



# MILTON ACADEMY

C O U R S E C A T A L O G U E 2 0 1 2 - 2 0 1 3

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The courses, requirements and information included in this catalogue were accurate at the time of publication. Any changes voted by the faculty will be updated in June 2012. The most up-to-date version of this catalogue can be found on the Milton Academy Web site at [www.milton.edu](http://www.milton.edu).

## Dear Student,

## Course Levels and Expectations

This catalogue holds within its pages myriad opportunities for you as a scholar. The courses described enrich the Milton Academy curriculum, and I encourage you to take your time as you read about and consider the offerings you'll find here.

The various disciplines will allow you to cultivate a passion, explore a new interest, and examine different perspectives. Course selection is an opportunity for you to build a program that complements your interests in the classroom, your activities on Milton's campus, and the ambitions you have for the future.

Here are a few strategies that may guide you as you make your choices.

- Outline the courses that you may want to take over your entire Milton career, keeping in mind graduation requirements. Some courses have prerequisites; many do not need to be taken in a particular year.
- Second choices can be important, as some courses may fill up and others may not run if enrollment is insufficient.
- Advisors, classroom teachers, students, and the registrar can be helpful to you as you make your decisions. Ask questions, and take advantage of their wisdom and guidance.

Milton students are truly creative and critical thinkers, and engaged and independent learners. I encourage you to use this catalogue as a valuable tool, as it gives you the freedom to develop your own rigorous academic curriculum, which is at the core of the Milton experience. Expand your knowledge, challenge your perceptions of the world, and commit yourself to a learning experience that will inspire and transform you.



Jackie Bonenfant  
Academic Dean

Milton has several designations for accelerated work: Advanced, Honors, Accelerated and Advanced Placement (AP). Milton is not an AP-driven school and does not offer AP courses in English or the sciences. However, the intensity of the program does qualify students to take a number of AP exams.

Homework assignments require an average of 45 to 60 minutes of preparation for each class meeting for students in Classes I–III and 35 to 45 minutes for each class meeting for students in Class IV. Assignments in Advanced, Honors, Accelerated and AP courses may be more demanding than assignments in other courses. Milton Academy assumes that students who enroll in these courses will be able to complete these assignments within the normal homework time.

## Diploma Course Load Requirements

Entering Class IV	18 credits
Entering Class III	13 credits
Entering Class II	9 credits

The typical course load for an Upper School student is five credits. Milton offers three types of courses: a full course, meeting four or five periods per week all year and earning one credit; a half course, meeting two or three times per week all year and earning one half credit; and a semester course, meeting four times per week for one semester and earning one half credit. Students can earn the correct number of credits by taking a combination of full, half and semester courses. A student must carry at least four credits at all times and may never carry more than five and one half credits.

**Although we hope to offer all the courses described in this catalogue, courses that do not directly fulfill a diploma requirement will be offered only if enrollment is sufficient.**

Students must earn a passing grade in a course in order to receive diploma credit. To be promoted in any one year, a student must earn a minimum of four credits with grades of C– or better in at least three of those credits and a passing grade in English.

## Departmental Diploma Requirements

Milton encourages the development of individualized programs of study and the in-depth exploration of subjects of interest. The School's departmental diploma requirements facilitate these objectives, and students typically go beyond the diploma requirements in many academic disciplines. Below are the general requirements for each department. Successful completion of the courses listed below will meet these minimum requirements. Please refer to individual departments for more specific guidelines.

### English

One full course each year

### Mathematics

Geometry  
Algebra 2

### Languages

Level 3

### Science

Chemistry or Physics  
Biology

### History

Ancient Civilizations or  
Modern World History  
and U.S. History  
or  
Two-year sequence of  
U.S. in the Modern World

### Arts Program

One full-year course after Class IV  
or  
Music Package

### Physical Education

Class IV: Three seasons including  
Project Adventure  
Class III: Three seasons including  
Fitness Concepts  
Class II: Two seasons including CPR  
and First Aid  
Class I: Two seasons (CPR and First  
Aid if not taken in Class II)

### Current Events/Public Speaking

One ten-week course in Class III  
(or Class II)

### Required Non-credit Courses

Class IV: Introduction courses in  
music, performing arts  
and visual arts  
Classes IV–I: Affective Education (Health,  
Values, Social Awareness,  
Senior Transitions)

## Courses Requiring Departmental Permission

Enrollment in Advanced, Honors, Accelerated and AP levels in the following departments will be at the discretion of each department. Please refer any questions to the department head.

Classics	Ms. Wehle
Mathematics	Mr. Reilly
Modern Languages	Mr. Connolly
Science	Mr. Edgar

To enroll in any of the courses listed below, you must first obtain departmental permission from the following faculty member.

### Arts Program

Music Package	Mr. Dregalla
Jazz Improvisation	Mr. Sinicrope

### Arts

Adv. Visual Arts	Mr. Chase
Adv. Creative Writing	Mr. Connolly or Ms. Baker
Adv. Jazz Improvisation	Mr. Sinicrope
Adv. Oral Interpretation	Mr. Parisi
Adv. Drama (all)	Mr. Parisi
Adv. Dance (all)	Ms. Edwards

### Computer

Adv. Computer Programming	Mr. Chun
Programming Applications	Mr. Chun

### Music

Chamber Singers	Mr. Whalen
Chamber Orchestra	Mr. Dregalla

# The Mountain School

The Mountain School of Milton Academy, a semester program open to Class II students, offers rigorous courses—including Honors and AP courses—that allow students to fulfill Milton Academy’s diploma requirements while living and learning on a working farm in Vershire, Vermont.

While at the Mountain School, students take five academic courses and the Outdoor Program course. Each class meets for 50 minutes, four times a week, for approximately 16 weeks. Classes range in size from two to 16 students.

The Associate Dean of Students can provide students interested in applying to the Mountain School with a description of the Mountain School’s curriculum.

# Arts Program

Arts Program courses foster creative thinking and introduce students to new ways of perceiving and interpreting ideas. All are full-credit, graded courses meeting five periods a week (including one or two double periods), and students should expect to do some preparation outside of class. All students entering Milton before their Class II year must take one Arts Program course during their Class I, II or III year. Students are welcome to take additional Arts Program courses after they have fulfilled the diploma requirement, and many advanced arts courses require a particular Arts Program course as a prerequisite. Arts Program courses do not presuppose any special talents but do require energetic participation and effort. Any one of the courses listed below satisfies the Arts Program diploma requirement. A full description of each course is on the page indicated.

NOTE: Students entering in Class II are not required to complete an Arts Program course except as a prerequisite to higher-level courses.

## Courses fulfilling Arts Program requirement:

- 3-D Studio Art (See page 6)
- Studio Art (See page 6)
- Photography (See page 6)
- Film and Video Production:
  - Moving Image (See page 6)
- Oral Interpretation of Literature (See page 5)
- Drama (See page 5)
- Dance (See page 4)
- Design for the Theatre (See page 5)
- Creative Writing (See page 12)
- Jazz Improvisation (See page 4)
- Music Package (See page 4)

NOTE: The courses listed above are open to Classes I–III only.

# Music

## MUTHH

### Music Theory

*(Half Course)*

*Classes I, II & III*

Starting with the fundamentals of music, this course explores a wide variety of theoretical problems. Music is examined through harmonic and melodic analysis. Besides the written analysis, music is examined from an aural standpoint through ear training and sight-singing. No past musical experience is necessary, although it is helpful.

## MUHS

### History of Music

*(Half Course)*

*Classes I, II & III*

This is a listening course, dealing first with “what to listen for” and then surveying the major periods of Western music history (Medieval, Renaissance, Baroque, Classical, Romantic and 20th century) through a study of representative styles and composers. Depending on the students’ backgrounds, examples may be sung or played, and some composition may be involved.

## MUCSH

### Chamber Singers

*(Half Course)*

*Classes I, II & III*

This is a performing organization that emphasizes tone and detail of phrasing. Students study great choral literature from every period, especially literature that is written for smaller choral groups. Individuals improve their sight-reading skills, their vocal technique and their knowledge of musical styles. Membership in Glee Club and an audition are required.

# Performing Arts

## MUORH

### Orchestra

(Half Course)

## MUCOH

### Chamber Orchestra

(Half Course)

Classes I, II & III

The orchestra is open to any woodwind, brass, string or percussion player. Besides standard, full orchestral literature, students will experience music of other ensemble types (e.g., wind band, string orchestra). Chamber Orchestra is open by audition only. Chamber Orchestra students rehearse one additional period per week.

### Music Package

Satisfies Arts Program Requirement

Classes I, II & III

In place of a single Arts Program course, students with special talent and interest in music may satisfy the arts requirement through a combination of musical activities, generally over a period of two or three years. The package, designed by and for each student, includes one of the courses offered by the department (full or half, depending on the other components) and performance experience through choral singing and/or chamber music and orchestral playing. Music lessons may be part of the package but, by themselves, do not fulfill the performance component. A class in music theory or music history, completed either at Milton Academy or outside of the School, is required in this package. Students should plan to participate in a performing ensemble each year they are at Milton. Application for permission should specify the components of the package and requires the approval of both the music department chair and the academic dean. Applications must be completed by March of the Class II year.

## APIMJ

### Jazz Improvisation

Satisfies Arts Program Requirement

Classes I, II & III

This course gives students experience in ensemble playing and improvisation in the jazz and jazz/rock idioms. Students learn and play tunes in a group and explore the tunes for structure and harmony. This course emphasizes listening to recordings integral to the course work. Elementary knowledge of scales is required. The focus is on the development of improvisational and ensemble skills through playing. (A CD player and permission of the instructor are required.)

## ADVJ1

### Advanced Jazz Improvisation I

Classes I, II & III

In this continuation of the introductory course, greater emphasis is placed on performing, and the music is more challenging. Students explore complex chord scales, rhythms and structures. The course usually focuses on one artist or one style of jazz music per semester. In exceptional circumstances this course may be offered as a half course (ADVJ1H) by permission of the instructor. (Prerequisite: Permission of the instructor.)

## ADVJ2

### Advanced Jazz Improvisation II

Classes I & II

This course allows the advanced jazz student to continue studying and performing under the guidance of our jazz faculty. This course may be offered as a half course (ADVJ2H) by permission of the instructor. (Prerequisite: Permission of the instructor.)

## APDAN

### Dance

Satisfies Arts Program Requirement

Classes I, II & III

This comprehensive course is designed both for students who have had little or no previous formal dance experience and for the intermediate level dancer. Students explore and practice the principles of dance technique, improvisation and composition, working to develop greater awareness, freedom and control in the use of the body as an instrument of expression. Ballet, modern and jazz dance styles will be introduced and practiced.

## DANMH

### Advanced Dance: Modern

(Half Course)

This course is designed for students prepared to work at the advanced or intermediate level in modern dance technique. Students practice advanced warm-up exercises, center combinations and movement patterns. In addition to technique, students explore improvisation and dance composition in a more in-depth manner. (Prerequisite: Arts Program Dance or permission of the instructor.)

## DANBH

### Advanced Dance: Ballet

(Half Course)

This course is designed for dancers prepared to work at the advanced or intermediate level in ballet technique. Students practice advanced warm-up exercises, center combinations and movement patterns. In addition to technique, students may learn repertory from choreographed ballets. (Prerequisite: Arts Program Dance or permission of the instructor.)

## DANCYH

### Advanced Dance: Choreography

(Half Course)

This course explores the path from improvisational dancing to sophisticated dance making. In a fun and supportive atmosphere, students cultivate their natural movement resources, developing movement ideas into fully shaped dance and movement pieces. Students also study relevant and well-established choreographers. No formal dance training is required; however, the ability and the desire to move are necessary. This

course is strongly recommended for students interested in choreographing for the Winter Dance Concert. (*Prerequisite: Permission of the instructor.*)

#### APDRM

### Drama

*Satisfies Arts Program Requirement  
Classes I, II & III*

This course teaches basic skills for the beginning actor. Exercises and scene work aim at developing concentration, freedom and power of expression, connection with a text and with acting partners, and a process for approaching characterization. The emphasis is on representational acting techniques and contemporary, realistic texts.

#### DRSTF

### Advanced Drama: Acting Styles

*(Semester 1)*

Emphasis in this course is on presentational acting techniques, scene analysis, and directing principles. Students engage in intensive scene work from the classical repertory that will include Shakespeare and may include Molière, Wilde, Chekov, Ibsen, the Greeks, or other classical Western and non-Western playwrights. (*Prerequisite: Arts Program Drama or permission of the chair of the performing arts department.*)

#### DRAMS

### Advanced Drama: Musical Theatre

*(Semester 2)*

This course focuses on developing skills in acting, singing and dancing for musical theatre. The course is team-taught by members of the performing arts and music departments and combines exercises and scene work from contemporary Broadway musical theatre. The course culminates in a public performance by members of the class. (*Prerequisite: Arts Program Drama or permission of the chair of the performing arts department.*)

#### DRAIH

### Advanced Drama: Improvisation

*(Half Course)*

*Classes I & II*

This course covers the many aspects of improvisation such as quick and thorough thinking on one's feet; creating interesting and surprising scenes and believable characters; the use of subtext, concentration,

imagination and observation in short and long-form non-scripted scenes; working cooperatively with an ensemble and audience; creating truthful relationships; and the use of the body and voice as communicative instruments. Through coaching, creative activities and public performances, students will learn how to become more spontaneous, trusting and cooperative performers. (*Prerequisite: Permission of the instructor.*)

#### APMVI

### Film and Video Production: Moving Image

*Satisfies Arts Program Requirement  
Classes I, II & III*

Please see the full course description in the Visual Arts section on page 6.

#### APOI

### Oral Interpretation of Literature

*Satisfies Arts Program Requirement  
Classes I, II & III*

Oral Interpretation teaches students how to develop the ability to convey to others, through oral reading, an appreciation of literature. Students perform selections from a range of literature that may include poetry, prose, children's literature, drama and non-traditional texts. Devising staging for texts becomes as important as performing. Oral Interpretation provides an experience before an audience that develops poise, self-confidence and self-awareness. The emphasis, above all, is on finding ways to make literature "come alive."

#### AOIOH

### Advanced Oral Interpretation:

#### Oral History

*(Half Course)*

*Classes I & II*

In this interdisciplinary course, team-taught by a member of the performing arts department and a member of the history department, students will approach world history, Milton Academy history, and primary sources with a hands-on focus on performance. Students will conduct interviews with Milton Academy graduates and will create a final performance piece from those transcripts. This course will include individual and ensemble work, historical and ethnographic research using the Milton Academy archives, interviews, script writing, directing and performing.

#### APDT

### Design for the Theatre

*Satisfies Arts Program Requirement  
Classes I, II & III*

This is an introductory course in scenic and lighting design. Through individual and group projects, students will learn basic drafting techniques, watercolor rendering and scale model construction. In addition, students will complete hands-on projects in stagecraft including faux surfacing, event lighting, plaster molding, mask making, fake food creation and more.

#### DRCDH

### Advanced Drama: Costume Design

*(Half Course)*

*Classes I & II*

In this course, students will explore the theory and practice of basic costume design and construction through the use of theoretical and practical projects. Emphasis will be placed on the construction of stage costumes and accessories. Activities may include basic pattern reading and adaptation, millinery techniques, costume jewelry and mask construction, drawing the human form, and techniques for rendering fabric, texture and movement. Students will research historic periods and styles of fashion and dress. Computerized modeling may be used to help develop and explore design choices.

#### EHAMH

### Hamlet

*(Half Course)*

*Classes I & II*

This course will be team-taught by a member of the English department and a member of the performing arts department. Please see the full course description in the English section on page 12.

# Visual Arts

The following courses satisfy the Arts Program requirement. Each course is an intensive foundation course designed to give students a thorough introduction to basic techniques, principles of visual communication, and artistic expression of ideas. After completing a foundation level course, students are encouraged to pursue areas in greater depth in the program's elective courses.

## Notes:

- These courses require no previous experience. Students with little experience will be supported in their learning in a step-by-step process. Students who have had some experience with the material will be challenged by more advanced options within each project area as the course progresses.
- Students with definite interest in visual art are strongly encouraged to take their first course in Class III so that they may take an advanced course in Classes I or II in time to complete a college portfolio. Each of these Arts Program courses will give students opportunities to produce some of the work necessary to begin a college portfolio should they choose to do so.

## APSA

### Studio Art

*Satisfies Arts Program Requirement  
Classes I, II & III*

In this intensive foundation course, students will be introduced to drawing, design, painting, sculpture and ceramics. Other options may include printmaking, digital imaging and mixed media. This course allows beginners to succeed and experienced students to be challenged. Studio Art is a course for students who like action and “doing.” Basic exercises will culminate in major projects. Students will learn visual language, apply techniques, and solve problems by means of a creative process. Each student will be urged to explore ideas, experiment with an open mind, and make expressions personal, dramatic and original. The course will include field trips to art museums and contact with professional artists.

## APPH

### Photography

*Satisfies Arts Program Requirement  
Classes I, II & III*

The ground beneath the world of photography has been shifting, as digital photography has become the dominant medium for capturing and processing images. This course follows that shift. While some exposure to traditional film and paper techniques will be maintained, the dominant tools for exploring photography will be digital cameras, scanners, computers and printers. The emphasis on seeing, discovery and imaginative creativity will remain. Students will develop craftsmanship in making fine prints, becoming fluent in the language of the medium as a means of personal expression, while sharpening their perception of their world. Digital photography will allow much more work with color, though work with black and white images will remain dominant. The interdisciplinary foundations of photography will be studied through consideration of the aesthetics of the art form, the works of significant photographers, the science of image making, and the role of photography in journalism. Loan cameras will be available, including 35mm film cameras and fully adjustable and automatic digital single-lens reflex cameras with zoom lenses.

## AP3D

### 3-D Studio Art

*Satisfies Arts Program Requirement  
Classes I, II & III*

This course centers on the three-dimensional design and construction of functional and artistic objects. Students solve a series of design problems in a hands-on way, acquire skill in the use of hand and power tools, and learn design principles that inform both industrial and fine arts. Projects may include the making of clocks, rustic furniture, toys, kinetic sculptures, architectural models, inventions and material-inspired expressions. Students will consider the difference between unity and variety, explore the relationship of art to utility, and learn basic concepts of form, space, rhythm, balance and function. Does form always follow function? What works? What is good design? What is beautiful? Why?

## APMVI

### Film and Video Production: Moving Image

*Satisfies Arts Program Requirement  
Classes I, II, & III*

This course introduces students to the basic principles and practices of video production. The course is project-based with substantial production assignments in documentary, music video, broadcast journalism and narrative. Students learn the basics of pre-production, effective camera technique, the editing process and production management. Special attention is also given to the role of video media in society and culture.

## Semester Electives

*Classes I & II*

The department offers advanced level courses in art and design for students who wish to study specific areas in depth. Students will develop higher-level skills, interpret more sophisticated ideas, and create work at a more ambitious scale. Although these courses are structured with themes and assignments, students will work in an increasingly independent way.

The department recommends (but does not require) that a student who elects a first semester course take a second semester course as well. The department strongly recommends semester over half courses, but will consider requests from students who can only pursue a course for half credit. Requests for any of these half courses must be made in the spring because later adjustments in the schedule may not be possible.

Courses to be offered are:

### First Semester

- (1) Advanced Art: Drawing
- (2) Advanced Art: Photography
- (3) Advanced Art: Sculpture
- (4) Advanced Independent Art (2-D, 3-D, or Photo) *Class I only*

### Second Semester

- (5) Advanced Art: Painting
- (6) Advanced Art: Ceramics
- (7) Advanced Art: Architecture
- (8) Advanced Art: Installation Art

The prerequisite for semester electives is a full-year Arts Program course or the equivalent. The visual arts department recommends that students take Studio Art, Photography or 3-D Studio Art before taking an elective. Preference may be given to students who have taken these courses. Permission to take an advanced course may be denied if a student's preparation or experience is insufficient. Such permission must be obtained from the department chair before registering for these courses.

#### ARDRF

### Advanced Art: Drawing

(Semester 1)

In this course, students will explore major genres of drawing and work in both color and black and white. The course will begin with reality and finish with fantasy. After an intensive review of line, volume, space and light, we will focus on how to "see" and how to draw in relational terms. Students will do landscape drawing on location in the Blue Hills and at the edge of Boston Harbor. Students will create a social issue drawing that is intended to be psychological. Past topics have included a portrait of gender, a response to the Holocaust, and an interpretation of bystander mentality. A major section of the course will focus on drawing the human head and figure and will include "life drawing" of the human figure. The course will culminate in a large, color, fantasy drawing that may explore surrealism, dreams or mythology.

#### ARAPF

### Advanced Art: Photography

(Semester 1)

This course leads experienced students into new technical, aesthetic and journalistic areas. Each student will have full access to a digital single-lens reflex camera as the dominant mode of taking photographs, though limited work with film will remain a creative option. Students will be expected to develop their personal vision and explore the creative options in the medium through work with photojournalism, portraiture, sports, studio lighting, macro-photography and landscape, as well as the transformation and combination of images through the tools of Adobe Photoshop. A portfolio of finished and mounted prints will be expected, including large format display prints. Support for the

creation of portfolios for college admission will be integral to early work. (*ARAPH, a full year, half course option, may be available with special departmental permission.*)

#### ARSCF

### Advanced Art: Sculpture

(Semester 1)

In this course, students will be challenged to do hands-on work to explore a range of ideas and possibilities. The course will begin with the favorite boat building challenge and move on to an Andy Goldsworthy art-in-nature campus installation. Students learn to hand-build with clay, to design and construct large wooden forms, to carve soapstone, to weld with metal, and to cast forms with plaster. By investigating properties of shape, form and surface, and by using a variety of hand and power tools, students acquire technical skills and self-confidence in self-expression. Project themes may range from the abstract to the symbolic. Past projects have included surrealistic transformations of found objects like computers or windows, interpretive self-portraits in Joseph Cornell-style boxes, and the welding of life-sized figures.

#### ARPTS

### Advanced Art: Painting

(Semester 2)

In this course, students will explore the basics of painting in acrylics. They will be challenged to "think in color" and to "see the light" in relation to form and space. They will paint both from "life" and from their imaginations. Subjects may range from still-life objects, the human face and figure, and the landscape, to stories and fantasies of surrealistic and invented worlds. Each student will work to develop her or his own personal vision through an experience of different styles and techniques. Field trips may be part of this course, intended to expose students to the contemporary art scene.

#### ARCRC

### Advanced Art: Ceramics

(Semester 2)

This course covers the basic techniques of working with clay: sculptural hand-building, slab and coil construction, wheel-throwing and glazing. The course emphasizes individual expression in clay, whether artistic or functional. The projects range from traditional teapots and bowls, to surrealistic

transformations of objects, to large abstract sculptural expressions. Past projects have included totems of male and female figures, and ceremonial objects and heads.

#### ARCHS

### Advanced Art: Architecture

(Semester 2)

This course develops the skills of drawing and model building while students explore the process of architecture, working through each design step for a building from their imagination. This comprehensive introduction covers the aesthetic issues, structural design and functional parameters that are essential to the creation of spaces and structures. Students explore drawing as a tool in analysis, planning and presentation, and in free-hand rendering. Students are also introduced to mechanical drafting and computer-assisted drafting. The course includes field trips to notable buildings, construction sites and the offices of practicing architects.

#### AREAS

### Advanced Art: Installation Art

(Semester 2)

In this experimental course, students will transform spaces in artistic ways. They will combine physical materials, light, sound and motion to alter campus spaces. Installation art is the latest term for what has been called environmental art, public art, and versions of performance art. The projects will challenge students to build, hang, arrange or stage something unexpected. These installations will challenge the viewer's assumptions about how we use space. What is private? What is public? What is sacred? What is profane? What is normal? What is extraordinary? Projects may include creating three-dimensional structures, creating short-lived YouTube events or "happenings" at recess, and dramatizing social causes with unexpected visual displays. Students will work both indoors and outdoors to create visual campus surprises.

**The following Semester 1 courses are Advanced Independent Art courses and are open to Class I students only.**

*Note: A full year half course or a semester 2 option of these courses may be available for individual students under special circumstances. Departmental permission is required for either option.*

# Classics

## AR2DF

### Advanced Independent Art 2-D

(Semester 1)

Advanced Independent Art 2-D is a seminar-based course, for Class I students, designed to meet the individual needs of students with visual ideas they wish to explore in depth. Most students will use this time to complete work for their college portfolios. Working together in a classroom structure, these 2-D students will benefit from dialogue with each other, critiques and field trips. (*Prerequisite: At least one, and preferably more than one, advanced semester elective in art or permission of the department.*)

## AR3DF

### Advanced Independent Art 3-D

(Semester 1)

Having completed advanced 3-D electives, students may request to work independently in ceramics or sculpture. If approved, these students will work on a tutorial or class basis, depending on enrollment. (*Prerequisite: At least one, and preferably more than one, advanced semester elective in art or permission of the department.*)

## ARIPF

### Advanced Independent Photography

(Semester 1)

Having completed Advanced Photography or the equivalent, students may request to work independently in photography on a tutorial or class basis. (*Prerequisite: At least one, and preferably more than one, advanced semester elective in art or permission of the department.*)

The benefits of training in the classics are many. The study of Latin and Greek literature in the original affords students the means to appreciate more fully the foundation and development of English and European literature. Similarly, the study of the Latin language is an excellent, and perhaps essential, basis for understanding English and the modern romance languages. Equally important, the intellectual discipline of classical studies is an aim and reward in its own right. The study of Latin and Greek teaches precision and flexibility of mind as well as regular and thorough study habits. After mastering the basics of grammar, vocabulary and syntax, students learn to translate and interpret important works of literature. Because students develop the skills of close textual analysis with works that have been hotly debated for centuries, they begin to understand both the scholarly value of their own interpretations and how the lenses of different eras affect the way a work is viewed. Completion of level 3 or 2/3 in either language satisfies the foreign language diploma requirement. The advanced Latin course, Latin Literature (AP), prepares students for the Advanced Placement Latin examination. Advanced courses in Latin and Greek authors are equivalent to advanced college courses.

## LAT1

### Latin 1

This introduction to the Latin language presents the basics of grammar and vocabulary, as well as background in Roman history, culture and mythology. Because students enter Class IV with different backgrounds in English grammar, we devote considerable time to examining the way English works. In addition, students learn to look for English cognates of the Latin words they study, thus strengthening their vocabulary in both languages.

## LAT2

### Latin 2

Latin 2 provides students with their first opportunity to read, in the native language, words written two millennia ago by authors who have influenced the development of Western literature and history. Following a systematic review of Latin morphology and sentence structure, students in Latin 2 complete their study of forms and syntax while developing reading skills using adapted

selections, primarily from Cicero. Some original Latin texts also serve as a starting point for exploring important periods of Latin history. This course prepares students to read Latin prose.

## LAT3

### Latin 3

A reading course with some grammar and composition, Latin 3 focuses on developing the students' reading skills. Students build vocabulary through using learned roots, prefixes and English derivatives. Prose works include selections from Caesar's commentaries and the speeches of Cicero, which we examine for rhetorical style as well as for content and political implications. Excerpts from Ovid's *Metamorphoses* introduce meter and familiarize students with mythological stories. Successful completion of this course qualifies students for Latin 4. Highly motivated and proficient students may request permission to enroll in the Advanced Placement course, Latin Literature.

## LA2/3

### Latin 2/3 (Accelerated)

This course combines all the grammar and authors studied in Latin 2 and 3. The class meets five times per week and assumes a solid foundation in level 1 Latin. Successful completion of this course qualifies students for Latin 4. Highly motivated and proficient students may request permission to enroll in the Advanced Placement course, Latin Literature. (*Enrollment by permission of the department.*)

## LAT4GA

### Latin 4: Literature of the Golden Age

Readings in this course are drawn from Ovid's *Metamorphoses*, Vergil's *Aeneid* and other works of prose and poetry that are representative of the late Republican and Augustan age. These works introduce students to some of the most popular classical myths, to themes of love and the hero, and to the historical context that shaped the works. Students strengthen grammar skills, increase reading speed and comprehension, and learn to scan dactylic hexameter and elegiac verse. This course introduces students to great works of Latin literature and prepares students for the Advanced Placement course, Latin Literature.

## Advanced Classics

Roman Elegy and Roman History are half courses. Each meets twice per week throughout the year and may be taken independently or concurrently. Philosophy and Selected Readings are semester courses, meeting four times per week for half the year. Students must complete Latin Literature (AP) before enrolling in other advanced Latin courses. *Note: When there is a need, and staffing permits, Philosophy or Selected Readings may be offered as a half course.*

LALAP

### Latin Literature (AP)

This reading course focuses primarily on Vergil's *Aeneid* and emphasizes the major themes of the work within their literary and historical contexts. The course also devotes time to reading the selections of Caesar's commentaries on the Gallic War that are included on the Advanced Placement examination. Designed for highly motivated students, this rigorous course presents elements of Roman history, politics, mythology and the classical literary tradition. Through close textual study, students encounter literary criticism as a tool for understanding classical literature. *(Permission of the department required; prepares students for the AP Latin examination.)*

LAREH

### Advanced Latin: Roman Elegy

*(Half Course)*

This course focuses on reading and understanding Latin elegiac poetry in its literary and historical contexts. Reading poetry by Catullus, Tibullus, Propertius, Sulpicia and Ovid, students trace the development of the meter, diction and poetic motifs associated with elegy. The class also explores how Roman elegists adapted the conventions of love poetry to present an image of the Roman state under Augustus that is more personal than Vergil's vision. Some important topics studied are first person narrative, gender and poetic allusion. *(Prerequisite: Latin Literature (AP) or permission of the department.)*

LASRH

### Advanced Latin: Roman History

*(Half Course)*

How did the Romans view their history? How did they want to be remembered? This course provides a look at Roman history through the eyes of some of Rome's better-known historians. A close reading of selected texts in Latin serves as a basis for examining questions of historiography and prose style. Principal selections are drawn from Livy, Tacitus and Sallust. *(Prerequisite: Latin Literature (AP) or permission of the department.)*

LAPHF

### Advanced Latin: Philosophy of Lucretius

*(Semester 1)*

What role did the Roman gods have in shaping the world around us? In this course, students read selections from Lucretius's *De Rerum Natura* and examine Lucretius's philosophical insight and poetic craft in their historical context. Students consider the Greek and Latin antecedents of Lucretius's poetry and the place of *De Rerum Natura* in the development of Latin verse. *(Prerequisite: Latin Literature (AP) or permission of the department.)*

LASRS

### Advanced Latin: Selected Readings

*(Semester 2)*

This course permits students to pursue their own interests in Latin and Greek literature at an advanced level. Working together with members of the department, students select authors and texts to read. Past classes have read comedy, satire, oratory and history. *(Prerequisite: Latin Literature (AP) and one other Advanced Latin course.)*

ACG1

### Advanced Classics: Ancient Greek 1

This course covers basic grammar and readings. It leads to Greek 2 or Greek 2A. *(Prerequisite: Latin 4. With permission, a student may take this course concurrently with Latin 4.)*

ACG2

### Advanced Classics: Ancient Greek 2

Students complete the study of Greek grammar and then proceed to careful reading of selections from Xenophon or Lysias. This course leads to Greek 3.

ACG2AH

### Advanced Classics: Ancient Greek 2A

*(Half Course)*

In this course students continue the study of Greek grammar and syntax while reviewing the foundation built in the previous year. Practice in making literal translations supports the learning of grammar and developing reading skills. This course leads to Greek 2B.

ACG2BH

### Advanced Classics: Ancient Greek 2B

*(Half Course)*

This course provides a continuation of Greek 2A, including a complete review of Greek grammar and readings from Xenophon or Lysias. This course leads to Greek 3.

ACG3

### Advanced Classics: Ancient Greek 3

This course covers selected readings in classical Greek authors including Plato, Xenophon and Euripides.

## Intensive Language Courses

These are accelerated courses designed for Class I students (and students in Class II with special permission). Each is the equivalent in difficulty and pace to a first-year college language course and is open only to students who have completed the language requirement through study of another language. *(Offered subject to sufficient demand.)*

CHINT

### Intensive Chinese

FRINT

### Intensive French

GRINT

### Intensive Classical Greek

LAINT

### Intensive Latin

SPINT

### Intensive Spanish

# English

After Class IV, in which all students take the same English course, students may choose among several electives offered in each of the remaining three years. Students new to Milton make this choice shortly after they decide to matriculate, in consultation with the Registrar's office. Returning students make a choice for the following year in consultation with their current English teacher.

Creative Writing, Advanced Creative Writing, Hamlet and Exposition do not fulfill the diploma requirement in English and must be taken in addition to a full English course.

## Class IV English

EN4

The course emphasizes basic skills in reading the most important literary genres; in writing clear, coherent exposition; and in developing a powerful vocabulary. Texts include a Shakespeare play, portions of the Bible, and anthologies of short fiction and poetry. In addition to four class meetings per week, students attend a weekly writing workshop.

## Class III Electives

The department offers four courses: Discovering Literature, Foundations of Literature, Performing Literature and Seeing Literature.

Given the various interests and abilities of the students, each of these courses is of comparable difficulty with similar amounts of writing. All students in Class III read Sophocles's *Oedipus Rex*, Shakespeare's *Macbeth* and Fuller's *A Soldier's Play*.

The following descriptions spell out the content of each course in more detail.

ENDL

### Discovering Literature

Working primarily with modern and contemporary literature, students will explore the four genres: fiction, poetry, drama and non-fiction. The goal of this course is to ground the student in a more refined understanding of these literary types. Each genre demands consideration of the conventions unique to each form, and each genre requires different skills to write critically about those conventions. The examination of fiction will include both novels and short stories; non-fiction will include essays, as well as memoirs.

ENFN

### Foundations of Literature

The texts for this course are primarily from major works of Western literature that have influenced writers and readers from the earliest to the present time. Studies include close reading of poetry and prose, as well as introduction to the basic vocabulary of literary appreciation and critical exposition. The course, which is reading-intensive, examines epic, tragedy, comedy, prose fiction and lyric poetry within a chronological framework; texts include works by Homer, Sophocles and Marlowe, and more than one Shakespeare play. The last phase of the course focuses on novels and plays of the modern era.

ENPF

### Performing Literature

The readings in this course present a mixture of English and American writers, classical and modern works, and the major literary genres. What distinguishes this course from the other Class III electives, however, is its emphasis on oral interpretation. Most sections begin with plays, and the students perform scenes and characters aloud, stage some scenes, and do dramatic analysis. As the course progresses, students give speeches, present panel discussions, write and perform in the voice of individual characters, create trials, or work in other performance activities as determined by the teacher. As with all electives, students write expository essays and learn grammar and aspects of style.

ENSL

### Seeing Literature

From the imagery in a poem to the point of view of a short story or novel, literature often encodes in words an important visual message. This course examines literary and visual works in context with one another, exploring the territory where the two forms of expression intersect. Paintings, sculpture, photographs, films, graphic novels and advertisements serve both as subjects for student writing and as sources of key concepts for deepening students' experience of the literature at the core of the course. Through its investigation of the visual, the course embraces all the reading and writing goals of the Class III program.

## Class II Electives

ENAPP

### Approaches to Literature

This course helps students appreciate literature by approaching it from a number of perspectives. Students begin with close reading—the detailed examination of a variety of texts for what the language itself will yield. Subsequent units group texts of the same genre, those with a common theme, those from the same historical period, and those by a single author. In the late spring, the class applies all of these approaches to a single work, studying the text closely while also considering its form and theme, the period from which it came, and the influence of events in the author's life. Students should expect frequent in-class writing as well as longer critical essays.

ENHC

### Literature and the Human Condition

Pursuing a broad philosophical inquiry into what it means to be a person, to form relationships with others, to make decisions and to live with their consequences, students read works by major British and American writers and place these texts into conversation with influential pieces by writers from other literary traditions. The class functions primarily as a seminar in which students explore the sub-topics that emerge to shape our discussions: heroism and villainy; masculinity and femininity; self and other; rationality, the unconscious and chaos; mortality, embodiment and divinity; innocence, guilt and redemption. Students can anticipate frequent writing assignments, which will ask them to clarify and argue their own ideas about the course's central themes in critical essays, personal essays and creative responses.

ENAL

### American Literature

This course is a chronological survey of classic American literature with representative readings from the works of predominantly 19th- and 20th-century writers. The form and content of the readings offer great variety, and students' written responses range from straightforward literary criticism to creative imitations of styles. While some direct instruction fills in pertinent biographical or historical background, most classes are seminar discussions, and teachers encourage student participation. The course presents an

overview of American culture through its literary figures; students who also take United States History in the Class II year find that the two courses complement each other.

#### ENMNW

### Man and the Natural World

This course explores varied human responses to the natural world through literature that has been selected for its provocative response to nature and the ways in which man marks his presence on the land. The tension between urban and rural visions will help students understand ideas of the wilderness and of the city in the human imagination and the ways in which memory and imagination help define place in the world. The course is grounded in concrete, specific observations that grow toward more abstract, complex revelations about the human condition. Literature ranges from novels, poetry and essays to explorers' journals and diaries. The course includes contemporary authors such as Leslie Marmon Silko and Annie Dillard but also explores the visions of writers such as Thoreau and Faulkner. Writing will range from illustrated nature journals to essays of literary analysis and response papers.

#### ENEAJ

### Studies in English and American Literature

*(Two-Year Sequence)*

This course introduces students to major English and American writers and demonstrates the connections between English and American literary traditions. Structured chronologically, it begins with the major writers in England who form the basis for all subsequent developments. The second and third semesters of the sequence emphasize the similarities and dissimilarities of British and American writers and some ways in which they influenced each other and were influenced by their cultures. In scope, the course studies works of some 30 writers from Chaucer through Virginia Woolf in a year and a half. In the second semester of the Class I year, students study some modern and post-modern dramas, and then subdivide into specialized groups to study 20th-century texts by a limited number of writers. *(Note: In electing this course, a student makes a two-year commitment that cannot be broken at the end of Class II.)*

## Class I Electives

#### ENNF

### The Craft of Non-Fiction

This course is designed for students who have a demonstrated interest in the craft of writing and who wish to write about ideas, personal experience, and the sort of general interest topics (e.g., the arts, medicine, sports, nature, science, education) that appear in magazines such as *The New Yorker* and *The Atlantic Monthly*. It addresses three different genres of non-fiction: the feature article, a 4,000- to 5,000-word piece of investigative reporting; the essay of ideas, two or three 1,500-word reflective essays; and the memoir, a 4,000- to 5,000-word personal narrative. In each genre, students first read models and complete short, experimental writing assignments. The course differs from other Class I English courses in its high ratio of writing to reading and in its requirement that students revise each major piece of work to a high standard of professionalism. Critique by peers is an essential part of the writing process; students should expect to share their work with the class and to read and comment on the work of their classmates.

#### ENFC

### Woman, Man, and Their Fictions

We begin our philosophical journey with *The Magus*, the course's required summer reading. On the island of Phraxos in 1953, the mysteries of Bourani become the thematic and artistic questions of the course. Exploring the myths, creeds, and psychological and scientific principles that we live by in the Western world, we move from our encounters with freedom and truth to 19th- and 20th-century fiction. Continuing our historical and thematic exploration, we examine the fictions that man lives by as we study modern and contemporary literature.

Reading selections vary from year to year. The following is a sample of works taught recently: *American Pastoral*, *The Collected Stories of John Cheever*, *Antony and Cleopatra*, *Betrayal*, *Oryx and Crake*, *The Road*, *The Gay Science*, *Studies in Modern Fiction*, *Beloved*, *Nemesis* and *A Farewell to Arms*.

#### ENNR

### Literature and the Nature of Reality

This course looks at a variety of texts that explore, question and prod at the boundaries of the nature of reality. In studying novels, plays, movies, short stories and poems, we look not only at ideas in literature, but also at theories in psychology, science, morality, language theory and art. The class is divided into thematic units, though many texts will cross from one theme into others. Central to the class are the big questions: What is real? How do we judge reality? How and why does literature explore it? Possible authors include Albee, Beckett, Borges, Fadiman, Frayn, Kushner, Pirandello, Sacks, Stoppard, Twain and Woolf.

#### ENCL

### Modern Comparative Literature

The course begins with summer reading of Dickens and Dostoevsky, two writers who were contemporaries but wrote in very different styles. Dostoevsky anticipates much of what is thought to be "modern" in the arts. From his example, students move to Kafka—who casts the longest shadow over modern literature—Joyce, Woolf and Camus. The last three writers of the fall term, García Márquez, Coetzee and Morrison, writing in the post-modern era, face the question of what artists do to distinguish their work when earlier authors seem to have tried everything. In the spring semester, students trace the same evolution of style and content in drama, immersing themselves in sixteen plays ranging from Ibsen and Strindberg in the late-nineteenth century to Suzan Lori Parks and Caryl Churchill, whose plays have been on Broadway in the last few years. Overall, the course emphasizes reading more than writing. In the fall, students write critical and creative pieces. During the spring, in an effort to "see" plays in performance rather than on the page, students meet in King Theatre and submit frequent short homework exercises with the occasional critical essay. During the spring project period, students will study a film unit of their choice. In past years, subjects have included *film noir*, the changing image of women in film, five great directors, great examples of five film genres, and five autobiographical films.

**ENPH****Philosophy and Literature**

This course investigates theories about the nature of humanity and the nature of human happiness. Proceeding sometimes chronologically and sometimes by examining conflicting philosophers' ideas about a single topic, the course emphasizes a reasoned approach to thinking about complex and abstract problems. Topics include the origins of the universe, the basis of human knowledge, questions of freedom and determinism, the nature of evil, the nature of moral and aesthetic judgment, and the definition of social and political justice. Students read traditional philosophers such as Heraclitus, Plato, Aristotle and Descartes. They also study modern thinkers such as Marx and Freud, as part of an examination of the search for a scientific theory of human nature. The class uses current articles and essays along with a significant amount of film, poetry and fiction (including such texts as Lightman's *Einstein's Dreams*, Tolstoy's *The Death of Ivan Ilych*, Woolf's *To the Lighthouse*, Levi's *The Drowned and the Saved* and Schlink's *The Reader*). The course aims at the development of more sophisticated and rational ways of thinking about ourselves and our world and introduces the student to basic philosophic problems and to some of the classic answers suggested by thinkers and artists of the Western world.

**ENSH****Shakespeare**

This course is devoted to the study of Shakespeare's plays. It concentrates on the plays in relation to the Elizabethan and Jacobean period, to the theatre, and to the development of Shakespeare's art in comedy, history and tragedy. There is little study of secondary materials, criticism or commentary; instead, homework assignments include reading of the text, writing assignments, and preparation for dramatic readings. Papers, at least one per play, stress analysis and close reading.

When appropriate, students view films of the plays or compare the treatment of a given scene in different versions. There may be required trips to the theatre.

**ENCWL****Themes in Contemporary World Literature**

As citizens of the world, we need to understand the world; its literature can present colorful doorways to knowledge and understanding. This course will use a thematic approach to exploring some of the topics and issues relevant in our contemporary world. We will divide the course into three units, each exploring a different topic of global interest. Possible themes include globalization, the post-colonial world, gender, natural resources, religion, poverty and ethnic conflict. Texts will span continents and genres, drawing primarily from current literature.

**ENTWD****Three Writers in Depth**

By limiting the number of writers we study, this course allows students to examine each writer longer and more intensively than is possible in other courses. Opportunities presented by the course include following the evolution of an author's style and choice of subject matter and theme; exploring one author's approach to different literary genres; and placing an author in historical and biographical context. Written work consists of both critical essays and creative pieces, perhaps using as inspirations the style or thematic content of the works being studied. The teacher selects the first two writers; after the school year has begun, teacher and students together will select the third. The following list suggests the stature of the writers likely to be chosen: Auden, Austen, Baldwin, Beckett, Conrad, Dante, Eliot, Faulkner, Frost, García Márquez, Hemingway, Ibsen, James, Joyce, Morrison, O'Neill, Swift, Thoreau, Tolstoy, Williams, Woolf, Yeats.

**EHAMH****Hamlet**

(Half Course)  
Classes I & II

By devoting a full year to the play widely regarded as the greatest in English, this course, team-taught by a member of the English department and a member of the performing arts department, offers students several unique opportunities:

- to enjoy the in-depth study of a single text, with no pressure to move on; and to experience fully the richness that a very complex literary text provides;

- to approach a Shakespeare play actively by performing, directing and designing parts of the text, and in doing so discover a full range of possible interpretation;
- to join the literate world in knowledge and appreciation of a classic work;
- to explore the deep personal resonances that this work, perhaps more than any other, seems always to evoke;
- to gain familiarity with the problems and processes of literary scholarship.

Most class time is spent reading and discussing *Hamlet* and comparing different film versions. Students, individually or in groups, formulate long-term projects that they complete during homework time. Projects, which may be critical or creative, have covered a broad range, including theatre design, filmmaking, creative writing, textual analysis, memorization and performance, graphic art, psychology, music, and research into the play's historical and literary background.

**APCW****Creative Writing**

Satisfies Arts Program Requirement  
Classes I, II & III

This course offers workshops in shaping ideas, personal observations, and memories into fiction and poetry. It teaches techniques of each genre and employs frequent reading and discussion of student works within the class.

**EACWH****Advanced Creative Writing**

(Half Course)

Meeting twice a week in a format that consists of a writers' workshop and individual conferences, this course provides the student-writer the opportunity to continue to develop talents. (Prerequisites: Creative Writing and permission of the creative writing teachers.)

**EACW2****Advanced Creative Writing 2**

(Half Course)

This course allows those who have successfully completed Advanced Creative Writing to continue working in the same format. (Prerequisites: Advanced Creative Writing and permission of the creative writing teachers.)

# History & Social Sciences

## Language Skills

**ELEX**

### Exposition

*Classes III & IV*

The English department offers a diploma credit course for students in Classes III and IV who desire intensive instruction for improvement of verbal skills and study techniques. The course focuses on developing the skills necessary for clear, correct and forceful expository writing of the sort required by all disciplines at Milton. This course includes a thorough study of grammar; an introduction to key concepts about writing; and a series of essays and longer projects aimed at helping students learn to write in a step-by-step process that includes planning, drafting, revising and editing.

*Enrollment in this course is limited and is granted by permission of the department. A Class IV student who wishes to take Exposition in Class III must first consult with his or her current English teacher.*

The history curriculum is designed to provide students with a foundation in global and American history that will allow them to think imaginatively and critically about the world. Department offerings include required courses and a number of electives that examine a broad range of cultures and civilizations. Study of the human condition through elective courses in the social sciences complements this required curriculum.

To fulfill Milton Academy's diploma requirements, students must take two history courses: Ancient Civilizations or Modern World History (in Class III or IV) and United States History (in Class I or II). The history requirement may also be met by the two-year course, The United States in the Modern World. Students who have already taken Modern World History (in Class III or IV) may not take the two-year course. Advanced Topics in History electives build directly on the skills developed in the required courses.

**HAME**

### Ancient Civilizations

*Class IV*

This course serves as an introduction to the study of history. It examines a wide range of societies across the ancient world from East Asia to Western Europe to sub-Saharan Africa. Readings focus on the effects of geography on the growth of civilization, the interaction of cultures, the evolution of social and political institutions, religion and philosophy. Students read a significant number of primary sources as well as secondary accounts and interpretations. The course emphasizes building analytical thinking and reading and writing skills. In the spring semester, students carry out a major project in library research. *(Class III students may enroll in Ancient Civilizations with permission of the department.)*

**HMWH4**

### Modern World History: Class IV

*Class IV*

The world of Eurasia after the Mongol imperium was one of chaos and fragmentation; out of this general chaos, the Chinese and Islamic Empires established their preeminence in an already long-interconnected Asia. At the same time, European states—through exploration, exploitation, colonization and revolution—created the beginnings of a globally connected Modern World. Hence, we will trace the world from the 1500s to the end of

the 20th century. We will examine closely the ideas, individuals and events that shaped this new world. We will also assess the role political structures, religions, economic realities and class contradictions played in shaping this world. The course emphasizes the written analytical interpretations of primary sources and the development of coherent and compelling theses, along with the use of relevant and persuasive evidence. Close reading of the sources and their syntheses in classroom discussions are expected. The course also includes a major library research project in the second semester.

**HMWH**

### Modern World History

*Classes II & III*

A new set of political relations emerged from the catastrophe of the Black Death and the collapse of the Mongol empire. We open our study of the early modern world in a period characterized by increasing global contact and parallel evolution of economies, states and cultures. Local cultures shaped local developments, with global consequences. We will compare Confucianism in Ming China, Islam in the Ottoman Empire, and Christianity in Reformation Europe. We will consider, for example, the contributions of great people like Suleiman I and Isaac Newton; the pervasive impact of events like the Industrial Revolution and the Boxer Rebellion; and the significance of the ideas of thinkers like John Locke and Abdullah Wahhab. Our study will conclude with a thorough examination of many facets of 20th-century global competition. We will emphasize the skills of close reading, interpretation of primary and secondary documents, and essay writing. Students will complete a major library research project in the second semester.

**HUSMW1**

### The United States in the Modern World 1

**HUSMW2**

### The United States in the Modern World 2

*Note: In electing this two-year course, which fulfills the graduation requirements for both world history and U.S. history, the student understands that both years of this course must be completed to receive graduation credit.*

*Students who have already taken Modern World History in Class III or IV at Milton will not be able to take this course.*

### HUSMW 1 Classes II & III

The story of economic and political revolution—where its origins lie in the 15th and 16th centuries, how it is carried out in the 17th and 18th centuries, and how it re-shapes the world in the 19th century—is the story of this course. Students will study the modern history of the great empires of Eurasia, encounters between the peoples of Europe and the Americas, expansion of trade and technology, and the development of political ideologies. The American experience, from the voyages of Columbus to the Civil War, will be placed within the larger context of the modern world. Students will complete a major library research project in the spring semester.

### HUSMW 2 Classes I & II

The United States takes a central role in the second year of this course, beginning with the impact of the Civil War and industrialization on both domestic and foreign policies. Questions of new thought in social relations, in the application of science and technology, and in governmental roles and responsibilities in the United States and in selected other nations will be studied, so that the discussion of revolutionary change begun in the first year continues and broadens. A close consideration of several Cold War topics in the second semester will enable students to reach a greater understanding of the problems faced by the 21st-century world, in particular the impact of human history on the natural world. Students will complete a major library research project early in the second semester.

### HUS United States History

#### Classes I & II

Conceptual and interpretive in nature, this course examines both the important documents (e.g., Declaration of Independence, United States Constitution, Gettysburg Address, and speeches of Frederick Douglass, Susan B. Anthony, Martin Luther King, Jr. and John Kennedy) and the multiple historical interpretations of an event or personality in the American past. Looking at the tension between freedom and order, democracy and slavery, urbanization and populism, gender and politics, localism and nationalism, students begin to see and understand

that the principles and ideas fought for at the time of the American Revolution are unresolved in the later 19th and 20th centuries. The month of February is devoted to an in-depth research project for which students examine both primary and secondary sources and present a thesis that is developed in a 12- to 15-page paper. (*Prerequisite: Modern World History*)

## Advanced Topics in History

### Class I

#### HAFAP African-American History

##### (Semester 1)

In this course, students examine African-American history on two levels. The course presents the experience, thoughts and ideas of African Americans, beginning with 15th-century Africa, and moving through the slave trade, slavery, Civil War, Reconstruction, Harlem Renaissance, World War II, Civil Rights movement and debates over affirmative action. Students also study the historical debates of the last 40 years, focusing on the proponents of the national master narrative versus the local, regional and ethnic histories of black Americans. Summer reading includes Baldwin's *The Fire Next Time* and Nathan Huggins's *Black Odyssey*, which provoke students to wonder why African-American history often transcends race and gender, moving the class to consider how universal, timeless values influence the content of all the discussions of this course. Students will periodically write papers on the art, music, poetry, literature or politics of the African-American experience.

#### HMCF History of Modern China

##### (Semester 1)

Traditional Chinese historians see China's arduous and often triumphant history as a series of dynastic cycles, replete with periods of greatness and decline. The fall of the Ming and the rise of the Qing in 1644, as well as China's reemergence as a major economic, political and military power in the late 20th century can be explained in this historical context. But in order to fully understand the growing might of a "New" China, one must first examine the cultural, philosophical and political elements that have endowed the Chinese state with a degree of resilience unmatched elsewhere. We will begin with a

careful analysis of the Ming and Qing periods in order to identify the core elements that constitute Chinese civilization. We will then examine how they directly influence the domestic and foreign policies of the People's Republic, specifically in the context of political liberalization, ethnic minority relations, and global economic integration. Course material includes primary documents, secondary text and relevant films. Students should expect to write analytical essays of reasonable length.

#### HMEF History of the Middle East

##### (Semester 1)

This course examines the history of the Middle East from 1800 to the present. The geographic focus will be Egypt, the Fertile Crescent, Arabia, Iran, Israel and Turkey. We will keep two broad questions in mind as we follow the current political and social developments in the region: 1) What has been the relationship between Islam and politics in the Middle East since 1800?, and 2) What impact did Western imperialism and the process of decolonization have on society and politics in the Middle East? Students will conduct individual research on the topics of their choice at the end of the semester.

#### HTMWF Topics in Modern World History: In the Aftermath: Nations Rebuilding after Government Crimes Against Their Citizens

##### (Semester 1)

Why do some nations choose to officially forget government crimes against their citizens, while others devote time and money to official remembering? What factors led to the original government abuses and the different strategies in responding to those abuses? What have the consequences been in each country? We will explore three countries and the factors that drove their policies: the official amnesia of the post-Franco dictatorship in Spain; the Truth and Reconciliation hearings in post-apartheid South Africa; and the on-going trials of the leaders of the Khmer Rouge in Cambodia. Using readings, films, guest speakers and eyewitness accounts, we will explore, discuss and analyze these aftermaths and complete the course with presentations of our work.

**HASAS****Asian-American History***(Semester 2)*

Whether they were seen as “model” minorities or the “yellow peril,” Asian Americans played a decisive role in expanding the black-white paradigm that dominated American race relations in the 19th and 20th centuries. By focusing on the past and present experiences of Chinese, Japanese, Korean, Filipino, Asian Indian, and Vietnamese Americans, students will develop a more dynamic understanding of American immigration policy, labor history, community organizing, international relations and racial politics, and, at the end of the course, conduct their own oral history projects with members of the Asian-American community in the greater Boston area.

**HGIS****Globalization and Islam***(Semester 2)*

This course will explore the relationship between globalization and Islam in the 20th century. Using readings from current scholarship, we will examine Islam in the context of the contemporary Middle East. We will also study the ways in which the Arab world and the non-Arab Islamic world have been shaped by the economic, political and social realities created by globalization. The first part of the course will introduce students to broad topics in globalization and basic economic theory. We will work to understand Islam as a religion and consider how it is practiced in both the Arab and non-Arab worlds. Readings of contemporary Islamic thinkers, including Reza Aslan and Tariq Ramadan, who have been greatly influenced by the forces of globalization, will be analyzed and discussed in class. The second part of the course will focus on the complex relationships between American global hegemony, globalization and the rise of religious extremism.

**HSSMS****Senior Seminar: Topics in American History***(Semester 2)*

In this course, students will study recent American history, from the 1960s to the present. Because our survey courses often move through the last fifty years of American history quickly, this course is designed to

focus on the last five decades of American history in greater depth. Topics and individuals discussed will include John and Robert Kennedy, Martin Luther King Jr. and Malcolm X, Ronald Reagan and the '80s, the Clinton administration of the '90s, and the Bush and Obama years of the 21st century. One-third of the course will consist of viewing relevant and excellent films like *The Graduate*, *Malcolm X* and *Eyes on the Prize* as well as documentaries by directors like Michael Moore and Spike Lee. Readings will focus on writers who raise economic, philosophical, ecological and political questions on where America and the world are headed in the 21st century. Finally, the course will conclude in confronting the growing debate on technology, challenging students to consider the digital age and its social and ethical impact on their lives. The final evaluation for this course will be a seminar paper.

**History Electives***Classes I & II***HART****History of Art (AP)***(Full Course)*

In this course, students will study the cultural history that emerges from art images created by ancient and modern cultures. These images address the heart and soul of those cultures. The tour ranges from prehistoric, stone-carved fertility goddesses to modern art installations, an international movement, in which classical structure has been rejected. Our study tracks the ebb and flow of these developments. This class will help students build their visual acuity in order to get at the heart of the artist's intention through an analysis of the specific form and content of the work. We will look at the intersection of a culture's prevailing set of ideas and how the art of the time supported or attacked those values. For example, as the European Industrial Revolution was well underway, painters like Manet and Degas refuted painting forms that had been the standard since the Renaissance. Secondary documents, reflections and analysis by art historians will be used to add texture and depth to the students' understanding of the art. Interpretation, analysis and essay writing are emphasized. This course includes field trips.

**HCRH****History of Civil Rights***(Half Course)*

In this course, we will examine a number of questions about the struggle for justice and equality in the United States. What did the civil rights workers of the 1960s hope to accomplish? What were they able to achieve? How did American society respond to this movement for social change? The first half of the semester is devoted to understanding the relationship between oppression and resistance, focusing on the legacy of segregation. We will then take a look at the events that shaped the modern civil rights movement. Course work includes journal writing, reaction papers, and a final research project about a contemporary civil rights issue. This course challenges students to develop a clear historical perspective about one of the most revolutionary periods in our history.

**Social Sciences***Classes I & II***HCGF****Comparative Government (AP)***(Semester 1)*

This course blends a study of concept of government with the analysis of individual countries. We will first study the nature and theory of the state, the legitimacy of governments and the distribution of power within them, as well as the forces that affect all countries, such as democratization, globalization, terrorism and climate change. Next, we'll spend a significant amount of time studying the six countries specified in the AP syllabus: the United Kingdom, Russia, China, Mexico, Nigeria and Iran. In our examination of these countries' approaches to governance, we will draw comparisons to learn how the theoretical and contextual issues studied earlier affect them. *This course prepares students for the Advanced Placement Examination in Comparative Government.*

**HGPS****American Government and Politics (AP)***(Semester 2)*

The heart of this course is an examination of, on one hand, the policy-making institutions of the United States Government—Congress, the presidency and the executive branch, and the Supreme Court—and, on the other, the nature of American political culture, the role

of political parties, interest groups, the media and the American electoral practices. The course also emphasizes the links between current political events, the constitutional underpinnings of government, and the policy process in the United States today. We will pay particular attention to current issues such as presidential and congressional relations, the run-up to the 2012 elections, and the responses to the recession. Students are required to follow political events actively, to undertake independent research on a range of topics frequently, and to engage personally with the policy process through an independent project that takes the place of a written examination. *This course prepares students for the Advanced Placement Examination in American Government. Note: To enroll in this course, students must have taken or be taking United States History or U.S. in the Modern World.*

#### HMICF

### Microeconomics: The Power of Markets

(Semester 1)

This course studies the behavior of individual firms and households and specific markets like health care, the automotive industry and retailing. It covers such economic concepts as scarcity, opportunity cost, supply and demand, elasticity, pricing and economic efficiency. Focused on the interactions within different markets, the course examines both competitive and non-competitive structures and explores the consequences of market failure. As we explore how markets operate, we will pay particular attention to a company's costs, labor markets, capital markets and government regulation. *Most of the topics students will need to cover in order to take the AP Examination in Microeconomics will be studied during the semester.*

#### HMACS

### Macroeconomics: The Federal Government and the National Economy

(Semester 2)

This course focuses on the whole U.S. economy. It covers such economic concepts as gross domestic product, economic growth, unemployment, inflation and trade. Economic models for a market-based national economy are examined; topics of discussion include GDP growth, fiscal policy, monetary policy, the Federal Reserve and taxation. We will also spend time discussing

the U.S. economy in the context of the global marketplace and tackle issues of international trade and trade policy. *Most of the topics students will need to cover in order to take the AP Examination in Macroeconomics will be studied during the semester.*

#### HGLOS

### Global Economics

(Semester 2)

This examination of the concepts and workings of the international political economy begins with a comparative assessment of economic theories and then considers the extent and consequences of globalization. Students strive to understand the justifications and interconnections of international trade and financial expansion in the modern era, evaluating the role that multinational firms and international institutions play in shaping and managing economic forces. Finally, with a specific emphasis on the limits of international growth, poverty and inequality, and demographic and climate change, we will consider the human consequences of global economics within the overarching conceptual framework of sustainable development.

#### HPSYC

### Psychology (AP)

(Full Course)

This course covers the behavior, motivation and developmental processes of human beings with a strong emphasis on the brain and neurobiology, as well as the developmental life-span perspective (birth to death) and relevant theorists. Topics include neurobiological, cognitive and socio-emotional bases of behavior and personality, social psychology, emotion and everyday behavior. Although it is not required, students may find it helpful to have taken biology. Topics in Psychology is NOT a prerequisite for this course. *This course prepares students for the AP Examination in Psychology.*

#### HPSYH

### Topics in Psychology

(Half Course)

This course explores topics within the discipline of psychology, including development, personality theory, abnormal psychology, social psychology and learning. Through these topics, students also study the thought of notable psychologists, such as Freud, Jung, Erikson, Piaget, Kohlberg and Skinner. Course content integrates readings from the

textbook and primary sources, as well as watching film from a psychological perspective. Students are encouraged to reflect on the material in both personal and academic ways and are evaluated through interactive learning projects, analytical essays, a mid-term exam, and classroom discussions.

#### HRMEF

### Religions of the Middle East

(Semester 1)

The Middle East is the birthplace of three of the world's great religious traditions—Judaism, Christianity and Islam. It is also a center of conflict, often conflict stemming from religious differences. In our shrinking and pluralistic world, having knowledge of religion has become increasingly important in order to be an informed citizen. Taking a global and historical view, this course examines the development of each of the Middle Eastern religions, analyzes their connections, and contemplates the source of their tension. Students will study each religion on its own terms through class discussion, primary texts, film, and inquiry into the spiritual and religious practices of each tradition.

#### HRAS

### Religions of Asia

(Semester 2)

Modern historical events such as the liberation movement in India, the Chinese invasion of Tibet, and globalization have resulted in a closer association between the Western world and the continent of Asia. Throughout the 20th century, the West's intrigue with Asian beliefs, philosophy and practices has intensified. This course explores the growing interest in Asian culture by focusing on the religions of the region—Hinduism, Buddhism, Taoism and Zen—and charting their histories and influence in the global community. Students will study each religion on its own terms through class discussion, primary texts, film, and inquiry into the spiritual and religious practices of each tradition.

#### HASSH

### History in Action for a Sustainable Society

(Half Course)

What is service, and what role should it play in our lives in the U.S. and as citizens of an interconnected world? What role have individuals devoted to social justice and political action played in U.S. history? What kind of

## Independent Courses

leadership is needed in Boston and nationally to create a more just and sustainable society? This course will explore the role of service as it has been lived by individuals from a variety of cultural, political and religious backgrounds. An integral component to this exploration will be students' firsthand experiences of service through weekly commitments to local sites. Some homework time will be allocated to the hands-on work and reflection about the experience, the impact it is having on one's life, and how that ties into assigned readings. We will seek to better understand current social issues related to students' service work, such as poverty, homelessness, hunger, educational inequity, healthcare, the environment and immigration. Class readings include contemporary authors and news sources, as well as historical documents. Course work includes journal writing, short papers, and an action project related to a topic of personal interest.

## Interdisciplinary Course

Classes I & II

AOIOH

### Advanced Oral Interpretation:

#### Oral History

(Half Course)

In this performing arts course, team-taught by a member of the performing arts department and a member of the history department, students will approach world history, Milton Academy history, and primary sources with a hands-on focus on performance. Students will conduct interviews with Milton Academy graduates and will create a final performance piece from those transcripts. This course will include individual and ensemble work, historical and ethnographic research using the Milton Academy archives, interviews, script writing, directing and performing.

Students in Classes I through IV whose interests go beyond regular curricular offerings may petition to pursue an independent course for academic credit with an appropriate faculty sponsor in any academic field. A student may make arrangements to work with a qualified outside mentor/teacher provided that a Milton Academy faculty member in a related field assumes sponsorship of the course and agrees to oversee the course through regular conversations with both mentor and student. Occasionally a student, at his or her expense, enrolls at a neighboring college or university for an independent course. Regular meetings with the Milton faculty sponsor are required. In all cases, the faculty sponsor will be responsible for assigning and submitting grades and for making sure comments are submitted on time. Credit will not be granted for courses that duplicate those offered by the Academy. Independent courses may be full, half or semester courses depending on the depth and breadth of the study.

Application forms are available in the Registrar's office. Students should submit the form with all required signatures to the Registrar's office and email completed course proposals to the chair of the Independent Course Committee by May 1 for the following school year, or by December 1 for the second semester. Course proposals must include a course description including an outline of topics with objectives, a bibliography, meeting times, and evaluation methods and criteria. Applications will be accepted late (by the end of the first full week of school) only from students who show good reason for being unable to apply the previous spring (e.g., a scheduling conflict). A Class I student who intends to pursue a second-semester independent course must apply the previous spring if he or she wishes the course to appear on the School transcript submitted to colleges in the winter.

*Note: Any second-semester independent course must continue to year's end in June either as a course or as a spring project.*

*Note: Students will normally be limited to one independent course at any given time.*

## Mathematics

Milton's mathematics curriculum is designed to encourage students to develop their understanding of a rich variety of mathematical concepts, to recognize the spatial and quantitative dimensions of the world in which they live, and to appreciate the logical principles that inform those concepts. The department's program of study acknowledges students' varying aptitudes for this discipline. Therefore, the department offers different levels in several courses, and placement in a specific level requires the permission of the department. Successful completion of Geometry and Algebra 2 fulfills the diploma requirement.

### Math 1—Algebra 1

MA1

This course introduces students to the power of mathematical abstraction. Most of the work is grounded in concrete, real-world situations. Students represent these situations in as many ways as possible, most importantly using graphs, symbols, tables, diagrams and the English language. Topics include linear, quadratic, exponential, rational, square root and absolute value functions. Students will use the graphing calculator extensively.

### Math 2—Geometry

MA21 —Honors

MA22 —Regular

Students come to this course with a substantial store of information about geometric relationships gained through informal experiences. This course formalizes and extends their knowledge by emphasizing an axiomatic development of these relationships. Through explorations using Geometer's Sketchpad®, a software program that allows the user to construct dynamic geometric models, students make conjectures about, and then investigate and prove, geometric relationships. Topics covered in this course include parallel lines, triangles, polygons, congruent and similar figures and circles, as well as area and volume. Depending on the level, other topics may include triangle trigonometry, transformations and coordinate geometry.

# Computer Programming

## Math 3—Algebra 2

**MA31** —Honors

**MA32** —Regular

**MA33** —Foundations

This course builds upon the foundation developed in Algebra 1 and extends students' knowledge and understanding of algebraic concepts. The course emphasizes visual and symbolic analyses of linear, quadratic and exponential functions, as well as introductions to data analysis, sequences and series, conic sections and triangle trigonometry. Depending on the level, other topics may include parametric equations and the properties of real and complex numbers. Students will use the TI-Nspire with CAS extensively in this course.

## Math 4—Precalculus: Functions with Mathematical Modeling

**MA41** —Honors

**MA42** —Regular

**MA43** —Foundations

This course examines, in depth, the structure, character and application of polynomial, exponential, logarithmic and trigonometric functions, along with rational functions and limits, combinatorics, probability and an introduction to statistics. Depending on the level, other topics may include complex numbers, polar coordinates, conic sections and parametric equations. Students will use the TI-Nspire with CAS extensively in this course.

## Math 5—Calculus

**MA51** —AP

**MA52** —Regular

**MA53** —Foundations

In this course students use limits of infinite processes to develop differential and integral calculus; they then use these concepts to create mathematical models. The abstract properties of elementary functions are re-examined in light of these new techniques; problems drawn from the natural and social sciences provide opportunities to apply these new concepts. Students will use the TI-Nspire with CAS extensively in this course. *(The AP level of this course prepares students for the Advanced Placement Exam in AB Calculus.)*

## Math 5S—Statistics

**MA5S1** —AP

**MA5S2** —Regular

Statistics is the science of collecting, organizing and interpreting data. With this in mind, students in this course learn how to design studies and to interpret data. The topics include exploratory data analysis, probability and sampling distributions, survey and experimental design, and methods of inference. Students use technology (the TI-Nspire with CAS calculator and/or Fathom™ software) throughout the course. *(Prerequisite: Math 4. The AP level of this course prepares students for the Advanced Placement Exam in Statistics.)*

## Math 5/6—BC Calculus (AP)

**MA5/6** —AP

This course uses limits of infinite processes to study rates of change and areas under curves. The abstract properties of elementary functions are then re-examined in light of these new techniques, and problems drawn from the natural and social sciences provide opportunities to apply these new concepts. Additional topics include infinite series, parametric equations, vector analysis and an introduction to differential equations. Students will use the TI-Nspire with CAS in this course. *(Prerequisite: Math 41 and permission of the department. This course prepares students for the Advanced Placement Exam in BC Calculus.)*

## Math 6—Further Topics in Calculus

**MAT61** —AP

This course reinforces and extends the topics developed in Calculus (Math 5). Students study additional techniques of integration, convergence and divergence of infinite series, and differential equations. Students will use the TI-Nspire with CAS in this course. *(This course prepares students for the Advanced Placement Exam in BC Calculus.)*

## Math 7—Advanced Topics

*(Semester 1, Semester 2)*

**MAT7F** —Semester 1

**MAT7S** —Semester 2

In odd-numbered graduation years (such as 2013) the course will cover topics in multivariable calculus; in even-numbered graduation years the course will cover topics in linear algebra and/or abstract algebra. *(Enrollment by permission of the department.)*

Computer programming courses vary to reflect the fast pace of change in computing languages and our desire to relate coursework to student interests. Computer programming courses are open to all students, whether novice or experienced. The sequence begins with the introductory course, Computer Programming. Both of the advanced courses require permission of the instructor. Please direct any questions to Mr. Chun.

**MACOH**

## Computer Programming

*(Half Course)*

This course is an introduction to computer programming in the Java language. Java is a modern computer language with two qualities that make it appropriate for a first course: First, Java is well-designed and elegant so that the fundamental concepts and techniques of programming can be clearly understood, forming an ideal foundation for further study in computing. Second, Java contains graphical tools that enable the creation of attractive and useful programs early in the study of the language.

For this course, no prior knowledge of computing is assumed. However, students should be comfortable using computers for such things as word processing and electronic mail. Since Java is often used in Internet-based applications, experience with the World Wide Web provides a useful context. In the first semester, students learn the elements of the language with emphasis on graphics and logical organization. In the second semester, students work independently or in small groups on larger projects of their choice.

**MACPH**

## Advanced Computer Programming

*(Half Course)*

This course is intended for students who have had a course in computer programming or who have learned equivalent material on their own. The content and emphasis of the course are adapted each year to the interests and experience of the students. In recent years, students have written Internet network programs, studied artificial intelligence, and studied the Scheme and Java programming languages. *(Permission of the instructor is required.)*

# Modern Languages

## MACAH

### Programming Applications

(Half Course)

This course exposes students to practical applications of programming. It includes topics such as data structures, database programming, Web programming and control systems. Other topics covered are based on student interest and emerging technologies. The coursework will use a variety of programming languages. *(Permission of the instructor and prior programming experience are required.)*

The study of foreign languages opens doors to a greater understanding of the world and its cultures. Language study can broaden students' global view and provide unique opportunities at Milton and beyond. We hope students will achieve a level of proficiency that enables them to use the language to communicate and to appreciate different ways of seeing the world. The diploma requirement is met by successful completion of a Milton Academy level 3 course. We encourage students to continue their studies beyond the three-year requirement, since the courses offered at level 4 and above provide special opportunities to examine the culture in depth through literature, art, film, history and current events.

The modern language department is proud to offer classes that support a wide variety of students' abilities and areas of interest. To merit placement in Honors, Accelerated or Advanced Placement levels, students must have an exceptional ability, a record of outstanding performance, and a demonstrated passion for language learning.

## Intensive Language Courses

These are accelerated courses designed for Class I students (and students in Class II with special permission). Each is the equivalent in difficulty and pace to a first-year college language course and is open only to students who have completed the language requirement through study of another language. *(Offered subject to sufficient demand.)*

### CHINT

#### Intensive Chinese

### FRINT

#### Intensive French

### GRINT

#### Intensive Classical Greek

### LAINIT

#### Intensive Latin

### SPINT

#### Intensive Spanish

## French

### FR1

#### French 1

This course provides an introduction to French through essential grammatical structures, idiomatic expressions and everyday vocabulary. Students use French in skits, dialogues, and oral and written presentations. Students learn to express themselves in real life situations. They also learn about various French-speaking cultures through activities, songs, art and short stories.

### FR1P

#### French 1P (Prior Study)

This course is intended for students who have previously studied French but who need to strengthen their foundation in the four basic language skills before taking French 2. This course has the same objectives as French 1 but allows for a greater depth and variety of activities, given the students' previous experience with the language and culture.

### FR2

#### French 2

For students who have completed French B, French 1 or French 1P, this course continues to develop oral and written command of all basic structures in French and introduces the reading of short books such as *Le Petit Nicolas* and *Le Petit Prince*. Many other cultural readings, projects and audio-visual materials connect students to various aspects of daily life in France and in the French-speaking world.

### FR2/3

#### French 2/3 (Accelerated)

The goal of French 2/3 is to inspire integrated and creative use of the language. The course takes a contextualized approach to language learning, using authentic content and context as a way to improve and inspire language learning. Students master grammar and vocabulary through readings, discussions and essays on selected topics. French 2/3 also introduces students to the study of literature through short stories and poetry. The class meets five times per week. Placement is at the discretion of the department and enrollment is normally limited to 12 students per section. Students taking this

course are expected to pursue their study of French at level 4. *Note: Class I students taking this course to complete their foreign language requirement must remain throughout the spring semester.*

**FR3**

### French 3

This course continues to develop the requisite skills of this level in speaking, listening, reading and writing. It makes use of authentic sources such as film, art, songs and media. Literature is introduced through readings by authors such as Sartre, Maupassant and Le Clézio. French 3 includes a systematic review of grammar and practice of the language through frequent writing assignments, speaking drills, discussion of topics involving everyday situations, and cultural, artistic and current events.

**FR31**

### French 3 (Honors)

This course provides a rapid expansion of vocabulary and grammar through reading and writing. Students will be asked to write compositions of increasing complexity. Students continue to strengthen oral skills through activities ranging from review of current events to literary discussions. Reading skills are developed through an introduction to classical and modern authors such as Molière, La Fontaine, Maupassant, de Clézio and Sartre. Placement is at the discretion of the department.

**FR4CL**

### French 4: Topics in Contemporary Culture and Literature

In French 4, students embark on a journey into contemporary French culture and literature while strengthening their language skills. Students will study grammar and vocabulary in context and practice using French through a variety of oral and written activities. French 4 gives students all the necessary linguistic tools to analyze works of literature, to articulate their opinion on current events, and to review films. Among the materials included in this course are *Née en France* by Aicha Benaïssa, the play *Huis Clos* by Jean-Paul Sartre and *Rhinocéros* by Ionesco. These three works are the base of a much broader exploration of the French culture through the use of different media.

**FR4AP**

### French 4 (AP): Language & Literature

Both a language and a literature course, French 4 (AP) further develops speaking, reading and writing skills to a more advanced level while preparing students for the French AP language exam in the spring. Students will study grammar and vocabulary in context and practice using French through a variety of oral and written activities. Students are also expected to achieve greater fluency in their analyses of cultural topics, literary texts, cinema and other media. Reading materials included in this course are *Née en France* by Aicha Benaïssa, the play *Huis Clos* by Jean-Paul Sartre, *Les Français* by Lawrence Wylie, and poems by Prévert and Rimbaud. Students will also study movies by André Téchiné and Eric Zonka. Placement is at the discretion of the department.

**FR5HN**

### French 5 (Honors): A Further Exploration of Literature

This course is intended for students who have completed the AP language program and who have expressed an appreciation of French literature in previous courses. Covering classic writings ranging from the poetry of Baudelaire to the magical world of 2008 Nobel Prize winner Le Clézio, this course aims at refining the skills that are essential to the enjoyment and the study of literature at an advanced level. Additionally, this course prepares students for the study of French at the college level and, specifically, the college-level technique of close literary analysis. Placement is at the discretion of the department.

**FR5F**

### French 5: The Francophone World

*(Semester 1)*

This multimedia and multi-disciplinary course introduces students to the diversity of the French-speaking world. Through the study of films, documentaries, novels, visual art, poetry and music, students will learn about French culture outside of France and will become familiar with the following concepts: colonial history and post-colonial identity, oral tradition, acculturation, bilingualism, race and identity. Works to be studied include films by directors Ousmane Sembene and Denis Kouyate; novels by Ferdinand Oyono, Michel Tremblay, and Fatima

Mernissi; poetry by L.S. Sengor and Aimé Césaire; and music by Youssou Ni Dour and Kheb Khaled, among others.

**FR5CS**

### French 5: Twentieth-Century France Through Its Cinema

*(Semester 2)*

This course focuses on the issues of coming of age and living in French society as seen through the eyes of major French and Francophone directors ranging from Francois Truffaut to Cédric Klapisch. The course also looks at cinema as a language of its own, starting with the first silent movies realized by the Lumière Brothers and culminating with the experimental technique of directors such as Claire Denis. Students taking this course will become familiar with the French attitude toward what is called the “Seventh Art.” They will also learn to write creatively about film the way the French “cinéphiles” do, using both technical and analytical perspectives.

**FR6AH**

### French 6: Advanced Studies

*(Half Course)*

French 6 allows students to take on a project that reflects their individual interest in French literature, history, cinema or culture. Students will agree to the scope and sequence of their project, including major assignments and presentation, in the first meetings of class. Possible projects include reading multiple works of an author, exploring the oeuvre of a director, or studying a topic in current events or history. Class time is dedicated to the further study of French language and culture through current events. Students are regularly asked to lead class discussion on a topic of their choice. *(Open to students who have completed at least one semester of French 5, French 5 (Honors) or with special permission from the department.)*

## Spanish

**SP1**

### Spanish 1

This course provides an introduction to Spanish including everyday vocabulary, idiomatic expressions, and essential structures of grammar. Special focus is placed on present and past tense conjugations, pronunciation and the use of pronouns. Students

develop competence and confidence in Spanish as they learn to express themselves in real-life situations. They learn about the Spanish-speaking world through readings, presentations and multimedia activities.

#### SP1P

### Spanish 1P (Prior Study)

This course has the same goals as Spanish 1: the development of a solid foundation in essential language skills. It is intended for students who have previously studied Spanish but have not mastered the skills or grammar required for Spanish 2, particularly the past tenses. Considering the students' previous experience with the language, the course allows for a greater depth and variety of activities, such as readings, skits, projects and presentations.

#### SP2

### Spanish 2

This course is a continuation of the development of essential language skills. It completes the foundation of Spanish grammar, including the indicative, imperative and subjunctive moods. Students hone their skills through a variety of activities: paired and small-group speaking practice, skits, projects and presentations. Through cultural readings, students explore various aspects of life in the Spanish-speaking world.

#### SP2/3

### Spanish 2/3 (Accelerated)

The goal of Spanish 2/3 is to inspire integrated and creative use of the language. The course takes a contextualized approach to language learning, using authentic content and context as a way to improve and inspire language learning. Students master grammar and vocabulary through readings, discussions and essays on selected topics. Spanish 2/3 also introduces students to the study of literature through short stories and poetry. The course meets five times per week. Placement is at the discretion of the department and enrollment is normally limited to 12 students. Students who take this course are expected to continue their study of Spanish at level 4. *Note: Class I students taking this course to complete their foreign language requirement must remain throughout the spring semester.*

#### SP3

### Spanish 3

Students review and study grammatical structures in depth, paying careful attention to practicing the more complex aspects of the language. The course takes a contextualized approach to language learning. The units and readings are centered on current, compelling themes. Upon completing this course, students will be able to express themselves not only in everyday situations, but also in social, political and literary discussions. This course introduces literature through short stories, poetry and drama by Spanish and Latin-American authors.

#### SP31

### Spanish 3 (Honors)

This course covers the same content as Spanish 3, but with a more extensive reading list, more frequent writing assignments, and a greater variety of projects. Spanish 3 (Honors) develops critical reading and creative writing skills that prepare students for work in upper level courses. Placement is at the discretion of the department and enrollment is normally limited to 12 students.

#### SP4CL

### Spanish 4: Topics in Hispanic Culture and Literature: Mexico Yesterday and Today

This course examines Mexican history, literature, art and society from pre-Colombian times to the present. The course considers how the past continues to shape issues related to identity, religion, and sociopolitical structures in contemporary Mexico. Students discuss these themes and advance their mastery of Spanish through primary sources from Mexican history, short stories and periodicals. Music, film and guest speakers will add to the interdisciplinary, inside look at Mexico yesterday and today.

#### SP4AP

### Spanish 4 (AP): Language and Literature

This class is an advanced course in Spanish language and an introduction to the formal study of literature from Spain and Latin America. Through the study of literature, art, history and current events, students work to develop further accuracy and confidence in Spanish. The course has three objectives: to further develop students' skills in composition and conversation; to introduce the formal study of literature; and to prepare students for the AP exam in Spanish Language.

Placement is at the discretion of the department. *(Spanish 4 (AP) prepares students for the AP Examination in Spanish Language.)*

#### SP5F

### Spanish 5: Inside Latin America

*(Semester 1)*

This course will guide students through some of Latin America's most significant historical, political and social changes. These topics will be explored through both literature and film. In this semester course students will examine countries in Central and South America, considering their shared histories and their unique position in the modern world. *(Open to students who have completed Spanish 4, Spanish 4(AP) or 5(AP).)*

#### SP5S

### Spanish 5: Discovering El Caribe

*(Semester 2)*

This course will provide students with a more comprehensive understanding of the culture, history and unique geographic importance of Cuba, the Dominican Republic and Puerto Rico. Students will study each of these Caribbean islands through literature, art and film. By completing a variety of projects that will lead them outside the four walls of the classroom, students will come to understand the individuality and interconnectedness of the islands of the Caribbean. *(Open to students who have completed Spanish 4, Spanish 4(AP), Spanish 5(AP) or Spanish 5 fall semester.)*

#### SP5AP

### Spanish 5 (AP): Literature and Culture

This course follows, and often expands on, the proposed syllabus for the AP Examination in Spanish Literature through the reading and interpreting of a variety of works by Spanish and Latin American writers. Students explore all literary genres and write textual analyses and comparative essays. Placement is at the discretion of the department. *(Spanish 5 (AP) prepares students for the AP Examination in Spanish Literature.)*

#### SP6TH

### Advanced Topics in Spanish

*(Half Course)*

This half course provides students an opportunity to develop their language and rhetorical skills while they take a deeper, more self-directed look at renowned texts and relevant topics. In odd graduation years,

# Non-Credit Required Courses

this course will be devoted to a close study of Cervantes' masterpiece, *Don Quixote*. Students will consider *Don Quixote*—widely regarded as the first modern novel and the greatest literary work written in Spanish—for its literary and historical significance. In even graduation years, the course will be devoted to three modern writers in depth. Authors may include Carlos Fuentes, Juan Rulfo, Mario Vargas Llosa, Pablo Neruda, Gabriela Mistral, Jorge Luis Borges, Gabriel García Márquez and others. (*Open to students in Class I or II who have completed Spanish 4 or higher, or with permission from the department.*)

## Chinese

With the tremendous economic boom that has taken place in China over the past 30 years, the country and its language have become integral to any discussion of the world's future. Milton Academy's Chinese language program gives students access to that discussion by providing the cultural and historical background and linguistic pragmatics to incorporate what they have learned into real life situations.

**CH1**

### Chinese 1

This course is an introduction to Mandarin Chinese, the national language of China. The course emphasizes spoken Mandarin and written characters, paying particular attention to the tones and proficiency in handling everyday situations in the language. Reading and listening skills are also introduced so that students can begin to feel comfortable expressing themselves verbally and in writing. By the end of the first year, students will have mastered roughly 350 characters.

**CH2**

### Chinese 2

Chinese 2 continues where Chinese 1 leaves off, presenting additional vocabulary that allows students to handle increasingly complicated situations in the language. Through both writing and speaking, students will master most of the basic grammatical structures of the Chinese language. By the end of the year, students can expect to have mastered around 800 characters.

**CH3**

### Chinese 3

Chinese 3 prepares students to handle more complex situations in spoken Mandarin. The length of written work increases correspondingly. The course also continues to stress listening comprehension and speaking about Chinese culture in the target language. By the end of the year, students can expect to have mastered around 1,250 characters.

**CH4**

### Chinese 4

Chinese 4 covers a wide range of topics related to current events and Chinese culture. Students reinforce fluency through written work and oral presentations. By the end of the year, students can expect to have mastered around 1,750 characters.

**CH5**

### Chinese 5

Chinese 5 deals with topics related to history, social sciences and current events. Students will increase their vocabulary by discussing topics in the language, giving oral presentations, and writing summaries and essays about what they have read. Much of this course is content driven, and language becomes the tool rather than the objective.

**CH6H**

### Advanced Topics in Chinese

*(Half Course)*

The teacher will determine course materials based on students' interests and abilities. In the past, topics have included modern short stories, Chinese history and other historical, social and cultural issues. Reading level in Chinese must be sufficient to allow students to read several pages of Chinese in a short period of time. (*Open to students in Class I or II who have completed Chinese 4 or higher, or with permission from the department.*)

## Introductory Music

**MU4GL**

### Class IV Glee Club

**MU4OR**

### Orchestra

**MU4JZ**

### Jazz Combo

**MU4GN**

### General Music

*Class IV*

Students in Class IV may elect one of four courses to fulfill their requirement in music.

Students may elect to sing in the Class IV Glee Club (two weekly meetings), play in the Orchestra (two weekly meetings), play in the Class IV Jazz Combo (two weekly meetings) or enroll in Class IV General Music (one weekly meeting). All are performance-based classes and graded on a satisfactory/unsatisfactory basis.

Students electing Class IV Glee Club will perform a wide variety of pieces, including Western and non-Western pieces from various historical periods. There will be two major performances a year. Students electing Orchestra will also perform two concerts each year, playing orchestral music from a wide range of historical periods. Class IV Jazz Combo offers an introductory experience in improvisation skills and small-ensemble playing. General Music surveys musical cultures and includes a performance element. Students electing either Orchestra or Jazz Combo typically will have their own instruments and experience in playing them. Please contact Don Dregalla with any questions.

## Introductory Performing Arts

*Class IV*

Students explore their creativity in the contexts of movement, speech, role-playing and dramatic imagination. Participation in a range of activities and exercises is aimed at developing focus and concentration, physical fluency, vocal variety, spontaneity, collaborative skills, and the confidence that allows students to take creative risks. This course meets in a double period each week for a

# Physical Education & Athletics

semester and is graded on a satisfactory/unsatisfactory basis. It provides a preview of the Arts Program offerings in the performing arts, which are available in Classes III, II and I.

## Introductory Visual Arts

### *Class IV*

The theme of Class IV Visual Art is the “self.” Projects in drawing, painting and sculpture/design challenge students to develop traditional skills for artistic expression and to apply their imaginations to creative problem solving. Individual and collaborative projects address questions about personal and public identity. Projects often include observational and interpretive self-portraits done using drawing, collage or digital imaging. Students may collaborate on large painted murals interpreting social or cultural issues. Design challenges may include making bridges, mask making, or competitive tower-building contests. The course meets for a double period each week for one semester, alternating with Performing Arts. It provides a preview of the intensive, full-time Arts Program courses in visual arts, which begin in Class III. This course is graded on a satisfactory/unsatisfactory basis.

## Affective Education

All courses meet once a week and use the familiar Milton format: a small-group discussion facilitated by a faculty member. Common topics for discussion across all four years include racial and gender identities, respecting self and others, and relationships. The teaching schedule is purposefully flexible, so that the weekly course meetings can respond to campus issues that need adult-student conversation in groups where the participants are comfortable with one another.

The four-year curriculum begins with concrete information shared within the context of the Health course for Class IV. Values, taken in Class III, moves to a more abstract level, analyzing case studies and engaging in conversations to identify the underlying moral values involved in decision-making. The Class II course, Social Awareness, considers how an individual fits within a larger system—like the family or

the School community—and how an individual transforms belief in core values into action. Finally, Class I students in Senior Transitions look at the transition from Milton to the world at large, considering how to reconcile the Milton experience with what choices are imminent beyond Milton.

## Current Events/ Public Speaking (CE/PS)

**NPSF**

**Fall**

**NPSW**

**Winter**

**NPSS**

**Spring**

### *Classes II & III*

Current Events/Public Speaking introduces students to the fundamentals of public speaking and to research and argumentation about issues in the contemporary world. This graded, 10-week course helps students become more knowledgeable about national and international concerns and to be more confident in their ability to speak well. Research, analysis, organized writing, and argumentation skills are refined in this exciting course that is normally taken during the Class III year. Entering Class II students should enroll during their Class II year.

The physical education and athletics department strives to develop physically educated students. In the pursuit of this goal, the department helps students set fitness and activity goals and guides them through the process of attaining those goals. Through courses required for graduation and through direct instruction, we help students to understand their bodies and attain a level of fitness that is healthy and promotes self-esteem and confidence. Our goal is to provide information, in a fun and safe environment, that helps individual students make healthy life choices. Milton expects students to be physically active throughout their educational career.

To facilitate this philosophy, all students in Classes III and IV participate in physical education classes, interscholastic sports or intramural sports in each season. Class I and II students must participate for two of the three seasons. Opportunities exist for learning about athletic training, managing a team, or seeking an independent course in athletics.

To graduate, a student must take a series of physical education classes. These classes have been arranged to best develop the skills and knowledge that is at the core of the physical education department. We believe, as a department, that students should be challenged to think and achieve collaboratively. They should gain a better understanding of their bodies, know the benefits and risks inherent in life/fitness choices, be physically active, and be able to give of themselves for the betterment of others.

Course Requirements:

*Class IV:* Students must successfully complete a Project Adventure course.

*Class III:* Students must successfully complete a Fitness Concepts course.

*Classes I & II:* Students must successfully complete a Standard First Aid and Community CPR course (which includes adult, child and infant CPR) or provide valid certification cards by the end of the winter season of their Class I year. Online certifications are not acceptable.

**Class I students are encouraged to complete their two season athletic participation requirement in the fall and winter seasons, as they will not be excused from this requirement for senior projects in the spring.**

## Science

The interscholastic athletic program is designed to challenge athletes at a variety of levels in a myriad of sports. The opportunity for excellence, regardless of the domain, is central to the mission of the School. We expect that athletics, whether interscholastic or intramural, will offer the opportunity to work collaboratively, develop skills, and have fun on the field, court, rink, slopes or in the pool. Please see the list below for interscholastic and intramural offerings.

An alternative sports program is available to students who wish to pursue an athletic interest not offered at Milton Academy. To be eligible for consideration, a request must meet the following criteria:

- The program must be in a sport or activity not offered at Milton Academy in any season.
- The proposed enterprise is sufficiently physical to coincide with the School's physical education philosophy.
- The request is for no more than one season per year.

Students wishing to pursue an alternative sports program must submit the request to the athletic department. Deadlines for such requests are May 21 for the following fall season (excluding students who are new to Milton, whose deadline is September 17); October 22 for the following winter season; and February 18 for the following spring season. Applications are available from the athletic department.

Where staffing, student interest and scheduling permit, students can pursue the following activities at Milton. An asterisk (\*) indicates an activity for which the opportunity for interscholastic competition exists. A pound sign (#) indicates an activity for which there is an intramural opportunity. All other offerings are a part of the physical education curriculum.

Fall	Winter	Spring
CPR & First Aid (Adult, Child, Infant CPR)	Alpine Skiing*	Baseball*
Cross-Country*	Basketball*	CPR & First Aid (Adult, Child, Infant CPR)
Field Hockey*	CPR & First Aid (Adult, Child, Infant CPR)	Fitness Concepts
Fitness Concepts	Fitness Concepts	Golf*
Football*	Ice Hockey*	Lacrosse*
Outdoor Education#	Outdoor Education#	Outdoor Education#
Project Adventure	Pilates#	Project Adventure
R.A.D. Rape Aggression Defense#	Project Adventure	Sailing*
Soccer*#	Squash*	Softball*
Strength Training and Conditioning#	Strength Training and Conditioning#	Strength Training and Conditioning#
Tennis#	Swimming*	Tennis*
Volleyball*	Weight Training	Track & Field*
Weight Training	Wrestling*	Ultimate Frisbee#
Yoga#		

Students must take one full-year laboratory course in a physical science (satisfied by a full-year physics or chemistry course), and they must take one full-year laboratory course in biology. The science department strongly recommends that all students take three full-year laboratory courses; one each in physics, chemistry and biology (in this sequence) so that they are well educated in the three major sciences. The department urges this sequence for students planning to take all three because physics will lead to a more thorough understanding of chemistry and both of these will lead to a better understanding of biology. Students taking semester courses and half courses may be in the Class I or II year. In addition, they must have received credit for at least two full-year laboratory courses, or be enrolled in a second full-year laboratory course concurrently with the semester course. Advanced courses in science are open to Class I students who have taken laboratory courses in physics, chemistry and biology.

### SCPF

#### Class IV Physics

##### Class IV

In Class IV Physics, students are introduced to the fundamental concepts of physics as well as the basics of sound scientific investigation. Many of the exercises and experiments are inquiry-based, which allows students to experience the physics phenomena first hand and learn to draw conclusions from data. Topics covered will include Newton's Laws of Motion, momentum, energy, electricity and magnetism. These topics, taught in combination with fundamental science skills, will prepare Class IV students for chemistry in their Class III year. The double period labs allow students to investigate topics in depth with guidance from the instructor, research a topic of interest to them, develop questions, and create an experiment to test their hypotheses. Students culminate their work in Class IV Physics by conducting a Design Your Own (DYO) experiment.

### SCPH

#### Physics

##### Classes I, II & III

This course covers the breadth of the discipline with an emphasis on qualitative understanding of concepts as well as problem solving. Topics covered in the first semester are Newton's Laws of motion, momentum, energy, circular motion and gravity, which

will culminate in a comprehensive exam. The second semester includes the study of waves, sound, light, electricity, magnetism, and possibly relativity and modern physics. The weekly labs reinforce the concepts discussed in the classroom and stress the procedures of science. Many of these labs use an inquiry approach. Students will complete their Physics experience by conducting a Design Your Own experiment in place of an exam. Students who take this course are well prepared to take either chemistry course and, with some outside preparation, the Physics SAT II.

#### SCCH

### Chemistry

*Classes I, II & III*

This course helps students understand and apply concepts of chemistry through problem solving, demonstrations and laboratory experiences. Students study the behavior of common elements and their compounds as well as the laws that govern chemical reactions. This course emphasizes both qualitative and quantitative aspects of chemistry as well as observational and organizational skills. Students also explore the connection between chemistry and the environment. As students gain proficiency in the lab and in the inquiry process, they become responsible for the construction of experimental hypotheses and for developing lab procedures. Students will complete the year with an independent lab project of their choosing.

#### SCHC

### Chemistry (Honors)

*Classes I, II & III*

Chemistry (Honors) is a quantitative course in which students study the properties and behavior of matter and the laws governing chemical reactions. The course covers the following topics: atomic theory, molecular structure, stoichiometry, gas laws, thermochemistry, oxidation-reduction, electrochemistry, acids and bases, equilibrium systems, kinetics and reaction mechanisms. The laboratory work emphasizes an inquiry process by requiring students to design independent investigations of open-ended questions and stresses the process involved in scientific research. Both the class work and the laboratory work of this course build on a lab-based physics course. (*Prerequisite: Physics and permission of the department.*)

#### SCBIO

### Biology

*Class II or Class I, or permission of the department chair*

Biology is the study of life. Designed to follow a course in chemistry, this course will explore the evolutionary and ecological diversity of life through an inquiry-teaching model. Broad themes in Biology include ecology and energetics, cell structure and function, molecular biology, genetics and heredity, and comparative systems biology. As the year progresses, we emphasize connections between broad biological concepts—ecology and human biology, for example. The principal means of assessment are homework, class work, tests, quizzes and lab work.

#### SCHB

### Biology (Honors)

*Class II or Class I, or permission of the department chair*

Designed to follow a course in chemistry, this accelerated course will explore molecular, cellular, organismal and ecological biology through an inquiry-teaching model. Broad themes in Biology (Honors) include ecology and energetics, cell structure and function, molecular biology, genetics and heredity. Students will explore the material through class discussions and work in the laboratory; they will practice critical thinking and writing as well as designing, conducting and analyzing experiments. There is a substantial out-of-class lab component in Biology (Honors) that students will need to coordinate with their lab partner(s). (*Prerequisite: A course in chemistry and permission of the department.*)

## Advanced Courses in Science

*Class I*

The goal of these courses is to give our most capable, motivated science students an opportunity to further explore topics in each individual subject area. These courses include a significant amount of inquiry-based laboratory work. Through these explorations, students will broaden their understanding of the natural world. These courses may include readings of primary research, other scientific literature and scientific textbooks, along with class discussions and inquiry-based lab work (both independent from and in concert with the instructor).

To register for any of these courses, students must have completed laboratory courses in physics, chemistry and biology and have permission from Mr. Edgar. Students may take Advanced Physics or Advanced Chemistry concurrently with Biology (Honors) with permission from Mr. Edgar. All full-year courses at Milton Academy qualify as laboratory courses. If students have taken courses at other institutions, they should contact Mr. Edgar, who will determine whether they can receive credit for that work. These classes are designed for our strongest science students, and students need to be academically qualified to keep up with the high level of work.

#### SCAB

### Advanced Biology

This course allows students to apply their prior biology and chemistry knowledge to two broad topics: development and diversity. Development will include plants, humans, and other animals including vertebrates and invertebrates. Diversity will include biodiversity of multicellular organisms. We will read articles from the primary scientific literature and from the current Biology (Honors) textbook. The lab work may include the following: sea urchin development, fish development, plant development, earthworm parasite development. Possible topics in biodiversity include: surveying plant taxa on campus, collection and identification of local insects, surveying local birds, learning to identify local invasive plant species, the inventory of aquatic invertebrates from local bodies of water, and learning to prepare dried plant collections. Students will spend significant time improving science-writing skills.

#### SCAC

### Advanced Chemistry

This course builds upon the concepts already explored in the first year course. It is a seminar-based course that asks students to connect ideas from physics and biology as well as chemistry. We will use several different college-level texts as resources, as well as articles in current periodicals. Some of the topics covered may include: the chemistry of the atmosphere, thermodynamics, chemical kinetics, applications of equilibria and more advanced topics in organic chemistry. Possible topics for lab investigations include: reaction speed, the energy of a bond, the properties of slime, light sticks and electrochemical cells.

**SCAE****Advanced Environmental Science**

This course will combine students' physics, chemistry and biology background with new material from Earth and atmospheric science to tackle issues of human-influenced environmental change. Our focus will be on understanding how nature works and on finding solutions to real environmental problems. This class begins with an overview of Earth's systems (atmosphere, oceans, geology and ecology). We will then turn to ways in which humans have perturbed those systems. Common topics of environmental science include climate change, ozone depletion, declines in biodiversity, damage to particular ecosystems (forests, estuaries, coral reefs, etc.), air and water pollution, energy efficiency and renewable energy, wild species and conservation. Lab work will be heavily weighted toward fieldwork. Our proximity to the Blue Hills, the Neponset River Estuary (the only remaining salt marsh estuary in Boston Harbor), and numerous local wetlands and streams provide an unusually rich natural laboratory for our work. Students should be excited about frequent outdoor fieldwork. Students should have taken physics, chemistry and biology to enroll in this class or have special permission from Mr. Edgar and the instructor of the course.

**SCAP****Advanced Physics**

This course will have two complementary focuses. Students will be learning problem-solving techniques using calculus and advanced trigonometry. They will explore several topics not covered in Class IV Physics: circular motion, gravitation, angular momentum, thermodynamics, electromagnetic induction and relativity, for example. At the same time, students will be applying what they have learned in the laboratory. They will be doing weeks-long labs both verifying what they know and expanding their knowledge. After studying projectile motion in the class, they will design an experiment to predict where a projectile will land. After studying rotational inertia, they will design a lab to predict how quickly an object rolls down a ramp. The class will make full use of a college-level textbook as well as the Internet simulations that come with it. Students will design and conduct an experiment of their own choosing in the spring.

**SCSRH****SCSRF****SCSRS****Science Research (laboratory based)**

*(Half Course, Semester 1, Semester 2)*

In this course of unlimited scope, students pursue any area of science that interests them, primarily through lab work. Students will design a curriculum based upon lab work they will complete in the semester or year. In addition, the course can involve independent student work as well as interactions with the faculty and library research. Depending upon the scope of the project, students may have the opportunity to work with professional scientists in the Boston area. To seek admission, students must submit proposals with detailed description of the lab work to be completed and the agreement of the faculty member mentor to Mr. Edgar by March 1, 2012. *(Enrollment by permission of the department.)*

**Semester & Half Course Electives**

*Classes I & II*

*(Prerequisite: Students must have credit for two full-year laboratory science courses, or previous credit for one full-year laboratory science course and an additional full-year laboratory course taken concurrently with the elective semester or half courses. Students should be aware that if a required concurrent full-year course is dropped for any reason, the elective course(s) will also have to be dropped.)*

**SCASH****Observational Astronomy**

*(Half Course)*

In this course we study all things astronomical, from the life and death of stars to the evolution of the universe, from the solar system to the history of astronomy. Students conduct semester-long projects of their own choosing in consultation with the instructor. In the past, students have observed variable stars, sunspots, the moons of Jupiter, and the setting position of the sun. In the weekly observing sessions, students locate objects discussed in lectures using the Robert C. Ayer double-domed observatory that is equipped with permanently mounted 9- and 12-inch reflecting telescopes as well as several portable telescopes. Students also take pictures of celestial objects using the special cameras provided.

**SCEFH****Engineering the Future**

*(Half Course)*

This course introduces students to concepts in engineering, beginning with investigations into structures and the basics of structural analysis. Students will build various structures and then test them in our ADAMET load-testing machine to experimentally verify the concepts of stress, strain, shear and moment. Using this knowledge, students will build skyscrapers as tall and thin (proportionally) as the tallest buildings in the world, then turn them horizontally to test whether they remain in one piece. This tower/cantilever project is followed by a theoretical investigation of how materials fail and an overview of other types of engineering. We conclude with team and individual projects where students evaluate a concept and design improvements.

**SCGH****Geology**

*(Half Course)*

Have you ever wondered why Earth is shaped the way it is? Why are there mountains, volcanoes, canyons and coastlines? How have these features been shaped over time? This course is designed to illuminate these questions by giving students a broad understanding of Earth's many landscapes and the knowledge to interpret Earth's history through observations of those landscapes. The course begins with a study of the major rock types and the processes of volcanism, mountain building, weathering and erosion that lead to rock formation. We continue with studies of glaciers, earthquakes, landslides, faults and coastal processes. The theory of plate tectonics unifies many of these topics and is a major component of the course. The School's proximity to the Blue Hills allows for fieldwork opportunities that will permit students to practice the science of geology.

**SCMAH****Science in the Modern Age**

*(Half Course)*

The need for students to be scientifically literate and able to detect bias in the media is more critical than ever before. Students must not only be informed of current science topics, but also be able to critically examine issues at hand. Through a seminar-style format, Class I and II students will be encouraged to examine their basic assumptions

about science, and will investigate the interplay between science and society. Students will interact with the greater scientific community through interviews, guest speakers, and a field trip. Using multimodal assessment, students' learning will be measured by discussions, reading responses, debates, persuasive and journalistic writing, journaling, presentations, projects and laboratory experiences. With citizens and future voters in mind, this is a course promoting scientific literacy, critical analysis and good decision-making. Topics could include, but will not be limited to, bioethics, epidemiology, DNA technology, genes and health, forensic science, sustainability, pharmacology, biodiversity, reproductive technology and medical dilemmas. Students will read current science publications as their primary resource.

SCENF

SCENS

### Issues in Environmental Science: Challenges for the Twenty-first Century

(Semester 1 or Semester 2)

This class addresses the major environmental challenges that face the world in the 21st century. Perhaps the most pressing global issue is that of climate change, and this course will address the science and politics of climate in some detail. Inextricably linked to climate change is the way in which humanity uses energy. Thus, this course will also address fossil fuel use, nuclear power and renewable energy with its associated emerging energy technologies (wind, solar, geothermal, hydrogen, tidal). We will also address the concept of sustainability in its environmental-science context. If time permits, the course will touch on issues of human population growth, biodiversity loss, air and water pollution, over fishing, and other sustainability topics of student interest. Students will be encouraged to participate in the ongoing efforts to make Milton Academy more sustainable.

SCMBF

SCMBS

### Marine Science

(Semester 1 or Semester 2)

This course investigates the biology, ecology and adaptations of marine life, as well as the most recent research in the fields of oceanography. The course will emphasize

independent and small-group lab work, research and presentations. Major topics studied will be fundamental oceanography, the fundamental concepts of biology that relate to the marine environment, a survey of marine life, and issues in marine biology, conservation and oceanography. Lab work is an important component of Marine Science. Students will work in the lab every week as they explore the concepts of the course. Additional assignments require students to take advantage of the resources available in Boston such as the New England Aquarium, lectures at local universities, and visits to local habitats. Lab work includes comparative anatomy done through dissection and direct observation of live, preserved and fossil plants and animals.

SCANF

### Human Anatomy and Physiology

(Semester 1)

Anatomy and Physiology challenges students with a variety of approaches geared toward developing a strong fundamental understanding of the structure and workings of the human body. Classroom discussions emphasize physiology, with special attention to the anatomical features necessary to the functioning of the system being studied. This class begins with a brief overview of cellular anatomy and physiology. This is followed by a unit on nerve form, function and relationship. Other systems addressed typically include the digestive system, the immune system, the cardiovascular system, and the respiratory system. Students perform several dissections during the semester to strengthen their understanding of anatomy. Evaluation for this class is based on participation in class discussions, in-class and take-home assessments, two lab exercises and an in-class presentation.

SCNPF

### Nuclear Physics

(Semester 1)

This course introduces students to fundamental principles of nuclear physics and their applications in the modern world. We first cover the composition and structure of the nucleus, radioactivity, radioactive decay, and then common nuclear reactions and the energy relationships that drive them. These concepts serve as a foundation for understanding such diverse topics as the radon health hazard, radiometric dating, nuclear weapons (design and proliferation), modern

medical tracer and imaging techniques (PET and MRI) and commercial nuclear reactors (their sometimes sordid past and their potential renaissance). Finally, we return to basic science to ask one of the most fundamental questions of all: Where does stuff come from? We will answer this by exploring the processes of nucleosynthesis in stars, which is how all elements beyond helium are created. (Prerequisites: A course in both physics and chemistry.)

SCCOS

### Cosmology and Modern Physics

(Semester 2)

Discoveries made during the last 60 years in physics have radically changed our view of the universe. Astronomers and physicists use their understanding of the very small structures of matter, such as quarks, to explain the very large structures, such as the distribution of galaxies in the universe. In this course, students learn about the wave-particle duality of matter, the quark model of matter, elementary particle discovery and classification, the grand unification of forces, the Big Bang theory, black holes, and the end of the universe. (Prerequisites: A course in both physics and chemistry.)

SCMGS

### Molecular Genetics

(Semester 2)

This course educates students about the science and technology of the field of molecular genetics. Students briefly review inheritance patterns explained through Mendelian models as well as the basic structure and function of DNA. From there students complete a set of cloning and sequencing protocols of a plant housekeeping gene. After completion of these protocols, students will have the fundamental skills necessary to clone and sequence a gene in the laboratory. Skills developed in the course include nucleic acid extraction, performance and analysis of nested polymerase chain reaction (PCR), electrophoresis, size exclusion chromatography, DNA ligation and bacterial transformation, microbial culturing, and sequencing and bioinformatics. The majority of the work in this class is laboratory based. (Prerequisite: A course in biology.)

## Half Courses

The following half courses meet **all year long**, but with fewer meetings and/or less required preparation per week than a full course.

Classics	Classes	Page
Advanced Latin: Roman History	I–II	9
Advanced Latin: Roman Elegy	I–II	9
Advanced Classics: Ancient Greek 2A	I–II	9
Advanced Classics: Ancient Greek 2B	I–II	9
<b>Computer Programming</b>		
Computer Programming	I–III	18
Advanced Computer Programming	I–III	18
Programming Applications	I–III	19
<b>English</b>		
Advanced Creative Writing	I–II	12
Advanced Creative Writing 2	I	12
Hamlet	I–II	12
<b>History &amp; Social Science</b>		
History in Action for a Sustainable Society	I–II	16
History of Civil Rights	I–II	15
Topics in Psychology	I–II	16
Advanced Oral Interpretation: Oral History	I–II	17
<b>Modern Languages</b>		
French 6: Advanced Studies	I–II	20
Advanced Topics in Chinese	I–II	22
Advanced Topics in Spanish	I–II	21
<b>Music</b>		
Chamber Singers	I–III	3
History of Music	I–III	3
Music Theory	I–III	3
Orchestra/Chamber Orchestra	I–III	4
<b>Performing Arts</b>		
Advanced Dance: Modern	I–III	4
Advanced Dance: Ballet	I–III	4
Advanced Dance: Choreography	I–III	4
Advanced Oral Interpretation: Oral History	I–II	5
Advanced Drama: Improvisation	I–II	5
Advanced Drama: Costume Design	I–II	5
Hamlet	I–II	12
<b>Science</b>		
Engineering the Future	I–II	26
Geology	I–II	26
Observational Astronomy	I–II	26
Science in the Modern Age	I–II	26
Science Research	I	26

## Semester Courses

The following semester courses meet four times per week for **half the year**.

Classics	Semester	Classes	Page
Advanced Latin: Philosophy of Lucretius	1	I–II	9
Advanced Latin: Selected Readings	2	I–II	9
<b>History &amp; Social Sciences</b>			
Comparative Government (AP)	1	I–II	15
African-American History	1	I	14
History of Modern China	1	I	14
History of the Middle East	1	I	14
Microeconomics	1	I–II	16
Religions of the Middle East	1	I–II	16
Topics in Modern World History	1	I	14
American Government and Politics (AP)	2	I–II	15
Asian-American History	2	I	15
Global Economics	2	I–II	16
Globalization and Islam	2	I	15
Macroeconomics	2	I–II	16
Religions of Asia	2	I–II	16
Senior Seminar	2	I	15
<b>Mathematics</b>			
Advanced Topics in Mathematics	1&2	I–II	18
<b>Modern Languages</b>			
The Francophone World	1	I–II	20
Twentieth-Century France Through Its Cinema	2	I–II	20
Inside Latin America	1	I–II	21
Discovering El Caribe	2	I–II	21
<b>Science</b>			
Science Research	1&2	I	26
Issues in Environmental Science	1&2	I–II	27
Marine Science	1&2	I–II	27
Human Anatomy and Physiology	1	I–II	27
Nuclear Physics	1	I–II	27
Cosmology and Modern Physics	2	I–II	27
Molecular Genetics	2	I–II	27
<b>Visual Arts</b>			
Advanced Art: Drawing	1	I–II	7
Advanced Art: Photography	1	I–II	7
Advanced Art: Sculpture	1	I–II	7
Advanced Independent Art	1	I	8
Advanced Art: Architecture	2	I–II	7
Advanced Art: Ceramics	2	I–II	7
Advanced Art: Painting	2	I–II	7
Advanced Art: Installation Art	2	I–II	7
<b>Performing Arts</b>			
Advanced Drama: Acting Styles	1	I–II	5
Advanced Drama: Musical Theatre	2	I–II	5



# Milton Academy Registrar's Office

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