The Scarlet Letter*, the English epic *Beowulf*, and J.D. Salinger's *The Catcher in the Rye*. Other authors may include Hemingway, Gardner, Whitman, Emerson, Blake, and Poe.

Grade Eleven: English III

Students read and analyze fiction, nonfiction, poetry, and dramatic works of major 19th and 20th century American and British writers. Readings reflect a wide variety of style and perspective; students are encouraged to uncover common themes and historical perspectives. Student writing ranges from literary analysis and criticism to imitations of various writing styles. Students also workshop and write a personal essay connected to the grade eleven Guiding Question, "How can we be mindful of and prepare for the future?" Texts that have been read include F. Scott Fitzgerald's *The Great Gatsby*, Joseph Conrad's *Heart of Darkness*, Oscar Wilde's *The Importance of Being Earnest*, and Toni Morrison's *Beloved*. Other authors may include Miller, Melville, Twain, Woolf, Thoreau, Beckett, and Albee.

Grade Twelve: English IV

Students read and analyze fiction, nonfiction, plays, and poetry from around the world that address global concerns. Analysis of texts focuses on close reading and finding common threads between authors, styles, regions, and forms of expression. Students respond to course texts through writing, visual references, debates, and presentations. Past texts include Gabriel Garcia Marquez's *One Hundred Years of Solitude*, Matsuo Basho's *Oku No Hosomichi*, Nadeem Aslam's *The Golden Legend*, Milan Kundera's *Immortality* and a wide assortment of poetry in English and in translation. Other authors may include Diaz, and Dostoevsky.

MATHEMATICS and COMPUTER SCIENCE

Guiding Statement

The purpose of a mathematics education is to enhance students' critical thinking skills. Students will not only solve multi-step equations, but learn to apply the step-by-step processes needed to tackle problems encountered inside or outside of the classroom. Through learning and applying the fundamentals of arithmetic, algebra, geometry and calculus, students will be able to understand and utilize the increasingly specialized skills and concepts necessary for higher level mathematics. They will also develop life skills such as managing personal finances and interpreting common types of graphs. Through a well-rounded mathematical education, students will be able to reason both abstractly and quantitatively and successfully solve problems throughout their lives.

Essential Questions

What is the purpose of having a defined mathematical language?

- How does mathematics describe the real world?
- Why is mathematics called the “Universal Language”?
- How do mathematical symbols provide direction?

What can we learn from studying the relationships between numbers, figures and operations?

- How do parts and wholes relate to one another?
- How can visual representations (number lines, graphs, etc.) help us to use numbers to solve problems?
- What is the role of a variable?

How can we use data to construct reasonable expectations?

- How are data sets gathered?
- How do we use data to predict?
- How can different representations be used to analyze data?

What does it mean to think logically?

- What are the roles of mathematical processes in problem solving?
- How and why are formulas derived?
- How are conceptual ideas practically applied?

What role has mathematics played in the human experience?

- Why were the mathematical concepts that we use first developed?
- Can the same problem solving skills developed in mathematics be used to solve real life problems?
- What is the role of mathematics in the global community?
- How does the concept of geometric figures facilitate our understanding of the world around us?
- How has our understanding of mathematics assisted in the development of technology?

Course Descriptions

Grade Five: Mathematics 5

Students work to consolidate and apply the knowledge that they previously gained in elementary school. Students spend much of the first half of the year becoming proficient with all operations of whole numbers, fractions, and decimals. They are introduced to algebra and learn the significance of variables. They improve their understanding of geometry and measurement by learning about the properties of polygons, as well as area, perimeter, and volume. Students also study ways to represent and interpret data, including line plots and stem-and-leaf plots, and they learn about measures of central tendency. The primary text for this course is Glencoe/McGraw-Hill's *Math Connects Course One*.

Grade Five: STEM

Students in this course explore topics and skills connected to science, technology, engineering, and mathematics. Students embark on the engineering design process, tackling problems and designing solutions. Through explorations and investigations in this course, students hone foundational skills of mathematics and science, as well as observational, analytical and questioning skills. Students

also explore digital literacy and computer programming, building skills in logic and problem-solving. Throughout the course, students reflect on challenges and solutions in the local community, exploring issues related to local ecology, industry, and energy.

Grade Six: Mathematics 6

Students work to extend previous understandings of operations with rational numbers. Students learn about rates, and they solve problems by exploring proportional relationships. They further their understanding of algebra and continue to learn how to solve single-variable equations. They improve their understanding of geometry and measurement by learning about the properties of polygons, as well as area, perimeter, circumference, volume, and surface area. Students also study ways to represent and interpret data, including circle graphs, and they look extensively at simple probability. The primary text for this course is Glencoe/McGraw-Hill's *Math Connects Course 2*, with Pearson's *Connected Mathematics Two: Grade Six* being used as an additional resource.

Grade Seven: Mathematics 7

In this course, students solidify skills related to number sense, including integers, fractions, and rational numbers. Students explore concepts related to percents, ratios, and proportions. They further their investigation of these topics by solving application problems dealing with taxes, discounts, tips, and interest. Students continue to develop their skills in manipulating algebraic expressions and learn to solve multi-step equations and inequalities. In their study of geometry, students identify and describe relationships among figures in two and three dimensions, solve application problems involving measurement, and examine similarity as it relates to figures. Additionally, students learn how to draw inferences about populations based on samples in their study of probability and statistics. The primary text for this course is Larson and Boswell's *Big Ideas Math Grade 7*.

Grade Seven: Pre-Algebra

In this course, students explore integers, decimals, fractions, mixed numbers, and rational numbers in greater depth. Equipped with an understanding of rational numbers, students solve application problems using algebraic expressions, equations, and inequalities. In their study of geometry, students construct geometric figures and describe relationships between them. Students determine characteristics of similar and congruent figures, identify and use transformation rules, and apply formulas to geometric figures. A study of probability and statistics includes concepts such as random sampling, drawing inferences, and making predictions. Additionally, students are introduced to the concept of slope and develop an understanding for writing and graphing linear functions. The primary text for this course is Larson and Boswell's *Big Ideas Math Accelerated 7*.

Grade Eight: Mathematics 8

In this course, students work to become proficient with their understanding of real numbers, focusing on approximating and performing operations with irrational numbers. They further their understanding of exponents and begin to apply properties of integer exponents to solve expressions in scientific notation form. They use square and cube roots to represent solutions to equations and then apply these skills to solve problems involving the Pythagorean Theorem. Students continue their study of solving equations and eventually graph and solve linear equations and systems of linear equations, while connecting these to proportional relationships. Students identify, graph, and compare functions, as well as explore geometry concepts. Students distinguish between similarity and congruence, apply volume formulas, perform transformations across a coordinate plane, and make connections between angle sums and triangles. Lastly, students analyze bivariate data through scatter plots and two-way tables. The primary text for this course is Larson and Boswell's *Big Ideas Math Grade 8*.

Grade Eight: Algebra I

This course includes the study of real numbers, with a greater emphasis on approximating and performing operations with irrational numbers. Students apply the laws of exponents to solve expressions in scientific notation form, as well as use rational exponents to simplify expressions. Students spend an extensive amount of time writing, solving, and graphing linear equations, systems

of equations and linear inequalities. This knowledge of linear equations is then applied to solving, writing, and graphing quadratic equations, with a foundational understanding of polynomials. Students connect their understanding of absolute value equations, inequalities, square root, and exponential equations to graphical representations. Students define, evaluate, and compare functions that model linear, quadratic, and exponential relationships, apply the Pythagorean Theorem, triangle congruence relationships, and represent and interpret bivariate data through scatter plots and two-way tables. The primary text for this course is Larson and Boswell's *Big Ideas Math Algebra I*.

Upper School: Algebra I

This course extends the study of real numbers to apply the properties of exponents to rational numbers and to use rational and irrational numbers to reason quantitatively with units. Students spend an extensive amount of time writing, solving, and graphing linear equations, systems of equations and linear inequalities. This knowledge of linear equations is then applied to solving, writing, and graphing quadratic equations, with a foundational understanding of polynomials. Students connect their understanding of absolute value equations, inequalities, square root, and exponential equations to graphical representations. Students define, evaluate, and compare functions that model linear, quadratic, and exponential relationships, apply the Pythagorean Theorem. Students represent and interpret data on a single count or measurement variable and summarize, represent, and interpret data on two categorical and quantitative variables. The primary text for this course is Larson and Boswell's *Big Ideas Math Algebra I*.

Upper School: Geometry

This course focuses on plane Euclidean geometry with an introduction to solid geometry. Emphasis is placed on improving students' deductive reasoning skills through writing mathematical proofs and problem solving. Topics include geometric constructions, writing proofs, properties of triangles and polygons, congruence, similarity, circles, coordinate geometry, triangle trigonometry, transformations, and geometric probability. Texts used for this course include Pearson's *CME Project: Geometry* and Pearson's *Geometry: Common Core*.

Upper School: Algebra II

This course solidifies and builds upon the skills acquired in Algebra I and Geometry with continued emphasis on problem solving. Students apply their knowledge of linear and quadratic functions to work with a variety of new functions, including polynomial, exponential, logarithmic, and trigonometric functions. Other topics explored include systems of equations, matrices, complex numbers, advanced factoring, polynomial division, fractional exponents, exponential and logarithmic equations, trigonometric identities and equations, and probability. The primary text for this course is Pearson's *Algebra II: Common Core*.

Upper School: Algebraic Functions & Trigonometry

This course begins by weaving together previous studies of functions including linear, quadratic, exponential, logarithmic, radical, polynomial, and rational functions. Students explore these topics through applications in data analysis using systems of equations and matrices. In the second semester, students analyze trigonometric ratios and functions, inverse trigonometric functions, and applications of trigonometry in physics and navigation using vectors, the laws of cosine and sine, and representations of complex numbers in trigonometric form. *Prerequisite: Algebra II*

Upper School: Applications of Probability & Statistics

In this course, students explore the use of probability and statistics in the analysis of data and its use in decision making. The first half of the course focuses on how to properly collect and present data, working on the skills of finding the mean, median, and mode, and creating histograms and scatterplots. Students work to understand the concepts of causation, correlation, and bias, while analyzing different data sets. In the second half of the course, students learn the fundamentals of statistical inference and probabilistic methods for decision making. Some projects include an economic analysis of baseball and

a small business price-setting simulation. Throughout the course, students use computer software to present and analyze data. *Prerequisite: Algebra II*

Upper School: Advanced Statistics with Programming

Students begin this course by exploring probability and basic counting principles such as independent vs. dependent events and the choose function. They then focus on sampling and exploratory data analysis, including regression, contingency tables, and probability distributions. Students practice the skills of using simulations and making statistical inferences by predicting and creating models. Computer programming labs are used during the course to provide students with a powerful tool to explore and analyze data, culminating with the creation of experimental models. By the end of the year, students are expected to design and implement statistical surveys and experiments, gather and analyze data, and formally present results. *Prerequisite: Algebra II*

Upper School: Pre-Calculus

In this course, students continue to build upon their knowledge of functions, exploring them from a more abstract perspective. Students progress with their in-depth study of trigonometry and are introduced to polar and parametric equations, trigonometry with complex numbers, and vectors. Other topics explored include nonlinear inequalities, rational functions, conic sections, and sequences and series. This course concludes with an introduction to limits in preparation for Calculus. The primary text for this course is *Pre-Calculus with Limits* by Ron Larson. *Prerequisite: Algebra II*

Upper School: Calculus

In this course, students continue their exploration of limits and continuity. They study derivatives, second derivatives, and their applications. Students then focus on antiderivatives and their applications. Through their explorations, students come to understand the Fundamental Theorem of Calculus, as well as integrals and infinite series. Computer programming labs and mathematical software are used throughout the course to model and solve problems. The primary text for this course is *Calculus* by James Stewart. *Prerequisite: Pre-Calculus*

Upper School Computer Science Offerings

Grade Nine: Digital Literacy & Computer Science Principles

This required course introduces students to the foundational concepts of computer science and challenges them to explore how computing devices and technology on the whole continue to impact the world. This course explores many of the foundational ideas of computing and computer science, such as programming, physical computing/networking, data, and digital citizenship, so all students understand how to be more informed producers and consumers of the technology transforming the world in which we live.

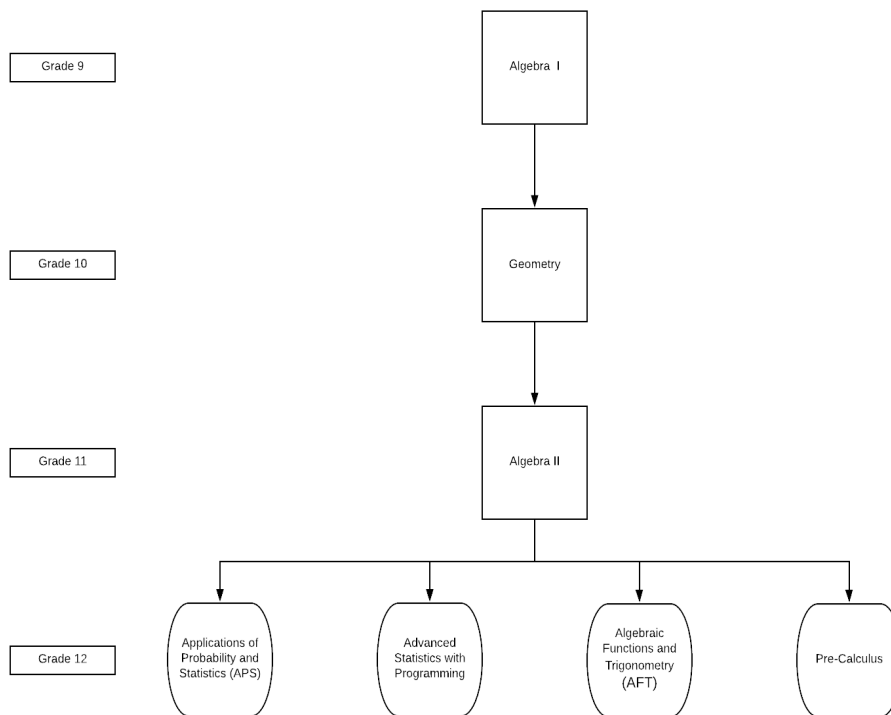
Upper School: Computer Science

Students in this course study problem solving, logic, and language in order to understand the adaptability and power of computational thinking and computing. Students will examine the logic of algorithmic problem solving to design iterative solutions to complex problems and implement their solutions with the use of the Java language. Topics include syntax, style, classes, data structures, interfaces, object-oriented programming methodology, algorithm development, iteration, program design analysis, and debugging. Students will work individually and collaboratively with the goal of producing efficient and adaptable programs. Students will also broaden their computational perspectives by examining the ethical and societal impact of computing. *Prerequisite: Algebra II*

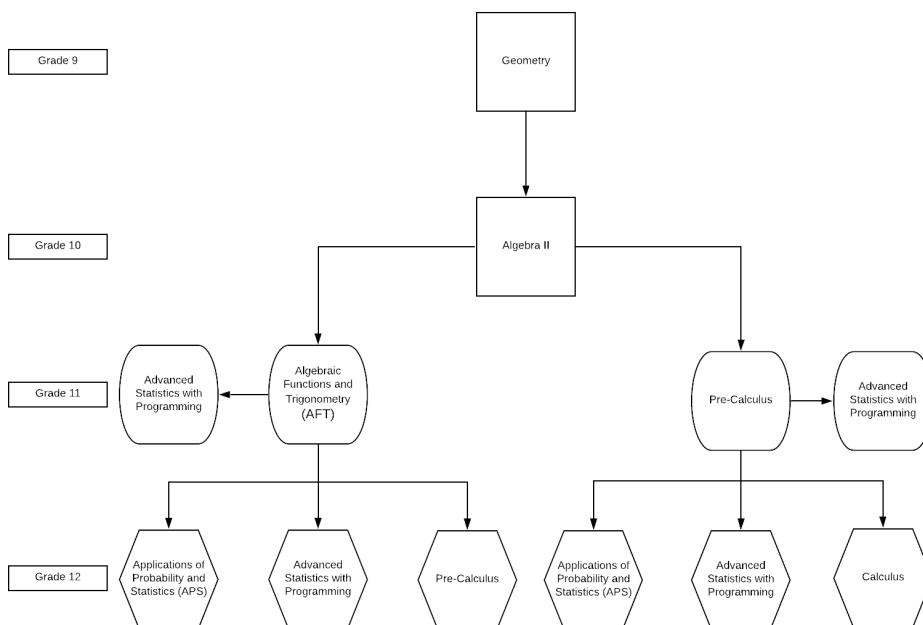
Mathematics Pathways

The following flow chart shows the sequence of courses available to students at Rising Tide, in alignment with the Massachusetts Curriculum Frameworks. Students may follow the standard pathway, beginning Algebra I in grade nine. Other students follow a compacted pathway, combining the standards from grades seven, grade eight, and Model Algebra I into two years of study in Middle School. These students begin Geometry in grade nine. Students, families, and Rising Tide faculty may work together, when appropriate, to change a student's pathway.

Rising Tide Mathematics Standard Pathway Options
For Students Entering Grade 9 in Algebra I



Rising Tide Mathematics Compacted Pathway Options
For Students Entering Grade 9 in Geometry



PHYSICAL EDUCATION

Guiding Statement

The purpose of Physical Education is to increase the physical capability, fitness level, self-responsibility and enjoyment of physical activity for all students so that they choose to be physically active for life. Students should understand how being physically active can help them live a healthier life and improve their self-confidence and self-esteem. Students will be given the opportunity to participate in a wide range of developmentally appropriate activities that will give students the chance to be leaders, reduce stress, cooperate with others and accept responsibility for their own behavior. Physical Education will also provide students the opportunity to increase their motor skill development, muscular strength, flexibility, muscular endurance, and cardiovascular endurance to give students the confidence to participate in all activities safely. With the knowledge and skills gained in Physical Education class, students will have the confidence to participate in sports and other physical activities outside the school environment.

Essential Questions

Sports & Fitness

- Why are sports important?
- Why do we have rules?
- What strategies do the top performers and teams use?
- How can we achieve greater power and more consistent skills?
- How can improved fitness levels improve our skills and game?
- How can we hit with greatest power without losing control?
- How important is follow-through for distance and speed?
- What feedback will enhance or improve performance most?
- What does it mean to be fit?

Teamwork

- Why can a team with great skills not be successful?
- Who is a “winner” in athletics?
- How can communication improve teamwork?
- How can failure lead to success?
- What makes a good team player or partner?
- What makes a good leader?

Self-Reflection

- How can pushing myself to work hard improve my confidence?
- Does practice always make me better?
- What are the best ways for me to live a healthy life?
- How can I be the best team member I can be?

Course Descriptions

Grade Five

Students work on improving their endurance by doing timed runs or jumping activities and improving their muscular strength by completing push-ups, planks, and sit-ups. Qualities of a good teammate and leader are discussed throughout the year and emphasized in competitive and noncompetitive play. Some of the topics explored have included flag football, softball, basketball, badminton, floor hockey, fitness, team handball, group games, and lacrosse.

Grade Seven

Students continue to work on increasing their fitness levels from previous years. They are introduced to a variety of abdominal exercises and unique upper body exercises to increase muscular strength. Students are expected to demonstrate an understanding of game rules, begin to use more advanced strategies during games and activities, and demonstrate sport-related skill techniques with greater

precision. Some of the topics explored have included flag football, softball, basketball, fitness, badminton, team handball, floor hockey, soccer, and lacrosse.

Upper School: Fitness

Students in the Upper School participate in physical fitness activities offered at Plymouth Fitness for one semester each year. Classes have included Cardio Sport, Weight Training, Spinning, and Pilates. Students rotate through a number of training activities, with a focus on setting and achieving individual fitness goals.

SCIENCE

Guiding Statement

The purpose of a Science education is to help students develop the skills and conceptual foundation necessary to effectively use the methods of scientific inquiry and engineering design to answer questions and solve problems in the world around us. Students will learn to make objective observations, ask relevant questions, analyze problems, come up with creative solutions, support their conclusions with evidence, and communicate their ideas clearly. Learning to think like scientists and engineers will enable students to approach new questions and problems independently, and they will be more adept at making connections and assimilating new information into the framework of their existing understanding. They will become critical thinkers who are better able to judge the complexity of issues such as those presented in technology, medicine, and the environment. By modeling inquiry and design in our classrooms, we hope to foster a life-long curiosity that will inspire students to ask questions, investigate how things work, and look for new and creative ways to solve challenges in everyday life. The goals that we have set for our students will be achieved through the collective study of earth and space science, life science, the physical sciences, and technology/engineering.

Essential Questions

How do we use science to answer questions and explain the world around us?

Process Questions

- What kinds of questions can science answer?
- What are the methods of scientific inquiry?
- How are scientific theories and laws developed?
- What makes an effective observer?
- What kinds of evidence are useful in science?
- How do we recognize patterns?
- How do we classify the world around us?
- How can we use technology to extend our ability to make observations and collect evidence?
- How can we effectively communicate our ideas about how the world works?
- How do models help us represent and develop abstract ideas?
- How are mathematical equations useful in science?
- How do we express scientific understanding through writing?

Content Questions

- What is a system and how do systems interact?
- What does it mean to be alive?
- How are matter and energy related?
- How do forces affect the natural world?
- How do we appropriately use technology to address global challenges?

Course Descriptions

Grade Five: Science 5

Students explore the connections and relationships within and between systems through an integrated science approach, investigating topics within the life, physical, and earth and space sciences. Students develop understandings about plan structures and functions, the periodic table, properties of matter, forces, and energy. Students are introduced to the scientific method using an inquiry-based approach and discover how to think like scientists. Some specific investigations include germinating and planting seeds to explore plant structures, mixing substances to investigate their individual properties and the properties of the product, and designing working circuits. A variety of text, media, and web-based resources are used in this course, including Scholastic's *Science World* magazine.

Grade Five: STEM

Students in this course explore topics and skills connected to science, technology, engineering, and mathematics. Students embark on the engineering design process, tackling problems and designing solutions. Through explorations and investigations in this course, students hone foundational skills of mathematics and science, as well as observational, analytical and questioning skills. Students also explore digital literacy and computer programming, building skills in logic and problem-solving. Throughout the course, students reflect on challenges and solutions in the local community, exploring issues related to local ecology, industry, and energy.

Grade Six: Science 6

Students explore topics along a broad narrative arc of origin stories: our Universe, our Solar System, the Earth, life on Earth, and humans. Various space, earth, and life science topics are explored by focusing on the structure and function of different phenomena, using models to understand micro- and macro-scale objects and processes. Students continue to practice the scientific inquiry method by conducting more quantitative investigations, strengthening basic skills such as collecting data, diagramming, using mathematics, graphing, and writing conclusions. Particular emphasis is placed on diagramming core concepts and being able to provide complete, accurate written explanations that cite scientific evidence for support. A variety of text and web-based resources are used in this course, including Prentice Hall's *Science Explorer* series.

Grade Seven: Science 7

Students explore systems and cycles while continuing to develop scientific inquiry skills to help answer scientific questions. Through an integrated science approach, students explore Earth's systems and cycles as well as the human impact on our planet. Students investigate the structure and processes of our natural world, especially focusing on organisms, ecosystems, energy, and engineering. Students participate in a design challenge to build working solar cars using the technology design process. A variety of text and web-based resources are used in this course, including Prentice Hall's *Science Explorer* series.

Grade Eight: Science 8

Students explore how cause and effect can be observed through an integrated approach to science disciplines. Students investigate topics within earth and space science, life science, physical science, and technology and engineering. Students continue to develop scientific inquiry skills, making connections between science and their daily lives through research projects, investigations, and building and analyzing models. Examples include researching genetic diseases, preparing produce for space travel, and building and testing toothpick bridges. An emphasis is placed on developing and practicing scientific research skills. A variety of text and web-based resources are used in this course, including Prentice Hall's *Science Explorer* series.

Grade Nine: Introductory Physics

Students explore the physical world around them, from the local community to places as distant as the stars. Students apply mathematical skills and formulas to calculate and understand concepts such as motion, forces, velocity, work, acceleration, and potential and kinetic energy. Topics of study include conservation of energy and momentum, heat and heat transfer, waves, electromagnetism, and electromagnetic radiation. Content is built around hands-on laboratories such as measuring the motion of a projectile in horizontal and vertical planes, investigating collisions of carts, and exploring the properties of light. Students examine many of their own questions and discover ways to collect data to support or refute hypotheses. Students learn the difference between scalar and vector quantities, improve graphing skills, and gain practice designing experiments. A variety of text and web-based resources are used in this course, including *Conceptual Physics* by Hewitt.

Grade Ten: Chemistry

Students investigate the composition, properties, and structure of substances. Topics of study include physical behavior of matter, atomic concepts, the periodic table, chemical bonding, moles and stoichiometry, solutions, kinetics and equilibrium, acid-base chemistry, oxidation-reduction reactions, and organic chemistry. Through laboratory investigations, students gain practice in making observations of chemical reactions and substances, calculating and interpreting results from experiments, maintaining laboratory journals, and communicating their work. Labs include modeling isotopes, separating a mixture, studying the shapes and polarities of various molecules, investigating different types of reactions, examining how the colligative properties of a salt water solution can be used to make ice cream, and using acid-base chemistry to tie-dye t-shirts. The primary text for this course is *Chemistry: Matter and Change* by McGraw-Hill Education.

Grade Eleven: Biology

Students in this course develop an understanding of the diversity of life and interactions of organisms with each other and the environment, improve scientific literacy skills, and gain an appreciation for the natural world and local biological communities. This course includes regular laboratory investigations that help students to understand the central concepts and fundamental principles of the living environment. Students explore topics in biochemistry and cell biology, genetics, evolution, basic anatomy and physiology, and ecology. Emphasis is on learning science by doing science and on understanding biological interactions within a system. Students complete a wide range of independent and cooperative learning activities to develop experimental design, data analysis, communication, and laboratory skills. Laboratory investigations include biomolecules digestion, experiments on photosynthesis in plants, Kirby-Bauer antibiotic resistance experiments, and an in-depth dissection of a fetal pig.

Upper School: Advanced Biology

Students in this course build upon their prior knowledge of biology while developing more advanced skills such as interpretation and critique of data, scientific writing, and statistical analysis. These skills are emphasized by reading and analyzing scientific publications and discussing current events in biological science. The course includes topics on evolution and biodiversity, advanced genetics, the flow of energy through biological systems, and the interactions between living things. Laboratory investigations include experiments on osmosis and diffusion, genetic manipulation of *E. coli*, agarose gel electrophoresis, and several experiments involving microscopy. The primary text is the tenth edition of *Campbell Biology* by Reece et al. *Prerequisite: Teacher Approval*

Upper School: Advanced Chemistry

Students in this course build upon their prior knowledge of chemistry through inquiry-driven investigations into topics such as atomic structure, intermolecular forces and bonding, chemical reactions, thermodynamics and equilibria, and reaction kinetics. Students participate in a variety of laboratory investigations designed to encourage them to ask questions, develop thoughtful hypotheses, design experiments, and analyze data. Finally, students learn to share the results of their work with the scientific community through different mediums, including a lab notebook, formal lab reports, and oral presentations. Students have access to state-of-the-art elemental analysis equipment that will allow for quantitation of trace elements in environmental and biological samples. This access empowers the students to test hypotheses for real-world problems. *Prerequisite: Teacher Approval*

Upper School: Advanced Physics

In this course, students build upon their prior knowledge of physics in order to discover how the mathematical disciplines of Algebra and Calculus are applied to explain natural phenomena. Students continue to explore the role of physics on Earth and throughout the universe. Additionally, students practice and develop the skills of problem solving, experimental design, and scientific reasoning, ultimately gaining a better understanding of connections between physics and society. The primary text for this course is *Physics for Scientists and Engineers* by Knight. *Prerequisite: Teacher Approval; Corequisite: Calculus*

Upper School: Earth & the Environment

This course combines an introduction to the science of Earth's systems and a study of human impact on the environment. Earth science concepts may include global climate patterns, plate tectonics and mineral formation, properties of ecosystems, and the role of water on Earth. Some laboratory investigations may include weather prediction, soil creation, and mineral identification. The study of these concepts is linked to analysis of issues facing the local region, through case studies on topics such as climate change, electricity generation, fisheries management, and reliance upon a sole source aquifer. The aim of each case study is to prepare students to participate in current debates that arise from these regional issues and to evaluate what should be done. Students learn to formulate arguments that compare the relative importance of economic, environmental, and social factors. During the final term, students choose their own environmental issue to explore, honing research and presentation skills as they delve into these challenges and discuss practical solutions.

Upper School: Technology & Engineering

Students in this course develop an understanding of the engineering design process and how technology is shaped by and affects society. The course emphasizes skills in research as well as how to define design problems, articulate and develop possible solutions, and communicate results. Students investigate how to solve practical problems by developing technologies based on scientific knowledge and mathematical principles. Students develop the ability to create and interpret schematics and technical drawings as well as build and test prototypes. Topics of study include the properties of materials, and mechanical, electrical, fluid, and thermal systems. Students also examine how human values, economics, and environmental considerations influence our design choices when seeking solutions to complex local and global challenges and needs.

SOCIAL STUDIES

Guiding Statement

The purpose of a Social Studies education is to help students become actively engaged and aware citizens. Students will view multiple perspectives from throughout history and up to the present-day, considering the efforts of those who have fought for democratic ideas and values. They will understand the role that each citizen plays in contributing to society, living and working as responsible members of a larger community. Students will gain critical thinking skills by investigating a variety of historically significant events and texts. Students will interpret and analyze primary sources from the past and present, learning to identify factual evidence and notice bias. They will be able to effectively communicate their ideas, through writing and speaking, asking relevant questions and making direct connections to issues of the present-day. The goals that we have set for our students will be achieved through the collective study of culture, history, geography, civics, and economics.

Essential Questions

How do we define and understand cultural identity?

- How do separate cultures around the world influence each other?
- How does culture shape both society and the individual?
- How can cultural diversity create conflict or debate?
- How are traditions from native cultures preserved through the generations?
- How do events occurring around the world connect/relate to each other?

How do we understand the past?

- How is history recorded?
- How do events of the past connect to the present and the future?
- How can we use artifacts to better understand the past?
- How does cultural perspective shape understanding of the past?
- How do we identify credible resources?
- What process steps are involved with independent research?
- How can a timeline help us understand historical context?

How do geographical factors shape the history and the people living in a region?

- How do we use maps and geographic tools to understand a place?
- Why do people migrate or travel to new places?
- How does human behavior impact the physical environment?
- How can changes in climate, natural resources, and landscape impact a region?
- How are the borders/boundaries on maps created?

How are decisions made for the public good?

- What are the roles and responsibilities of free citizens?
- How are social or political conflicts resolved by groups?
- How could people respond to a situation where equality has been denied?
- How should established institutions best exercise their authority in society?
- What characteristics make a good or effective leader?

How do people get the goods and services they need?

- What are the effects or consequences of commerce and trade?
- Which key factors help to regulate and sustain an economy?
- How does having a strong economy impact people in a society?
- What factors contribute to the allocation of goods and services?

Course Descriptions

Grade Five: Social Studies 5

Students explore the early civilizations and tribes in the Americas, European colonization, and the United States' independence and westward expansion. Interspersed is discussion of current events that is better understood through the students' developing historical knowledge. Students practice finding and utilizing reliable sources. They examine primary sources, such as historical images, newspaper excerpts, letters, and journals, in order to compare and contrast and make personal connections to history. They regularly practice map-reading skills and are introduced to the research process, working together to develop and explore questions related to the themes of exploration, democracy, freedom, and leadership. Texts that have been read include the following: Joy Hakim's *Making Thirteen Colonies* and *The First Americans*, *Junior Scholastic*, *Colonial America Primary Sources* and excerpts of Laura Ingalls Wilder's *Little House in the Big Woods* and Laurence Yep's *The Dragon's Child*.

Grade Six: Humanities

Students in this course explore topics and skills connected to gaining insight into the human experience with an emphasis on literacy and communication as a means to understand and document that experience. Students work to hone their oral communication skills, focusing specifically on listening, public speaking, and debate. Through the study of philosophy, students build skills in logic and argumentation. Students also practice the skills of close reading and analysis, particularly of nonfiction texts. Throughout the course, students connect their experiences to those of people in the local region from both the past and the present.

Grade 6: Social Studies 6

In this course, students examine general concepts of geography and culture. Students apply these concepts to the areas of Africa and India. Students explore the history and current events of each region, with a specific emphasis on Western imperialism. Students learn about the origins of various cultures and how they have interacted with other peoples. In addition to building map-reading and researching skills, an emphasis is placed on writing, analyzing primary documents, and developing critical thinking skills. Primary sources that have been used in class include the following: selections of Ibn Battuta's *Rihla*, George Washington Williams' "Letter to King Leopold on the Congo, 1890," newsreel footage, songs, political cartoons, and older textbooks that illustrate Western bias.

Grade Seven: Social Studies 7

In this course, students explore the development of early human life on earth, the characteristics of civilized, agrarian societies in the Fertile Crescent, and the emergence, success and the collapse of the ancient Mediterranean empires. Students examine the ongoing conflicts in the modern-day Middle East and Central Asia, while also confronting the complex concept of globalization. Students also spend extensive time studying the ancient empires of India and China. Students continue to develop their researching skills by locating a variety of credible resources and using factual evidence to support their assertions. Students analyze numerous primary sources, examining the universal themes of history, as expressed by both ancient and modern cultures. Primary sources that have been read include the following: *The Epic of Gilgamesh*, *Hammurabi's Code*, President Truman's 1948 telegram to Israel, the *Torah*, the *Bhagavad Gita*, and Mao's *Little Red Book*.

Grade Eight: Social Studies 8

This course emphasizes civic responsibility, with students exploring topics ranging from the founding of the United States, including the role of Massachusetts, to the Civil War, Reconstruction, and segregation. Students are challenged to break down complex primary sources and to question and analyze the language and meaning of the documents, including the *Declaration of Independence*, the *U.S. Constitution*, and the *Bill of Rights*. Students work to hone their researching skills by conducting a long-term, in-depth research project connected to a theme in history.

Grade Nine: U.S. History II in the World

In this U.S. and world history course, students explore the following topics: immigration to the United States, labor movements in the United States, the Spanish American War, the World Wars, genocide, feminism and civil rights in the United States, the Cold War, and the Vietnam War. Students work towards a mastery of questioning and analysis skills for a variety of sources. They regularly conduct independent research, culminating in presentations and a formal research paper. Texts that have been read include the following: President Wilson's "Fourteen Points," Marx's *The Communist Manifesto*, President Roosevelt's "Four Freedoms," Martin Luther King, Jr.'s "Letter from a Birmingham Jail," and President Kennedy's inaugural address.

Grade Ten: Global History I

In this course, students explore topics ranging from the history of world religions to the rise of empires and the consequences of a globalized society. While the focus of the course dates from 400-1800, students also analyze history through a thematic and narrative-based approach. As a result, students look to understand big ideas that cross time and place while also understanding specific details of certain events. For example, students uncover common traits of the collapse of an empire and then apply those characteristics to evaluate why the Ottoman Empire, Umayyad Caliphate, the Han Dynasty, or the Kingdom of Ghana collapsed. In addition, students explore the concept of revolutions, looking closely at the French and Haitian Revolutions, as well as the Spanish American Wars of Independence. Students are expected to conduct increasingly complex research, synthesizing information from a number of primary and secondary sources and regularly presenting their findings through exhibits, presentations, and papers. By the end of the course, students have a better understanding of how separate cultures have influenced each other and the complexities of our international community.

Grade Eleven: Civics & Economics

Students consider their roles as global citizens and consumers with responsibilities to their counterparts at the local, national, and international levels. Students learn about their rights and responsibilities in our state and federal governmental systems and about the fundamentals of our rapidly changing global economy. During this course, students choose a local problem, conduct field research, collect and analyze data, and work together to design a polished presentation of their findings and proposed solutions to invited guests and members of the public. The course also builds from the financial literacy units students explored in middle school, reviewing microeconomics and personal finance. Students then explore macroeconomics, including topics such as market structures and international trade. A culminating individual research paper requires students to incorporate lessons and themes from throughout the year, while also demonstrating their research, academic writing, and presentation skills.

Upper School: Comparative Religion

Students explore and draw connections between major world religious traditions, exploring how these traditions continue to shape the cultures of their followers and be shaped by their followers. The course begins with an overview of some of the major world religions, including Abrahamic religions, East Asian religions, and religions of the Indian sub-continent. Students analyze religious texts, scholarly commentaries, and memoirs of adherents to explore the relationship between religion and culture. Topics may include creation stories, gender roles, and leadership structures. Students also explore different interpretations of the same religion, developing an understanding of modern religious denominations. Over the course of the semester, students develop a research question and write a research paper on a central theme that synthesizes information from various religious traditions.

Upper School: International Relations

Students study the field of international relations, focusing on how nations cooperate, compromise, and manage conflict. Students explore the different theoretical approaches of international relations and use these approaches to analyze issues such as international trade, peacekeeping, war, and global environmental concerns. Students investigate historical and present-day case studies to better understand the roles and responsibilities of individual nations and international organizations in a global society. Case studies may involve nuclear proliferation, global terrorism, economic sanctions,

and environmental treaties. To conclude the course, students conduct an original case study of an area, issue, or conflict. They research the historical, social, and economic context, apply different theoretical approaches, and make foreign policy recommendations based on evidence.

Upper School: Local History

Using the rich historical resources of the Plymouth region, students in this course hone historical research skills, analyzing primary sources and archives to more fully understand the past and its people. Students collaborate with local historians and access resources in the community to conduct and present research about local artifacts to the public. Students will utilize skills from a variety of fields in the social sciences, including geography, economics, anthropology, and political science. In doing this work, students create resources that bridge the gap between academic history and public history. By conducting rigorous authentic research and regularly practicing historical thinking and writing, students do the work of a historian and leave the course ready to analyze other time periods and places beyond our harbor.

Upper School: Modern Global History

This course provides students with an understanding of the history of the modern world and helps to broaden students' perspectives on modern world issues. This course centers on the histories of Central and South America, Asia, Africa, and the Middle East and takes students from the 1600-1700's to the events and trends of the modern day. While each region has its own historical narrative, the interactions between these areas will challenge students to understand world history as single and continuous. The class moves chronologically, but revolves around certain themes, such as globalization and economic development, governance and governmental experimentation, foreign policy and diplomacy, social change and progress, and other "big picture" concepts that have, each in their own way, transformed the modern world. Students build upon their skills in research, mapping and geography, critical reading of primary sources, and argumentative writing, honing their verbal articulation of complex ideas.

Inactive for 2019-2020

Upper School: Anthropology

Students study cultural anthropology through reading and analyzing ethnographies, conducting small projects to practice anthropological skills, and exploring eleven anthropological questions that help guide and define the field of cultural anthropology. Some of the questions include "How do I learn about culture?" "What is my perspective?" and "Am I judging this?" Through investigating these questions, students develop a coherent sense of how anthropologists can logistically, ethically, and meaningfully conduct research. Students investigate their own culture through small projects in order to better grasp the importance of each anthropological question. These projects may include observing an unfamiliar event and interviewing a participant, analyzing jokes and their context from different cultures, or observing and analyzing door opening behavior in a public space. For the culminating assignment, students choose an ethnography and independently analyze it.

Upper School: Philosophy

Philosophy translates to "love of wisdom." In this class, students examine a variety of viewpoints in order to begin to answer fundamental philosophical questions. After developing a good understanding of what philosophy is -- its subfields, its process, and its history-- students explore fundamental questions through reading, analyzing, and critiquing arguments from influential philosophers including Plato, Descartes, Locke, Aquinas, and Ryle, among others. Essential questions explored in this course include "Is knowledge possible?" "What have philosophers said about the existence of God?" "What makes you you and me me?" and "How should we tell right from wrong?" Students consistently apply their understandings of readings and assess the cogency of philosophers' arguments through frequent analytical essays.

WORLD LANGUAGES

CLASSICS

Guiding Statement

The purpose of a Classics education is to help students communicate more effectively and understand cultural perspective. Through translating Classical languages, students will better understand how to interpret the syntax of other languages, including English, and they will gain skills that will enable them to determine the meanings of unfamiliar English vocabulary. Students should be able to recognize how societies and languages evolve, how they are influenced and influence others, and how to take perspective. With the benefit of a Classics education, both linguistic and cultural, students will be able to make connections to other disciplines and comparisons to their own language and culture. In this way, the study of Classics enables students to participate in their own communities in a more informed way and be more aware as global citizens.

Essential Questions

What is the purpose of language?

- How do we communicate?
- How do we identify the strengths and weaknesses/limits of a language?
- What are the strengths and weaknesses of the Latin language? English language?
- How do languages evolve?

How do we comprehend a classical language?

- What makes a translation correct?
- Do words have an exact meaning?
- Is punctuation necessary?
- Is word order necessary?
- Should translators value exact meaning or style more?
- Should a translator take into account the cultural perspective of the original author?

What makes a culture successful?

- Does a dominant society have responsibilities?
- Why was Ancient Rome so powerful?
- What are the most important qualities for a culture to have in order to be successful?
- What caused the downfall of Ancient Rome?
- How are individuals' identities connected to their culture?

Why does studying a classical language and culture connect to our lives?

- Why does English contain so much Latin?
- How is our community affected by classical language and culture?
- What lessons can we learn from studying a classical language and culture?
- How is the study of a language and culture useful?
- How does our culture affect our use of language?

Course Descriptions

Grade Seven: Latin 1A

Students are introduced to the basic skills needed to learn a foreign language, including study techniques for learning vocabulary and recognizing parts of speech. The students learn aspects of language that are more particular to Latin, such as inflection and the function of the noun cases. They also learn to recognize and form indicative active verbs in the present, future and perfect tenses. Students build up a large base of vocabulary and expand their English vocabulary through the study of derivatives. The culture explored in Latin 1A includes daily life in ancient Rome, classical mythology, and Vergil's *Aeneid*.

Grade Eight: Latin 1B

By the end of this course, students have learned all five major noun cases, plus the vocative case. They can conjugate active and passive indicative verbs in all six tenses as well as form and recognize the imperative mood. Students can manipulate adjectives in the first and second declensions and convert adjectives into adverbs. They work with personal pronouns of the first and second person, and practice distinguishing them from possessive adjectives. Students also work with subjective and objective infinitives, including clauses containing objective infinitives with accusative subjects. Students translate by separating sentences into clauses and phrases and examining the endings and functions of words. They acquire many new vocabulary words and continually identify derivatives in the English language. Culturally, the students explore the history of Rome from its founding by Romulus through the start of the Roman Republic, as well as the geography of the ancient city of Rome. They also continue to learn about the Roman religion, including myths, and customs. The primary textbook for this course is *Latin for Americans*.

Upper School: Latin I

This class combines all of the grammar from Latin 1A and 1B. Cultural topics explored include an overview of classical mythology, Roman history during the Monarchy, and Roman daily life. This course uses the *Latin for Americans* textbook, and students read excerpts, in translation, from Ovid's *Metamorphoses*, Livy's *Ab Urbe Condita*, and Virgil's *Aeneid*.

Upper School: Latin II

Through learning the ablative absolutes, all tenses of participles and infinitives, the subjunctive mood, and more vocabulary, students explore new clauses and grammatical constructions in Latin, which do not always have direct English equivalents. Students use new grammar such as purpose clauses and demonstratives to discover more of the nuances of the Latin language. By the end of the year, students have had exposure to most of the basics of Latin grammar and are prepared to take on the task of reading adapted texts from authentic Latin authors in Latin III. Latin II students continue their investigation of Ancient Rome by focusing on the history of the Roman Republic as well as exploring the narratives of Greek and Roman mythological heroes.

Upper School: Latin III

In this course, students strengthen their skills in translating and learn some of the trickier Latin grammar, such as new subjunctive clauses, uses of both the gerund and gerundive, and numerous new usages of noun cases. Once they have learned these, they delve into authentic Latin by reading the letters of Pliny the Younger, starting with his first-hand account of the eruption of Mt. Vesuvius. In addition, students explore the early days of the empire in cultural lessons themed around analysis of the question, "What makes a good Emperor?" In addition, students explore cultural topics related to the Latin stories that they read and translate. Texts include *Latin for Americans*, Julius Caesar's *De Bello Gallico*, Pliny's *Epistulae*, and Livy's *Ab Urbe Condita* (Adapted).

Upper School: Latin Letters: Pliny and Cicero

This course focuses on guiding students through unadapted Latin prose and improving their reading and composition skills in Latin. Students engage with the works of two main prose authors: Pliny the Younger and Cicero. Both authors were Roman politicians and writers, whose letters touched on many topics which still find relevance today. These topics include dealing with personal and political challenges, observations and critiques of the world in which they live, and philosophy about living a good life and being a good person. By interacting with these texts, which have been foundational to the thinking of the governments, religions, and literature of the western world, students enter into a dialogue which has been going on for centuries. They are guided by concrete questions such as "How has the classical writing of Cicero and Pliny influenced the world?" as well as grapple with much larger and personal questions such as "What is my perception of the world, and what do I want it to be?" As students read these primary sources, they also develop the skill of Latin composition. Students have the opportunity to write responses, letters, and short stories in Latin emulating the styles and

skills of these two Latin authors, and finding their own voices within this ongoing historical dialogue.
Prerequisite: Latin III

Upper School: Latin Poetry: Catullus & Ovid

In this course, students refine the skills that they have developed in previous Latin courses by reading the poetry of Catullus and Ovid. While reading Catullus, students focus on the wide-ranging themes of the *libellus* and the unique stylistic features of neoteric poetry. Students have the opportunity to see Catullus' influence on later poets as they read selections from Ovid's *Amores* and *Metamorphoses*. As they read Ovid, students focus on both the stylistic features of his poetry and Ovid's engagement with contemporary events. Throughout the course, students pay special attention to the development of each author's poetic persona. In addition to translating, students practice scanning dactylic hexameter, hendecasyllabic, and elegiac couplets. Students read not only for grammar, but also for analysis and overall meaning of the poetry. *Prerequisite: Latin III*

Inactive for 2019-2020

Upper School: Latin Epic: Vergil

Students refine the skills that they have developed in their previous Latin courses by reading Vergil's "Aeneid," a Latin epic poem written at the beginning of the Roman Empire that tells of Aeneas' journey to found a new city for the Trojans after the Trojan War. Students read selections of the poem in Latin, focus on the unique stylistic features of Vergil's poetry, and explore the political and historical significance of Vergil's work. Students read not only for grammar, but also for analysis and overall meaning of the poetry. In addition to strengthening their translation skills, students scan Vergil's poetry, learn different rhetorical and poetic devices, analyze characteristics of the epic genre, and explore the biases and propaganda of the tumultuous times in which Vergil wrote. They also read the full text in English and examine key themes such as the costs of empire and war, *pietas* (piety), *imperium* (order or empire), and *furor* (unchecked rage). *Prerequisite: Latin III*

Upper School: Latin Oratory: Cicero & Sallust

This course focuses on guiding students through unadapted Latin prose and improving their reading skills. Students engage with two main prose texts: Cicero's *In Catilinam* and Sallust's *Bellum Catilinae*. The connecting theme of these texts is the unrest of the first century BCE when Catiline, a Roman patrician, led a conspiracy against the government. Cicero, one of the world's most famous orators, must use his political acumen and strong oratory skills to avoid civil war. Through analyzing these texts, students explore concepts such as rhetorical style and bias, both within persuasive arguments and historical writings which are thought to be objective. In addition to the study of literature, this course helps to deepen understanding of important grammatical forms and constructions as seen in the readings. It also gives students strategies of the best ways to approach authentic Latin literature. *Prerequisite: Latin III*

MODERN WORLD LANGUAGES

Guiding Statement

Studying a modern world language helps students communicate more effectively and understand cultural perspective. Through learning to communicate in a modern world language, students gain skills that help them to better understand the grammar and syntax of English, as well as other languages. Through the understanding of a modern world culture, they gain an appreciation of diverse cultures. They also gain a better understanding of how their own culture develops, changes, and connects to other cultures. The study of a modern world language helps students become more accepting of citizens from other cultures and helps to make the students themselves more aware as global citizens.

Essential Questions

What is the purpose of language?

- How do we communicate in this era of globalization?
- How does written language differ from spoken language?
- How do we identify the strengths and weaknesses/limits of a language?

How do we comprehend a modern world language?

- How do we trace the origins of a language?
- What makes for successful communication in a modern world language?
- How does pronunciation affect the understanding of a modern world language?
- Is punctuation necessary?
- Is word order necessary?

How are culture and language connected?

- How does culture affect the development of a language?
- How can we understand a culture through studying its literature and customs?
- How do changes in a culture affect a language?
- Why do dialects develop?

How does studying a modern world language and culture connect to our lives?

- What is the value of learning a modern world language?
- How does globalization affect us?
- How does our knowledge of other cultures affect our own lives?
- What are the connections between our culture and other cultures around the world?

Course Descriptions

Upper School: Spanish I

This course introduces students to the Spanish language by using the three modes of communication: interpretive (reading and listening), interpersonal (speaking), and presentational (writing). The course presents students with authentic audio, video, and text resources, thus giving students the opportunity to gain an appreciation of the culture as well as the language. At this level students will learn the basics of the course as well as being able to communicate in the present tense, use a variety of regular, irregular and stem-changing verbs, talk about likes and dislikes, and begin using the preterite to communicate in the past. During the course, students are expected to be actively engaged in conversations, asking and answering questions, as well as writing questions and responses. Students also practice writing mini-essays and letters. The course is conducted mostly in Spanish.

Upper School: Spanish II

Students in Spanish II continue to work on their proficiency in the language through thematic units. Students work with a variety of authentic resources, such as articles, infographics, videos, and magazines. Students continue developing their communicative skills focusing on the modes of communication: interpretive, interpersonal, and presentational. As students engage in spontaneous conversations with each other and work on adding details to their writing, they concentrate on communicating in the past using the preterite, imperfect, and the present perfect tense. Most of

communication is done in the indicative and the imperative mood all through the telling and writing of stories. To improve their interpretive skills, students improve their ability to understand the main idea of authentic sources and identify the meaning of keywords in context. The course is conducted almost entirely in Spanish.

Upper School: Spanish III

Students in Spanish III continue developing their communicative skills focusing on the three modes of communication: interpretive, interpersonal, and presentational. Units are planned under specific themes with the intention to facilitate the integration of language, content, and culture and to promote the use of the language in a variety of contexts. As students work with a variety of authentic sources, such as videos, magazines, short stories, news articles, infographics, news reports, etc. they familiarize and express themselves using the different tenses of the present, the past, the future and an introduction to the subjunctive mood. Students are expected to actively engage in their own language learning, participate in conversations covering a wide range of topics, respond appropriately to conversational prompts, and plan, produce and present spoken and written presentational communications. The course is conducted almost entirely in Spanish.

Upper School: Spanish IV and Spanish V

These courses focus on guiding students to effectively and confidently communicate in Spanish. At this level, students complete their understanding of grammatical structures in the indicative and subjunctive mood in the present and in the past. Students also focus on sequence of tenses in their communication. This is accomplished through a variety of creative, communication-based assignments focused on the three modes of communication: interpretive, interpersonal, and presentational. Context for the language is gained through in-depth inquiry into the culture of the Spanish-speaking world, its peoples, and their historical and current achievements, issues, and concerns. These courses also seek to improve students' ability to read and appreciate literary and non-literary texts in Spanish, deepening students' awareness and understanding of the cultural diversity of the Spanish-speaking world. The courses are organized by themes based on contemporary social, political, and cultural issues of Spanish-speaking societies such as cultural identity, the changing roles of women and family, immigration issues, the impact of the arts in people's lives, economic development and its effects on cultural heritage and the environment, and individual rights in a political system. Although students in Spanish V work on the same units as students in Spanish IV, they are held to higher expectations due to their extra year of experience working with the language. The curriculum and units for this class alternate year-to-year to ensure students in Spanish V do not explore the same material as the previous year. These courses are conducted entirely in Spanish.

ELECTIVE COURSES

MIDDLE SCHOOL DISCOVER

Grade Five and Six Course Descriptions, 2016-2019

Animation Studio

Students explore the artform of hand-drawn animation. Throughout the term, students are introduced to a variety of historical and contemporary animated films as well as the techniques involved with the process of sequentially bringing still drawings to life. Additionally, students combine these new understandings with their existing Visual Art skills to create their own original hand-drawn animated films.

The Big Picture

Students explore large scale 2-dimensional artworks. Students learn a variety of drawing and painting techniques as well as gain an understanding of the technical process of creating large scale imagery. Students have the opportunity to develop and apply their concepts to a series of their own creative compositions. Finally, participating students collaborate on a group mural.

Boxing

Students learn the art of boxing through practicing techniques and drills while also learning about the culture, history, and influences of boxing in the U.S. and the local community. Students spend time learning about famous boxers like Claressa Shields, who won back-to-back gold medals for the US in the 2012 and 2016 Olympics in the women's middleweight division. Students actively participate in boxing-specific exercises as well as explore various aspects of the boxing world.

BrickLab Architecture

Students explore the basics of architectural design and construction engineering using BrickLab blocks. They examine some of the great structures in history, such as the Egyptian pyramids and Greek temples, and learn how to build structures that use important engineering concepts such as arches and cantilevers.

Chess

Students learn to play this ancient game of strategy that people have been playing for over 1400 years. Students review the basics, learn some more advanced rules such as castling and en passant, and learn strategic opening moves.

Class to 5K

Students run outside. They ease into running three miles, building endurance and gaining distance as they walk, jog, and run.

Cross Stitch

Students create beautiful works of art. Students learn how to create colorful and crafty works of art by simply putting needle and thread to canvas. They start with basic stitching techniques and move onto more advanced needlework. Students have the option to use a pre-made pattern or come up with their own.

Curiosity for Cats

Students learn about both domestic and wild cats, including their similarities and differences. Students research and create a special presentation on a cat breed of their interest. Students also make cat crafts, including cat toys.

Exploring Broadway: Hamilton

Students explore the Broadway musical, Hamilton, about our founding father. Students examine how the creator Lin-Manuel Miranda took history and brought it to life through storytelling, music, and hip hop. Students learn about the musical through watching and discussing documentaries, reading and listening to lyrics by Lin-Manuel Miranda, and learning and singing a song from the show. Students also research Alexander Hamilton, or another historical figure from the musical, and explore creative ways to tell historical stories.

Fantastic Fractals and Perfect Patterns (Fractals and Patterns)

Students learn about fractals and patterns. They draw their own repeating patterns and come up with their own fractals both by hand and on the computer.

Friendship Bracelets and Cross Stitch

Students spend the first half of the term learning how to make different kinds of bracelets to give to their friends. Students use the same embroidery floss in the second half of the term to learn how to cross stitch. Students can use pre-made patterns or create their own.

Games: History and Invention

Running games, throwing games, catching games, chasing games, kicking games: all of the modern versions of kids' games we play today have their origins in the games of ancient cultures, whether it is local Native American culture or games brought over from distant lands by immigrants to America. The materials have changed, going from natural wood and woven materials early on to the plastics and metals of today, but the objective and rules of the games are often the same. Students in this discover work with partners to invent and construct the needed materials for their own games, inspired by the games of ancient cultures. This will include both inside, table-top games and outside, active, field games.

Horrible History

Students research strange and outrageous topics in American and World History and bring them to life by performing skits based on these events. Through research and watching videos, students learn to present their findings and create performances that inform, shock, and entertain family and friends.

Jam-o-rama

Students explore creativity and improvisation in music in a variety of ways, using as many different instruments as possible: percussion, drums, keyboards, guitars, and more. Students collaborate to write songs, experiment with music technology and, of course, jam! This Discover is a musical laboratory, where no idea is off the table, and anything's possible. Students may utilize instruments in the school or bring their own. No previous musical experience is necessary.

Japanese Culture

Students explore many areas of Japanese culture including art, food, fashion, music, and customs. They learn about Japan by viewing and discussing elements of Japanese culture in anime films. They create origami, write haiku poems, and learn Japanese phrases.

Juggling

Students learn to entertain a crowd through the art of juggling. They develop skills in patience and perseverance as they learn how to juggle. Students make their own juggling balls from everyday materials and then learn the basic skills of juggling. They watch videos from some of the world's best jugglers, learn how to "flash," and build toward juggling three balls at a time.

Jump Rope

Students learn a variety of single jump rope moves as well as some Double Dutch skills. Students put new single rope jumping skills into a student-designed routine to present to classmates.

LEGO Robotics

Students design, build, and test out robots. Working in groups of three, students use parts, motors, and sensors from LEGO Mindstorms EV3 kits to build robots that can solve small-scale versions of real-world problems. This class emphasizes innovating, tinkering, discussing robot design, and working with others to solve problems. Students learn from each other how to overcome programming and mechanical challenges.

The Magic of Comics

Students look at various types of comics including classic comics, graphic novels, and manga. They explore how a series of pictures can work as an effective storytelling platform. They invent their own characters and create their own stories.

Middle School United Nations

Students explore global citizenship by learning about the United Nations, an organization meant to promote cooperation among all countries and create a peaceful world. They look at how countries work together to solve the world's problems. Students represent one of the 193 member countries from around the world and learn about its interests, important issues, people and culture, while practicing skills in public speaking, debate, research and collaboration. Most importantly, students have fun while trying to solve important issues, both real and imaginary!

Music Tech

Students explore and create music through technology. Students experiment with various kinds of music software, keyboards, amplifiers, sound effects, and other electric/electronic instruments. Students work on individual projects, as well as work with others to make music. They also listen to and discuss the music of today and apply those techniques and ideas to their own music.

Needle-less Knitting

Students unravel the secrets of arm and finger knitting and learn techniques that allow them to make unique scarves in a very short time without traditional knitting needles. They use these skills to make scarves to donate to a local charitable organization.

Poetry

Students read and write different types of poems while learning creative ways to express their ideas and thoughts. Students explore the various elements of poetry and explore the lives of different poets from Maya Angelou to Shel Silverstein and learn what inspired them to create their work. Poets will build a personal poetry portfolio and also gain a greater appreciation for the benefits of writing poetry.

Puppet Shows

Students examine famous puppets and puppet shows and how they are made. They write their own stories and create a script. Using their imaginations, they design their own puppets out of various materials and then build a performance stage. Students work on presentation skills to bring their puppets to life and perform their own shows.

Rap Music

Students utilize their skills in creative writing, poetry, and music to write rap music. After they write rap lyrics, they use instruments and technology to create music for those rhymes, thus writing rap songs. Students learn from other great artists in this genre, discuss common elements, methods, rhythms, instruments, and modern production techniques and software that artists use. No singing or previous experience is required.

Rising Tide Reviews

Students learn to develop and then give voice to their own opinions. Students write formal book and film reviews to share with their peers at Rising Tide. Students work with technology to record videos of themselves reading their reviews.

Robotics

Students learn about robots, watch videos of some amazing real-life robots in action, and build and program some basic robots. Students examine the history of automatons and robots and look at how robots have impacted our culture and society. Students also write code to program Sphero SPRK+ and Lego Mindstorms robots to complete various tasks.

Rock and Blues History

Students examine music as a primary source to learn about where rock and blues came from and how the music has evolved. Students also learn to play a couple of riffs of their own while exploring the artists who have shaped the history of blues and rock 'n roll.

Rube-Goldberg Machines

Students take a really simple task, like putting a sticker on a piece of paper, and create super complicated, homemade machine full of levers, switches, strings, dominos and spinny-ma-jig objects that all happen in a specific sequence to complete that easy task. Students design and construct a whimsical Rube Goldberg machines utilizing unused and recyclable materials from home.

Rugby

Students learn to play one of the fastest growing sports in America. A mix between soccer and American football, rugby is a game of skill, speed, durability, and determination. Students learn about rucks, mauls, scrums, and lineouts in this active, indoor and outdoor, teamwork-oriented Discover course.

The Science Behind Sci-Fi

Students examine elements of Star Wars, Star Trek, and other Sci-Fi favorites and see how today's scientists and engineers are working hard to make these advancements a reality.

Scoot, Skate, Blade: Wheeled Physics and Design

Students see how modern wheeled activities were invented by young people who utilized their own curiosity and problem solving skills to design, build and test out their own equipment. Students then learn about the history of these activities and about the physics concepts involved with wheeled motion. Part of this learning involves the students' bringing in and riding their own equipment. Then, as educated inventors, student groups work together to build a wooden longboard skateboard - going through the design, cutting, painting (board art/graphics), and testing of the longboard.

Soccer

Students investigate different aspects of soccer, from learning about its rules, history, and international professional leagues to developing skills and playing the game. Students debate and research some of the major issues going on in the sport, including the use of soccer academies as well as the awarding of the World Cup to countries. Each class period focuses on learning about the game through collaboration and also includes the opportunity to go outside and practice different skills to help students become better players.

Stay Active

Students examine the connection between their activity level and their mood and attention. Students try out all sorts of physical activities: organized sports outside, yoga, dance, and general fitness. Students set and then work toward a personal fitness goal.

Ultimate Frisbee

Students go outside to play frisbee. Students examine how the science of the throw and the aerodynamic principles of lift, drag and pressure. Students practice different throw styles, play ultimate frisbee, enjoy disc golf, and practice throwing other frisbee-like objects.

Visual Art Studio

Students explore life drawing using a variety of media. Life drawing is the process of closely observing subject matter, searching for recognizable geometric shapes in both the positive and negative space of what we see, recognizing light sources and the location of shadows, then representing the subject matter within well-designed compositions. Students spend focused studio time building on their ever-growing drawing skills while being introduced to more advanced techniques and approaches to drawing realistically.

Walk-Fit

Students stretch, meditate, and power walk to improve their fitness and well being.

Wide World of Harry Potter

Students explore the extended Harry Potter universe as they learn about the places, people, and creatures that make up J.K. Rowling's world, including America's own wizarding school in Massachusetts! Students learning about world building, create hands-on projects inspired by the books, and read parts of the novels and companion books.

Yoga-Robics

Students step away from classroom desks to move, stretch, and sweat. Each class period focuses on a particular workout style, including Yoga, Pilates, Tae-Bo, and Zumba.

Zen Doodle

Students connect with their inner artist by creating beautiful art projects through doodling. They explore the connections between their drawings and their personality, mood, and state of mind. Students learn how and why doodling is linked to meditation, stress relief, and self-awareness. From doodling with their eyes closed to creating their own personalized masterpieces and family heirloom doodles, students participate in a variety of activities and step-by-step projects that help them use doodling skills in whole new ways. Students use colored pencils, gel pens, and paints along with other materials brought from home, if desired.

Grades Seven and Eight Course Descriptions, 2016-2019

Agility Fun

Students see just how agile their hands and feet are in this Discover by participating in a variety of activities that require their feet or hands to move accurately and with speed or to a rhythm. Students learn about the origins of Chinese jump rope and Tinikling dance. Students work to develop mastery of Chinese jump rope steps and have competitions to see who has the most rhythm and accurate jumps. Students also learn and practice the Philippine dance of Tinikling, which requires movement in and out of poles in time to a beat. The final part of this Discover allows students to develop quick hands as they learn a variety of speed stack formations.

Animation Studio

Students explore the artform of hand-drawn animation. Throughout the term, students are introduced to a variety of historical and contemporary animated films as well as the techniques involved with the process of sequentially bringing still drawings to life. Additionally, students combine these new understandings with their existing Visual Art skills to create their own original hand-drawn animated films.

The Art of Math

Students in this course come to think about mathematics as an art form. They explore ways they can use math to inspire creativity and produce beautiful and unique creations. They assemble intricate mandalas using patterns, put their math compass to work creating art with circles, use graphing to help create a perfect copy of a photograph, and create a city skyline using .

Baseball Appreciation

Students philosophize, ponder, and learn about the great American pastime of baseball. Students in the course learn the science of a knuckleball, the history of the game, and even watch and play some of its variations.

Bioethical Issues

Students touch on multiple bioethical issues that have occurred in the past, as well as current issues such as the rights to life and health. Students examine issues from multiple perspectives and learn to engage in respectful and informed dialog about contentious topics. New bioethical issues are introduced, researched, and debated each class. Some topics to be researched include genetically modified organisms (GMOs) and stem cells.

Broadway Revue

Students dive into the world of Broadway by watching videos of various Broadway musicals (both new and old), and learning their songs and dances. Students put together their own little Broadway Revue at the end of the term. No dancing or singing experience required.

Card Games

Students learn new card skills and bond with friends without a Wi-Fi connection. Student learn new games and perfect strategy. Games include hearts, blackjack, poker, and gin rummy.

Chess

Students learn and play the greatest board game in existence. Students learn the rules, opening moves, and strategy to make them chess masters. All abilities and levels are welcome.

Ciao!

Students attending the annual grade eight trip to Italy gain an overview of the skills and context needed to make the most of their trip. Students channel their inner Italian and learn to do as the Romans do. They learn some Italian to help them shop, interact, and find their way around the city. They explore Italian menu items and practice ordering gelato in all its flavors. Students also learn how

to drive a tough bargain when out shopping. Students watch classic cinema set in Rome and gain an understanding of Renaissance art.

Computer Coding

Students work on Chromebooks in a self-paced environment to introduce themselves to various computer programming activities. Students use resources from Hour of Code, codepen.io, Scratch, and Codecademy.

Creating Comics

Students examine the different elements of comic book design including page layout, lettering, pacing, line, color, and space. They look at examples from different genres, styles, and time periods. Then, students use what they have learned to create their own comic books. Students can choose to do their work on the computer, by hand, or a little bit of both.

Creative Writing

Students have quiet time to do their own creative writing. Each class begins with a jumping off point: a writing prompt, poem, picture, or quote. From there, students go wherever their imaginations take them. They might journal, finish that short story they've been working on, free write, or write their own poetry. Students share out bits and pieces of what they've written at the end of each class and discuss how their voices come through creatively.

Cultural Ancestry

Students learn how to explore and preserve family history and culture. Each student learns about creating a detailed family tree, as well as how to preserve traditions and stories from his or her own heritage. As a group, students look at how their own ancestry affects their traditions and daily lives, from what names they call their grandparents to their favorite meals.

Documentaries

Students explore the medium of documentary. Students watch a variety of different documentary films that are of interest to them. After viewing each documentary, they discuss what they learned from the film, investigate who created the film, and analyze if there was any bias or product placement in the film.

Double Dutch Jump Rope

Students learn and improve upon basic Double Dutch skills as well as learn specific tricks to add and try while jumping Double Dutch. Students also learn Chinese Wheel skills.

Folklore and the Art of Podcasting

Students explore the creatures and folklore that have influenced generations of humans and the stories they tell. Students look into monsters and myths and create their own stories, interlaced with the stories they find. Then, using their own stories and drawing from their analysis of the podcast Lore, students create their own podcasts, which are shared with each other.

Graphic Novels

Students explore the genre of graphic novels, which use the same format as comic books but usually contain stand-alone stories with complex plots. Students choose a style of graphic novel (adventure, fantasy, dystopian, etc.) that interests them and then read and discuss the novels.

History of American Music

Students trace the history of American music from its roots, to the beginnings of rock n' roll, to its evolution since then. Students watch music documentaries, concert footage, and music videos. As they listen to music, they observe and discuss great and influential performers and artists that have shaped American music over time. They also create their own music and write songs in imitation of those artists, studying their moves and incorporating their styles into their own music. No prior knowledge of music is required.

History of Fashion and Clothing Design

Students look at some of history and fashions' greatest hat and accessory trends and explore how some of America's oldest threads have evolved and become fixtures of "classic" American style. Students learn about the materials used to produce these couture works of art, as well as how some styles separated different members of society. Students also design their own historically-inspired collection of clothes and premiere these works with a fashion show.

The Hobbit: An Unexpected Hero

J. R. R. Tolkien was one of the most influential fantasy authors of the 20th century, writing novels such as *The Hobbit* and *The Lord of the Rings* trilogy. Tolkien invented cultures and languages through his vivid imagination and academic knowledge. Using Tolkien's famous novel *The Hobbit* as a travel guide, students follow Bilbo Baggins on an adventure through Middle Earth, learn the language of High Elves, sample the foods of Hobbits, hear the legends of "The War of the Dwarves and Orcs", and much more.

Horror Tales

Students explore the genre of horror by reading short stories, watching scary movies and writing their own spine tingling stories. They learn about some of the most influential and popular horror authors and movie directors from Mary Shelley and Edgar Allen Poe to Alfred Hitchcock and Stephen King, just to name a few.

The Immune System

Have you ever wondered why so many people get sick? Students in this Discover investigate what the immune system is, how the body reacts to foreign invaders, and the problems associated with antibiotic resistance. Students also explore what they can do to prevent the spread of disease. This is a great Discover for budding epidemiologists!

Jump Rope

Students learn a variety of single jump rope moves as well as some Double Dutch skills. Students put new single rope jumping skills into a student-designed routine to present to classmates.

Kung Fu and You

Students discuss the history, location, and stereotypes in Kung Fu films. Students watch some Kung Fu classics, such as "Enter the Dragon", "Crouching Tiger, Hidden Dragon", and "The Grandmaster" as part of their exploration.

Mask Making

Cultures all around the world use masks in different types of ceremonies, festivals, celebrations, and parades. Students investigate different kinds of masks and figure out how they are made and what occasions they are used for. They then try making their own masks and puppets using papier mache, paint, markers, sequins, and feathers. Students make masks that connect to certain cultural and social events like Carnevale and masquerades, and they think about how to reveal their own inner personalities through a mask.

Math in Sports

Students explore the connections between mathematics and athletics. Students explore how mathematics can inform decision-making in sports, both in-games and off the court. Students analyze and calculate statistics. Some of the sports explored include ski racing, basketball, baseball, golf, and tennis.

Mock Trial

Students learn about the history of the American court system, exploring famous court cases, acting out mock trial scripts, and creating their own mock case to perform. Students take on the roles of judge, lawyer, witness, and jury members to learn the roles of a courtroom and their challenges.

Mysteries

Students become detectives as they explore the mystery genre. They learn the elements that make for a good mystery as they read stories, watch new and classic mystery movies, and create their own mysteries. Students develop critical thinking skills as they solve puzzles, research famous unsolved cases, participate in classroom role play mysteries, and play board games like Clue.

Myths and Realms

Students explore the worlds of fantasy, magic, and science fiction. They think about Viking Tales, Greek Myths, Slavic Folklore, and Japanese stories. Students read and listen to these ancient stories and then use them to create their own worlds of science fiction and magic.

Origami

The art of paper folding, also known as Origami, is an art form that has been handed down for generations in many Asian cultures. This Discover course explores the origins of Origami and the techniques in creating various paper folding creations such as birds, fish, geometric shapes, flowers, and animals.

Playwriting

Students use a variety of starting points and prompts to create a collection of scenes and situations based on their own words. They learn skills and tricks that can help foster their inner budding playwrights.

Psychology

Students explore human emotions and behaviors. They look at the different theories that psychologists have developed to explain human behavior, including personality, consciousness, memory, nature vs. nurture, and child development. Students ask their own questions about human behavior and then design their very own experiments to try to answer them.

Rockets and Space

Students explore space, the science of rocketry, and the history of space exploration. They practice engineering principles in order to design and build (and launch!) a rocket.

Roots of Rock

Students learn about the music that brought us Elvis, punk rock, and so much more. They listen to early American music, modern and classic rock, and even hip hop. With their growing knowledge of musical roots, students create their own music. No musical ability required, musical instruments are encouraged.

Sewing by Hand

Students learn hand sewing skills to complete a range of projects. Students turn their old, unwanted clothes into creative treasures; or make their own adorable, cuddly stuffed animal from scratch; or simply fix that hole in the knee of their jeans. This course is open to seamstresses and seamsters with any levels of experience.

Sewing By Machine

Students learn to create something useful from scratch, including design their own clothing and making homemade gifts. Students learn to use a sewing machine and follow a sewing pattern, starting from learning the basics of how to thread a machine and wind a bobbin, how to choose a stitch and length, and how to use the foot pedal.

South American Cultures Crash Course

Students become South American culture connoisseurs in this Discover. From ancient civilizations and native groups to European influences, South America is a large continent with twelve countries and many diverse cultures to explore. Students learn about various aspects of South American cultures including language, sports, music, dance, fashion, art, cuisine, and entertainment. Students gain an understanding of what culture is, how it connects people, and the importance of respecting other cultures. Students participating in hands on activities, conduct research, and watch instructional videos and movies. Students also gain exposure to the Samba, cricket, and the Portuguese language.

Space Exploration: Past, Present, and Future

Students investigate the history and future of space exploration. They research and make presentations about the past including the “Space Race” and Apollo missions to the moon. Students learn about and design spacecraft that could support future missions to Mars. They investigate the possibility of interstellar space travel and the discovery of extraterrestrial life through an examination of science concepts of physics and biology.

Sports Science: Basketball

Students uncover the facts behind commonly held mysteries from the game of basketball using the study of math, physics, and biology.

Stay Active

Students examine the connection between their activity level and their mood and attention. Students try out all sorts of physical activities: organized sports outside, yoga, dance, and general fitness. Students set and then work toward a personal fitness goal.

Tap Tap Revolution

Students explore the world of tap dancing by learning all the basic moves and time steps as well as some full dance routines created by some of the best tap dancers in the world. Previous tap dance experience not required.

Time Travel with Doctor Who

Students explore questions of time travel that have inspired countless television shows, movies, and books. They take a deeper look at one show in particular that frequently incorporates time travel, Doctor Who, which features an alien who goes on epic adventures in his ship that can travel anywhere in time and space. Students use Doctor Who to explore the storytelling possibilities of time travel, including writing their own stories.

Twilight Zone

Students look into the “fifth dimension” of their imaginations. Through the viewing and analysis of Twilight Zone episodes, students explore the true meaning of irony. Using the themes of science fiction, they create Twilight Zone stories of their own, complete with exciting and ironic plot twists.

Ultimate Frisbee

Students learn about and play Ultimate Frisbee. Students also learn about the science of flight and build collaboration skills.

A Whale’s Tale

Plymouth is situated right next to one of the world’s most biologically productive marine sanctuaries called Stellwagen Bank. Because of this, Massachusetts’ ocean waters are the summer home to the earth’s largest mammals: whales. Students explore the world of baleen whales including humpback, fin, blue, and minke whales. They investigate a specific population of whales that are preparing for the long migration to their northern feeding grounds in Cape Cod and Massachusetts Bay. Aspiring marine biologists participate in lots of hands-on activities and have the opportunity to interact with scientists from the Whale and Dolphin Conservation.

Where the Wild Things Are

Students learn about the critters living in our natural spaces. Students adventure into field and forest to see what's up with the flora and fauna on campus and how they change with the seasons. Students explore our environment, identify animals, and learn about how those plants and animals survive and thrive in a variety of ecosystems.

Whodunnit?

Students look for clues, solve mini mysteries, and fit the pieces together. Students read short stories, enjoy mystery movies (classic as well as modern), break codes, and play the popular detective game "Clue." Students also create their own mysteries to be solved.

The Wonderful World of Harry Potter

Students explore the world created by J.K. Rowling. They read *Fantastic Beasts* and *Where to Find Them* as a jumping off point to explore the world of Harry Potter and create their own projects inspired by this fantastical universe.

Yoga

Students improve their fitness through the practice of yoga. Yoga is designed to improve the physical and mental health and performance of athletes and individuals by cultivating strength, increasing flexibility and resiliency, lengthening muscles, increasing coordination and balance and building core stability. Students explore many yoga poses which build strength and flexibility while relieving the stress of daily life. Each class includes active asanas (poses), balance work, breathwork (pranayama) and relaxation.

MIDDLE SCHOOL EXPOSITION

Grades Five and Six Course Descriptions, 2016-2019

The Art of Giving

The painter Pablo Picasso once stated, “The meaning of life is to find your gift. The purpose of life is to give it away.” Giving to the community is truly an art: each person has special gifts and talents that they can use to help others! Students in this expo work to serve others. Students work together to identify problems in our school and local community and find ways to improve them. They learn about what it takes to plan a community service project by visiting local organizations that support people and animals in need. By the end of the term, students present a plan for their own service projects.

A Day in the Life of a Pilgrim Child

Students explore what life was like for a Pilgrim child growing up in Plymouth and make connections to the lives of local children today. From the preparation for the devastating winter months to the introduction of a new sport that would become well-known in our country, there are many interesting aspects of a child’s life on the plantation. Students compare the Pilgrim children’s experiences to their lives in today’s world to understand how the region has changed throughout the years, focusing on specific aspects like clothing, sports, jobs, and food. At the end of this course, students create a presentation that brings together the major aspects of these people’s lives.

Discover SCUBA: Underwater Exploration

What lies in the depths off the shores of Plymouth? What kind of world exists under the vast waters of the ocean? How can we unlock the mysteries of the sea? Students discover how people explore the deep through SCUBA diving. They look at the history of underwater exploration and examine what lies beneath the waters of our local region. As young explorers, they uncover aquatic mysteries such as underwater ecologies, caves, wrecks, and cities. They also practice the skill of SCUBA diving. This Expo requires an ability to swim.

Do What You Love, Locally

New England was built on the entrepreneurial spirit, colonies and businesses developed by people who did what they loved and loved what they did. Students in this Expo explore the past and present of entrepreneurship in New England. They hear from local business owners who grew their business from the ground up, and they learn about what it takes to make a dream into a real business. Students develop a business plan and present their proposal to the Rising Tide Shark Tank.

Hometown Vloggers

Students examine the ways that people have been telling stories and making connections to one another throughout time and how technology is influencing the way we hear stories today. Through conducting interviews and creating vlogs with each other and the school community, students develop the skills necessary to help them grow into modern day storytellers. They also take trips to Downtown Plymouth and the Plymouth Council on Aging to interview a variety of people and practice their storytelling skills in the field. The conclusion of this Expo is a broadcast of the vlogs to share with the school community.

The Fin-tastic Fisheries of New England

President John F. Kennedy said, “We are tied to the ocean. And when we go back to the sea, whether it is to sail or to watch - we are going back from whence we came.” The ocean has always played an important role for the communities of New England, especially when it comes to providing a source of food. Students in this Expo explore the relationship of the people of New England, and specifically our local area of Plymouth, to the ocean. Students learn about the local seafood industry, the types of animals that live in our water, and the ongoing conservation efforts for protecting the ocean in our area. Students also learn about how the marine fisheries work in Massachusetts and explore the different jobs that make up the industry.

Local Bridges and Bridge Building

Students explore the world of local bridges, from form to function to personal experience. Students build their own bridges and test their strength. Students travel to the Cape Cod Canal Field Station to learn about the Canal and the Sagamore and Bourne bridges. They also travel to Duxbury Beach where we they learn about the Powder Point Bridge, one of the longest wooden bridges in the US.

Local Plymouth Wildlife

Students get outside to learn about the different types of animal life that have impacted the Plymouth area, both presently and in the past. Plymouth and the surrounding towns are home to a wide variety of species, from the common gray squirrel to the endangered red-bellied turtle. In this Expo, students explore local ecosystems and wildlife, while learning about the reasons animals exist in this region, as well as why some were not able to adapt to environmental changes and became extinct.

Marine Life and the Oceans

Students learn about the various types of fish and other marine life that inhabit the Earth's oceans. Students learn about marine ecosystems and study the relationship between the organisms that live in the sea. Through media such as pictures and videos, students experience the amazing sights and sounds of the ocean, from the deepest trenches to the shallowest estuaries. Since we live so close to the ocean and it plays such a large role in our lives, students are able to look at scales, bones, and other artifacts to learn about the creatures of the sea and maybe even get up close and personal with different species! This Expo combines parts of Oceanography and Marine Biology to help students learn about the oceans teeming with life!

Media Production in your Hometown

Students get behind the scenes and learn what it is like to create a news show. Throughout history, media has helped communities stay informed about what is going on in the area and the rest of the world. In this Expo, students learn about how media has changed over the years and the local media outlets that Plymouth has available. With all of this knowledge, the class creates a Rising Tide news program. Students write their own scripts, create a set, research, investigate, and practice interviewing skills to come up with news stories about Plymouth and Rising Tide. Students learn skills to shoot film, edit clips, and employ teamwork in order to produce a final project.

Modern Day Storytelling: Interviews, Podcasts, and Vlogs

During the course of this Expo, students examine the ways that people have been telling stories and making connections to one another throughout time and how technology is influencing the **way we** hear stories today. Through conducting interviews and creating podcasts and vlogs with each other and the school community, students develop the skills necessary to help them grow into a modern day storyteller. Students take trips to downtown Plymouth and the Plymouth Council on Aging to interview a variety of people and practice storytelling skills in the field. The Expo concludes with a broadcast of the podcasts and vlogs to share with the school community.

Monuments

Students explore why monuments came to be, from famous monuments around the world to the local monuments of Plymouth, including Plymouth Rock, the Pilgrim Monument, and those on Burial Hill. Students take a field trip tour of local monuments and learn why people build them, and explore more famous monuments in Boston, too. Students participate in this traditional artform by making their own monuments to things they think are important.

Native Americans: Skills and Survival

The first people to spread and thrive throughout North America had to be master problem solvers by looking for creative and clever ways to protect themselves, gather food and build shelter. This Expo class is focused around the day-to-day skills and knowledge the Native Americans used when gathering or growing food and when constructing shelter. Just like for the first peoples on the continent, students use their brains and hands to design, build, and test out tools to accomplish specific tasks. This involves

using some basic modern, metal tools to construct ancient tools out of wood and stone, such as atlatls, bow and arrows, shepherd's slings and simple hammers/axes. Students may also progress on to making simple shelters, such as debris huts.

Our Fine Feathered Friends: Birds of the South Shore and Cape Cod

The wild animals that humans come into contact with most often are, far and away, birds. Birds are everywhere, and there are hundreds of different species in Massachusetts alone, each with special adaptations to help them achieve success in their habitats. Students in this Expo explore the birds that call the South Shore and Cape Cod home, with an emphasis on the birds of Plymouth. Students learn where different species of birds live, how to identify birds based on their physical traits, and where and when to best find them. They conduct field experiments to determine local bird populations at Rising Tide, and learn about local conservation efforts to help preserve the habitats for many of the vulnerable species in Plymouth and the local region.

Painting Plymouth

Students survey the works of master painters of landscape. Through a variety of demonstrations, students will be introduced to classical techniques and mediums used by artists who have chosen the landscape of the natural world as their subject. Students build on their existing Visual Art skills with a continued exploration of the major concepts of perspective, structure and space, depth, and color by composing their own series of paintings of locations from the Plymouth region. In addition to classroom work and investigations, students compose their landscape drawings and paintings outdoors using the *plein-air* style as well as by working from photography in the studio.

Photography

Students learn how to use a digital camera, take advantage of its features and use that knowledge to capture great creative images. Students analyze images from magazines and galleries and then take what they've noticed to create their own images. Students develop digital and composition skills, including about depth of field, ISO, and shutter speed.

The Physics of Flight: Throwing Projectiles

Students in this Expo learn all about throwing things, something our species has done quite well for the past 100,000 years. Beyond the caveman understanding of spearing a mammoth, students learn about the design and aerodynamics of throwing objects, what about their shapes makes them fly so well. They start with simple objects, such as frisbees and boomerangs, and work their way to more complex, harder-to-use objects, such as atlatls and shepherd's slings. Beyond learning the physics of throwing objects, students spend time building, testing, and improving upon their own throwing projectiles. Their objects are constructed using basic materials, like rope and wood, and simple tools. They learn to use their projectiles by inventing games as a fun way to test accuracy and to refine their design or flight performance.

Pictures, Pens, and Pitches

Students learn the stories behind art and create their own. Students explore local art by New England artists, and use their imaginations to create stories and music based on that artwork. This class marries the artforms of visual art, the written word, and music.

Podcasting in Plymouth

Have you ever wanted to host your own radio show or create your own podcast? What story would you tell? What important topics of our local community would you discuss? Students become local radio hosts through podcasting. They explore the magic of audio storytelling and look at how information about local news, arts, and culture are shared. They visit a local radio station to find out how it all works and listen to podcasts to discover the ways in which people tell the stories of our community in an audio format. The goal of this course is for students to create their own podcasts to share the stories of our hometown.

Restaurant Reviews

Students research new restaurants and food vendors to help other people in our community make decisions about where and what they want to eat next. Students collaborate to develop a system of criteria for rating local restaurants. Students determine categories on which to rate restaurants. Students participate in field work in downtown Plymouth to visit various restaurants and make observations related to their chosen categories. In addition to sampling food and beverages, students also speak with some local restaurant owners about what is involved in managing a restaurant and how they market themselves to customers. Students ultimately share their findings through either a food blog, a website, or an episode of their own TV show.

Sherlock! Creative Mystery Writing

Students learn about mysteries and storytelling. They examine how to keep readers on the edge of their seats with their stories. They use the unsolved art heist at the Isabella Stewart Gardner museum to uncover the elements of mysteries. Students go on their own scavenger hunt for clues in an art museum. They use what they've learned to create and write their own multimedia mysteries.

Something Fishy

Students explore local fish, fishing, and marine biology, and investigate how people have used the ocean and surrounding bodies of water for centuries. Students learn about fishing knots, techniques, equipment, and the importance of healthy fisheries in Plymouth and nearby communities.

Tide to Table

Have you ever wondered where the clams or quahogs in your favorite chowder come from? Have you ever wondered what an oyster really is? Students put on their clam diggers and dig their own shellfish. Students explore the various types of shellfish in their community, including how they are grown and harvested, and how they contribute to the local and global economy. Students hear first-hand from local shell-fishermen and shellfish officials. Students will learn about how shellfish are prepared and taste test some recipes. Through hands on experience, activities, and discussions, students explore the benefits and challenges of shellfishing and learn more about how shellfish make it from our shore to your table.

Grades Seven and Eight Course Descriptions, 2016-2019

American Cakes: An Edible History

Students explore the rich history, science, and economics behind some great cakes and baked goods from America's past. They learn about regional recipes, the importance of natural ingredients, and how local resources and conditions shape the way that people cook and bake. Students see the large impact Massachusetts has had in the global culinary history of cake. Finally, students get to try out recipes and learn the art of proper baking and tasting.

Art and Activism

For 1000s of years, artists have used music, poetry, dance, drawing, and painting to connect to their communities and inspire change. In this Expo, students explore how artists use their work to highlight different social issues, and they focus especially on public art forms like street art and murals. Students also discuss social issues that are important to them and create their own art pieces that convey messages and express opinions.

Backyard Birding

Nothing says "springtime" like the song of birds in our backyards. Students in this Expo investigate the birds that share their community and call the local wildlands home. They explore the evolutionary origins of birds and examine species common to the local area, including the special adaptations that allow them to survive here. Students learn how to spot and identify birds in the wild using their special markings and unique birdsong or call. In addition, students design and build bird feeders and houses for the birds they investigate, and get outside to observe these birds in the wild.

Baseball in Massachusetts

Students explore the history of baseball in Massachusetts and New England. They look at how baseball evolved to be the sport we know today, explore the use of statistics, and investigate important past and current players of the game. Baseball is more than just a sport; it is something that brings all different types of people together, and students investigate the role baseball plays in towns and cities across the country. Students also get to try out variants of the game and research various aspects to present to the school community.

Endangered Species

Students explore the question of why some species become endangered or even become extinct. They examine local animals like the turtle and the horseshoe crab that have survived the mass extinction of the dinosaurs and yet today struggle to survive. Students examine the situations of other local animals in danger of extinction, including the Humpback Whale, the North Atlantic Right Whale, the Great White Shark, and the Plymouth Red-Bellied Cooter. They also investigate endangered flora and fauna and learn about the impact of invasive species. Finally, students dig deep into the human activities and natural traits that cause species to become endangered and learn about what is being done to protect them, and how they can contribute

The End of the World as We Know It

Students look at dystopian stories like *The Hunger Games*, *Divergent*, and *Maze Runner*. All of these stories take place in the United States, but it is not the United States that we know, so how did it get that way? Quickly spreading diseases, massive tsunamis and earthquakes, World War III - these are all scenarios that authors have imagined to help them create worlds with corrupt governments, secret organizations, and struggling societies. The stories that these authors created might be fictional, but they draw inspiration from real events and challenges in society. For example, scientists predict that in only a few hundred years, most of Boston could be underwater, or could be much colder and snowier than it is today. In this Expo, students read some dystopian stories and create stories of their own. They also discuss the future of our world; explore what could happen as a result of war, disease outbreaks, and natural disasters; and imagine ways to make our world better.

Event Planning

Students learn the skills necessary to plan an event. They work on being detail-oriented, flexible, and creative, as they plan their own event like a game night, a basketball game with friends, a birthday party, or a hiking trip. Students learn about the importance of networks directly from local event planners who grew their businesses from the ground up. Students learn how to network, gain clients, and think about what types of events they would like to plan. They plan an event with a theme of their choice, and create their very own event portfolio.

Everyday Art

What makes an everyday object beautiful or interesting? What makes it useable? How do artists balance usefulness with style? Can art be made from everyday objects or even trash? Students in this Expo explore functional art: furniture, pottery, jewelry, clothing, tools, and any other “art” that we use or wear. They take a closer look at the artistic qualities of objects they use every day and learn how functional art was viewed and made in the past. They also explore reusing everyday objects in new, artistic ways through “found art” and “upcycling.” Students create their own original pieces of everyday art.

From Farm to Fork: Exploring the Food that We Eat

What kind of food do YOU eat? Where does your food come from? How does food get from the ground (or ocean) to the table, and how does this system affect the environment? Students in this Expo learn more about growing or gathering food and about how people get the food they need in this region. By exploring the challenges and benefits of local agriculture and investigating the complex and highly technological global food system, students learn about the food they eat and the environmental consequences of their food choices.

Hiking: Always take the scenic route

Students spend time hiking outside in nature. They learn about the different local trails they can take and the local wildlife they can see. They learn about the necessary equipment and hiking techniques. Students research many areas of hiking, local and non, and explore what makes up the best hiking trail. Students work toward creating the ideal hiking trail in a local space.

Let Freedom Ring!

Massachusetts is home to much of America’s founding history and boasts some of the oldest sites, buildings, and ships in the country. Students explore the stories behind the 16 sites of The Freedom Trail in Boston that played a vital role in building the America we enjoy today, including Faneuil Hall, the USS Constitution, and the site of the Boston Massacre. Students select a site to research and analyze and learn about what made it worthy of preservation.

The Local Accent

Ever wonder what makes the so-called “Boston accent” so unique? Students learn how to describe exactly what they hear when they listen to natives of the Plymouth region. Students develop an understanding of how language changes over time and make predictions about how and why certain changes have occurred.

The Local Entrepreneur

Students explore how small businesses in the area developed. Students learn how to build a business from the ground up. They explore the past and present entrepreneurial spirit in New England. Students learn what makes a business successful, and why some businesses fail. Students develop an idea for a local business and then create and present a business plan, complete with a unique idea, marketing strategy, and financial plan.

Mixed Martial Arts

Students receive an introduction to the training and discipline involved in mixed martial arts, along with an exploration of the MMA community in Plymouth and the local region. Students learn about different types of martial arts, with a particular focus on Muay Thai and some elements of Brazilian Jiu-Jitsu; they also learn about the cultures behind some specific martial arts. Students have the opportunity to learn about MMA events that are held locally in Plymouth, and even meet some of the fighters who participate in these events. This Expo class involves both research into and active participation in martial arts.

Museum Theater

What would it be like to talk to Abraham Lincoln in person? How about to sit down and interview one of the original travellers on the Mayflower? In this Expo, students give the community the opportunity to do just that. Students conduct research, collect data, and work in the field to piece together the lives of important people from Plymouth's history and bring them to life. They learn how to curate items and put together an engaging display that tells the rich history of the town around them.

Native Skills and Survival

About 50% of the Pilgrims who came to Plymouth died in the first winter, largely because they didn't have enough food. Students in this Expo learn the native ways of acquiring food in this region. Students learn the skills that the Wampanoag and other local tribes used to survive in the unforgiving Massachusetts environment. They learn about the "three sisters" planting method, hunting with handmade tools, and much more. Students abandon modern luxuries to reconnect with the natural world around them.

Responsible Dog Ownership

Students learn the proper way to socialize, train, and bond with their dogs. They learn different techniques to train their dogs and are able to try different training techniques at home. They also explore what it means to be a responsible dog owner in our community.

Sails, Slaves, & Stowaways

Decades before the first shot of the American Civil War was even fired, our little state of Massachusetts was at the very center in the fight to end the evils of slavery. Countless common citizens from the Bay State worked to help enslaved people escape north to freedom, often at great costs. In seaport homes, in shipyards, and onboard whaling ships, up and down the coast of New England, African Americans were shuttled away from the clutches of fugitive slave hunters, hoping to reach safety and escape bondage. In this Expo, students explore the lives and stories of several lesser-known figures from the pre-Civil War era in America, and focus on events that really happened in Boston, Fall River, Provincetown, and New Bedford.

Shark Tank: Inventions and Innovations

Chocolate chip cookies, the microwave, and the game of basketball were all invented in Massachusetts. In this Expo, students learn about local inventors and their inventions and the impact they have had on society. They come up with their own inventions or innovations. They then have the chance to pitch their idea to the Rising Tide "Shark Tank."

Sharks Rule

Lurking beneath the water of our beaches exists a dangerous predator. Students in this Expo explore why sharks are so misunderstood and misrepresented. Their large size and sharp teeth have made it easy for them to be considered a serious threat to humans. In fact, sharks should be more afraid of us! Sharks have existed since before dinosaurs but their populations are dwindling rapidly, facing extinction, due to their one and only predator: man. This Expo focuses on why sharks are so important to the ocean's ecosystem and how their extinction could have serious impacts on our lives. Students look at the many species of sharks, focusing primarily on Great White Sharks, and why they are nearing

extinction. They explore the adaptations and characteristics of these amazing creatures and look at the reasons behind the increase in shark sightings in Massachusetts, including Plymouth.

Stones & Bones of Plymouth

Students dive into the world of ghost stories and bring local horror stories to life. Plymouth has seen its share of real life horror stories, and its historic buildings and graveyards have been a source of many local legends and tales of mystery. Students imagine traveling back in time to create tales about what these restless spirits would tell us. Students learn and practice the art of storytelling and performance.

Totally Fit

Students learn about the impact that our eating and exercise habits and life management plays a huge role in the health of our bodies and minds. Students investigate good nutrition and learn strategies to plan and prepare wholesome meals. Students explore team and individual sports, from kickball to Crossfit, to learn new ways to strengthen their bodies. Students also practice techniques to manage the pressures of student life in order to become more balanced in our minds. Local experts speak with the class about resources that are available in the community to maintain good physical and mental health.

Tourism

Students in Plymouth are surrounded by tourists every day. Students explore many aspects of the different tourist attractions in our local region. They hear from members of the tourism industry to learn about what makes Plymouth such a successful and desirable tourist destination. Students learn the tools needed to create effective advertisements, and how to successfully market different attractions. At the end of the course, students create, or re-create, an advertising and marketing strategy for a new or previously existing Plymouth attraction.

A Whale's Tale

Plymouth, Massachusetts is situated right next to one of the world's most biologically productive marine sanctuaries. Because of this, Massachusetts' ocean waters are the summer home to the Earth's largest mammals: whales. In this Expo, students explore the world of whales, and how they shaped the culture and economy of Southeastern Massachusetts. Some of the topics students explore include whale anatomy, evolution and behaviors, Stellwagen Bank oceanography, historical whaling, and modern threats to whales. Students have the opportunity to meet conservationists and scientists working to save the whales.

UPPER SCHOOL ELECTIVES

Upper School Elective Course Descriptions, 2016-2019

Adaptation Study: The Phantom of the Opera

This course focuses on *The Phantom of the Opera* and some of the more than 100 movie, graphic novel, and stage adaptations that have followed since it was published in 1910. The course begins with a focus on the original novel by Gaston Leroux and the Phantom that has sparked people's imagination for over a century. Part police procedural, part mystery, part adventure, and part romance, the original story differs in many ways from the pop culture icon that the Phantom has become. Students read and analyze the novel's themes, character development, and author's purpose. Students explore some of the adaptations that have since followed, discuss the changes that have been made to the story and characters, and analyze the social and cultural implications of different adaptations.

The Age of Revolutions

As the eighteenth century came to a close, spontaneous movements of people overthrew their governments and formed new nations: the United States, the French Republic, and Haiti. This course traces the histories of these three very different revolutions. Students examine the politics and culture of these conflagrations and compare and contrast their effects and consequences. Students ask why these revolutions came about, how they changed their societies, and how they affected the world around them.

The American Presidency

This course covers many facets of the American presidency, including leadership, compromise, and communication. Students examine how a president forms a cabinet, works with Congress and the Supreme Court, and communicates with the American people during times of triumph and times of crisis. Students examine past presidents' major speeches, events, and appearances and analyze their successes and failures. The course also explores how presidents create economic policy, foreign policy, and other major policy initiatives. Students also learn about other members of the president's team, such as the First Lady, Chief of Staff, and the Vice President. Students use this knowledge to complete an independent research project on one major policy that a president has implemented.

American Short Story

In this survey course, students read various short stories that define the form in the late 19th century, the middle of the 20th century, and the beginning of the 21st century. The class examines what makes a short story a short story through contrasting examples such as the unfurling of a portrait of a small town over forty pages and a definition for collective nouns in less than a page. Students investigate how the goals of a short story change over time and how the readership and medium of short stories have affected their form today. Students write critical reviews of short stories throughout the course and compile their own anthology of short stories at the end of the semester. Students in this class hone their analytical reading and writing skills.

Ancient Greek I

This class provides students with the basics of Ancient Greek in the Attic dialect. Students learn the alphabet and how to work with nouns and present tense verbs in three voices. Students practice these concepts by reading stories and looking at excerpts of authentic Ancient Greek. In addition to the language components of the course, students learn about Greek mythology, history, theater, and daily life, reading primary sources from ancient Greek writers which have been translated into English. Students complete homework, take quizzes, and finish projects based on the concepts they are learning.

Ancient Greek Art History

In the 1860s, Heinrich Schliemann was so enthralled by Homer's tales of the Trojan War that he decided seek the ancient site of Troy. Remarkably, he found exquisite treasures of the ancient world and claimed that he had in fact found the site where great heroes had fought three millennia earlier. What about the ancient world compels people to search for lost artifacts, and who should own these treasures? In this course, students explore the art, architecture, history, and culture of the Ancient Greeks, from the Bronze Age to the Hellenistic period. They learn about how technological developments and the political sphere impacted Greek art, and about how ancient Greek art shaped the art of the western world. No prior knowledge of Greek history or mythology is required. In addition to interpreting the art itself, students have the opportunity to study the ethical debates that curators, art historians, and archaeologists engage in today. Students also design their own museum exhibition for their final project. Other classwork include reading, writing, class discussions, and presentations.

Astronomy

Curiosity about the universe is central to the study of Astronomy. To begin the course, students look at "classical" astronomy and describe and organize what is visible in the night sky. The class then explores what is currently known about the universe, starting here on Earth and progressing outward to the solar system, the galaxy, and then to deep space, ending with discussion about what is known today about the universe as a whole. Students also explore some of the theoretical and experimental methods used to explore the universe. They investigate astronomical phenomena through presentations, reading, discussion, and activities. Students make observations, analyze data, do research, and problem solve. In addition each student explores a topic of his or her choice in depth, completing an individual research project by the end of the semester.

Author Study: Marilynne Robinson

Students in this course explore the themes of social status, religious beliefs, race in America, and the nature of good and evil as they read and discuss three novels by Marilynne Robinson: *Gilead*, *Home*, and *Lila*. These books, set in Gilead, Iowa and the surrounding region span the time of the Great Depression through the Civil Rights era. *Gilead* takes the form of a book-length letter from a dying man to his infant son. *Home* follows a young, reclusive woman who returns to her hometown unsure of what to do with her life. *Lila* tracks the story of a baby half abandoned and half stolen and the young woman and mother she grew up to be. Students examine and experiment with epistolary fiction, first-person narration, and describing a single event through multiple narrators.

Author Study: Vonnegut

Kurt Vonnegut's short stories and novels examine weird versions of our world, strange futures, alien encounters, and the life of a man with a secret in his barn. In this course, students explore the short stories in *Welcome to the Monkey House*, experience the life of a man who became unstuck in time in *Slaughterhouse Five*, and get to know someone who really, really does not want you to get into his barn in *Bluebeard*. The author's personal correspondence and discussions of his biography add context to the books while the books interrogate our moral choices and our belief in a shared reality. Students engage in debates, presentations, and projects that assess their ability to expand the complex conundrums posed by Kurt Vonnegut's fiction into their lives.

Automotive Systems

Students apply theory and practical skills to better understand the modern car. They learn the main operating principles behind the many different automotive systems and then get hands-on practice, performing tests, maintenance, and repairs on an actual vehicle. By the end of this course, students attain a basic understanding of the different automotive systems and how these systems interact. Students also learn to identify and communicate common problems, and in some cases perform basic repairs and maintenance.

Ballet

In this course, dancers delve fully into a blend of Vaganova and Cecchetti Ballet technique while solidifying an advanced vocabulary of signature moves. Dancers critically observe and orally respond to full-length classical and contemporary ballets while exploring the questions, “What are the roles and stereotypes surrounding ballet?” and “What is the communicative power of ballet?” Dancers are given the opportunity to create their own choreography to demonstrate an understanding of increasingly complex vocabulary concepts through movement.

Ballroom Dance

During this course students learn modern ballroom dance, focusing on the technique and basic figures of a variety of ballroom dances, including swing, foxtrot, waltz, rumba, cha-cha, and tango. The class also studies the history of partner dance and the music associated with it. In addition, students learn partnering skills, dance etiquette, and floorcraft: how to lead and follow and navigate a ballroom. Students switch partners often and dance with everyone in the class. The class also prepare pieces to perform in the Showcase at the end of the semester.

Bioethics: HeLa

This course is centered on the book, *The Immortal Life of Henrietta Lacks* by Rebecca Skloot. In the book, Skloot recounts the story of Henrietta Lacks, a poor African American farmer in the south whose cells, taken without her knowledge, were the first human cells grown in a lab and kept alive outside the body. This is a story of medical breakthroughs, experimentation on African Americans, and the introduction of bioethics to society. As we read the book, students are introduced to bioethics. They learn how to recognize an ethical question, as well as justify their position on an ethical question. Students also explore how research on humans is conducted. They look at the history of human research, the current rules and regulations of human research, and the bioethical principles that guide scientists who conduct human research. Students use what they learn to analyze Lacks’ story and form their own justifications on ethical questions presented in this book.

The Birth of Modernity

This class examines what it means to become a modern country and how the time period between 1918 and 1933 changed the world. The 1920s was a decade of change in the United States and around the world. People moved into cities, abandoned old cultures and ideas, and enjoyed a flourishing of new art, literature, and popular culture. Students in this course investigate the changes of this time and the backlash that followed. Students examine new technology and social movements in the United States and Europe, independence movements in Europe, Asia, and the Middle East, and revolutions and civil war in the Soviet Union, among other topics.

Chamber Ensemble

Students in this small ensemble find joy in making music together as they learn and perform several pieces of music of various styles and genres. Through this process, students explore rehearsal etiquette, productive practice techniques when playing individually, and effective ensemble strategies when rehearsing as a group. The course culminates with a performance and recording of the pieces. Past pieces have included *Baba Yetu* by Christopher Tin, *UP with Chamber Ensemble* by Michael Giacchino, Dmitri Shostakovich orchestration of *Tahiti Trot*, after “Two for Two” by Vincent Youmans, “Alejandro” by Lady Gaga, and “Prelude” from *Psycho* by Bernard Herrmann. *Prerequisite: Prior experience on an instrument, audition*

Child Development

This course explores the study of human development. It introduces students to the field of developmental psychology, and it examines physical, social-emotional, and cognitive development from birth to middle childhood. In addition, students learn about development and learning disorders, including Autism Spectrum Disorders. Students in this course engage in discussion about relevant readings, participate in group debates, conduct two observations of children, and try their hands at parenting an egg. Students build skills throughout the course to complete a short research paper.

Climate Change

As the planet continues to warm due to humanity's actions, it is more important than ever to understand why these changes are occurring and what the world will look like in the future as these shifts happen. This course explores what Earth's climate has been in the past, the unique climate conditions that have been present throughout the development of human civilization, and what Earth's climate will be like for future generations. Students read published papers on climate science, articles about climate developments and current events, and speculative fiction about the future of society in the wake of climate change. Through research papers and other assignments, students explore ways that they can positively impact the planet.

Comics: Culture and Craft

Some people will say, "Why read a comic book? It stifles the imagination. If you read a novel, you imagine what people are like. If you read a comic, it's showing you." The only answer I can give is, "You can read a Shakespeare play, but does that mean you wouldn't want to see it on the stage?" - Stan Lee

Comics are a place where visual art comes together with storytelling to create a medium unlike any other. Students in this course explore the medium using Scott McCloud's *Understanding Comics: The Invisible Art* as a base. Students learn the origins of sequential art, how comics speak to readers' senses and perception, and the various techniques utilized by comic writers and artists. Students also read various comics from the 20th and 21st centuries to explore how comics reflect our society. Topics include comics as tools of propaganda, representation and inclusion in comics, and comics as a lens through which artists analyze their culture. Some texts the class may read include: Jerry Siegel et al.'s *Superman*, Joe Simon et al.'s *Captain America*, William Moulton Marston et al.'s *Wonder Woman*, Sana Amanat et al.'s *Ms. Marvel*, Mark Millar's *Civil War*, Art Spiegelman's *Maus*, Marjane Sartrapi's *Persepolis*, and Noelle Stevenson et al.'s *Lumberjanes*. Students culminate their work by creating a short comic of their own, using the techniques they have learned throughout the semester.

Computer Programming

With the presence of the the computer in many aspects of modern society, the ability to understand how one operates has become increasingly valuable. The digital field is one of the most dynamic and evolving fields today. This course provides an introduction to computer programming using a modern, object-oriented programming language, Python. This course is a beginning programming course focusing on programming concepts and fundamentals. Topics include, but are not limited to, assignment, variables, strings, decisions, loops, methods, functions, and arrays. Students spend the first term working on fundamentals and mini-projects to work on their fluency in Python and the second term developing more complex programs to efficiently develop and solve algorithmic tasks. Students taking this course complete homework, projects, and quizzes with the goal of learning the basic grammar and the logic of computer languages.

Computer Programming: Algorithms

This course is designed for students who have working knowledge of a programming language, such as Python, C, C++, Java, or Ruby, and wish to more deeply explore problems which can be solved algorithmically. Students explore in-depth problems in cryptography, data sorting, and file reading, writing, and management. Students spend time learning about a specific topic and then complete related Python coding challenges. Students taking this course complete homework, projects, and quizzes with the goal of applying the grammar and logic of computer languages to solve complex mathematical tasks.

Computer Science: Javascript

In this course, students explore fundamental concepts of computer science as they program interactive, web-based applications using the JavaScript programming language. The course centers around understanding general principles of computer programming and revealing those things that are universally applicable to any programming language. Students achieve those understandings

through deep exploration of the language of JavaScript and its use in building websites, games, and applications. This course is available to students with any level of programming experience. Students new to programming work within a block-based, drag-and-drop programming environment to design and code web applications and games. Students with prior programming experience have the opportunity to work within an integrated development environment (IDE) to write and design code for websites, applications, and games. All students work both independently and collaboratively using an online curriculum of text-based articles and tutorials, videos, and interactive programming tasks in addition to completing homework assignments, quizzes, and projects.

Computer Science: Mobile App Development

This course teaches beginning programmers using an online, tutorial-based curriculum that guides students through building progressively more complex apps using the App Inventor software. App Inventor is a cloud-based tool created by MIT and Google that empowers beginners and non-programmers to create mobile apps. Students learn how to design an application's user interface as well as program interactive features that respond to touch, voice, text messages, and other events. Each class, students work in small groups to learn introductory content, follow a step-by-step tutorial to create a sample app, and brainstorm customization tasks to add interesting and unique features. Students have the opportunity to create apps of their own choosing, as well as create an online portfolio of app creations. Students taking this course complete homework and readings independently, as well as prepare for in-class quizzes, in order to support their classroom learning.

Consumer Behavior

What does it mean to be a consumer? How do your personal beliefs and values impact your consumer decisions? This course is designed to give students the opportunity to explore the relationship between sound consumer practices and an understanding of the rights and responsibilities of consumers. Throughout the semester students explore consumer choices, rights, responsibilities, and how to troubleshoot problems. In addition, students apply the consumer skills they learn to make sound decisions for the management of their daily lives in the areas of housing, food, clothing, and transportation. This course is designed to strengthen students' critical and creative thinking skills through various inquiry-based activities and projects.

Creative Writing

Students in this course explore new kinds of writing and expand their writing skills. This course explores different genres of creative writing including poetry, fiction, and personal essays. The class reads, discusses, and practices different forms and styles of creative writing leading to the development of a writing portfolio filled with selections of work that each individual has completed during the semester. Students in this class share their ideas with other students and receive constructive criticism.

Creative Writing: Short Fiction

In Creative Writing, students practice and refine prose writing techniques. Since writing is an iterative process that requires a tremendous amount of practice, students write, in some fashion, for a portion of every class meeting. Students in this course also develop the skills and vocabulary necessary to analyze written works, providing meaningful, holistic, and respectful peer review and self-critique. Through the practice of writing, editing, reading, and critiquing, students develop strategies for creating evocative and clear prose. The semester's culminating assignment is a deep revision of a piece from the student's portfolio.

Dance Ensemble

In this course, dancers are challenged through a rehearsal environment with the goal of learning and creating multiple pieces of repertory early on in the semester. These dances are shared through multiple public performances throughout the semester including Morning Meetings, Semester Showcase, and Arts night. Dancers participate in performances that include both ensemble and solo work. Dancers explore essential questions such as "What does it mean to be a part of an ensemble?" and "What makes

a successful performance?” In addition to learning and performing choreography, dancers explore the question “How do I prepare to enter the professional dance world?” by generating materials that would prepare them for professional auditions. Dancers work independently on creating their own website that includes a headshot, CV, reel and a community resource for other dancers to benefit from. Community resources might include things such as a leaps and turns video tutorial, a guide to taking classes and seeing shows in Boston, or the best way to prepare for an audition.

Dance Technique

Dance Technique is a skills-based class that helps the dancer to develop the technical skills required to dance multiple styles of dance. The class focuses on developing the dancer’s physicality, strength, precision, endurance, and agility. Dancers learn to deepen their physical expression through musicality, understanding the physical energy required for adagio and allegro movements, and how to use their energy to embody and respond to the music.

Dance Stagecraft

Students learn about the elements that affect a dance performance beyond the dance itself, specifically costuming, set design, and mask making. Students use *Alice in Wonderland* as a case study, reading and watching productions of the work both in film and on stage. They research characters and scenes and dance productions. As they explore the work they collaborate to develop a production theme and design board. Students then work individually and in groups to design masks that embody a character, costumes that inform a scene, and a central set piece for a dance production.

Detective Fiction

In this course, students read classic detective fiction stories from Edgar Allan Poe, Sir Arthur Conan Doyle, and Agatha Christie in order to define the characteristics of the genre. Students then consider more modern, multimedia examples and analyze how closely they conform to the classic definition. The course also allows students to explore the necessary steps in the mystery-writing process and culminates with students’ creating their own detective fiction short stories.

Dystopian Literature

Recent novels such as Suzanne Collins’ *The Hunger Games* have brought dystopian literature, novels written about nightmarishly imperfect alternate realities, to the forefront of public consciousness once again. Interestingly, many of the questions these modern dystopian stories pose are the same as those posed in dystopian novels sixty to seventy years ago. In this course, students read a variety of excerpts from classic dystopian novels such as Aldous Huxley’s *Brave New World*, Ken Kesey’s *One Flew Over the Cuckoo’s Nest*, and George Orwell’s *1984*. Through their study of these texts, students grapple with enduring questions such as “What should ‘freedom of speech’ mean?” “To what extent should government influence citizens’ daily lives?” “How should a society balance authority with autonomy?” and “What power do spoken and written language have within a community?”

Early Agricultural Civilizations

This course investigates the foundations of early agricultural civilizations by focusing on the political and environmental history of three centers of civilizations: Southeast Asia, the Yellow and Yangtze River Valleys, and the Andean Mountains. Students begin the course by looking at the environmental factors that supported the first dense human populations. For each region, students explore how ancient governments used various religious or philosophical traditions to govern. Students work to understand the cultural foundations through extensive primary source analysis. Over the course of the semester, students work toward completing a self-directed research project, culminating in a research paper that explores a topic on early agricultural civilizations.

Electricity and Magnetism

The development of our understanding of the phenomena of electricity and magnetism are explored through both hands-on laboratory work and rigorous problem solving. Students examine topics including the nature of charge, electric fields and potential, electric forces, current and circuits, magnetic forces, and magnetic fields. The course includes both practical applications and the more abstract idea of electricity and magnetism as aspects of a unified fundamental force.

Engineering

Civilization owes much of its prosperity, health, and technological advancement to engineering. This course explores the many disciplines and skills that comprise the field of engineering. Students learn the engineering design process, the protocol followed to solve problems through designing, building, and testing. They interpret and produce technical drawings, diagrams, and plans. Students study materials used for construction as well as forces and how forces relate to materials and structures. The course also explores mechanical systems and their respective components. Lessons develop students' understanding of energy and power technologies, including fluid, thermal, and electrical systems. Students have the opportunity to design, build, test, and evaluate a prototype or model of their solution to a problem.

Facing History: Race in America

How can individuals change society around them? This course seeks to answer that question by exploring historic and modern-day civil rights movements. The course begins with a discussion of how students feel connected and disconnected from the world around them. Students then examine how the definition of race has changed over time, how institutions have discriminated against others based on race, ethnicity, national origin, or religion, and ways that individuals have pushed back and made changes. Ultimately, this course helps students understand what is happening in the current struggle for equality and what each person can do to address injustices that they see.

Fantasy Literature

Students read and analyze works of fantasy literature, exploring major themes and literary devices, and applying concepts common to fantasy like world-building and characterization. The course culminates with students' creating their own miniature fantasy worlds and writing thematically-appropriate short stories. Texts may include J.R.R. Tolkien's *The Hobbit*; C.S. Lewis's *The Lion, the Witch, and the Wardrobe*; Ursula K. Le Guin's *A Wizard of Earthsea*; T. H. White's *The Sword in the Stone*; Patrick Rothfuss's *The Name of the Wind*; and Terry Pratchett's *The Color of Magic*.

Fashion Design

This course introduces students to the different aspects of fashion design: design principles, sketching, clothing construction, costume design, and basic business practices. The purpose of this course is to allow students to explore the possibility of a career in the world of fashion, apply skills in their own wardrobe, and prepare for a professional life beyond high school in all areas of life. Innovation and creativity are emphasized in this class; however, students do not need prior knowledge or experience in sketching or clothing construction to succeed.

Folklore and Fairy Tales

As students explore the vast world of fables, folktales, and fairy tales, they collaborate to identify similarities and differences between the stories of various cultures and time periods. They work toward answering the essential question, "Why are folklore and fairy tales important to society?" Over the course of the semester, students write their own creative fables, research local legends, and complete a project comparing classic and modern fairy tales of their own choosing.

French 1A

The aim of this class is to introduce students to French language and culture. Students actively speak, read, and understand everyday, practical French. Through this study, students learn to appreciate the Francophone language, history, and culture, with a particular emphasis on Paris and Provence. Resources used may include *French in Action*, a language-immersion video series, podcasts, music, and movies.

French 1B

The aim of this class is to expand on the skills students learned in French 1A and to further develop students' abilities to speak, read, and understand everyday French. The course uses *French in Action*, a language-immersion video series designed to increase fluency in French while introducing French culture. The course also utilizes a variety of other audio visual resources such as podcasts, music, and movies to increase knowledge and appreciation of Francophone language and cultures around the world. *Prerequisite: Academic background in French equivalent to at least the first half of French 1.*

German 1A

In this course students participate in immersion-style German language lessons with the goal of developing basic communication skills as outlined by the Common European Framework for language learning. The greatest emphasis is placed on oral communication. Students explore contemporary German schooling, politics, music, and sports. Students also examine the history, cuisine, and architecture of two major German cities, Berlin and Munich.

Gothic Literature

Haunted houses, vengeful ghosts, dark cemeteries, and “things that go bump in the night”... All are aspects of Gothic literature. This course explores in depth Charlotte Bronte’s *Jane Eyre* alongside excerpts from several other Gothic novels, short stories, and poetry. As students compare the major and supplementary texts, find and read contemporary Gothic literature, and watch excerpts of Gothic films, they determine the major characteristics of the genre and analyze the genre’s development over time. Students also learn the characteristics of major literary movements happening directly before, after, and during the Victorian Gothic movement, and by the end of the course, students are able to differentiate Gothic texts from their contemporaries. Students ultimately use the primary elements of Gothicism to create their own horrific short stories.

Greek Tragedians

This course offers students a survey of the works of the major three Greek tragedians: Aeschylus, Sophocles, and Euripides. Together these writers invented and shaped the genre of tragedy and are still studied by the playwrights and actors of today. By reading plays and excerpts from each author, students are able to analyze the evolution of the Greek tragedy as well as the ins and outs of life in the theater. Students have an opportunity to use their acquired knowledge of the Greek theater to put on their own scenes from their favorite Greek plays in class. No Latin or Greek knowledge is required, as all texts are read in English.

The Hero’s Journey

Have you ever noticed many of your favorite stories have very similar structure? You aren’t alone! In this course, students explore the concept of “The Hero’s Journey” derived from Joseph Campbell’s “Monomyth” concept which posits that most stories can be broken down into common stages. Students explore the stages themselves, as well as some central questions about the concept: Can stories which follow a formula ever say something new? Why is this formula so popular throughout human history? How can the formula be subverted or changed? This course involves reading stories, viewing films or short clips, and writing reflections and responses breaking down the stories and narratives. The course culminates in a project in which students write, illustrate, or perform their own Hero’s Journey story.

History of Food

This class examines a variety of issues in world history through the lens of food, in order for students to see tangible, and edible, evidence of how food changes society. As a starting point, students discuss the role that food and drink play in their lives. Students explore case studies: the role that beer and wine played in the development of ancient civilizations; the development of an American identity through the dinner plate, reading primary sources detailing early Thanksgiving dinners; the connections between chocolate, sugar, and rum and the slave trade; and the impact food can have on the economy, looking at the unionization efforts of bagel bakers and -eventually- the creation of the first frozen supermarket bagels. Through food, students explore how seemingly small things can change the world, for better and for worse.

Historical Narratives and American Identity

Students study how history can be used to tell a compelling story and shape national identity. The class discusses the ethical issues that stem from changing historical fact for the purposes of telling a narrative, the impact of a story in changing how Americans view their own past, and the ways in which history is used to shape American identity. The class examines narratives in a variety of formats, including short stories, plays, and movies. Content explored focuses primarily on the American Revolutionary Period and the Civil War.

Horror Literature

In this course, students explore the elements that make up the genre of horror literature and how they change over time through close reading of short stories from the 19th century through modern day. Students first consider what people find scary and why these ideas inspire fear, as well as why people like to be frightened. Through research using online sources and critical texts, students develop criteria for the horror genre and use these criteria to assess and better understand the stories read in the course. Authors may include Poe, Gilman, Stoker, Lovecraft, King, and Dahl. The course includes challenging, engaging reading assignments and class discussions, as well as film clips and creative writing assignments to supplement the core short stories. The course culminates in a collaborative writing and visual art project that asks students to apply their definition of horror literature to an original creative short story.

Human Origins

Most history courses focus on humans as a species after the development of farming, urbanization, and centralized governments. This course investigates human society before the development of "civilization." Students begin the course by looking at the origins of archaeology as an academic discipline when the field was determined by cultural, racial, and ethnic biases. Students then learn about the new methodologies that legitimized these disciplines and expanded our knowledge of early human history, as well as the limitations of what we can know about early humans. The content of this course focuses on the impact of environmental changes, the evolution of symbolic thinking and material culture, and the transition from hunter-gatherers to agricultural societies. The semester culminates in a project dedicated to investigating a debate in human prehistory. Some of these debates include the extent of Homo sapiens interaction with others in the Homo genus, the pre-European population of the Americas, and how the first humans traveled to Australia.

Human Physiology & Disease

How do systems of the human body interact with other living systems? In this course, students examine this question as they investigate the function of the human body as it relates to various diseases. The course includes a brief survey of cell biology and microbiology, but mainly focuses on the use of medical case studies to decipher the complex interactions within human organ systems, such as the circulatory and respiratory systems, urinary and reproductive systems, and the digestive system. Diseases and conditions to be discussed are based on student interest, and may include topics such as hypertension, amoebic meningitis, asthma, pneumonia, HIV/AIDS, and syphilis. Students in this course develop their skills in reading and interpreting scientific literature and making observations and inferences.

Identity Studies

Who am I, and who are those around me? In this course, students seek to answer these essential questions as they explore intersectionality, or the way that different aspects of one's identity overlap. Students learn about queer studies, and they investigate issues related to race, gender, religion, and political affiliation through self-directed research. By the end of the course, students develop a deeper understanding of themselves and others.

Immigration

In this course, students learn about past and present aspects of United States immigration. By studying the personal experiences of immigrants and refugees, students examine immigration through the lens of human rights and social justice. Students conduct research, actively participate in class discussions, and engage in various other activities in order to explore the following topics: why and how people immigrate, refugees and asylum seekers, and experiences of immigrant youth and children of immigrants.

Information Analysis Techniques

Have you ever watched the news, glanced through an online article, or read your social media news feed and wondered, "How do I know what is the ground truth on the other side of the world? And why are there so many different versions of the same story?" In this course, students do independent and group work to hone research, analysis, and presentation skills as well as develop a keen eye for spotting bias and propaganda in media. Through examining their own cognitive biases and studying critical thinking theories, students better understand how they and others understand the information they take in. Students look at breaking events worldwide through a political-military lens and examine defense and policy implications for the U.S. and international communities in order to work toward a common goal of more informed reading and analysis of world events.

Infrared Astronomy

Infrared Astronomy is designed for students who are interested in both astronomy and public outreach. Students investigate topics in astronomy with a focus on observations made in the infrared part of the spectrum, and analyze data from a variety of telescopes, particularly the Stratospheric Observatory for Infrared Astronomy (SOFIA). They investigate astronomical phenomena through presentations, readings, discussions, and activities. In addition, students have lessons on science journalism from a member of the Museum of Science staff and are expected to present in public at the museum. The class is open to students without prior experience in astronomy as well as students who have already taken the general Astronomy class.

Interior Design

Housing is a basic human need; people who are informed about design and construction are able to make responsible decisions. This course is designed to help students make wise housing and design choices based on economic and geographic factors. During this course, students learn about the principles of design and their application to interior design. Students study floor plans to select appropriate room and furniture arrangements as well as learn how to observe and understand how different spaces are utilized. Students work toward designing different rooms in a house based on a prospective client's needs, wants, and budget.

Journalism

In this course, students investigate and discuss journalism ethics and standards, learn about the history and development of journalism in the United States, and examine the role of various forms of news media in their own lives. As students draw on current news for models of a range of journalistic forms and strategies, they practice interview techniques and refine their informative, analytical, and persuasive writing skills. Students produce a variety of pieces throughout the term, from features and editorials, to local, national, and international news articles, and have the option of submitting their work for publication in the school online newspaper, The Rising Times.

Literature Study: *Jane Eyre*

Students read and discuss the novel *Jane Eyre* by Charlotte Brontë and research the era of the novel, the Victorian era, in order to understand the society that Brontë was responding to in her writing. The course especially looks at the role and status of women during this time period, a time period that influenced Brontë in writing the novel. Students in this course explore the novel through the completion of a variety of assessments, including research projects, creative and critical writing assignments, fishbowl discussions, and artistic interpretation projects.

Literature Study: *The Odyssey*

This course centers on a close reading in English of Homer's *Odyssey*, an epic poem that chronicles wily Odysseus' adventures as he makes his way back home to Ithaca after the Trojan War. While Odysseus has been out facing sirens and cyclopes, suitors plague his palace, eagerly seeking to marry his wife and kill his son. In this course, students examine the conventions of the epic genre and oral composition as well as the themes of mortality, leadership, glory, the gods' relationship with mankind, and *xenia* (the guest-host relationship). No prerequisite knowledge of the Trojan War or Greek mythology is required. Ultimately, students deepen their knowledge and understanding of the wonderful poem and develop their own interpretations of its meaning.

Local Ecology Lab

Just because we live in a built environment does not mean that we do not interact with nature. The natural world is all around us. Furthermore, urban and suburban ecosystems are greatly understudied. In this course, students learn the principles of ecology while designing, planning, and carrying out original research. The research groups determine how data is collected and analyzed and build sampling equipment as needed. By the end of the semester, students use their detailed lab notebooks and field notes to write formal reports of their findings.

Local Fish and Fisheries

By 2050 the world is expected to have about 2 billion more people than it has today. Many nations rely on fishing for employment and food. The pressure on these already stressed natural resources may increase significantly. How can we simultaneously be consumers and stewards of natural resources? To try to answer this question, students read *Cod: A Biography of the Fish that Changed the World*, by Mark Kurlansky as an introduction to the world of fish and fisheries. Original scientific research, government reports, industry reports, magazine articles, and newspaper stories add to students' depth of understanding. Various activities, projects, discussions, and assessments give students the background in oceanography, ecology, economics, and sociology needed to understand the readings and the positions of the authors.

Local Horticulture

Plants are foundational to all ecosystems and are the primary source of calories and nutrients to most human beings. Modern society allows for easy access to almost any plant desired at any time of year, but what is needed to seasonally and successfully grow plants in your own backyard? Students in Local Horticulture answer this question as they investigate the components of their local ecosystem. Topics for this course include both modern plant biology and historical local horticulture, and students apply what they learn to the planning and execution of a garden on school property.

Marine Biology

The oceans cover approximately 70% of the Earth's surface and may provide as much as 50% of the atmosphere's oxygen. These underexplored environments have a wide range of organisms that sometimes seem to come from another planet and interact in unexpected ways. In this course, students use laboratory exercises, readings from the scientific literature and popular press, independent research, and direct instruction to explore the biology of marine organisms, their evolution, and how they interact with their environment. Students use local examples to study the major groups of marine organisms and their habitats.

Marketing

This course provides a foundational understanding of marketing, an essential element of business, that includes market research and advertising. Marketing is a growing field of employment that focuses on promoting and selling products or services. Students investigate the four key principles of marketing including product planning, principles of marketing, pricing, promotion, and distribution. Students in this course gain a deeper understanding of how products go from concept to consumer. The course culminates with a project in which students have the opportunity to create and present a marketing plan for a client.

Media Literacy

In this course, students examine the effects of media on everyday life. Students are challenged to think about how media reflects values and affects ideals of individuals and groups of people. In order to determine the intent of those who produce messages and the impact of those messages on consumers, students examine the media through the lenses of specific themes such as beauty, power, and identity. Students explore various media, including films, graphic novels, advertisements, visual art, music, and the news, and develop the ability to critically consume information in the process.

Microbiology Lab

Microbes are all around us and all over us, but are invisible to the human eye. The diversity among microbes is astounding, yet even through a microscope we can only observe them as basic shapes. In this course, students explore the innovative ways that scientists find, cultivate, and identify microorganisms in order to study the complex roles they play in ecosystems on Earth. Some techniques students can expect to learn include isolation of bacteria on agar plates, preliminary identification of bacteria through metabolic tests and dichotomous keys, enumeration of bacteria, preparation of laboratory reagents, slide preparation and microscopy, and experimental design and analysis. This course is laboratory intensive, and students maintain a detailed laboratory notebook throughout the semester. Some techniques students learn include isolation of bacteria on agar plates, preliminary identification of bacteria through metabolic tests and dichotomous keys, enumeration of bacteria, preparation of laboratory reagents, and experimental design and analysis. Students enrolled in this course maintain a detailed laboratory notebook throughout the semester, and conduct an independent project at the culmination of the course.

Middle Eastern Studies

Throughout history, the Middle East has always been a central focal point of our world. This course centers around a collaborative exploration of the many complex narratives and topics that surround this region, and students gain valuable perspective on its history, its people, and its many intriguing layers. Additionally, students attempt to tackle the big issues and make sense of the current conflicts that seem to continuously plague the Middle East. Delve into the history of this region, learning about geography, culture, religion, politics, and why the Middle East has become such a central component of our globally connected world. From Jerusalem to Baghdad, this course takes its participants far and wide to every corner of the Middle East, challenging their preconceptions of the people who call the region home and the current events that cycle through our daily news.

Mars

In this course students focus on the planet Mars, looking at its characteristics, environmental factors, and the open questions that scientists hope to answer with further exploration. Students participate in hands-on activities to investigate various aspects of planning a Mars mission, such as getting to Mars and landing, living and working on the surface, and communicating with Earth. They identify the key technology required for such a mission, use resources including Andy Weir's novel *The Martian* to frame discussions about the challenges of planetary exploration, and use their backgrounds in science and math to solve problems such as the ones encountered in the novel. Over the course of the semester, students collaborate to design their own mission to Mars.

Movement Studies

Movement Studies allows students to analyze and understand their movement through the study of yoga, pilates, and breathing techniques. Students engage in the practices of movement and breathwork and explore the ways in which these practices affect their physical, mental, and emotional well being, and their interactions with others. Students set, make progress toward, and reflect on personal goals. Through the physical demands of the course, students develop their mind-body connection, kinesthetic awareness, coordination, balance, flexibility, core strength, and endurance. The course culminates with an opportunity for students to demonstrate skill in the key principles of movement.

Musical Theater

This course investigates one of the world's most beloved and enduring forms of storytelling, Musical Theater. In addition to analyzing the thematic elements of significant musical productions, students investigate the historical context of these works to uncover how Musical Theater reflects and influences the society that surrounds it. The course culminates with an independent project in which students use their historical knowledge, analysis, and research skills to create or adapt a short musical exploring the theme of their choice. Musicals explored may include *Wicked*, *Next to Normal*, *Annie*, *Grease*, *Showboat*, *Chicago*, and *Fiddler on the Roof*. Please note this course is not performance-based.

Music & Western Society Since 1750

In this course, students examine the place of different musical genres and artists in their cultural and historical contexts. The course begins with an in-depth look at the world of the Classical Era that produced some of history's most noted composers: Mozart, Haydn, and Beethoven. The course then introduces students to a variety of musical genres, including Romantic music, Jazz, Blues, Swing, Rock, and Pop. Students engage their ability not only to listen to and analyze the music of these eras, but also to investigate the different cultural and historical contexts. The course culminates with an independent project in which students study and create a presentation about an artist of their choice within a given musical genre and historical context. Ultimately, this course helps students understand how music and musicians reflect and influence culture and society.

Nonfiction Storytelling

What choices must authors consider when constructing a story based on real events? What concerns arise when faced with the task of building or preserving a legacy, whether one's own or someone else's? How do narrative techniques and elements such as motif, characterization, and theme work to elevate such stories to works of literature? With these questions in mind, students in this course analyze nontraditional narratives which draw from history, both national and personal, for their plots and characters: Lin-Manuel Miranda's *Hamilton*, a Broadway musical that depicts the life of Alexander Hamilton through hip-hop, jazz, and R&B; samples from webcomics, such as Allie Brosh's *Hyperbole and a Half*, that explore personal struggles and identity formation; and selections from *The Moth Radio Hour* and other sources. Through this analysis, students consider how best to convey stories from their lives and the lives of others as they produce narratives of their own.

Observational Painting

In this studio course students work exclusively from direct observation in order to further develop their technical-painting skills. Focus is primarily on the craft of painting and topics covered include developing strategies for controlling the color properties of paint, utilizing transparent and opaque applications of color, handling transitions between colors in order to simulate materiality, and producing physical and illusionistic texture in their paintings. Students work from setups in the art studio as the starting point for each project and they have opportunities at times to supplement their projects with paintings from personal objects. Students work in a methodical, disciplined, and intentional manner in order to fully explore the capabilities of acrylic paint.

Painting From Photography

This course explores the influence of photography on contemporary painting and provides students opportunities to use their own photographs as primary sources of inspiration for their paintings. The class focuses on the history of painting from 1960 until the present and investigates how the burgeoning use of photographs as source material has created an aesthetic and conceptual arena for painting. Students use photography as a way to open up their painting possibilities and use a collage-based approach to how they organize their reference material. Students explore technical approaches to painting with a photographic language and focus heavily on compositional and conceptual concerns. Students complete three painting projects during the semester that use a photographic language from the history of painting and give a fifteen minute presentation on an artist who relies heavily on the use of photography in his or her painting practice.

Paleobiology

As a species, humans have been on Earth for only a tiny fraction of time. This course offers a look at dinosaurs and the many other ancient life forms that once dominated our planet, covering the anatomies of these exceptional creatures in great detail. Beyond learning about dinosaurs and other creatures from long ago, students explore how scientists discover new knowledge about long extinct species. Students investigate fossils, ice cores, stratification, continental drift, and DNA evidence. There is also a heavy focus on comparative anatomies between extant and extinct creatures. Classroom activities focus on both learning new content about life on prehistoric Earth, as well as open discussion speculating about ongoing discoveries in the field of paleobiology.

Personal Finance

This course in personal finance focuses on preparing students from all math backgrounds to properly manage their funds now and in the future. Students develop core skills of creating budgets, using checking and savings accounts, managing debt and credit, developing long-term financial plans, and making responsible choices about income and expenses. Throughout the course, students analyze their personal and financial goals and decisions, creating action plans and developing self-awareness. Focal points include analyzing the costs incurred from the college process, understanding loans, and exploring students' current spending habits with a direct focus on the concepts of saving and future planning.

Pirates

This course examines piracy from a historical perspective, primarily during the time of the Golden Age of Piracy from the 1650s to the 1720s. Through readings, class discussions, and case studies of famous pirates, students in the course investigate the nature of piracy and the political and economic reasons behind piracy. Students learn about pirates' code and governance system, weapons and tactics, and daily life on the sea. Students read accounts of some of the most famous pirates to analyze the extent to which these accounts romanticize the reality. Students write a research paper and create a class presentation. The course also includes a field trip to the Whydah museum, a living laboratory, where students learn from archeologists about concretion and the artifacts recovered from Bellamy's ship, the Whydah, a reminder of the exciting history of piracy in Cape Cod.

Playmaking

In this course, students learn how to create, produce, and perform a one-act play as a group. Students explore their ideas through acting improvisation and group brainstorming discussions. At the beginning of the semester, students are given a starting point for their work together. From that starting point, the students begin to explore the issues of their communities and develop a plot for their one-act play. Students also develop ideas for scenes outside of class. Students are responsible for taking all of the group's ideas and synthesizing them into a version of a scene. After weeks of exploration and decision making, the class workshops scenes to refine the play's message and add technical aspects to bring the piece to life. At the end of the course, the students in this elective perform their original one-act play for an audience.

Playmaking: Social Issues

Students learn how to create, produce, and perform a one-act play as a group. Students explore their ideas around social issues through acting improvisation and group brainstorming discussions. At the beginning of the semester, students are given a starting point for their work together. From that starting point, the students begin to explore the issues of their communities and develop a plot for their one-act play. Students also develop ideas for scenes outside of class. Students are responsible for taking all of the group's ideas and synthesizing them into a version of a scene. After weeks of exploration and decision making, the class workshops scenes to refine the play's message and add technical aspects to bring the piece to life. At the end of the course, the students perform their original one-act play for an audience.

Poetry Intensive

The Poetry Intensive is geared toward students with an interest in deepening their knowledge of individual poets and their techniques, and honing their own analytical and creative writing skills. During the course, students read 20 to 30 poems from each of several authors and discuss the authors' subjects, craft, and development over their careers. Students complete close readings of five to ten poems in advance of each class day and arrive prepared to discuss the poems. Additionally, students write short essays on craft and technique, write poems in response to the course reading, and workshop each other's poems. Authors to be considered include, but are not limited to, Jane Kenyon, Robert Pinsky, Claudia Emerson, Linda Gregg, Robert Hass, Jack Gilbert, Gail Mazur, David Ferry, Mark Strand, and Ellen Bryant Voigt. The course also addresses earlier or mid-career poets such as Maggie Dietz, Caki Wilkinson, Rebecca Morgan Frank, and Ross Gay.

Psychology

Do different colors influence people's emotions in different ways? Does dreaming affect the brain? Is personality determined by birth order, genetics, or experience? This course poses these and other questions as students explore the mental functions and behavior of human beings from the scientific perspective of psychology. The course introduces students to topics such as adolescence, the brain and nervous system, the state of consciousness and dreaming, how memories and thought play a role in making who you are, and motivation and emotion. Assessments include small experiments followed by analysis and application, weekly journal entries, quizzes, and a final research project.

Public Health: Food Manufacturing and Safety

This course touches upon facets of microbiology, epidemiology, biochemistry, and history in order to explore the science behind reducing the risk of foodborne infection. Students learn about the microscopic organisms and toxins that can be found contaminating food and discuss the historical and modern food manufacturing and preservation techniques used in order to reduce their presence. Students use case studies to retrospectively examine what went wrong to cause past outbreaks in the food supply and learn how public health officials track down the source of contaminants. Students in this course develop skills such as reading and analyzing scientific publications, designing experiments, and performing basic statistical analyses.

Public Speaking

Mark Twain once said, "There are two types of speakers: those who get nervous and those who are liars." In this course, students develop skills that enable them to feel more comfortable and confident with speaking in public. Students learn by listening to great speakers of the past and present, and applying the rhetorical devices that they hear to their own practice. Through individual and collaborative assignments, students learn to persuade, inform, and inspire a variety of people in a variety of settings, whether it be in a debate, a presentation, a speech, an interview, a board meeting, or a performance.

Race in American History

The course begins with a discussion of the concept of race in the United States and worldwide. The course continues with an analysis of the successes and failures of the reconstruction period, moving into the period of legal and institutionalized segregation and discrimination. Students then examine how the definition of race has changed over time and various ways that individuals have pushed back and made changes to legal, institutional, and societal racism. Texts explored include excerpts from *The Souls of Black Folk* by W. E. B. Du Bois, *The New Jim Crow* by Michelle Alexander, and *The Color of Law* by Richard Rothstein. Ultimately, this course allows students to explore how race has shaped their lives and American society.

Research

Archeology. Science Fiction. Classical Violin. Paleontology. Native American History. In this skills-based course, students conduct an independent research project on a topic of their choosing. Units of this course include: Inquiry; Gathering Information; Sourcing, Perspective, and Bias; Critical Revision; and Communicating Research. Throughout the semester, students develop the skills necessary for answering complex research questions at the postsecondary level with the goal of educating others about their passion as well as living a life of curiosity and inquiry. Students should be prepared to delve deep into their chosen topic through extensive reading, writing, and investigating. By the end of the course, students present an original work of scholarship, which may take the form of a research paper, a podcast, a video, a play, or a public service announcement. Major assessments include a project plan, an annotated bibliography, a research synthesis, a final research project, and a presentation of one's work.

Robotics

In this course, students learn basic programming, logic, engineering, problem solving, and design skills using the VEX Robotics system and RobotC. Students work in a team environment and utilize their collaborative skills throughout the course. Students are individually responsible for learning basic programming for later use within their teams. Teams receive challenges, and each student is required to create and submit programming and design assignments based on these challenges. Upon completion of these assignments, teams construct their robots to complete the various challenges. Students use a variety of tools in the construction of their robots, including but not limited to, potentiometers, light and sound sensors, and accelerometers. Additionally, students discuss various influences robotics has in our society, including the impact of robotics on the workforce.

Rocketry

Students in this course explore the physical and mathematical principles of rockets, vehicles that propel payloads at high speeds through the air and often into space. The course loosely draws from NASA Glenn Research Center's *Beginner's Guide to Rockets*. Students explore some physical and geometric principles that describe how a rocket operates in empty space, in space while in orbit, in the atmosphere, and on the launchpad. While students do not use any explosives, they do participate in at least one hands-on project. Alternative and experimental propulsion designs are explored, and students have the chance to individually learn about specific missions.

Science Fiction

The genre of science fiction is one that looks both forward to the future as well as inward toward what it means to be human. In this course, students explore various short stories, excerpts from novels, and other formats that look at what our fiction tells us about our society. By looking at pieces from different periods in history, students analyze what past ideas of the future were like, as well as how what came to be matches with those ideas. This is a literature course, with reading and writing assignments every week. Class discussion topics may include the nature of humanity and reality, the mind of the other, and how technology affects our relationships and civilization. Students create some original pieces of science fiction.

Shakespeare Adaptations: Much Ado About Nothing

This course is a blend of both English and Theater. In this course, students explore the work of William Shakespeare and the influence it has had on modern-day culture and entertainment. Students read a variety of Shakespeare's texts, including sonnets and the play *Much Ado About Nothing*. Students also explore modern films, theater, art, and music influenced by Shakespeare's texts. Students in this course examine various adaptations of Shakespeare's work, look at how his texts have influenced the work of others, and create their own original adaptations of the play *Much Ado About Nothing*. The course culminates with a public performance of these original adaptations. This course includes reading and analyzing Shakespeare's work and developing and acting in some original adaptations. Students develop their skill with and connection to reading, writing, and acting in this course.

Slavery & the Civil War

This course is an in-depth examination of the greatest crisis of American history. Students learn about the origins and character of American slavery, and ask how and why it developed as it did. The course traces the rise of American anti-slavery, and how it came to challenge the South's defining institution. Finally, students study the war itself, and just what the "new birth of freedom" meant in its aftermath. Expect serious discussion of race and politicized morality. Also battles.

Sociology

Sociology challenges you to think more critically about your position in society: how your background, class, gender, race, ethnicity, sexual orientation, and so on influence your goals, beliefs, experience, and interactions with other individuals and with social institutions. This course highlights how our understanding of ourselves and our individual identities is influenced by political, situational, and sociocultural factors. By paying attention to cultural and historical context, we question taken-for-granted assumptions about seemingly natural and fixed categories, e.g., gender, race, identities and 'social facts,' which we take to be 'real.' The course relies on student participation and respectful classroom dialogue about often-challenging topics. The course centers heavily on participation and projects that ask students to apply the "sociological imagination" to the topics of culture, gender, race, inequality, family, and education. By the end of the course, students achieve a greater depth of awareness about themselves and their surroundings.

Software Development

Students work collaboratively as a software development team to iterate through the research, design, development, debugging, and marketing process. Students keep a digital diary of the development process and supplement their software with user-friendly tutorials on the functionality of their apps and the mathematics behind their software development. Technology explored includes web development and HTML, Java Object Oriented Programming, Android Studio and the ARCore development SDK (software development kit), and Blender.

Software Development: Google ArCore

Students work collaboratively as a framework engineering team supporting a large software development team. Students iterate through the research, design, development, and debugging process. Students manage their software and team communication with version control software. Technology explored includes Java Object Oriented Programming, Android Studio, the ARCore development SDK (software development kit), Git (version control software) and Blender.

Technology & Society

This course explores how the advent of several key technological innovations changed human society. Blending together historical research with a critical look at the workings of these inventions, students investigate the impact of inventions such as the internal combustion engine, the telegraph, the refrigerator, and the computer. Students develop the skills of research in order to produce both research papers and research projects about these innovations, as well as demonstrate a firm understanding of the engineering principles behind them. This course also looks at emerging

technologies, such as 3D printing and genetic engineering, and speculates on their potential impact on society.

The Tudors

Spanning more than 100 years and three generations, the Tudor family ruled England with an iron fist. Their story is one of bloody wars, separation from the Roman Catholic Church, and notorious characters like King Henry VIII. In this course, students use primary sources to analyze and re-assess how the Tudors' story has been told. Students learn how writers' biases inherently influence the act of writing, and they question traditional narratives of history that focus solely on male actors, creating their own narratives instead. Throughout the semester, students investigate primary-source databases, the sources themselves, and how these sources have been written about in the past. They express their findings through a research project along the way and a final project reassessing historical narratives.

The Wars of the Roses: A Study in Historical Constructionism

Murder, romance, betrayal, and the mysterious disappearance of two little boys: these 15th century English civil wars had it all. In this course, students study the ways in which historical events are constructed and created over time. Students hone skills including reading and writing history, historical analysis, and presentation skills. Students explore medieval primary sources as well as secondary sources and adaptations of this fascinating period in English history. Students examine both academic and popular portrayals of these events, like William Shakespeare's historical plays like Henry VI and Richard III. Students explore the ethical questions raised in these conflicts, as well as the perspectives of and the contexts around those who are retelling the story. The course culminates in an independent presentation project in which students adapt an episode of the Wars of Roses in a format of their choosing.

Visual Art: Portfolio Workshop

Each student in this course works independently to generate a portfolio of work that best demonstrates his or her own conceptual and technical understandings. Considerable time is spent exploring what a portfolio looks like for each individual student. With guidance from the teacher, students choose the materials with which to work and develop a strong conceptual thread throughout their portfolio. Students are expected to concisely formulate and communicate their content during one-on-one conversations with the teacher, to the class of their peers during group critiques, and through multiple drafts of a written artist statement.

West African Dance

In this physically rigorous course, dancers focus on learning, expressing, and independently researching dance modalities from the West African region. The first half of the course centers around dances from Mali, Senegal, and Ivory Coast. Once a strong base in West African dance is established, dancers take an inquiry-based approach to independent research projects about dance from additional countries. These projects create an opportunity for students to incorporate skills in investigation, critical thinking, leadership, collaboration, and communication. The course culminates with a performance for the school community. Individual expression, support for the classroom community, and high energy are all crucial elements to the course.

Western Philosophy

Western Philosophy introduces students to some of the core questions of the European philosophical canon. Using primary source texts, students read from classical philosophers like Plato and Aristotle, medieval philosophers such as Aquinas, and particularly modern philosophers from Descartes to Kant. Students explore the core sub-fields of philosophy: epistemology (how we know what we know), ethics, metaphysics (the fundamental workings of the world), and logic. Students engage in challenging readings and mind-bending questions, discussions, and debates.

Women in Latin America

In this course, students explore women's varied experiences in Latin America. Students read texts, both fiction and nonfiction, and view films and film clips, in order to gain an understanding of the relevant cultural, geographical, and historical contexts that have affected these women. The course explores several themes such as traditional gender roles, racial identity, social class, power, and authenticity in storytelling. Throughout this course, students are challenged to consider multiple perspectives, acknowledge their own biases, and examine various aspects of the human condition. All texts are read in English and all films are viewed either in English or with English subtitles provided.

ADVISORY

Grade Level Advisory Curriculum

Advisory Teams work together to support the personal and academic growth of students. Teams collaboratively develop and implement an Advisory curriculum connected to the grade level guiding question that addresses Community Building, Future Planning, and Wellness. Exploring these topics together contributes to students' sense of community membership, academic success, and overall social and emotional health.

Community Building

- Community Standards & Structures
- Relationship Building
- Leadership Development

Future Planning

- Personal Exploration
- College and Career Planning
- Personal Financial Literacy

Wellness

- Physical Health
- Emotional Health
- Social Health

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The faculty at Rising Tide regularly reviews educational research for professional development. Below is a sampling of readings that have contributed to our curriculum design and implementation:

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