

CHOATE ROSEMARY HALL

# curriculum



2017-2018  
*Course  
Catalogue*

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*The information contained in this Course Catalogue is accurate as of January 20, 2017. For the latest version, which includes any changes and updates made after this date, please refer to the Course Catalogue on our website located at [www.choate.edu/curriculum](http://www.choate.edu/curriculum)*

# MISSION STATEMENT

Two interwoven priorities define the Choate Rosemary Hall experience: a rigorous academic curriculum and an emphasis on the formation of character in a residential setting that allows for teachers and students to live with, and learn from, each other in important ways.

The curriculum inspires students to:

- think critically and to communicate clearly;
- understand various methods of intellectual inquiry and their connections to each other;
- recognize the interconnections of learning;
- work independently and in partnership with others;
- develop a global perspective on cultural, social, political, and environmental issues;
- appreciate the importance of beauty and grace in their lives; and
- achieve distinction in accordance with their individual interests and talents.

In these ways, students are prepared to seek knowledge for its own sake and to pursue further study at the finest colleges and universities.

The development of character is a responsibility that rests with every member of the community. In classrooms, on playing fields, in residential houses, students grow in confidence and self-esteem, and are instilled with such fundamental values as honesty, integrity, teamwork, generosity, and compassion toward others. Choate Rosemary Hall also fosters community involvement and service as it prepares students to assume leadership roles in an ever-changing world. As part of its commitment to character formation, the School offers regular community-wide reflections on moral and spiritual issues, as well as exposure to various religious traditions.

Choate Rosemary Hall attracts intellectually gifted and motivated students from diverse backgrounds whose commitment to serious study is enhanced in this personally supportive and academically challenging setting. On a campus that inspires a particular sensitivity to beauty, teachers—who share genuine respect and affection for young people—impart an enthusiasm for life and for learning.

Choate Rosemary Hall is confident that its graduates will go forth from a school that values each of them for their particular talents and enthusiasms; that affirms the importance of personal integrity and a sense of self-worth; that inspires and nourishes joy in learning and love of truth; and that provides the intellectual stimulation to generate independent thought, confident expression, and a commitment to improve the welfare of others.

# THE ACADEMIC PROGRAM AND DIPLOMA REQUIREMENTS

Choate Rosemary Hall's comprehensive curriculum fosters broad exposure in all disciplines, while also offering students an opportunity to discover and pursue special areas of interest. We expect students to avail themselves of the richness of our academic program; nonetheless, they need to understand that they cannot do everything; they must learn to make choices. As they make these choices, students are expected to enter fully into the educational process by making academic responsibilities their first commitment. Thus, as students plan their time at Choate, in consultation with their parents, an adviser, a dean, and, at the appropriate time, a college counselor, discussions must include considerations of balance and quality as well as adventure. We encourage students to pursue their passions in a way that helps them to manage all of their commitments here in a successful, rewarding manner.

Each of our six academic departments offers traditional core courses as well as a variety of electives. Most departments offer honors courses, as well as opportunities for Directed Study. In most cases course level placements are determined on the basis of a student's academic preparedness, ability, and talent in each subject area, not necessarily by age or grade level.

Among the features of our curriculum are:

- the Environmental Immersion Program, an intensive academic and residential experience that teaches ecological literacy in a multidisciplinary curriculum, housed in the Kohler Environmental Center, a teaching, research, and residential facility unique in U.S. secondary education;
- language immersion programs in China, France, Japan, Morocco, and Spain as well as a cultural immersion programs in Italy, and Jordan;
- the Arts Concentration Program, designed to provide passionate and dedicated students the opportunity for serious study and performance in music, theater, dance, and visual arts;
- the i.d.Lab, a mindset, space and resource for exploration and discovery, which fosters healthy risk-taking, creative thinking, invention and collaboration
- the Capstone Program, an opportunity for talented sixth form students to explore an area of study in depth;
- an economics program that features eight courses, and the opportunity to participate in outside competitions;
- the Science Research Program, an opportunity for selected students to further their science education with intensive study and summer laboratory research;
- the Arabic and Middle Eastern Studies Program, which marries intensive linguistic study of Modern Standard Arabic with courses on the literature and cultures of the Middle East;

- a variety of creative writing workshop classes
- an interdepartmental course in American Studies taught by the English and history departments;
- extensive offerings in computer science that allow students to study app development and web design and three levels of robotics courses;
- a Senior Project Program in the spring term that allows qualified sixth formers to work either on or off campus in various internships, to serve as research assistants, or to participate in academic study opportunities or creative projects in music, theater, and visual arts;
- courses in psychology, philosophy, and religion;
- integration of digital learning tools into the academic curriculum;
- the Teaching and Learning Center, which provides both students and faculty with resources designed to strengthen their learning and teaching; and
- an on-campus nursery school and day care program that serves Wallingford and surrounding communities and is a laboratory school for our child development course.

## PLANNING YOUR PROGRAM

Students work closely with their advisers and form deans to plan their academic program. To get an overview of what their entire career may look like, an overview that will obviously evolve as students' interests change, students may find helpful the four-year planning sheet located in the back of this booklet. Advisers and form deans assist students not only in selecting courses but also in making decisions about participating in extracurricular activities, pursuing various summer opportunities (including those here at Choate), and considering one of our Signature Academic Programs. (See pp. 9-12.)

The department head, in consultation with the Registrar or Director of Studies as appropriate, determines course placement for new students. These decisions are based on standardized test scores, teacher recommendations from the previous school, previous grades in the discipline, the submission of graded papers, and in some cases (language and mathematics), a placement test.

Although every effort is made to run the courses offered during the terms indicated in this Course Catalogue, there are times when low enrollment and/or available resources do not allow a course to run. In those instances, the student and form dean are notified as quickly as possible so that adjustments can be made to the student's program.

*Note: Choate Rosemary Hall uses "form" in referring to grade level. Third form is grade 9; fourth form is grade 10; fifth form is grade 11; and sixth form is grade 12.*

## DIPLOMA REQUIREMENTS

Questions regarding diploma requirements may be directed to the Registrar, the student's form dean, the department head, the Director of Studies, or the Dean of Faculty.

### OVERALL GRADUATION REQUIREMENTS

To receive a Choate Rosemary Hall diploma, a student must:

- satisfactorily complete the required courses listed on pp. 4-6;
- complete the course load requirement of five full-credit courses each term as explained below;
- receive passing term grades for all courses taken spring term of the sixth form year;
- fulfill the athletic requirements; and
- fulfill the Community Service requirement.

*Note 1: Questions involving a requirement waiver, a requirement substitution, or establishing a special program for a student with unusual interests or talents should be referred to the Director of Studies, who works closely with the Dean of Faculty. Only the Dean of Faculty has the authority to grant exceptions to the basic diploma and course load requirements.*

*Note 2: Course level designations follow the course numbers.*

*AD - Advanced*

*HO - Honors*

## DIPLOMA VS. CERTIFICATE OF STUDY

### DIPLOMA

Diplomas are granted only to those students who have successfully fulfilled the graduation requirements and have completed their credits for senior year. All seniors may participate in a Study Abroad Program during their senior year, but the practice is especially rare for one-year seniors, who usually remain on campus for three terms. One-year seniors are expected to fulfill all credit and course load requirements. As stated above, all sixth form students must receive a passing term grade for all courses taken in the spring term to graduate.

*Note: If a student withdraws from school to avoid being expelled, the student loses the privilege of receiving a diploma.*

### CERTIFICATE OF STUDY

Postgraduate students are eligible for a Certificate of Study. The certificate states that they have completed an approved course of study at Choate Rosemary Hall. Such students are considered sixth formers and must meet all expectations of credits, course load, and program balance. Therefore, a postgraduate's program of study must include three terms of English, unless exempted in the spring by the department, and one term of art.

## DIPLOMA REQUIREMENTS BY DEPARTMENT OR AREA

### ARTS

Required: Three terms of arts (one in the third form, one in the fourth or fifth form, and one in the sixth form) from two areas: music, dance, theater or visual arts. In addition to the many courses listed in the arts section of this catalogue, the following opportunities also fulfill the requirement.

- A student receives one credit for the following ensemble courses, if taken for the entire year – Dance Company, Festival Chorus, String Orchestra, Jazz Ensemble, and Wind Ensemble – (One year = one credit.) A student in a Study Abroad Program who takes the course two of the three terms that year is granted the full credit. A student receives one credit per term in Chamber Chorus and Symphony Orchestra.
- A student who participates in a term-long Choate Study Abroad Program in France, Spain, Italy, or China earns one visual arts credit. A student who participates in the Choate Summer Program in France earns one visual arts credit.
- The English course, Humanities (EN480) earns no arts credit, but if a senior already has three arts credits, this year-long course may exempt this student from the sixth form arts requirement with permission of the Director of the Arts. It does not exempt a student from the two-area requirement.
- The two-area requirement: A student who enters in the fifth form is exempted from taking arts classes in two areas; Arts Concentration students who enter the program in the fifth form may have a similar exemption, though they are encouraged to take classes in two areas if their overall program permits; Arts Concentration students in theater fulfill the two-area requirement as part of their Arts Concentration program; and, as stated above, the Humanities course does not exempt a student from this requirement.

### ENGLISH

Required: Four years of English (one course each term at Choate).

- A new fifth form international student for whom English is not the first language will sometimes be placed in Composition and Literature (EN200) for the fifth form year and a sixth form English course the following year.
- Sixth form spring exemption: Sixth form students (with the exception of those who have been away from campus for a term) maintaining an A- average through the first two terms of their sixth form year may be eligible for an exemption from English in the spring. Students who wish to take advantage of this waiver option should discuss those plans with their adviser, dean, and college counselor during the course request process in the spring of the fifth form year and then make the appropriate course requests for the subsequent spring. In no case may a student initiate a request to waive spring English any later than winter midterm of the sixth form year. All English waivers must receive the approval of the sixth form English teacher, the department head, and the student's college counselor. Only students who will have

completed 11 terms of English by the end of the senior winter may apply for a waiver, and the waiver will be revoked if the winter term grade falls below an A-.

- If a senior is enrolled in one of the year-long English courses, they will be ineligible to apply for the senior spring exemption.
- Students may be exempt from English only once in their career: when they participate in a Study Abroad Program or if they qualify for the senior spring exemption.

## **HISTORY, PHILOSOPHY, RELIGION, AND SOCIAL SCIENCES**

Required: One year of World History, usually fulfilled in the fourth form year; one year of United States History, usually fulfilled in the fifth form year; and one term of philosophy or religion.

- A variety of religion courses fulfill the philosophy/religion requirement, including doctrinal courses taken at other high schools.
- A student who has taken a high school-level World History or United States History course in elementary or middle school has not fulfilled the graduation requirement, *even if* the course was taken at a high school.
- A fourth former who has completed World History may take United States History with permission of the department.
- A student who enters Choate in the fifth form is not required to take World History.

## **LANGUAGE**

Required: Three years (through the 300 or 350 level) in a diploma language (Arabic, Chinese, French, Latin, or Spanish) or completion of the Arabic and Middle Eastern Studies Program.

- A student must have permission from the department head to take two language courses concurrently.

## **MATHEMATICS**

Required: Algebra I, Geometry, Algebra II

- A new student's diploma requirement in Algebra I, Geometry, and Algebra II is fulfilled on the basis of the math placement, unless stated otherwise by the department head.

## **SCIENCE**

Required: At least one year of physical science (physics or chemistry) with an integrated lab experience, and one year of biology with an integrated lab experience.

- The science department recommends that students take physics, chemistry, and biology, in this order.
- Earth Science or Physical Science (common 9<sup>th</sup> grade science classes) taken at a previous school does not fulfill any part of the graduation requirement in science.
- Often, UK-type school systems (including many in Canada, Europe, and Bermuda) follow an integrated science curriculum in which students study biology, chemistry, and physics concurrently each year. In these circumstances, the department head determines if the student should receive the physical science and/or biology credit. In general, a

student must have taken two full years of integrated science while in high school to receive any credit.

- A student who has taken a high school-level science course while in elementary or middle school has not fulfilled the graduation requirement, *even if* the course was taken at a high school. Instead, the student may be granted placement into a more advanced course in that discipline to complete the requirement.

## **QUANTITATIVE**

Required: 14 credits in secondary school of courses that fulfill the quantitative requirement, otherwise known as the Q credit.

- The quantitative requirement includes the mathematics requirement. Q credits are fulfilled by the following courses: all mathematics and computer science courses (identified by MA and CS prefixes); Microeconomics (EC550HO); and all physics and chemistry courses (identified by PH and CH prefixes) except Astronomy (PH320 and PH330), Chemistry of Food (CH430AD), and Advanced Organic Chemistry (CH652HO). One Q credit is also earned in the year-long Ecology course (ES437HO) that is part of the Environmental Immersion Program at the Kohler Environmental Center.
- When calculating Q credits, a year-long two-semester course at a previous school will equal three Q credits, not two, since we have trimesters, not semesters.
- A student cannot receive Q credit twice for the same course.
- A student who drops a year-long course that would have earned three Q credits will still earn one Q credit for each term of the course that was completed. For example, a student who drops CH300 after completing the fall term receives one course load credit, no chemistry credit, no physical science credit, and one Q credit.
- A student earns a Q credit even when a course is taken Pass/Fail.
- The Immersion Geometry course in Choate Summer Programs earns three Q credits. The Introduction to Algebra II and Special Topics in Algebra II courses in Choate Summer Programs earn one Q credit each.
- A new student who enters Choate and repeats 9<sup>th</sup> grade receives quantitative credit for courses taken in the 9<sup>th</sup> grade elsewhere.

## **CONTEMPORARY GLOBAL STUDIES**

Required: One term of a course deemed to fulfill the requirement for three- and four-year students.

- Current courses that fulfill this requirement are Current Topics in Biology (BI410AD); Contemporary Chinese Culture and Society (CN551HO; CN552HO; or CN553HO); International Economics (EC455HO); Development Economics (EC575HO); Arabic Literature in Translation (EN402); A World Apart: Contemporary World Fiction (EN415); Global Scientific Issues (ES220); French in a Global Context (FR404AD; FR405AD; or FR406AD); Advanced French Language and Culture (FR551HO; FR552HO; or

FR553HO); Contemporary Issues (HI205); The Modern Middle East (HI459HO); Women's Studies in a Global Perspective (HI460HO); International Relations (PS460HO); and Advanced Spanish Language and Culture (SP551HO; SP552HO; or SP553HO). In addition, Choate Rosemary Hall's term and summer study abroad programs as well as the Environmental Immersion Program at the Kohler Environmental Program fulfill this requirement.

## ADDITIONAL NOTES ON OUR DIPLOMA REQUIREMENTS

*Note 1: A graduation requirement cannot be taken on a pass/fail basis, except in order to earn a Q credit or in the case of Sophomore Seminar.*

*Note 2: A graduation requirement is considered fulfilled – rather than actual credit awarded – for students who have taken courses while attending another secondary school when an official transcript has been received.*

*Note 3: Students who fail a term course that is a graduation requirement must repeat that course or an equivalent course. Students who fail one term of a multi-term or year-long course that is a graduation requirement but who nevertheless pass the course have fulfilled the graduation requirement.*

*Note 4: On rare occasions, students may propose accelerating their studies in a particular discipline by doing summer work. There are specific policies, procedures, and permissions governing such requests, but, in general, year-long graduation requirements cannot be completed over the course of a summer. A student should begin a discussion about acceleration with the department head as much in advance as possible of the proposed work.*

*Note 5: All fourth form students are required to enroll in our two-term Sophomore Seminar. The seminar is designed to educate and facilitate discussion as students transition from adolescence to young adulthood. The course has pass/fail status and meets one period per week.*

## ATHLETIC REQUIREMENTS

### THIRD, FOURTH, AND FIFTH FORM ATHLETIC REQUIREMENTS

Students must take three terms of athletics or two terms of athletics and one term of an alternate activity. Students may consult their form dean, the Registrar, Athletics or the Director of Studies for an approved list of alternate activities.

### SIXTH FORM ATHLETIC REQUIREMENT

Students must be enrolled in an afternoon activity each term, at least one of which must be athletics. Students may consult their form dean, the Registrar, Athletics or the Director of Studies for an approved list of alternate activities.

## COMMUNITY SERVICE

The graduation requirement, which begins once a student has matriculated at Choate, is defined as service to others beyond our school community (the exception to this standard is peer tutoring):

- entering third or fourth formers: 30 hours total;
- entering fifth formers: 20 hours total; and
- entering sixth formers or post-graduates: no requirement.

This requirement may be fulfilled in the following ways:

- participation in a long-term, documented community service activity (Teach Wallingford);
- combined hours of service from after-school and weekend events sponsored by Choate Rosemary Hall (Blood Drives, Adaptive Swim or Skate Program, Salvation Army Bell-Ringing, Habitat for Humanity days);
- participation in volunteer activities beyond Choate Rosemary Hall (volunteering within one's community or elsewhere during school vacations); or
- participation in a student-designed personal program.

All projects and credit are approved by the Director of Community Service and must have the proper supporting documentation.

## COURSE LOAD REQUIREMENTS

Choate operates on a trimester system. Courses are granted credit as follows:

- one-term courses receive one course credit;
- two-term courses receive two course credits;
- three-term courses receive three course credits.

*Note: Usually, no more than two courses in any one department can be part of a normal course load.*

To earn a diploma, a four-year student must have a total of 60 course credits (or 60 terms worth of trimester-length courses). Three-, two- and one-year students are to have equivalent course loads. When special circumstances arise, the School may decide to award a diploma to a student with as few as 58 or 59 course credits. The Director of Studies, in consultation with the Dean of Faculty, must approve the awarding of a diploma in these circumstances.

Students are expected to carry five courses each term, or 15 course credits a year. Any student who wishes to drop below five courses in a term must obtain permission from the Director of Studies. If a student should take only four course credits one term, the student would be expected to carry six course credits another term. Additionally, if a student drops down to four courses during a term, the student will automatically be placed on Academic Warning.

With permission from their form dean, students may carry six courses one or more terms, with these exceptions: the Director of Studies must approve the programs of all new students who request six courses in the fall term and sixth formers who request six courses in the spring. A course load of six courses should never be entered into lightly. Course work at Choate is demanding especially when a proposed six-course load carries more than

two honors classes. Students should discuss this program and its workload with their dean, adviser, and college counselor (if applicable), and perhaps even with the Director of Studies.

## **OTHER ASPECTS OF OUR ACADEMIC PROGRAM**

### **AUDIT**

Fifth and sixth form students may audit a course that is over and above the normal course load with the approval of the teacher, form dean, adviser, department head, college counselor (if applicable), and Director of Studies. The student must audit all terms of the course, attend all classes, participate actively in class discussions, and complete all homework assignments. The student has all the responsibilities of a regular student except for tests, papers, and final examinations. Although the course appears on the student's transcript, no credit is awarded for the course and no report is written. The deadline for applying for the audit option is the end of the first week of classes in a term course and no later than one week after the first midterm in a two-term or year-long course.

Auditing a course for no credit has limited advantage to the vast majority of our students, so we want to give such a request very serious thought before encouraging it. A student who is thinking about auditing a course should consider the pass/fail option before making a final decision. Any exception to this policy must be approved by the Director of Studies.

### **CHANGING, ADDING, AND DROPPING CLASSES**

Students who wish to change, add, or drop a class should first discuss their concerns with their teacher. Next they should see the form dean, as there are very specific policies that govern these procedures, which vary depending on the term and on whether the course is a one-term, two-term, or year-long course. The procedures include when and if such modifications to a student's program can happen, who must approve them, what is recorded on the transcript, what credit is awarded (if any), and who is notified. Often the form dean consults the Director of Studies in these matters.

Any student who drops down to four courses during a term is automatically placed on Academic Warning.

*Note: The procedures that govern the changing, adding, and dropping of classes are in the Student Handbook.*

### **GRADES, REPORTS, AND EXAMINATIONS**

Grades are given on an A through F scale with (+) and (-) indicators. D- is the lowest passing grade. Grades and term reports written by teachers, advisers, and coaches are shared with families three times a year. These final grades and reports are accessible via the Parents Portal page of our website at specific points in the academic cycle. Midterm grades, which are unofficial, are available there as well shortly after their posting. Letters from the deans for students on Academic Warning are sent home at midterm.

*Note: Criteria for placement on Deans' List and Academic Warning are included in the Student Handbook.*

Term examinations or other culminating academic experiences occur at the end of each term. Students and families should pay close attention to the published schedule for these academic commitments, as they will not be rescheduled to accommodate travel plans or early departures from campus.

### **PASS/FAIL**

Fourth, fifth, and sixth form students in good academic standing may, with the approval of the teacher, department head, form dean (in consultation with the adviser), college counselor (if applicable) and Director of Studies, take a course on a pass/fail basis. A student taking a course pass/fail assumes all the normal responsibilities of a class (attendance, assignments, assessments, etc.) but receives a grade of either pass (P) or fail (F). Taking a course pass/fail is based on the following criteria:

- No graduation requirement may be taken on a P/F basis; however, a course which counts towards fulfilling the quantitative requirement may be taken P/F.
- A student may take no more than one P/F course per term.
- A student taking a fifth course on a P/F basis is ineligible for Deans' List; a student taking a sixth course on a P/F basis is eligible for Deans' List.
- The deadline for applying for P/F is no later than one week after the midterm for a term course and no later than one week after the first midterm in a two-term or year-long course.
- A student who has a course designated P/F before the midterm may change the designation of that course back to non-P/F status up until the last meeting of the first term of the class in question. To do this, the form dean sends an email to everyone involved in the original decision stating that the student wishes to revert from P/F status to full grade status.

The pass/fail option is intended to encourage students to broaden their intellectual horizons into areas in which they lack either experience or confidence by removing any concern about jeopardizing their academic record. A change to P/F status is not intended nor should a student interpret it as approval to work less diligently in a class. A student considering P/F should understand that a P on a transcript is rarely optimal when it is one of five courses; thus, for a student to take a fifth class P/F, it truly needs to be a special case.

Discussion of changing to P/F status begins with the form dean, who discusses with the student the intent of the policy as well as the student's reasons for considering changing status to P/F in a given course. If the dean determines this is a legitimate request, the dean contacts the teacher of the course in which P/F is being considered, the department head, the adviser, the college counselor (if applicable), and the Director of Studies, explaining the reason for the request and asking for input from all. (The form dean also communicates appropriately with the parents about this matter.) The Director of Studies makes a decision when all pertinent information has been collected and reviewed, and the dean informs the student of that decision.



For a sixth form student who has not indicated P/F status on the Secondary School Report: After the Director of Studies approves the change in status to P/F, it is the student's responsibility to share this information with the appropriate colleges. The student making the request should be aware of the fact that occasionally a college that has accepted a student does not support the change in status to P/F.

Any exception to this policy must be approved by the Director of Studies.

### **CUM LAUDE SOCIETY**

Choate Rosemary Hall is a member of the Cum Laude Society, a national honor society. Per Cum Laude guidelines, our chapter is composed of a standing faculty membership consisting of "faculty members who have distinguished themselves in scholarship by earlier membership in the Cum Laude Society or Phi Beta Kappa, or in other ways that speak to the objectives of the Society." The faculty membership meets at least once a year to review selection procedures, select members, and to consider other issues such as non-selection, dismissal, etc.

Membership in the Cum Laude Society is an honor, and selection of students is based on academic excellence in a well-balanced college preparatory program, together with clear evidence of a desire for knowledge, honorable conduct, and personal integrity on the part of each candidate. Any student who has been found to be in violation of a probation-level or greater offense at any time while at Choate is ineligible for membership. As many as 20 percent of the sixth form may be awarded membership, with up to roughly 5 percent of the class inducted during their fifth form year. First-year and one-year students are ineligible for membership. Elected students are inducted in the spring and receive recognition at graduation.

# SIGNATURE ACADEMIC PROGRAMS

In addition to combining courses described in the Course Catalogue, interested and capable students may individualize their academic experience at Choate by participating in one of the following Signature Academic Programs, which provide students a unique opportunity to advance in a particular area of study. **However, a student is prohibited from participating in two of these programs at the same time.** In part, this is because of the demands that each of these programs make on a student's time. In addition, we want to be sure we allow as many students as possible the opportunity to participate in these programs. The Director of Studies, in consultation with the Dean of Faculty, addresses requests for any exception to this policy on a case-by-case basis.

## ARABIC AND MIDDLE EASTERN STUDIES (AMES)

This interdisciplinary program for fourth, fifth, and sixth formers marries intensive linguistic study of Modern Standard Arabic with courses on the literature and cultures of the Middle East. Fifth formers can begin this program in the fall and complete it in two years; all students who complete it are deemed to have fulfilled the Choate diploma requirement in language. The courses that comprise the program are Intensive Beginning Arabic (AR150HO), Second Year Arabic (AR250HO), Islamic Civilizations of the Middle East (MD458HO), The Modern Middle East (HI459HO) and Arabic Literature in Translation (EN402). (Fifth form students in the program should consider taking at least one of the history courses simultaneously with AR150HO.) Unlike the other Signature Programs, there is no application to AMES. However, students are expected to declare their intention to complete the AMES requirements by notifying the Registrar and the AMES program director when they request their sixth form courses in the winter term of the fifth form year.

*Note: The third year Arabic course, AR350HO, is not a requirement of the AMES program.*

## ARTS CONCENTRATION

The Arts Concentration program is intended for students who are passionate, disciplined, and able to demonstrate a sustained commitment to their own artistic development. Students who are accepted into the program are expected to explore their discipline in breadth and depth by completing a series of prescribed courses and by devoting a significant portion of each week to practice, rehearsal or studio work. (Students may choose to participate in athletics or other afternoon activities one term per year, and a Study Abroad Program once during their Choate career. A student who wishes to participate in athletics more than one term needs the permission of the head of the Arts Department.) By providing students with time, space and support in the afternoons, the Arts Concentration Program allows students to develop as artists while

completing the requirements of a Choate Rosemary Hall diploma. Though not every Arts Concentration student will go on to study at specialized conservatory or university programs, Arts Concentration students acquire the tools, techniques, and confidence necessary for continued study and artistic growth.

Students may choose to concentrate in Music, Dance, Theater, or Visual Arts.

**Music students** are required to take the full-year Music Theory and Harmony course and two terms of music history, (MU210, MU260, MU270, MU280, MU300, or MU310), though they are encouraged to take more than two. Advanced Harmony/Counterpoint should be taken when possible. Students are also required to take weekly instrumental or voice lessons and to practice a minimum of four afternoons a week in the Paul Mellon Arts Center for two hours each day (unless they are participating in an afternoon sport or activity). Students are expected to be in at least one ensemble group and to perform in at least one vocal or instrumental recital each term. Sixth form students perform a solo recital in the spring.

**Dance students** are required to take Dance: History (DA120). They are also required to participate each term in Contemporary Dance, as well as in the Dance Company (DA910). An exception is made in the afternoon commitment to enable participation in the musical. Dance students are also required to choreograph, either for the Dance Company, a student theater production, or their own independent project. In order to develop a more comprehensive understanding of composition and other elements of dance from a varied artistic lens, participation in the following courses is required: Acting I (TA100) or Theater Design (TA108), Music Literacy and Composition (MU125), and any of the foundational visual arts classes (VA100, VA210, VA215, VA245, VA290, or VA295).

**Theater students** may select an emphasis in performance, playwriting, or production. Performance students are required to take Acting I and II, the first two terms of Acting III, and Directing as well as one term of technical theater each year. Playwriting students are required to take Acting I and II, Playwriting and Screenwriting, and Directing as well as one term of technical theater each year. Production students are required to take Acting I, Fundamentals of Theater Design, Stagecraft I and II, and Directing, as well as two terms of technical theater each year. All students are strongly encouraged to take the third term of Acting III in the spring of the senior year. Theater arts concentration students, by dint of having completed the distribution requirements inherent in this area of concentration, fulfill the two-area diploma requirement in the arts.

*Note: A theater concentration student is never guaranteed a role in a production.*

**Visual Arts students** attend a workshop class that meets four afternoons a week all three terms. Taught by a different member of the department each term, the class focuses on various areas of study for the development and literacy of a visual artist. Through project-based learning, monthly group critiques, regular meetings with their mentors, and opportunities to exhibit and speak about their work, students acquire the skills to articulate and realize their artistic goals. In addition to the afternoon workshop class, students are required to take at least one term of visual arts each year, which must include Drawing, Advanced Studio Art Portfolio, and the three-term Art History sequence. Students are also encouraged to take at least two additional upper level arts courses.

The Arts Department reviews each participant's process and progress at the end of each academic year to determine if the student should remain in the program. Students are released from the Arts Concentration program if obligations and expectations are not fully met or if the program has not been beneficial to their growth.

### **ARTS CONCENTRATION APPLICATION PROCESS**

To apply for the Arts Concentration program, interested third, fourth, or fifth form students must fill out the online application by the February due date and then be prepared to audition, or share their portfolio, the first week after March break. It is important that students work with their adviser and dean to make sure they are able to fit all Arts Concentration requirements in their schedules.

*Note: As stated elsewhere in the Course Catalogue, although every effort is made to run the courses offered every term or year, there are times when low enrollment and/or available resources do not allow a course to run. In those instances, the Arts Department faculty will suggest alternate courses and/or work with the student so that appropriate adjustments can be made to the student's program.*

### **CAPSTONE PROGRAM**

The Capstone Program is designed to provide an opportunity for talented students to explore a particular area of the curriculum in depth. While the program is open to any sixth former who is not already participating in another Signature Academic Program, it is especially intended for students who are capable of working independently for a sustained time in a curricular area about which they feel passionate. Building on the existing curriculum, three features make the Capstone Program distinctive: 1) the concentrated program of study each student undertakes; 2) the final project the student builds toward and completes in the spring term; and 3) the selective nature of the process.

A student in the Capstone Program must be enrolled for credit in at least five courses that focus on a topic, theme, or area of curricular interest. Capstone proposals may be designed either by the department or by an individual student, though student-initiated programs are inevitably subject to the staffing capacity of the School and the course offerings of the academic departments. Interdisciplinary programs ranging across a number of departments may also be proposed. Each program is under the direct supervision of a teacher (the Capstone adviser), usually from the department most directly connected with the proposed area

of concentration. All programs must culminate in a Capstone, i.e., a final project, presentation, portfolio, paper, or other appropriate final product. Capstones are evaluated by the department(s) involved and each department determines the manner in which the individual Capstone projects are recognized. Students are also expected to document their achievements in websites or hard copy so that their work can serve as an example for future projects. Ultimately, artifacts of each student's Capstone are shared with the Library for curation.

The recommended sequence of study is two courses in the fall, two courses in the winter, and the Capstone project – the equivalent of a course – in the spring, but other patterns may be proposed. Participation in the Capstone Program may involve extra work after the regular class day, which may be done as an "approved project" or an "alternate activity" for a term. Capstone participants are expected to be in residence at Choate for the entire year, but students participating in a Study Abroad Program may still apply if the program has some connection to the final Capstone project.

A student's Capstone project may be ended if it is not going well in the judgment of the Capstone adviser, the coordinator of the Capstone Program, or the student. Therefore, there will be checkpoints throughout the year, and a "parachute" is available for the student who cannot complete the project. Care is taken at the start to ensure the number of courses/credits that participants have in case they cannot complete their proposed program. Should students not complete their Capstone project, they will still receive a diploma if they have satisfied the School's diploma requirements, which include passing all spring term courses.

### **CAPSTONE APPLICATION PROCESS**

Students interested in participating in the Capstone Program should begin thinking about a possible course of study early in the fifth form year. They should initiate preliminary discussions of their proposal with the teacher they hope to work with to ensure the feasibility of the proposal and the willingness of the teacher to work with the student as the Capstone adviser. They should also consult the appropriate department head to make sure the courses they would like to take are being offered the following year and to confirm the availability of the Capstone adviser.

Capstone applications must be officially submitted by the beginning of the spring term. The application forms are available on the Choate portal in the Academic Resources area. Students interested in the program should complete the form then meet with their adviser, form dean, college counselor (if applicable), possible faculty adviser for the project, and the department head most directly involved with the proposed area of study. The form is then submitted to the Coordinator of the Capstone Program who will consult with the Director of Studies, Registrar, and appropriate dean and department head to evaluate the feasibility of the project.

### **CAPSTONE AND THE COLLEGE PROCESS**

A written description of the Capstone Program is included in a participating student's college application materials, and the college counselor refers to the specific capstone in the letter of recommendation. In addition, the College Counseling Office

communicates the value of the Capstone Program to our external constituencies. All Capstone courses are identified as such on the transcript, and if a student fails to complete the proposed Capstone project, a letter is sent to the colleges indicating this change.

## **ENVIRONMENTAL IMMERSION PROGRAM (EIP) AT THE KOHLER ENVIRONMENTAL CENTER**

The Environmental Immersion Program (EIP) is a three-term, honors, multidisciplinary academic and residential program at the Kohler Environmental Center (KEC). Fundamental aspects of the program include an emphasis on environmental literacy; multidisciplinary education; purpose-driven, authentic research; community responsibility; and learning experiences outside the traditional classroom. The surrounding ecosystems and the green building in which the students live drive the exploration and understanding of the interrelationship between environmental science, ethics, economics, public policy, literature, and art. Complex environmental issues are addressed concurrently in multiple classes. Students conduct a year-long research project in natural science, social science, or the humanities, in which they immerse themselves in primary literature, formulate hypotheses, test their predictions, and present their findings. Experts-in-residence, field trips, and invited speakers broaden the learning experience beyond the classroom setting.

The residential program at the KEC fully integrates the EIP into the students' lives. As participants in this program, students and faculty alike strive to live sustainably by cultivating habits that help them to preserve our natural resources. To this end, students and faculty work together to build an intentional community that makes decisions based upon the goals of being a net-zero energy facility, minimizing the impact that food choices and other consumption habits have on the environment, and being responsible stewards of the surrounding land and the building itself.

Courses required in the EIP are Ecology (Honors); Multidisciplinary Research Methods (Honors); Independent Research Project (Honors); Environmental Ethics (Honors); Environmental Economics (Honors); and Environmental Policy (Honors); Literature and the Landscape; Nature Photography (Honors); and Biology (Honors) for students who have not yet taken biology. Students may take one main campus math or language elective per term (two for those who have previously completed Biology). Courses in the EIP satisfy the philosophy and religion diploma requirement and the contemporary global studies diploma requirement. Required EIP courses are described on pp. 27-28 in this catalogue.

EIP students are encouraged to participate in the full array of Choate sports, clubs, and other extracurricular activities as well as program-specific offerings, which include hiking and kayaking as well as land stewardship. Shuttle service is provided to facilitate transportation to and from main campus.

The Kohler Environmental Center is a unique teaching, research, and residential facility. Located east of Choate's main campus, the Center occupies 266 acres of mixed forest, wetlands, and fields. Students, faculty, and visiting scientists conduct ecological research in these varied habitats. The 31,325-square foot facility includes laboratory

spaces, classrooms, a research greenhouse, student dormitory rooms, faculty apartments, and a studio apartment for experts-in-residence. Notable advanced environmental design features of this LEED Platinum certified building include a photovoltaic array that produces the building's electricity, geothermal heating and cooling, solar evacuated tubes to heat water, passive solar design, and an earth duct that preconditions air circulated through the building. The facility is designed so one can flow easily from the building to the land and back again, making the surrounding acres a living laboratory that is integral to the Environmental Immersion Program.

### **EIP APPLICATION PROCESS**

Students are accepted to the EIP based on their written application, an interview with EIP faculty, input from current teachers, the adviser, form dean, and college counselor (if applicable), and a review of the student's overall program. Admission to the program is based on maturity, motivation, strength of overall record, interest in studying the environment, and ability to live and work with others. Students apply either in the winter of their fourth form year for admission to the program in their fifth form year or in the winter of their fifth form year for admission in their sixth form year.

## **SCIENCE RESEARCH PROGRAM (SRP)**

The Science Research Program (SRP) offers motivated and independent science students the opportunity to practice true laboratory science. The limitations of time, expertise, equipment, and/or space in a typical high school science program do not allow for the level of scientific inquiry and experimentation that is the hallmark of science research done at the university level. The SRP fills these aforementioned gaps by providing training in scientific methods and by linking each student with a professional scientist in whose lab the student will participate in ongoing research and experimentation.

This honors program consists of three linked segments:

- 1) three terms of training in the basics of scientific inquiry and experimentation, 2) a summer of research in a university (or similar) laboratory, and 3) a final term focused on presenting the results of their summer work. This includes a written manuscript meeting the standards of professional publication, a poster one would see at an academic conference, and a 15-minute seminar talk presented to the Choate community.

The four courses and the required summer component that make up the SRP are described on pp. 62-63 in this catalogue.

### **SRP APPLICATION PROCESS**

Students are accepted to SRP based on their written application and an interview with the program coordinators. Admission to the program is based as much on maturity, motivation, and commitment to independent work as on the strength of one's academic record. Students apply in the winter of their fourth form year for admission to the program in their fifth form year. Once accepted to the program, students are expected to complete all three segments. However, the program coordinators, in consultation with the student, may ask a student to withdraw from the program if the student is not meeting the expectations of the program.

## STUDY ABROAD

Choate Rosemary Hall has operated a variety of established international programs for over 40 years. From term and summer programs in Europe, Asia, Africa and the Middle East to exchange programs around the globe, motivated students can find the study abroad experience best suited to their needs and interests. The School offers opportunities for a full academic term of language immersion study in China, France, and Spain, as well as cultural immersion study at St. Stephen's School in Rome, Italy or at King's Academy in Madaba, Jordan. Courses offered in each of these programs can be found in the course descriptions section of this catalogue under the "Study Abroad" heading. Summer opportunities, listed in the Summer Programs section of this catalogue, include study and travel programs in China, France, Japan, Morocco, and Spain.

# ADDITIONAL CURRICULAR OPPORTUNITIES

## DIRECTED STUDY

The Directed Study Program is available to advanced students who have completed the courses offered in the regular curriculum and who have demonstrated talent in a particular area. The student (usually working with a faculty adviser) is responsible for establishing academic objectives, designing a program that includes 8-10 hours of academic work each week, and initiating a discussion with the department head, who then determines the feasibility of the program, the availability of resources, and evaluation procedures. The faculty adviser assumes responsibility for guiding the student throughout the entire program. All Directed Study proposals should be equivalent in educational value to the normal course work they replace. Grades are recorded for a Directed Study and students receive academic credit.

Directed Study guidelines:

- a Directed Study (DS) can be approved as a fifth or sixth course. This is determined by the Directed Study Committee and is based on that particular student's course load, the DS being proposed, and historical precedent;
- a DS can carry the same designation as any other course: regular, advanced, or honors. The designation of a particular DS is determined by the department head in consultation with the Registrar, Director of Studies, and Dean of Faculty;
- all Directed Studies are to be of an academic or creative nature, closely related to the regular course of studies. Proposals involving work experience or extracurricular activities do not meet this definition;

- no DS is approved that covers the same or similar content as a course offered that same term, and only rarely is one approved that covers the same or similar content as a course offered another term during the same academic year;
- until a DS has been approved, the student must be enrolled in and attending five courses; and
- DS application forms are due no later than one week after the previous term's midterm, even for a fall term Directed Study.
- At the end of the DS, the student is expected to complete a self-assessment indicating the work that was done and if there was any divergence from the original plan. In addition, the final syllabus along with copies of all major course artifacts must be provided to the Library for curation.

Directed Study application forms are available on the Choate portal in the Academic Resources area. The faculty adviser, the form dean, the department head, and the Directed Study Committee must give signed approval.

## SENIOR PROJECTS

The Senior Project Program provides an opportunity for an independent learning experience for sixth form students during their spring term. Participation is a privilege that permits dedicated students to investigate in depth an area in which they can demonstrate particular aptitude or interest. Eligibility requirements for the program are good academic and social standing. The student must take at least three regular Choate Rosemary Hall courses, and the project must be equivalent to the remainder of a five-course load. All Senior Projects must result in a culminating project, as indicated on the application form. Examples of culminating projects include recitals, presentations, papers, books, portfolios, and the like. **These projects are to be submitted to the Director of Studies no later than 3:00 p.m. on Thursday during the last week of classes in the spring term.** Senior Projects are graded, but students receive course load credit only. A copy of each Senior Project will be curated by the Library.

Students must have completed 10 course credits as well as their athletic requirements before undertaking a project. No student who is subject to major discipline after winter midterm may undertake a project.

Projects are initiated and designed by individual students with the help of faculty advisers. Projects may be in lieu of some of the student's normal academic load and may be based on or off campus. The Director of Studies, after consultation with the student's form dean, Registrar, and Dean of Faculty, must approve all projects. Approval depends upon the educational goals to be achieved as well as the suitability of the project for a particular student.

Senior Project applications for the 2017-2018 school year must be submitted to the Director of Studies by November 1, 2017.

# COURSE DESCRIPTIONS

## ARTS

The Arts Department mission is to inspire, nurture and support every student in recognizing their inherent artistic potential. We promote courageous exploration, self-awareness, and cultural fluency through a collaborative approach that allows each student to discover their unique creative voice.

We believe the arts serve as a bridge to the world, a way to make sense of what is going on around us, a way to peer back in time, as well as anticipate what is yet to come. The arts have the power to serve as a transformative tool for social, environmental, economic and cultural justice. Art, in all its forms, celebrates beauty, reveals relevance, reflects a range of fragility and strength in both nature and humanity. Essentially, engagement in the arts offers the opportunity to become more dimensionally human as it awakens the intellect, heart and body. Engagement in the arts brings about a heightened sensitivity as perceptual awareness, conceptual connection, and the ability to appreciate artistic expression develops. We strive to ensure that all students not only participate in the process and practice of making art, but also learn how to see, hear and talk about art. Whether it be as artists or audiences, we hope to instill a lifelong understanding of the intrinsic value of art.

The arts curriculum offers foundation classes in dance, music, theater, and visual arts, and classes that serve students who wish to delve more deeply and potentially achieve a higher level of distinction in a particular arts discipline. Diverse performance opportunities are offered through various dance and music ensembles and multiple theater productions throughout the year. Exhibits of student artwork occur both in the Arts Center and across campus. Art is continually seen and celebrated at Choate Rosemary Hall.

– Kalya Yannatos, Director of the Arts  
and Department Head

*Note: Not all of the following courses run in any given term or year. Final course offerings each term are determined based on student demand. To ensure students are able to take a course that they desire, students must indicate two choices for an arts class when inputting their course requests.*

## DANCE

The dance program offers all students a supportive and instructive environment that encourages the development of well-rounded, diverse movement artists. The focus is on creating a deeper understanding of movement as a whole—by improving strength, flexibility, and coordination of body and mind. Studio-based courses introduce dance through a variety of techniques, improvisation, composition, anatomy, and awareness. Additionally, Dance: History is offered during the academic day, providing perspective and relevance to our studio-based courses.

In addition to the performing opportunities that exist for students involved in the Dance Company, many Choate students participate in and perform with the Hip Hop Club and Step Squad, two student-run and faculty-supported groups.

### DANCE: HISTORY

Winter term; 1 course credit  
DA120

Through film, live performances, and class discussion, students move through dance history. Focusing on influential dancers and choreographers from the early 1900s to the current day, students transport themselves, connecting the dots through time.

### CONTEMPORARY DANCE

All terms; 1 course credit (earned for full-year commitment)  
ATDANCE or DA900

Contemporary Dance meets three times a week and focuses on creating a deeper understanding of movement as a whole. Students are encouraged to find their own voice through movement as they gain core strength, flexibility, understanding of alignment, and coordination of body and mind. Additionally, various dance techniques and movement vocabularies (ballet, modern and more) are introduced and developed. In a supportive, multi-level environment, these classes build a strong, expressive physical foundation from which to move

Offered all three terms; athletic credit granted on a term-by-term basis. Year-long participation earns one arts credit (no GPA inclusion) and may satisfy the second area art requirement.

### DANCE INTENSIVE

All terms; 1 course credit (earned for full-year commitment)  
ATDANCEIN or DA905

Dance Intensive meets five times a week and offers students the chance to further expand their movement vocabulary, refine their technique, and find their artistic voice. They will grow individually as dancers in connection to a group moving toward a common goal, supporting each other through the artistic process.

Offered all three terms; athletic credit granted on a term-by-term basis. Year-long participation earns one arts credit (no GPA inclusion) and may satisfy the second area art requirement.

### **DANCE COMPANY**

Year; 1 course credit  
DA910

During this year-long course, students work collaboratively towards all aspects of the production of the Spring Dance Concert including developing choreography and making choices regarding music, costumes, and lighting design. Supported by both peers and faculty, the Dance Company has performance opportunities on the Arts Center main stage and venues in the local community. In order to further inform their studies, students are encouraged to participate in Contemporary Dance or Dance Intensive at least one term per year. Students enrolled in Dance Company are expected to engage in three or more rehearsal periods a week.

*Note: A student who wishes to participate in less than three rehearsal periods a week may do so as a club extracurricular, but they are still expected to commit to the entire process through all scheduled performances.*

## **MUSIC**

The music program offers a variety of courses in history, theory, composition, and performance. Students have many opportunities to develop their talents and gifted students can prepare a solid foundation for entrance to a conservatory or college with a strong music program. Directed Studies are available upon completion of prerequisite courses and/or consent of the music faculty. Every student enrolled in a music course is required to attend at least two scheduled concerts per term.

### **MUSIC LITERACY AND COMPOSITION**

Fall; winter terms; 1 course credit  
MU125

Designed for the beginning musician, this course explores the basic structure and notation of music through improvisation and composition. Starting with the genesis of sound from a vibrating string or air column, and proceeding to the harmonic series, intervals, scales, chords, and harmony, we synthesize pitch material and then assemble it into original works for various instruments. We explore rhythms and rhythmic notation through movement and percussive improvisation. The course culminates with the composition of a song for piano, voice, and percussion set to the student's choice of text. No previous musical experience is necessary. Open to all students.

### **RENAISSANCE AND BAROQUE ERAS**

Fall term; 1 course credit  
MU210

The Renaissance and Baroque eras witnessed world exploration, the rise of Humanism, the invention of the printing press, Shakespeare, Cervantes, and Benjamin Franklin. The history of western music and the musical genius of Monteverdi, Lully, Vivaldi, Handel, Bach and others is discussed and analyzed within the context of this historical and cultural milieu. Open to all students.

### **THE AGE OF ENLIGHTENMENT**

Winter term; 1 course credit  
MU260

Against the backdrop of freedom, equal rights, universal education, social reform and humanitarian ideals, three musical giants emerged—Haydn, Mozart, and Beethoven. The music of the Classical era is studied through the lens of its time, while also looking forward to the 19<sup>th</sup> century. Open to all students.

### **THE ROMANTIC ERA**

Spring term; 1 course credit  
MU270

The 19<sup>th</sup> century produced some of the world's most popular composers, including Schubert, Brahms, Mendelssohn, Verdi, Chopin, Wagner, and Strauss. This course traverses the time between the music of these classical Romantics and the beginning of the 20<sup>th</sup> century, including the eruption of world wars, economic depression, and an explosion of radical artistic expression. Students are exposed to the music of Mahler, Debussy, Orff, Bartók, Copland, Cage, and Gershwin. Open to all students.

### **MUSIC OF THE 20<sup>TH</sup> & 21<sup>ST</sup> CENTURIES**

Spring term, 1 course credit  
MU280

Beginning in "La Belle Epoque Parisienne" and the masterworks of Debussy, we trace the evolution of music to the 21<sup>st</sup> century in the innovative and often controversial masterworks of Stravinsky and Schoenberg, the first Victor Talking Machine recordings, the symphonic masterworks of Mahler and Ives, the jazz-inspired masterworks of Gershwin, the minimalist works of Reich, the new electronic music of Varese and Stockhausen, the virtuosic jazz vistas of Parker, Davis and Coltrane, The Beatles' revolutionary studio recordings, the aleatory music of Eno, electro techno synth pop of Herbie Hancock, sym pop rock of Emerson, Lake & Palmer, the mystical minimalist composers Pärt and Tavener, the sound landscapes of Cage, the thrash metal band Ancient, Deep Forest, rap, hip hop, Klezmer and the synth vocal wizardry of Bobby McFerrin. Come and connect to your music world! Open to all students.

### **HISTORY OF JAZZ**

Winter term; 1 course credit  
MU300

Through video documentaries, recordings, and live performances, the important stylistic developments of jazz are studied. Beginning with the blues and spirituals and continuing through "the Jazz Age," swing, and bebop eras to the 1990s, students examine the innovative performers of each era and seek to understand their music as an expression of the zeitgeist. Open to all students.

### **MUSIC OF THE 1960s**

Spring term; 1 course credit  
MU310

This course surveys some of the diverse music created in the 1960s. We examine many styles that originated during this decade, including folk-rock, soul music, psychedelic rock and other broad styles such as rock, R&B, and country and blues as they evolved during the 1960s.

We also discuss the broader social movements that accompanied the shifts in music during this time, though the primary focus is on the music itself, examining the traits of important artists and styles and learning how to deconstruct the elements of the songs we explore through audio recordings and videos. Open to all students.

### **MUSIC PRODUCTION**

Fall term; 1 course credit

MU320

Students are introduced to the fundamentals in theory and practice of contemporary music production, with emphasis on modern recording studio practices. The primary goal of the course is to teach students how to listen and think like a producer, and to simultaneously provide them with a working knowledge of the history of technology in music, music-related technologies in today's society and culture, and issues of evolving technologies in the music business of tomorrow. Some topics include basic recording techniques, acoustics, musical instruments, microphones, studio design, MIDI, digital audio (editing and mixing), and the many careers in the music industry, all with an emphasis on digital recording. During the second half of the term, weekly evening studio sessions are required and qualified students participate in the recording and production of selected music department groups. The course is designed to give each student an appreciation of all major concepts in the recording process and basic knowledge of the many avenues in the evolving modern day music business.

Prerequisite: Prior experience (basic music reading and keyboard skills), MU125 or permission of the department.

### **MUSIC AND THE BRAIN**

Fall term; 1 course credit

MU340

Not offered 2017-2018

This course explores the basics of music perception and cognition, the relationship between music and emotion, and the psychology and neurology of musical experience. Students approach each topic experientially, by participating in simple experiments and documenting their responses to listening examples. Students proceed by reading related music research and theory and discuss connections between personal experience and written material. The course approaches pitch perception and "tuning" using monochords, hurdy-gurdies, found and constructed objects, and traditional musical instruments. Students explore music and emotion by documenting their feelings over time while listening to the music of Vivaldi, Brahms, Debussy, Schoenberg, Messiaen, Ella Fitzgerald, Eminem, and Steve Reich. The class discusses connections between musical experience and brain function, and the relationships between music practice, learning, and memory. Students also learn about various applications of music therapy. Finally, the students explore music intended to induce altered states of consciousness, such as the trance music of Southeast Asia, West African and Haitian polyrhythm, Tibetan ceremonial music, and the function of chant in diverse religions. The course culminates with student-designed experiments and studies. Open to all students.

### **MUSIC THEORY AND HARMONY, HONORS**

Three terms; 1 course credit (each term)

MU351HO (fall), MU352HO (winter), MU353HO (spring)

A study of chord formation and progression, this course includes harmonic, melodic, and rhythmic analysis. One session per week is devoted to the development of aural skills with the aid of appropriate computer software.

Prerequisite: MU125 or permission of the department.

*Note: This course is best taken in one full year, but if necessary, it may be split term by term, and taken over the course of several years, so long as it is taken in sequential order.*

### **ADVANCED HARMONY/COUNTERPOINT, HONORS**

Spring term; 1 course credit

MU450HO

This course builds on material presented in Music Theory and Harmony and offers an introduction to contrapuntal writing.

Prerequisite: Music Theory and Harmony or permission of the department.

### **MUSIC ENSEMBLES**

Ensemble course participation is by audition, with the exception of Festival Chorus. A full-year commitment is required. Symphony Orchestra and Chamber Chorus earn one academic arts credit per term, and grades are factored into a student's GPA. All other ensemble courses receive one-third credit per term, earning one arts credit for the year. While grades for these ensembles appear on student transcripts, they are not factored into the GPA.

### **CHAMBER CHORUS**

Year; 3 course credits

MU420

Students study and perform an advanced level of a cappella repertoire. The course emphasizes repertoire from the Renaissance and Romantic periods, as well as the 20<sup>th</sup> and 21<sup>st</sup> centuries. Students study repertoire and diction in several languages each year. In the context of the repertoire, students study music literacy, sight-singing, basic music theory, and structural analysis. Students cultivate deep listening and focus through ear-training exercises, silent meditation, improvisation, and the rehearsal of challenging repertoire. Students also develop musical independence and leadership, as well as ensemble sensitivity, artistic interpretation, and creative risk-taking. Students in Chamber Chorus must also participate as leaders within the Festival Chorus or an equivalent music ensemble in order to fulfill the course requirements. In addition to many performances on campus, Chamber Chorus members have the opportunity to go on tour. Past tour highlights have included performing at the Vatican and Carnegie Hall in New York City; in South Korea and Hong Kong, and on the Great Wall of China. Chamber Chorus rehearses three times per week, in addition to Festival Chorus rehearsals. Private music lessons are required for the fulfillment of this course.



### **SYMPHONY ORCHESTRA**

Year; 3 course credits  
MU480

The Symphony Orchestra performs symphonic masterworks from the Classic, Romantic, 20<sup>th</sup> and 21<sup>st</sup> centuries. The Orchestra performs annual Choate concerts in the Paul Mellon Arts Center, as well as on tour. Past tours have taken the orchestra to 12 European countries, Asia, Carnegie Hall, Avery Fisher Hall at Lincoln Center in New York City, Yale University, and The White House. A chamber component of the Symphony Orchestra performs music drawn from the standard chamber orchestra repertoire and accompanies the Festival Chorus and Chamber Chorus in choral masterworks. The Orchestra rehearses three times per week. Private music lessons are required for the fulfillment of this course.

### **FESTIVAL CHORUS**

Year; 1 course credit  
MU910

*All students are welcome to participate in Festival Chorus, without audition.*

Festival Chorus is Choate's largest vocal ensemble, which specializes in the performance of major works for combined choir and instrumental ensembles. Festival Chorus covers Baroque, Classical, and 20<sup>th</sup> century repertoire, including selections from non-Western and popular genres. Students sing in diverse languages and styles. Repertoire is approached with an emphasis on music literacy, ear training, and aural cognition. Students practice writing about music in response to occasional listening assignments. The Festival Chorus performs several times a year on campus, often in collaboration with the school's Orchestra as well as local professional musicians. Rehearsals are for one hour, two times a week. Staff, faculty, and faculty children ages 8 and up are also welcome to sing in Festival Chorus.

### **STRING ORCHESTRA**

Year; 1 course credit  
MU925

The String Orchestra performs music from the string repertoire of the Baroque, Classic, and Romantic eras with an emphasis on the development of string technique and ensemble skill. Each term the String Orchestra joins the Symphony Orchestra for a performance of a masterwork. Rehearsals are twice per week.

### **WIND ENSEMBLE**

Year; 1 course credit  
MU960

The Choate Rosemary Hall Wind Ensemble is dedicated to performing high quality, challenging, and musically stimulating work. The ensemble performs regularly throughout the academic year, including several performances on the Choate campus. Rehearsals are twice per week.

### **JAZZ ENSEMBLE**

Year; 1 course credit  
MU970

The Jazz Ensemble is an 18-piece big band consisting of saxophones, trombones, trumpets and a rhythm section. The jazz charts are drawn from the books of Thad Jones, Buddy Rich, Count Basie, Duke Ellington, Stan Kenton, Woody Herman, Bill Holman, Miles Davis, Gordon Goodwin, and graduates of the Jazz Ensemble. Rehearsals are twice per week.

## **INSTRUMENTAL AND VOCAL INSTRUCTION**

Lessons are offered in piano, organ, harpsichord, voice, North Indian Vocal and Rhythm, bagpipes, Yangxin, strings, woodwinds, brass, percussion, guitar, banjo, harp, composition and jazz improvisation. Arrangements may be made for lessons in other instruments upon request. Individual lessons are scheduled with a member of the music faculty or with a visiting teacher during a student's free academic period. Our visiting music faculty includes professional musicians/teachers from the surrounding community, including Yale, Wesleyan, and the Hartt School of Music. Students interested in studying music composition – classical, jazz, pop and songwriting – may also study privately as a special project. Some music students elect to continue their studies on the weekend at Juilliard, Manhattan School of Music, Mannes College of Music or at the New England Conservatory. There is an additional charge for music lessons. Scholarship funds are available for students who demonstrate financial need. Students are responsible for obtaining an instrument for their lessons, with the exception of piano, organ, harpsichord, and drums. Please contact the Music Lesson Program Coordinator if you need information regarding rental instruments. (Choate Rosemary Hall does not rent music instruments. We will be happy to put you in touch with local companies that can assist you in obtaining a rental instrument for your child. Contracts signed with those companies are the sole responsibility of the parent and student.)

*Note: Auditions are not necessary for instrumental and vocal instruction.*

## **THEATER**

A number of courses are offered in different areas of theater arts at the foundation level so that any student may select a special area of interest. Advanced level courses are offered in all areas. Productions are used as a basis for class analysis and discussion.

### **ACTING I**

All terms; 1 course credit  
TA100

This course explores the choices an actor makes in preparing a role and the skills helpful in presenting a variety of characters to audiences. Theater games, improvisations, monologues, and scenes are the core of individual and class exercises. Open to all students.

### **FUNDAMENTALS OF THEATER DESIGN**

Spring term; 1 course credit  
TA108

Offered in alternate years; available 2018-2019.

This course is an introduction to the theory, history, and practice of stage set and costume design. Students learn the basic techniques of script analysis, period research, style, and color. Basic theatrical terminology and techniques of drawing, drafting, and model-making are introduced. Each student develops a fully conceptualized design of a play as a final project. When possible, students may be offered the opportunity to design portions of the current or upcoming theater production. Open to all students.

### **STAGECRAFT I**

Fall, winter terms; 1 course credit  
TA110

In this course, students learn about technical theater and the skills necessary for successful backstage work in a hands-on environment. Students learn the history of technical theater, the different types of physical spaces, building/structural theory, and how to read and draft theater architectural plans. Students are expected to become adept at theater-specific construction and safe equipment operation, and learn the fundamentals of rigging systems, scenic lighting, scenic painting, and scenic and lighting design. Open to all students, though students are strongly encouraged to take Fundamentals of Theater Design (TA108) before enrolling in this course.

### **STAGECRAFT II**

Spring term; 1 course credit  
TA220

Offered in alternate years; available in 2017-2018.

This continuing study of technical theater consists of advanced work in more specific technical areas that include specialty property building, special effects, fine carpentry, welding, scenery engineering, and mechanized scenery.

Prerequisite: TA110.

### **ACTING II**

Winter, spring terms; 1 course credit  
TA200

The student now puts into practice the skills acquired in Acting I. Building a character, carrying out text analysis, and working as an ensemble are the objectives of Acting II. A play chosen especially for the students enrolled in the class, is the focal point of class work. The actors are taken through the homework and rehearsal process as they delve into discovering objective, subtext, arc, and physicality of character and script. Improvisation, imagery exercises, as well as Hagen, Chekhov, and Stanislavski techniques are explored.

Prerequisite: TA100.

### **IMPROVISATION**

Spring term; 1 course credit  
TA240

Not offered 2017-2018

This course in improvisational theater explores a variety of techniques through which the actor can create and develop character and performance material. The improvisational performer is at once the actor and the playwright. The study and practice of other methods developed by British, Canadian, and American improvisational companies conclude with a final performance project.

Prerequisite: TA100.

### **PLAYWRITING AND SCREENWRITING**

Spring term; 1 course credit  
TA270

Students in this course learn how to write a story and transform it into a camera-ready script. Analyzing a range of produced screenplays, from *The City of God* to *Crash*, students investigate strategies for effective exposition, characterization, pacing, dialogue, and visual storytelling. Through writing exercises and workshops of each other's materials in class, students expand their screenwriting techniques and develop their individual voices as writers. In seminar, students discuss the screenwriting process—from the outline and treatment through the draft and the pitch. As a final project, each student writes a 15-minute screenplay of professional standard, and pitches it to the class. Open to fourth, fifth, and sixth form students.

*Note: A primary purpose of this course is to prepare students who wish to participate in the annual Choate Fringe Festival; therefore, underform students have priority over seniors for enrollment in the class. With permission of the English department, sixth form students may receive English credit for this course in the spring of their sixth form year.*

### **INTRODUCTION TO THEATER HISTORY (Online course offering)**

Spring term; 1 course credit  
TA320

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

**ACTING III: THEATER INTENSIVE, HONORS**

Fall term; 1 course credit  
TA351HO

Mastering the Stanislavski system and Michael Chekhov technique are the main focus of the fall term of the Acting III sequence. Students are taken step-by-step through the audition process as they prepare two contrasting monologues, design resumes, discuss headshots, practice interviewing, and learn to approach auditions and cold readings. Clowning, a performance style that has been used since the dawn of theater, is simultaneously explored. Students learn to trust their intuition, live in the moment and embrace the ensemble while they produce imaginative and physically connected characters. Attendance at lab sessions is required.

Prerequisite: TA200 and permission of the department.

**ACTING III: THEATER INTENSIVE, HONORS**

Winter term; 1 course credit  
TA352HO

Winter term focuses on the One-Person Show. Designed to put into practice everything that the students have mastered in TA100, TA200 and TA351, the One-Person Show is written and performed by the actor. Shows can be fictional, autobiographical, or illuminate a historical figure or event. They can be of any genre, performed in any style, and focused on any theme that is important to the student. Actors are encouraged to evaluate what they do well and what still intimidates them as performers and to build a show that will both illustrate their strengths and enable them to continue to grow. The 20-minute One-Person Show is performed for the public at the end of the term. Open to advanced theater students with permission of the department.

**ACTING III: THEATER INTENSIVE, HONORS**

Spring term; 1 course credit  
TA353HO

Rehearsal and performance are the keystones of TA353. Each year a different play is investigated and produced. Students utilize the techniques they have studied, including improvisation, imagery exercises, Laban, Chekhov, and Stanislavski. All aspects of production, including lights, sound, costumes and sets are designed and constructed by the ensemble members. Open to advanced theater students with permission of the department.

**DIRECTING, HONORS**

Fall and winter terms; 2 course credits  
TA450HO

This two-term course explores character and textual analysis, set design, casting, technical considerations, and other aspects of production, providing a basis for the student's development of production concepts. A complete production book and a scene directed for public presentation are required. Open to advanced theater students with permission of the department.

*Students interested in behind-the-scenes work can participate in Costume and Prop Crew, and Tech Theater, as alternate athletic activities.*

**COSTUME AND PROP CREW**

For those interested in the backstage workings of a theater production, the opportunity to work in the costume/prop shop is offered. Students are introduced to fundamental aspects of prop and costume design, including acquiring historical period research and understanding the aesthetic and practical needs of the production. They are also exposed to the integral skills required of construction, including hand and machine sewing; commercial and handcrafted patterning and building; painting, dying, distressing and crafting of fabrics and materials; measuring, altering and fitting costumes; and running props and wardrobe during performances. No prior sewing or crafting experience is required. Costume and Prop Crew meets after school.

**TECH THEATER**

Students are heavily involved in all aspects of backstage work for the theater department productions as well as work that relates to the day-to-day running of the theater. While working both in the shop and on the stage, they gain hands-on experience with set construction, scenic painting, and lighting. Students are required to assist backstage as run crew for one term during one of the student productions. It is expected that students be present at all weekend technical rehearsals and evening dress rehearsals the week before the show and at all performances. Tech Theater meets three afternoons a week for two hours a day.

**VISUAL ARTS**

The visual arts program offers all students the opportunity to explore the creative process and expand their visual literacy. Students who discover a passion for a specific medium have the opportunity for more dedicated in-depth study. As an extension of the academic day, all studio art courses require attendance at studio labs once per week. Each term a museum field trip is scheduled for many courses.

**FOUNDATION COURSES**

Students are welcomed into the visual arts program through the following courses, which are designed to introduce students to the foundational elements of visual art. Students may choose the course in which they are most interested, assured that common essential elements learned can be applied to further study across various art media. There are no prerequisites for any of these courses, and no prior experience is necessary.

**VISUAL STUDIES: CORE CONCEPTS**

Fall, winter terms; 1 course credit  
VA100

This course addresses all of the fundamentals of material expression from conceptual development to technical skill development. Merging aesthetic consideration with narrative intent, each student will learn how the formal elements of art work in concert to serve the concepts and process of the artist. Students will not only make art but also develop artistic literacy by observing, analyzing, writing and speaking about the artistic process and artwork. A spirit of collaboration and creative problem-solving is fostered in the studio, prompting students to begin to discover their artistic voice.

**DRAWING**

All terms; 1 course credit  
VA210

This course introduces students to the basic elements of drawing from direct observation – line, value, texture, perspective, composition, and space – and promotes the investigation of drafting materials through the practice of various drawing techniques. Students will become comfortable using foundational black and white media including pencil and charcoal. These basic drawing elements, materials, and techniques will work in dynamic combination with each student's emerging concepts of self-expression.

**VISUAL STUDIES: MIXED MEDIA**

Fall, winter terms; 1 course credit  
VA215

Students will explore a variety of media to promote creative expression with an emphasis on 3D space and design. Students will gain new project-based technical skills and strengthen their understanding of the foundational formal elements of art, including composition, form, color and light. In addition to traditional design projects, students may also experiment spatially with installation and performance art.

**ENVIRONMENTAL ART**

Spring term; 1 course credit  
VA245

This multimedia studio art course uses the theme of our surrounding environment to visually explore our connection to place. Students will work on both individual and collaborative projects that use the environment as content, context, and material. Students will also keep ongoing nature journals for exploratory source inspiration. Beyond the hands-on studio work, students will gain a historical, cultural, and interdisciplinary understanding of environmental art through digital media presentations, readings and discussions.

**PHOTOGRAPHY I**

All terms; 1 course credit  
VA290

A look into the darkroom and traditional black and white film photography, this introductory course covers the controls of the SLR camera, film development, and printing. This investigation includes film characteristics, depth of field, chemical processing, and the ethics of photography. Shooting assignments and darkroom work is supplemented by class discussion and group critiques. If possible, all students should have a working 35mm SLR camera with manually adjustable lens and shutter. A limited number of loaner cameras are available. Open to all students, but preference is given to fifth and sixth form students.

**DIGITAL PHOTOGRAPHY I**

All terms; 1 course credit  
VA295

This course introduces students to the techniques for capturing photographic images with a digital SLR camera and then manipulating those images using photo-editing software such

as Adobe Photoshop. Camera controls and editing adjustments are combined with the general principles of artistic composition. Loaner digital SLR cameras are available. Open to fourth, fifth and sixth formers.

**UPPER LEVEL VISUAL ARTS COURSES**

The following courses allow students the opportunity to study a particular medium in depth. They are designed to build on foundational understanding, increase technical facility, and foster individual creative expression. As indicated in the course descriptions, some of these courses have a specific foundation course prerequisite requirement, while others do not, although students will benefit from taking a foundation level course first. With permission of the arts department, students may enroll in VA100, VA260, VA280, or VA320 more than once for continued study, and in subsequent terms, the subsequent courses appear as level II, or III on their transcripts.

**CERAMICS**

All terms; 1 course credit  
VA280

This course introduces students to the medium of low-fire clay. Instruction is given in the techniques of wheel work, hand-building, glazing, and underglazing. Basic techniques are covered during the first half of the term. During the second half of the term students are encouraged to concentrate on developing a single technique. Finished projects, including bowls, pitchers and mugs, that expand the student's knowledge of the craft, are created.

**WEAVING**

Fall, winter terms; 1 course credit  
VA260

A study of on-loom weaving techniques is presented in this course, which includes a series of exercises in craft and technique as well as the opportunity to complete individual projects such as scarves, blankets, tapestry pillows, and rugs. The finest weaving materials from linen warp to hand-spun wool and silk are provided.

**JEWELRY**

Spring term; 1 course credit  
VA240

This hands-on course is an introduction to jewelry and metal working skills. The course covers the basic hand skills required to manipulate metal with confidence and success. Methods of manipulation include removal processes such as sawing, drilling and filing as well as forming and methods of combining through cold and hot joining techniques. The history of jewelry and the significant role it plays in personal expression is included in studio discussions as personal designs are developed. Original pieces of finished jewelry are created from raw materials such as copper, brass, and silver. Bring your willingness to be curious and see what transpires as you build a new set of hand skills. Open to fifth and sixth form students.

**OIL PAINTING**

Spring term; 1 course credit  
VA320

This course introduces students to the foundational techniques of oil painting. Students explore the key elements of observational painting through still life, portraiture, and/or landscape (when the weather permits). Students are taught how to see and how to mix color, modulate values, and develop form. Assignments are based on traditional and contemporary painting techniques and are designed to develop technical facility while fostering each student's concepts of creative expression.

Prerequisite: VA100, VA210 or permission of the department.

**ARCHITECTURAL DESIGN**

Winter term; 1 course credit  
VA340

This is an introductory architectural design studio course in which computer generated 3D modeling techniques are taught through the preparation of individual student projects. Historical, ecological, creative and technical aspects of architecture are studied to enhance the design process. Visiting architects are invited to review student work and a field trip is part of the course. Attendance at one evening presentation session is required. Open to fifth and sixth form students.

**DIGITAL MEDIA DESIGN**

Fall term; 1 course credit  
VA370

In this course, students explore the world of designing and creating graphic and animated digital media content. Students create original content using different technologies as expressive tools, including but not limited to Adobe Photoshop, Illustrator, and After Effects. The media content created in the course are used in various campus publications, posters and events. The course also examines visual design in print, advertising, app design, and online media while focusing on color, composition, and style. Students work to develop an artistic vision and learn how to use digital design to bring their ideas to life.

Prerequisite: VA100.

**PHOTOGRAPHY II**

Spring term; 1 course credit  
VA390

Students take an advanced look at the technical and aesthetic aspects of photography. Projects, demonstrations, field trips, critiques, and an exploration of photo history provide the basis for an ongoing exploration of photographic techniques in both the traditional black and white film processes, and/or digital imagery using a DSLR camera and computer editing software. The focus of this class is the development of a cohesive body of photographic work that represents the personality of the photographer.

Prerequisite: VA290, VA295 or permission of the department.

**VIDEO PRODUCTION I**

Winter, spring terms; 1 course credit  
VA400

The ability to effectively communicate using images and sound is a vital skill in contemporary media and understanding their effects or influences on society is equally important. This class takes students through the pre-production, production, and post-production steps in the creation of video projects. In pre-production students plan, script, and storyboard their ideas. Then the class learns how to use a digital video camera to effectively collect images that communicate a story to an audience. Camera techniques and controls, balanced with good composition, are combined with sound capture and reproduction so that ideas can be effectively expressed to an audience. In the post-production editing rough video footage is captured and then edited using non-linear editing software. Student projects begin by isolating elements of production and design and progress to more short, but complete group video projects. At the end of the term projects are presented to the community at an informal screening. Open to fourth, fifth, and sixth formers.

**VIDEO PRODUCTION II**

Spring term; 1 course credit  
VA410

This class builds on skills learned in Video Production I. Students are combined into small production teams in which they assume the roles of members of a video production crew. During the term, they participate in a variety of job responsibilities in order to build skills in all areas of video production. Some specific skills that are studied include the effective use of the camera, combined with complex editing techniques and transitions. In addition, students study a variety of genres from which they ultimately select one or more to use as they complete individual creative projects. At the end of the term, these projects are presented to the community at an informal screening.

Prerequisite: VA400.

**LIFE DRAWING, HONORS**

Winter term; 1 course credit  
VA450HO

Life Drawing engages students in a serious class environment to further develop the student's ability to draw from observation and accurately and expressively render the human form onto a two-dimensional surface, using a variety of materials. Through drawing sessions from the nude and clothed model, demonstrations, discussions, slide lectures, and critiques, students gain a better understanding of the basic anatomical structure and form of the human body. We focus on different ways to approach figure drawing using various perceptual drawing methods that work in concert to promote each student's artistic voice.

Prerequisite: VA100 or VA210.

**ADVANCED STUDIO ART PORTFOLIO**

Fall term; 1 course credit  
VA460AD

This course provides the student with the opportunity to further develop and organize a body of original work that can be submitted as physical or digital portfolios to art schools and colleges. Assignments are individualized and based on each student's portfolio, interests, and goals at the beginning of the course. It is strongly recommended that students preparing a portfolio identify themselves to the visual arts faculty as early as possible in the fifth form year. This course is open to the serious visual arts student in the fifth or sixth form who has permission of the department.

**ART HISTORY**

Some ideas can be best communicated verbally, others best through the forms that appeal directly to the eye or ear. The purpose of great art is to communicate, in an immediate, visual way, some of society's most urgent ideas. Students learn to identify the issues embodied in a work of painting, sculpture, or architecture and to discuss them confidently and fluently. Activities include discussions, papers, tests, student presentations, videos, and museum trips. The Art History sequence is open to fifth and sixth form students who have strong academic backgrounds.

**ART HISTORY: ANCIENT WORLD, HONORS**

Fall term; 1 course credit  
VA551HO

This course offers an overview of mankind's achievements in the visual arts from pre-history to the Medieval period. Students explore the image-making, monumental sculpture, and architecture of these eras and learn something of the magic, religion, and politics behind them in both Western and non-Western traditions. Our studies range across space as well as time to include the art of ancient Egypt, Greece, Rome, Byzantium, early Europe, Asia, and the Middle East.

**ART HISTORY: SACRED AND SECULAR, HONORS**

Winter term; 1 course credit  
VA552HO

This course introduces students to the art of the world between the 15<sup>th</sup> and 18<sup>th</sup> centuries. Students study the art and architecture from the Age of Faith to the later Ages of Renaissance Humanism, Reason and early Romanticism. They study some of the greatest figures in the history of world painting (Titian and Dong Qichang), sculpture (Donatello and Bernini), and architecture (Michelangelo and Wren). The course follows a succession of breathtaking accomplishments that marked the artists' increasing technical mastery as they communicated the religious and political values of their times. The arts of the early Americas are also explored with the subject of ever expanding colonialism and the spread of influences on a global scale.

**ART HISTORY: MAKING THE MODERN WORLD, HONORS**

Spring term; 1 course credit  
VA553HO

This term begins with an exploration of the developments associated with Romanticism and Realism in Europe and the U.S. in the 19<sup>th</sup> century. The continuing contributions made by China and Japan to world art is a returning theme from previous terms. The collapse of traditional values in the West around 1900 ushers in the radical, experimental revolution called Modernism. Students study pioneers like Picasso, Matisse, and Mondrian, as well as late Modernists like Pollock, Warhol, Beuys and Basquiat in their search for an art that honestly reflects our realities. Students also learn something of the art of Oceania and Africa, both for its own sake and for the ways in which modern artists have appropriated it for their own purposes. The term concludes with an investigation into the new globalization of contemporary themes in art.

**FILM HISTORY**

Spring term; 1 course credit  
VA345

Offered in alternate years; available in 2017–2018.

This course explores the history of film by studying one genre of film from the silent era through to more contemporary works. For example: film comedies start with Buster Keaton, W.C. Fields, progressing through Woody Allen and Mel Brooks to finish with a present day director's work. The films also provide a diverse perspective on the treatment of the subject as it has changed or not changed over the years. The primary focus of study, for comparison and criticism, is the director's vision for the film. Open to fourth, fifth, and sixth formers.

**SEMINAR IN ART HISTORY, HONORS**

Spring term; 1 course credit  
MD625HO

This seminar considers the architecture of Choate Rosemary Hall and its historical antecedents from Italy, England, and America. Considerable study is devoted to Ralph Adams Cram's Seymour St. John Chapel and Archbold Hall, I.M. Pei's Paul Mellon Arts Center and Icahn Center for Science, and Pelli Clarke Pelli's Lanphier Center. Students acquire an understanding of the principles of these buildings, their place in the history of architecture, and their impact on teaching and learning at our school. From examining the architectural components of a structure to appreciating the structure's physical and emotional impact on its surroundings, students learn to how to analyze a building critically. Students are expected to play an active role in seminar discussions, to read scholarly material, to complete a creative assignment, and to lead class discussions from time to time. While no prior knowledge of art history is required, students should have a strong interest in the subject and excellent analytical skills. This course earns one visual arts credit. Open to sixth formers, and fifth formers with the permission of the instructor.

# ENGLISH

The curriculum of the English Department stresses the development of skills in reading, writing, speaking, and thinking. Small classes – on average, 12 students – provide an environment for lively discussions in which students learn to analyze challenging literature as well as to articulate their thoughts, reactions, and interpretations. A broad range of literature exposes students to ideas and experiences from around the world. Frequent and varied writing assignments demand from students a strong foundation in grammar and composition. Writing assignments train students to express themselves clearly, cogently, and confidently, while engaging in thoughtful investigation, reflection, and analysis.

– Ellen Devine, Department Head

## THE SEQUENCE

In the third, fourth, and fifth forms, a student takes English 100, 200, and 300 respectively. In the sixth form, students may choose from a variety of electives. The English Department also offers one interdepartmental course: American Studies (EN375 and HI375HO), a full-year, double-period interdisciplinary survey of American culture, which earns three course credits in both English and history. American Studies fulfills the EN300 and HI310 requirements.

## THIRD FORM ENGLISH

### INTRODUCTION TO LITERATURE

Year; 3 course credits  
EN100

Introduction to Literature introduces students to the critical reading of short stories, novels, poems, and plays. This course strives to expose students to a variety of genres, perspectives, and voices and to familiarize them with particular foundational texts. The required texts for this course include *The Odyssey* and selections from the Bible (primarily Genesis and Exodus). Examples of the other works that may be studied are *Romeo and Juliet*, *A Midsummer Night's Dream*, *Their Eyes Were Watching God*, *Jane Eyre*, *Purple Hibiscus*, and selected poems and short stories. Students develop their writing skills by composing paragraphs and essays on various topics and also through their study of vocabulary and grammar.

*Note: Refer to p. 25 for the term electives in English open to third formers.*

## FOURTH FORM ENGLISH

### COMPOSITION AND LITERATURE

Year; 3 course credits  
EN200

Composition and Literature teaches students to write correctly and to read analytically. While training students to write both descriptively and critically, teachers emphasize grammar, usage,

punctuation, sentence construction, and paragraph organization. The literature includes short stories, plays, novels, and poems. Required texts include one of Shakespeare's plays.

*Note: Refer to pp. 25-26 for the term electives in English open to fourth formers.*

## FIFTH FORM ENGLISH

### AMERICAN LITERATURE AND COMPOSITION

Year; 3 course credits  
EN300

American Literature and Composition introduces students to the rich and varied multicultural heritage of American literature. Students read a broad range of works that gives voice to diverse perspectives on being American. The balance of contemporary and traditional readings enhances students' knowledge of literary techniques and movements. We also emphasize close reading and critical writing skills.

### AMERICAN STUDIES

Year; 3 course credits  
EN375 (must be taken with HI375HO)

This interdepartmental course for fifth form students presents a detailed study of American history, literature, and culture and fulfills the American literature and United States history requirements. The course is taught in double periods and earns three credits in both English and history. A student must meet the honors standard for the History, Philosophy, Religion, and Social Sciences Department to be enrolled in American Studies.

*Note 1: Refer to pp. 25-26 for the term electives in English open to fifth formers.*

## SIXTH FORM ENGLISH

In the sixth form year, students choose from a wide range of electives that reflect teacher and student interest. Students may complete their three credits of English in one of two ways: by taking one year-long elective or three single-term electives. The year-long electives offer students the chance to engage in a prolonged study of material that is thematically cohesive and multidisciplinary. Students who wish to take a year-long course must complete all three terms of the course in order to earn English credit in the sixth form year. The single-term electives provide students variety in their study of literature throughout the year by offering a diversity of courses. Students may not repeat a single term elective within their sixth form year. Though every effort is made to accommodate student course requests for English electives, it is not always possible to schedule sixth formers into their first choice English courses and all of their other requested courses. Therefore, students must indicate at least two choices when requesting electives, in order to ensure appropriate scheduling of all courses and students.

*Note 1: A student who has maintained a minimum average grade of A- during the first two terms of the sixth form year is allowed to waive the spring term if the student has the approval of the current teacher, the department head and the student's college counselor.*

Note 2: A student who has been away from campus for a term is not eligible for a waiver.

Note 3: Students who wish to consider this option should discuss those plans during the course selection process during the fifth form spring; see pp. 4-5 for details.

## YEAR-LONG ELECTIVES

The year-long courses offer students the opportunity to engage in a sustained and multidisciplinary study of a thematically cohesive topic. Students who are English enthusiasts are welcomed to concurrently enroll in a single term elective while taking a year-long course, but the single term elective may not replace one of the terms of the year-long course.

### THE CLASSICAL TRADITION

Year; 3 course credits

EN405

In this year-long course, students explore the influence of classical Greece and Rome as the foundation of western civilization, and how the surviving works of antiquity have shaped and informed culture from the Renaissance to contemporary times. Through the study primarily of literature, but also of historical, philosophical, and artistic works, students are introduced to some of the most influential writings of western civilization. Special attention is paid to the following themes: What does it mean to be human? To be male or female? How should we live—what are the ideals of human conduct (ethics/morality) and why should we observe them? Why is attaining self-knowledge necessary and arguably the goal of a meaningful life? How much of our lives are determined by powers beyond our control? Does free will exist, or is it merely a necessary illusion? If the gods exist, what should our relationship with them be? Is there cosmic justice? If not, how important is human justice? How is human consciousness both a gift but also an ordeal? If to be civilized means to repress our animal instincts, what are the costs/consequences of this repression for us? Though the pacing and focus of each term may differ somewhat between sections, the course proceeds chronologically; therefore, the course investigates classical Greek and Roman works throughout the fall and much of the winter, and then moves to the revival of the classical world in the Renaissance and beyond by exploring works of art that directly or indirectly echo the themes of the classical period. Texts studied throughout the year may include: *The Iliad* (excerpts), *The Homeric Hymns*, Herodotus' *Histories* (excerpts), Thucydides' *History Of The Peloponnesian War* (excerpts), Aristotle's *Poetics* (excerpts), *Agamemnon*, *Antigone*, *Medea*, *Oedipus Rex*, *The Bacchae*, *Lysistrata*, *Symposium* (Plato), *The Apology* (Plato), *The Republic* (Plato) (excerpts), *On Happiness* (Aristotle), *Nicomachean Ethics* (Aristotle) (excerpts), *The Rise And Fall Of Athens: Nine Greek Lives* (Plutarch) (excerpts), *The Aeneid* (excerpts), selected poems of Ovid and Horace, *Letters From A Stoic* (Seneca), Dante's *Inferno*, *Antony and Cleopatra* (Shakespeare), *King Lear* (Shakespeare), Shakespeare's *Dark Lady Sonnets*, Essays (Montaigne), "The Wasteland" (T.S. Eliot), *Equus* (Peter Shaffer), *The Invention of Love* (Tom Stoppard), and *Metamorphoses* (Mary Zimmerman).

### THE HUMANITIES COURSE: THE CULTURE OF THE WEST FROM THE ROMANTIC REVOLUTION THROUGH THE AGE OF ANXIETY

Year; 3 course credits

EN480

Beginning with the Romantic revolt against the Enlightenment in the late 18<sup>th</sup> to mid 19<sup>th</sup> centuries, continuing with the Modernism's "shock of the new" in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, and ending with the "Age of Anxiety" of the post World War II era, this year-long course investigates the great cultural revolutions of the past 200 plus years. Each term, students will explore the zeitgeist—the spirit of each age—through some characteristic works of literature, art, music, film, philosophy, and social theory with the goal of coming to a deeper understanding of the modern sensibility. Literary works will include such novels as Goethe's *The Sorrows of Young Werther*, Shelley's *Frankenstein*, West's *The Return of the Private*, Gide's *The Immoralist*, and Kafka's *The Metamorphosis*; lyric poetry of the Romantic and Modernist periods; plays such as Ibsen's *A Doll's House* and Sartre's *No Exit*; films such as *The Cabinet of Dr. Caligari*, *Modern Times*, *The Triumph of the Will*, and *Dr. Strangelove*; musical works from composers such as Beethoven, Chopin, Debussy, Stravinsky, Miles Davis, Joni Mitchell, and Bob Dylan; philosophical works from such thinkers as Nietzsche and Freud; and art from such movements as Romanticism, Impressionism, Cubism, Expressionism, Post Expressionism, and Pop Art. While students who have knowledge of or are involved in the arts are encouraged to sign up for this course, all students who have a sincere interest in the multidisciplinary approach of a humanities course are welcomed.

### VOICES OF EMPIRE: POST-COLONIAL LITERATURE

Year; 3 course credits

EN485

By the end of the 18<sup>th</sup> century, various European powers were competitively pursuing the growth of their own empires with unprecedented eagerness and enthusiasm. In a mad dash for resources, land, wealth and power, Europeans extended their reach to continents that were far away and far different from their own. If the 18<sup>th</sup> and 19<sup>th</sup> centuries saw imperialism reach its peak, then the 20<sup>th</sup> century witnessed its dismantling. Throughout Africa, Asia, and the Americas, the countries and cultures that had existed under colonial rule rebelled, and the majority gained independence. In this course, students study the vast and diverse topics associated with the creation and eventual disintegration of the colonial projects of Europe. Through the study of literature, history, film, philosophy, theory, oral history and art, this course explores the inspiration, justification and manifestation of colonization as well as the resistance to this project. Using post-colonial theory as a lens to understand the literary and cultural legacies of European imperialism, students examine works produced by both the colonizing and colonized cultures. Students develop familiarity with theoretical terms and concepts (e.g. Hybridity, Orientalism, Cosmopolitanism) and employ them to understand the tension reflected in the works studied, and to gain insight into the lasting effects for the contemporary global landscape.



### **JOURNALISM AND NONFICTION STORYTELLING**

Year; 3 course credits

MD375

This course offers opportunities to learn and practice good storytelling, a skill essential to any field of work or study. What are the essential elements of a good story? What makes a story compelling to a reader, viewer or listener? How can smart statistics, rhetoric, and even economy of words strengthen a story? Students study and analyze long-article nonfiction work from contemporary writers such as Ta-Nehisi Coates, Janet Malcolm and John McPhee, and work both individually and collaboratively on writing projects and presentations that address a variety of contemporary issues and events. Feedback is an essential element of the course. Workshopping provides opportunity to both give and receive constructive feedback. Students also practice data-gathering skills through targeted lessons in statistics and probability. While these skills support journalism in a written form, they also allow students to explore media including infographics, podcasts, and photojournalism. The course will enhance students' abilities to tell compelling stories with well-sourced data that is contextualized in service of the personal narrative. Open to sixth formers.

### **SINGLE-TERM ELECTIVES**

Students who wish to take single-term electives must enroll in a minimum of one elective per term. Students who are English enthusiasts are welcomed to enroll in more than one elective in any given term, but may not use the additional course to fulfill the minimum requirement for a different term.

### **READING AND WRITING POETRY**

All terms; 1 credit

EN408

This course is for those who know they enjoy reading and writing poetry as well as those who are new to this literary form. Students will study, discuss and write about various works of poetry as well as compose original work. Students will experiment with writing in strict poetic forms such as the sonnet, villanelle and sestina, as well as in some of the free forms of contemporary poetry.

### **STAGING THE WORLD: SHAKESPEARE AND THE RENAISSANCE**

All terms; 1 credit

EN411

The Renaissance was a golden age for the stage, producing one of the theater's most vital playwrights: William Shakespeare. In this course students will study the dramatic, literary and artistic moment that influenced Shakespeare, which he, in turn, influenced. Students will read work by Shakespeare and his Renaissance contemporaries and consider the historical, political and cultural contexts that shaped the literature of the time. Writers in addition to Shakespeare who may be included in this course: Petrarch, Machiavelli, Dante, Cervantes, Lope de Vega, Calderón, Corneille, Molière, Racine, Marlowe, Jonson, Kyd, Middleton, Webster, Ford, Donne.

### **A WORLD APART: CONTEMPORARY WORLD FICTION**

All terms; 1 course credit

EN415

This course explores world fiction written since the year 2000. While reading texts from around the globe (at least four of the six populated continents), students consider how the specifics of geography, ethnicity, language, gender, and economics combine to create compelling stories. What is distinctive about the experiences of these fictional characters from faraway places? What is universal? The course pays special attention to the real-world backdrop of each text studied and asks students to examine how their own cultural perspectives inform their understanding of the world in which we live. Texts studied may include: *Half of a Yellow Sun* (Chimamanda Ngozi Adichie), *The White Tiger* (Arvind Adiga), *The Brief Wondrous Life of Oscar Wao* (Junot Diaz), *Kafka on the Shore* (Haruki Murakami), *The God of Small Things* (Arundhati Roy), and *Brooklyn* (Colm Tóibín). Students also select two novels to read independently or in small groups. *This course fulfills the requirement in contemporary global studies.*

### **REALITY MEETS ABSURDITY: MODERN AND CONTEMPORARY DRAMA**

All terms ; 1 course credit

EN436

This course tracks the changes in what a play is and what it can be from the late 19<sup>th</sup> century to today. The plays studied address the major intellectual, artistic, social, and political trends of their times, providing a theatrical context of the contemporary era. Playwrights studied may include: Ibsen, Shaw, Jarry, Pirandello, Beckett, O'Neill, Brecht, Ionesco, Pinter, Albee, Wilson, Mamet, Stoppard, Wasserstein, Kushner, Williams, Hansberry, Miller, Churchill, Parks, and Ruhl.

### **READING AND WRITING SHORT FICTION**

All terms; 1 credit

EN441

This course is designed for students who have an interest in the reading and writing of short fiction. Students will study, discuss and write about various works of fiction as well as compose their own original work. Students will study theories of writing, read examples of various types of short fiction by published authors, and offer their own writing for examination and discussion by the class. Students will be encouraged to experiment with different styles while also working on strengthening their own creative voices.

### **A NOVEL IDEA: BIG BOOKS**

All terms; 1 credit

EN475

From its 18<sup>th</sup> century origins, the novel has become the major literary form of the modern era. Stories that devote several hundred pages to revealing the intimate inner workings of fictional characters living fictional lives have played an outsized role in the literary landscape. Within the genre, particular novels have gained, or been granted preeminence, and, for a variety of reasons, are often referred to as "The Great Novels." In this course, students read a selection of "Great Novels" and encounter them both as individual works as well as texts that contribute to the notions and definitions upon which the genre, and this idea of greatness, are based. The

texts studied may vary by section, but all sections tackle one or two great novels within the term. Titles studied in the course may include such varied and diverse weighty tomes as *The Brothers Karamazov*, *Infinite Jest*, *Ulysses*, *Pride and Prejudice*, *Moby Dick*, *Middlemarch*, *Midnight's Children* or *One Hundred Years of Solitude*.

#### **NARRATIVE, POWER AND THE SELF: THE POLITICS OF AMERICAN IDENTITY**

All terms; 1 course credit  
EN476

This course provides students the opportunity to consider and explore the varied notions of American identity through the diverse contemporary literary landscape. Students read a range of authors whose texts investigate the relationship between literature, culture, and American identities. We consider the historical, political and cultural influences that have shaped how America is depicted as well as literature's role in the construction and representation of national, group, and personal identities. The class considers issues such as: What are the differences and similarities expressed in these identities? What do those similarities and differences indicate about the authors, their experiences, and America as a whole? Authors studied may include Julia Alvarez, Alison Bechdel, Ta-Nehisi Coates, Junot Diaz, Jeffrey Eugenides, Jonathan Franzen, Maxine Hong Kingston, Jhumpa Lahiri, Toni Morrison, and others based on the interests of both the students and teacher.

#### **FROM SWIFT TO SOUTHPARK: SATIRE, LITERATURE OF PROTEST AND CHANGE**

All terms ; 1 course credit  
EN477

Disruptive, uncomfortable, and often funny, satire provides keen commentary on the social, political and cultural context from which it originates. This course exposes students to a variety of satires from different historical and cultural contexts and questions whether satire has the ability to effect change. In addition to exploring the social, political, and cultural contexts of satire, students also investigate the modes and tools of satirical texts—understatement, hyperbole, irony, metaphor, etc.—in order to gain a deeper sense of how satires are successfully created and executed. The course studies satire in a variety of forms and media such as novels, plays, television shows, movies, websites and blogs.

#### **PANDORA'S BOX: HUMANS AND MACHINES**

All terms ; 1 course credit  
EN478

Human beings have always been interested in the impact of technology on human life. Even the ancient Greeks imagined robots that would serve humans and free them from the drudgery of daily life. But they also imagined machines possessing consciousness, one of the defining traits of what makes us human. Thus anxiety about the boundaries between humans and machines has a long history, though it has taken on new urgency today, as we constantly rely on and interact with machines. Examining fiction, non-fiction, and films, we will explore two major questions: first, are humans just biological machines (or "neural computers") with a complex engineering designed by evolution and ultimately with mechanical explanations of our mental lives? In other words, can human

emotions be explained in terms of evolutionary selection as Steven Pinker argues? Or are we more than that because of consciousness and subjectivity? Second, as we see artificially designed and programmed machines that do more and more of what we do, what is the relationship between biological machines like us and the artificially built, non-biological machines that we create? Are we in danger of losing our humanity as technology takes over our lives? Have we become the tools of our tools as Thoreau once feared? Can powerful artificial intelligence systems be aligned with human values? Will AI evolve eventually into creatures who come back to haunt their creators? These are all critical questions that will be addressed in the 21<sup>st</sup> century. Texts studied may include: *Frankenstein* (Mary Shelley), *How The Mind Works* (Steven Pinker), *The Machine Stops* (E. M. Forster), *I, Robot* (Isaac Asimov), *Do Androids Dream Of Electric Sheep* (Philip K. Dick), *Her*, *Ex Machina*, *2001: A Space Odyssey*, and *The Matrix*.

#### **WRITING WORKSHOP COURSES**

The focus in the writing workshops is the creation of original writing by each student and the regular exchange of feedback regarding that work among the participants in the class. While these classes may study short stories, novels and poems by a variety of authors as examples and ideals of craft, the original writing created by each of the students serves as the primary text studied and discussed in class.

*Please note that unless otherwise indicated, the writing workshop courses do not fulfill the English department graduation requirements.*

#### **INTRODUCTION TO CREATIVE WRITING**

Spring term; 1 course credit  
EN501

This term elective, open to third and fourth formers, explores a variety of genres and introduces students to the craft of writing imaginative prose and poetry. Students are asked to examine the literature from the writer's perspective and to compose their own original poems, scenes, and stories incorporating the ideas and themes inspired by the texts. The class is frequently run as a workshop with students sharing and critiquing each other's work. The exact nature of this course and the texts studied in any given term will be shaped by the interests and inclinations of the students and instructor.

#### **PLAYWRITING AND SCREENWRITING**

Spring term; 1 course credit  
TA270

Students in this course learn how to write a story and transform it into a camera-ready script. Analyzing a range of produced screenplays, from *The City of God* to *Crash*, students investigate strategies for effective exposition, characterization, pacing, dialogue, and visual storytelling. Through writing exercises and workshops of each other's materials in class, students expand their screenwriting techniques and develop their individual voices as writers. In seminar, students discuss the screenwriting process—from the outline and treatment through the draft and the pitch. As a final project, each student writes a 15-minute screenplay of professional standard, and pitches it to the class. Open to fourth, fifth and sixth form students.

*Note: A primary purpose of this course is to prepare students who wish to participate in the annual Choate Fringe Festival; therefore, underform students have priority over seniors for enrollment in the class. With permission of the department, sixth form students may receive English credit for this course in the spring of their sixth form year.*

#### **INTENSIVE CREATIVE WRITING**

Fall, winter terms; 1 course credit each term  
EN511 (Fall); EN512 (Winter)

Intensive Creative Writing offers interested students the opportunity to complete a significant writing project in fiction, poetry, drama or memoir in a structured workshop. Course requirements include daily "rough pages"; active participation in discussions of classmates' work; and regular writing exercises to ignite and hone the writing project. A substantial rough draft of the project, due at the end of the fall term, counts for half of the term grade; likewise, the final project due at the end of the second term also counts for one half of that term's grade. Open to fifth and sixth form students. Sophomores may enroll in this course with permission of the department.

#### **ADVANCED CREATIVE WRITING WORKSHOP**

Fall and winter terms; 2 course credits  
EN600

This course offers students, who have experience with creative writing, the opportunity to craft a substantial body of writing while gaining experience in the demands and rewards of the writing process. The course begins with the exploration of and experimentation with genre, as students identify, explore, and present specific types of writing they would like to share and explore with their peers. Genres may include but are not limited to slam/spoken word poetry, stream of consciousness, flash fiction, rhymed and metered poetry, dramatic monologues, short dramatic scenes, and personal essays. The workshop is the heart of the class: students are regularly required to read their work aloud and have their work critiqued in a structured, formal, and productive fashion. Students not only periodically lead workshops on their peers' manuscripts, but are also expected to edit, comment upon, and offer suggestions for improvement in every session. Students devote the last weeks of the fall and all of the winter term to composing and revising their final project. Students devise, plan, and work steadily on completing a portfolio of revised and polished writing that has incorporated the feedback received in the workshop. The portfolio may include short stories, a chapbook of poems, a novella, a play, or a combination of multiple genres. Students consult the instructor regarding their individual plans, but the final choice of what will be included in the portfolio is theirs. Throughout the course, students are encouraged to submit their work to publications, both on campus and beyond. The course culminates in a public reading in which students share portions of their work. This course is intended for sixth form students, but exceptional fifth form candidates will be considered on a case-by-case basis. Open to students who have successfully completed EN501, TA270, or EN511/EN512.

*Note: Students may seek departmental approval to join the class by submitting a sample of original work to the English department head and the teacher of the course.*

#### **ADDITIONAL COURSES OFFERED BY THE ENGLISH DEPARTMENT**

##### **ARABIC LITERATURE IN TRANSLATION**

Spring term; 1 course credit  
EN402

What do paganism, the Qur'an, and modern Arabic love songs have in common? What facts still pervading Arab culture should westerners know if they want to understand the Arab worldview? What remarkable things happened when Jews, Christians, and Muslims met in medieval Spain? What do the emerging voices of Arab women say about their world? This survey course of Arabic literature in English examines works ranging from poems of the pagan pre-Islamic world, the Qur'an and its profound linguistic influence, the writings of the cultured courts of Andalusian Spain, and folk stories such as "The Thousand and One Nights," to contemporary writings which critique dictatorial regimes and address both the violence and beauty of the Arab world. Students write essays and make short oral presentations. *This course fulfills the requirement in contemporary global studies.*

*Note: This course is required for students in the Arabic and Middle Eastern Studies Program. Students may complete this course for the sixth form English credit in the spring of their sixth form year.*

##### **INTENSIVE EXPOSITORY WRITING**

Fall, winter terms; 1 course credit each term  
EN521 (Fall); EN522 (Winter)

Intentionally broad in scope, Intensive Expository Writing offers students the opportunity to sharpen writing skills that they can apply in all academic disciplines and beyond the classroom. The course focuses on students' ability to hone foundational research and writing skills while cultivating their powers of narration, description, argument, and analysis. Therefore, a major goal of the course is to provide students with various strategies that they can use to create desired effects with words. Students read a variety of short texts and use them as inspiration for frequent and varied writing assignments. Close study of these texts helps students to become better critical readers and to apply professionals' strategies to their own writing. Written assignments include personal essays, reading responses, opinion pieces, cultural critiques, and formal arguments. Through regular revision and reflection, students develop a deeper understanding of themselves as writers and thinkers. Open to fifth and sixth form students with the recommendation of the department.

# ENVIRONMENTAL IMMERSION PROGRAM

The Environmental Immersion Program at the Kohler Environmental Center provides an intensive academic and residential experience focused on the environment. Through advanced multidisciplinary course work, purpose-driven research, outdoor experiences, and a unique residential community, the program teaches the value of scholarly inquiry in environmental stewardship, the importance of social responsibility to community and the environment, and an appreciation for the natural world.

*Note: Students in this program fulfill diploma requirements in English (one year), biology (one year, if they have not taken biology previously), philosophy/religion (one credit), contemporary global studies (one credit, satisfied by participation in the program), and visual arts (one credit). In addition, one quantitative credit is earned. Students in the program are required to take all of the courses listed unless they have completed biology previously, in which case they may not take biology.*

## LITERATURE AND THE LANDSCAPE

Year; 3 course credits  
EN360

Literature and the Landscape engages students in the study of rich and diverse texts that center on the natural landscape and the human experience of living on the land. The course balances historic and classic texts with more contemporary readings that give students a foundation in nature and environmental writing from the past four centuries. The course emphasizes texts from the American tradition, as well as important texts from other parts of the world. By reading texts that represent a range of author perspectives, historical contexts, localities, and genres, (including fiction, nonfiction, and poetry), students gain a broad understanding of the interplay between the natural environment and human activity. Students also examine changing attitudes about nature and the environment over time. The course emphasizes close reading and critical writing skills. Students write frequently, keeping journals and working on expository writing throughout the year. Open to both fifth and sixth form students.

## BIOLOGY, HONORS

Year; 3 course credits  
BI425HO

This introductory course explores fundamental topics of biology, including basic biochemistry, cell structure and function, genetics, ecology, and evolution. The course uses key concepts from ecology and evolution as unifying themes for the topics that are covered. In addition, emphasis is placed on tracing the flow of energy through biological systems as well as the ability of organisms to respond to their environment. Students conduct inquiry-based labs and greenhouse experiments while learning scientific approaches to studying the biological world.

## ECOLOGY: PRINCIPLES, MODELING, STATISTICS, AND APPLICATIONS, HONORS

Year; 3 course credits  
ES437HO

In this course interactions of individual organisms, populations, and communities with their environment are examined. Students study the natural history of the organisms in the ecosystem surrounding the Kohler Environmental Center. Ecological principles are explored by conducting experiments on the land and in the research greenhouse, as well as by studying and developing mathematical models. Students test hypotheses by using statistical techniques to analyze data collected from individual experiments and long-term studies. Articles from professional publications in ecology are explored in order to introduce students to current research questions and methods. Students are given the opportunity to apply their knowledge by helping to shape land management decisions. This course earns one quantitative credit.

## SOCIAL SCIENCES SEQUENCE

The following year-long sequence satisfies the diploma requirement in contemporary global studies. The environmental ethics course satisfies the requirement in philosophy and religion.

## ENVIRONMENTAL ETHICS, HONORS

Fall term; 1 course credit  
PL465HO

This course examines the nature of environmental ethics and focuses on the human relationship to and responsibility for nature and the future of the environment. The course explores different definitions of "nature" and how the various perspectives on the human relationship to the natural world underlay environmental conflicts. A full range of approaches to environmental ethics is examined; this includes human-centered approaches that focus on the impact of environmental degradation on humans, biocentric approaches that are based on the moral value of all life forms or ecosystems, and the perspectives of several of the major world religions on the value and care of the natural world. This course satisfies the requirement in philosophy and religion.

## ENVIRONMENTAL ECONOMICS, HONORS

Winter term; 1 course credit  
EC465HO

Economic theory provides powerful tools to analyze and address environmental issues. This course exposes students to economic models and concepts to study environmental improvement. Key topics covered include scarcity, opportunity cost, production possibilities curves, supply and demand, market efficiency, cost-benefit analysis, market failures (externalities, common resources, imperfect competition, public goods, and asymmetric information), and environmental policies (decentralized, command and control, and incentive-based solutions). After learning about economic models and theories that enable them to discuss issues of environmental and resource economics, students work in small groups to investigate a topic of their choice. While completing their research and preparing to make presentations, students

continue to learn about economic issues related to environmental quality, sustainability, water, population growth, climate change, and resource management. At term's end, students develop a web-based document about their research project and present their findings to the class. This course is not open to students who have taken Environmental Economics (EC585HO).

#### **ENVIRONMENTAL POLICY, HONORS**

Spring term; 1 course credit  
PS465HO

Environmental policy allows people to work collectively to address environmental problems that are beyond the reach of individual actors. This course challenges students to develop an understanding of the political forces that drive the environmental policy process. Toward this end, students consider the importance of science in the policy process, as well as the role of economic forces, the influence of political climate, the role of political leadership, and other factors. Students analyze the policy process through the lens of public policy models (institutional models, interest group models, process models, rational choice models, and systems models). Students then apply these models to specific environmental cases (climate change, marine resource management, forest conservation, pollution reduction, waste management and others). The ultimate goal of the course is to provide students with a conceptual framework that will help them interact with the environmental policy process.

#### **MULTIDISCIPLINARY RESEARCH METHODS, HONORS**

Fall term; 1 course credit  
MD438HO

In this team-taught multidisciplinary course on research methodology, students learn how to structure environmental research questions within the traditions of the natural sciences, social sciences, and humanities. The fall term culminates with students defending the individual research proposals that they plan to execute as faculty-directed environmental research projects in the winter and spring terms.

#### **FACULTY-DIRECTED ENVIRONMENTAL RESEARCH PROJECT, HONORS**

Winter and spring terms; 2 course credits  
MD439HO

In the winter and spring terms, students work with their faculty advisers to complete original environmental research projects. Students may pursue projects in the natural sciences, social sciences, humanities, or of a multidisciplinary nature. Students regularly meet with their advisers and in small groups to discuss the progress of their research. Students present the results of their research in a symposium held at the end of the spring term.

#### **NATURE PHOTOGRAPHY, HONORS**

Fall and winter terms; 1 course credit  
VA292HO

This course focuses on the integration of the art, technique, and science of nature photography, as well as contributions of nature photography to cultural concepts of the environment. Foundational skills in digital photography are taught, including: exposure, shutter

speed, aperture, focal length of the lens, depth of field as well as the esthetics of composition. Adobe's Photoshop and Bridge are taught as tools to help organize, manage, and adjust photographs. Attention is paid to the ethics of photography, especially as it relates to the use of photography for documentary purposes. Techniques that are specific to working in the field are covered, including use of various lenses for specific observational purposes. In an integrated manner, these skills assist students in their environmental research projects. Additionally, the history of photography as it relates to the study of the natural sciences, the environment, environmental politics, policies, and social change is examined.

## **HISTORY, PHILOSOPHY, RELIGION, AND SOCIAL SCIENCES**

The programs in this department span the breadth of human experience past and present, reflecting the call of our age for cross-cultural, interdisciplinary, and humanistic approaches to individual self-awareness, personal development, and an understanding of the world. Global citizenship and increasing interdependence demand that students become familiar with both their own and other cultures, have knowledge of the past, develop logical thinking, appreciate philosophical and religious ideas, and have an understanding of political and economic institutions.

All students are required to take a one-term course in philosophy or religion and a year-long course in United States History; three- and four-year students are required to take a year-long course in World History. The contemporary global studies requirement can be fulfilled with a range of courses (see pp. 5-6) including six courses in this department: Contemporary Issues (HI205), The Modern Middle East (HI459HO), Women's Studies in a Global Perspective (HI460HO), International Relations (PS460HO), International Economics (EC455HO), and Development Economics (EC575HO). Students are urged to fulfill these requirements as early in their careers as possible. In addition to these requirements, students are encouraged to pursue other departmental courses that interest them. There are natural connections among the different courses and programs, and the department encourages students to put together related courses to form a Capstone Program during the senior year.

Students are placed in honors sections of courses according to criteria listed in the course descriptions below. The department head, in consultation with the Registrar and Director of Studies as appropriate, determines the suitability of honors placement for each new student who requests it.

*– Amy Foster, Department Head*

## HISTORY

### THIRD AND FOURTH FORM HISTORY ELECTIVE

#### CONTEMPORARY ISSUES

All terms; 1 course credit  
HI205

This term elective introduces third and fourth form students to major contemporary issues facing the U.S. and the world, as it helps students develop fundamental research, writing, and public speaking skills. The course normally focuses on four issues per term, utilizing a range of materials and providing historical context and a variety of perspectives on each issue. Sample topics include: nuclear proliferation, the Israel-Palestine conflict, modern Cuba, violence against women, and the rise of ISIL/ISIS. *This course fulfills the requirement in contemporary global studies.*

#### FOURTH FORM HISTORY

World History is a required course for three- and four-year students, usually taken in the student's fourth form year. Both HI210 and HI255HO use a chronological framework within which to examine important themes and narratives in the study of world history. Both courses use primary and secondary sources and emphasize critical reading and writing, with the assistance of technological tools. Entry into HI255HO (World History, Honors) is contingent upon completion of at least one term of a third form History, Philosophy, Religion, or Social Science course with a grade of A- or higher AND the permission of the department.\* A recommendation for placement in honors is highly dependent on a student having demonstrated strong critical writing skills, the capacity for reading and interpreting challenging texts, and active engagement in class discussion. (\*Returning students who have not taken an HPRSS course in the third form year but who seek an honors placement must have the permission of the department head.)

*Note: Fourth form students who participate in a study abroad program are not required to make up the missed term of World History. The history they study while abroad replaces the missed term of that course.*

#### WORLD HISTORY

Year; 3 course credits  
HI210

This course is a project-based world history course that explores the time period from the 15<sup>th</sup> to the 21<sup>st</sup> century. It is driven by historical questions, designed to provide students with the opportunity to understand and appreciate the modern world in a way that will inform their views on current global issues. In this course, students learn the work of the historian: use of historiography, the skill of historical thinking, the existence and analysis of multiple historical narratives, and use of evidence to complete effective research and craft arguments. These skills will reinforce broader writing and speaking skills, as well as collaboration and higher order thinking skills.

#### WORLD HISTORY, HONORS

Year; 3 course credits  
HI255HO

This course is a rigorous survey of world history from the Classical Period through the 20<sup>th</sup> century. Cross-cultural in nature, the course examines the development and interaction of the major cultures of Asia, India, the Muslim world, Europe, Africa, and the Americas through the centuries. Within the basic chronology, historical themes and concepts are explored. Individual and collaborative projects encourage students to examine particular areas of history in great depth. The course uses primary and secondary sources, while emphasizing the development of critical reading, writing, research, and oral presentation skills.

#### FIFTH FORM HISTORY

United States History is a required course, usually taken in the student's fifth form year. However, fourth form students who have demonstrated a particular interest and ability in the study of history may request permission from the Director of Studies and department head to take United States History. In some circumstances, students may want to take U.S. History in their sixth form year; those students should discuss this option with their adviser and form dean. Students who wish to take the honors course or American Studies should have demonstrated in previous history courses that they possess strong critical writing skills, the capacity for reading and interpreting challenging texts, and active engagement in class discussion.

*Note 1: Students who participate in a study abroad program during the fifth form academic year must fulfill the United States History requirement the following year by enrolling in: 1) the term of U. S. History (HI310 or HI355HO) that was missed; or 2) if fall term was missed, enrolling in Constitutional Law (HI411HO) or U.S. Government and Politics I (PS550HO); if spring term was missed, enrolling in American Diplomacy (HI413AD).*

*Note 2: Fifth form students may not take American Studies (HI375HO and EN375) and participate in a study abroad program during the fall or winter of their fifth form year.*

#### UNITED STATES HISTORY

Year; 3 course credits  
HI310

This course is a chronological survey attentive to the political, economic, cultural, social, and constitutional developments by which the United States achieved independence, became a nation, and grew into a world power since 1898 and to superpower status since 1945. Students learn how to: 1) read both contemporary and past writings, 2) take notes on both reading and class discussion, 3) make reasoned interpretations about the causes and consequences of historic events, 4) research both secondary and primary sources, and 5) write and speak analytically and persuasively. While all teachers follow a core curriculum that covers the essential topics of American political, social, economic, intellectual, and diplomatic history, a variety of methods is employed in the many sections of the course.

### **UNITED STATES HISTORY, HONORS**

Year; 3 course credits  
HI355HO

This course is a faster paced version of HI310, covering a broader range of topics using more challenging, in-depth readings. Students who enroll in this course are expected to possess strong research and analytical writing skills as well as the ability to manage demanding reading and writing assignments within the School's homework guidelines.

### **AMERICAN STUDIES (UNITED STATES HISTORY, HONORS)**

Year; 3 course credits  
HI375HO (must be taken with EN375)

This interdepartmental course is an alternative to U.S. History, Honors and American Literature and Composition and is for fifth form students who wish to pursue a detailed study of United States history, literature, and culture. Students who choose this course are expected to possess strong research and analytical writing skills as well as the ability to manage demanding reading and writing assignments within the School's homework guidelines. The program fulfills the fifth form English and the United States history requirements. The course is taught in double periods and earns three course credits in both English and history.

### **UPPER FORM ELECTIVES**

The following courses are advanced both in topic and in the level of reading and writing required. Therefore, they are open to fifth and sixth formers who meet the stated prerequisite. Fourth formers interested in these courses must obtain permission from the department head before they will be enrolled in the desired course.

### **FROM MEGAPHONE TO iPHONE: AMERICAN SOCIAL HISTORY IN THE 20<sup>TH</sup> CENTURY**

Winter term; 1 course credit  
HI402AD

What were the major events and trends that helped shape American society throughout the 20<sup>th</sup> century? How have Hollywood and television highlighted (and sometimes even helped create) social values? How have technological innovations affected life in America? Relying almost exclusively on 20<sup>th</sup> century primary sources, such as letters, film clips, TV clips, advertisements (both print and TV), music and radio shows, this course looks at these issues as well as changing concepts of race and gender, advertising as a major social force, the impact of immigration, and the role of popular music as it examines and chronicles American society from the dawn of the 20<sup>th</sup> century to 1999. Open to fifth and sixth formers, and fourth formers with the permission of the department.

### **CONSTITUTIONAL LAW, HONORS**

Spring term; 1 course credit  
HI411HO

This course explores the evolution of the United States Supreme Court and its influence on the American people. For the first third of the term, students read a history of the High Court and write several short papers on topics in constitutional history. In the latter portion of the course, the class resolves itself into a "Mock Court"

program, in which students argue landmark cases decided by the real Court in the 20<sup>th</sup> century and later. When presenting cases as a lawyer, students research the legal background, prepare a one-page argumentative brief, and engage in oral argument before the rest of the class. The remaining students serve as the Court's justices who deliberate on each of the several dozen cases handled over the course of the term. Open to fifth and sixth formers, and fourth formers with the permission of the department.

### **AMERICAN DIPLOMACY**

Fall, spring terms; 1 course credit  
HI413AD

After an examination of the government's foreign policy-making apparatus and a discussion of the role of international law in the modern world, this course reviews American foreign policy from the Spanish American War to the present. Major topics include the Big Stick policy, the Open Door, World War I, the isolationism vs. internationalism debate of the 1920s and 1930s, World War II, and the creation of the Cold War containment policy. The course concludes with an exercise in which students examine the complexities facing American policy makers in the post-Cold War world. Primary sources are used extensively and both traditional and revisionist interpretations of the American role are examined. Open to fifth and sixth formers, and fourth formers with the permission of the department.

### **20<sup>TH</sup> CENTURY AFRICAN HISTORY, HONORS**

Winter term; 1 course credit  
HI416HO

This course provides an introduction to the complexities of colonial Africa. The core questions that guide the course are: Why are state structures weaker in Africa than elsewhere? What accounts for Africa's slow economic growth? Why do some African countries suffer from high levels of political violence while others are spared? Using case studies of African countries from different regions such as Angola and the Democratic Republic of Congo in the west, Ethiopia and Tanzania in the east, Algeria and Egypt in the north, and South Africa and Zimbabwe in the south, students encounter the great variation within Africa in the strength of its states, the levels of economic growth, and the amount of discord. The course is structured in three parts: an examination of the pre-colonial structures of the African states, a study of the European colonial system in Africa, and an exploration of the social, political, and cultural forces that now shape contemporary African societies. Throughout the course, students work to understand how Africans experienced European colonial rule. Open to fifth and sixth formers.

### **COLONIAL LATIN AMERICA**

Fall term; 1 course credit  
HI422AD

This course introduces students to the history of colonial Latin America and historical trends shared by the modern nations today. It focuses on three central themes: Iberia before the age of exploration, the conquest period itself, and post-cultural encounter. Through these topics students delve into major historical developments of the 20<sup>th</sup> century and gain an understanding of

Latin American culture, social movements, political trends, race relations, and even demographic changes taking place here in the United States. The course utilizes historical projects driven by historical questions, group work, presentations, and documentaries. Students draw from a diverse range of academic disciplines and methodologies in order to form a well-rounded understanding of the region and its inhabitants. Open to fifth and sixth formers, and fourth formers with permission of the department.

#### **THE UNITED STATES IN VIETNAM, 1945-1975**

Spring term; 1 course credit  
HI423AD

The Vietnam War remains a compelling chapter in the recent history of this nation. This course is a study of the political, diplomatic, and military aspects of the American involvement in Vietnam and the war's impact on the home front. Particular attention is paid to the cultural and historical traditions of Southeast Asia, the French colonial experience in Indochina, and the elements of American decision-making both in Washington and Vietnam. In addition to historical texts, the course employs fiction and film in its exploration of the Vietnam War. Open to fifth and sixth formers, and fourth formers with the permission of the department.

#### **MODERN JAPAN: FROM SAMURAI TO SONY**

Winter term; 1 course credit  
HI432AD

This course explores Japan's transformation from feudal state to Asian military power from 1800 to 1945 and then its rise from bitter defeat in World War II to become an economic superpower. We consider how traditional Japanese culture has shaped the nation's business and industrial successes and failures in the postwar era. Other focal points of the course include the changing status of women, race, and racism in the Pacific War, and Japan's relationship with the United States. While its primary focus is historical, the course explores many facets of Japanese life, including religious, artistic, and literary elements. Open to fifth and sixth formers, and fourth formers with the permission of the department.

#### **BLACK EXPERIENCES IN AMERICA**

Spring term; 1 course credit  
HI433AD

This course provides an introduction to the field of Black Studies, with a particular focus placed on the Black experience in the United States from the 17<sup>th</sup> to the 21<sup>st</sup> centuries. It offers students a wide range of topics in Black Studies, such as slavery in the United States, the Americas, and the Caribbean; Pan-Africanism; and the Civil Rights, Black Power, and Black Arts Movements. This course also demonstrates convergences between Black-American history, politics, literature, culture, and current events. Additionally, this course affords rich possibilities to pursue research interests that can be developed over the course of the term and in post-secondary coursework in African-American and African Diaspora Studies. Students are required to write short papers and lead assigned seminar discussions. Open to fifth and sixth formers, and fourth formers with the permission of the department.

#### **THE RISE OF MODERN CHINA, HONORS**

Winter term; 1 course credit  
HI436HO

After a brief overview of China's republican and early communist eras and ideas, this course examines the question of what went uniquely wrong with Mao Zedong's vision of leading China to a Marxist utopia and, ultimately, how China has risen to its present status as a global economic powerhouse. Students use period literature, documentary and feature films, newly published autobiographies, as well as the interactive Internet materials of Yale and Columbia Universities to understand this transformation. Topics range from the 1949 communist ascendancy, the Cultural Revolution, and the Tiananmen "crackdown," to the capitalist reforms of Deng Xiaoping. Attention is given to current issues: China's integration into the World Trade Organization (WTO), its human rights record, and the environmental consequences of the PRC's rapid modernization over the last two decades. Open to fifth and sixth formers, and fourth formers with the permission of the department.

#### **THE HOLOCAUST**

Winter term; 1 course credit  
HI445AD

This course explores the emergence, evolution, varieties, underlying causes, and means of confronting and coming to terms with genocide and other crimes against humanity in the modern world. Particular attention is paid to the roots of European anti-Semitism and the Nazi attempt to exterminate all of European Jewry in the mid-20<sup>th</sup> century. From this historical "case study," we examine definitions, causes, consequences, and the ways by which people explain their experiences of oppression and genocide by comparing the Holocaust to other historical examples, past and present. Case studies could include the mass murder of Armenians in the Ottoman Empire; the genocide in Cambodia perpetrated by the Khmer Rouge; and the genocide in Rwanda. The approach and the materials are interdisciplinary and each student does independent research. While a background in modern European history is helpful, it is not required. Open to fifth and sixth formers, and fourth formers with the permission of the department.

#### **THE USE AND ABUSE OF POWER**

Fall, winter terms; 1 course credit  
HI446AD

This course explores the use and abuse of power in recent history and contemporary life. Focus is on an examination of the nature of power—what it is, how it is obtained, used, and abused. Important to this ongoing discussion are the distinctions and relationships between power and authority. The course examines power through several lenses: historical, psychological, sociological, and political. Power is explored as a key ingredient in public education, government, gender politics, the media, nonviolent movements, and cultural and economic elites, as well as challenges to those bases of power. Assignments also consider power dynamics in human relationships. Open to fifth and sixth formers, and fourth formers with the permission of the department.



**THE AMERICAN WEST, HONORS**

Spring term; 1 course credit  
HI456HO

The lure and promise of “the West” have been important forces in shaping American history and culture. Drawing on a number of primary and secondary sources, this course examines the development of the trans-Mississippi West from the 1840s to the present. We look at a number of aspects of the American West, including such topics as the Gold Rush, Native American Wars, cowboys and “cowtowns,” contributions from and clashes between various cultures in the West, changing gender roles, exploitation and/or conservation of natural resources and the role of railroads. The course also examines the modern West by looking at such issues as immigration, tourism, and “green” energy. The course concludes by looking at how and why the images and myths of the West have become such a pervasive part of American culture in such places as art, film, literature, television and advertising. Open to fifth and sixth formers, and fourth formers with the permission of the department.

**ISLAMIC CIVILIZATIONS OF THE MIDDLE EAST, HONORS**

Spring term; 1 course credit  
MD458HO

Mecca, Damascus, Baghdad, Isfahan, and Constantinople have all served as capitals for some of the most significant Islamic civilizations of the Middle East. From the rise of Islam through the fall of the Ottoman Empire, this course examines the values, traditions, and development of several Middle Eastern Islamic cultures and empires. Through the use of primary sources and visual materials, students explore the development of Middle Eastern Islamic religious thought, socio-political institutions, and cultural expressions such as art, literature, and architecture. Particular emphasis is placed on understanding works of art in their historical and social contexts. By studying a variety of primary and secondary sources students gain an understanding of and appreciation for the complexity of many of the Islamic cultures and civilizations that have called the Middle East home. Open to fifth and sixth formers, and fourth formers with the permission of the department.

*Note: This course is required for students in the Arabic and Middle Eastern Studies Program.*

**THE MODERN MIDDLE EAST, HONORS**

Fall, winter terms; 1 course credit  
HI459HO

This course is an introduction to the modern Middle East and its relations with the West from World War I to the present. Students explore the causes of the current crescendo of Arab/Islamic hostility towards the West, the development of the Israeli/Palestinian stand-off, the oil issue, the Iranian Revolution, the spread of radical Islam, and the forces that triggered the wars in Afghanistan and Iraq. Readings, videos, presentations, research and expository exercises, discussions and seminars give students a chance to understand the history of the region and its connection with these issues. Open to fifth and sixth formers, and fourth

formers with the permission of the department. *This course fulfills the requirement in contemporary global studies.*

*Note: This course is required for students in the Arabic and Middle Eastern Studies Program.*

**WOMEN'S STUDIES IN A GLOBAL PERSPECTIVE, HONORS**

Winter, spring terms; 1 course credit  
HI460HO

From the West to the Far East, to Africa, the Islamic world and beyond, this course engages students in an examination of historical conditions, cultural norms, and social and economic institutions that define women's status and identity. By taking a multicultural, global approach, students gain an understanding of the issues facing women throughout the world today, their historical context, how women's experiences reflect larger social issues, and the ways in which activism seeks to address the obstacles women face. We explore how the processes of globalization have more recently affected women of different ethnicity, culture, and class in often inequitable ways, and how the development of women's and feminist movements around the world is taking place within the context of globalization. Open to fifth and sixth formers. *This course fulfills the requirement in contemporary global studies.*

**THE GREENING OF AMERICA: THE ENVIRONMENTAL MOVEMENT, HONORS**

Fall term; 1 course credit  
MD521HO

The environmental movement in the United States has been motivated by a wide range of factors, including the natural beauty of the country, the destruction of some of that beauty, the work of naturalists, ethicists, theologians, historians and authors, catastrophic events that have captured the public's attention, and activists schooled and fueled by the sweeping changes in the 1960s. This multidisciplinary course weaves together all of these perspectives as it traces the development of the environmental movement in the United States and the impact of key people and events on this movement and on the environment itself. The course draws from many disciplines as it examines historical, political, ethical, religious, economic and cultural aspects of the environmental movement. This course includes an experiential component that involves contact with the natural world on our campus and potentially beyond. Open to fifth and sixth formers, and fourth formers with the permission of the department.

**EUROPEAN HISTORY I, HONORS: 1300-1789**

Fall term; 1 course credit  
HI551HO

The course begins with Europe's emergence from the catastrophes of the late Middle Ages into the period of the New Monarchies and the brilliant culture of the Italian and North European Renaissance. Students explore the Protestant-Catholic conflicts and the social changes unleashed by Luther's and Calvin's Reformation. Further course topics include: the Europe-wide wars of the 17<sup>th</sup> century; the triumph of divine right and absolute monarchy; the emergence of constitutionalism in Britain and Holland; and the revolutions of 1776 and 1789. Open to fifth and sixth formers, and fourth formers with the permission of the department.

**EUROPEAN HISTORY II, HONORS: 1789-1914**

Winter term; 1 course credit  
HI552HO

This term's course begins with the era of Napoleon. Throughout the term we examine the aftermath of this era, which gave us the political systems that spawned the revolutions of 1848 and 1871; the Industrial Revolution; the first triumphs of liberalism and nationalism; the unification of Germany and Italy; romanticism and the social transformation wrought by industrial capitalism; and the New Imperialism of the 19<sup>th</sup> century. Open to fifth and sixth formers, and fourth formers with the permission of the department.

**EUROPEAN HISTORY III, HONORS: 1914-2000**

Spring term; 1 course credit  
HI553HO

Spring term begins with the failure to resolve the issues of nationalism vs. internationalism, democracy vs. statism, and capitalism vs. socialism resulting in the two greatest wars in history, leaving Europe impotent and straddled by the new global powers, the U.S. and the U.S.S.R. We follow these disasters and the recovery of Europe through the period of the Cold War. Other topics include: the Bolshevik Revolution, the Great Depression, Modernism, totalitarian regimes, decolonization, the formation of the European Union, and some of the myriad ways in which Europe's history is becoming inseparable from world history. Open to fifth and sixth formers, and fourth formers with the permission of the department.

**PHILOSOPHY AND RELIGION**

All of the following courses satisfy the diploma requirement in philosophy and religion.

**MORAL REASONING**

Fall, winter terms; 1 course credit  
PL411AD

This introductory ethics course examines the process of moral reasoning. A range of classical and contemporary ethical theories serves as a basis for the discussion of personal and social issues. Topics such as capital punishment, stem cell research, and environmental ethics are presented in a way that helps students understand and appreciate various points of view as well as formulate and express their own values. Open to fifth and sixth form students.

**PHILOSOPHY, HONORS**

Fall, spring terms; 1 course credit  
PL450HO

Philosophy is an attempt to ask and answer in an imaginative and disciplined way some of the important questions of life. This course investigates what it means to be human, the fundamental nature of God and reality, the sources and limits of our knowledge, and the concept of what is right and good in our lives. Content and process are given equal emphasis in this demanding course, and both historical ideas and personal reflection are stressed to help students examine these topics constructively. Open to fifth and sixth formers.

**WORLD RELIGIONS**

All terms; 1 course credit  
RL200

This course exposes students to the beliefs, practices, ethics, and history of four major world religions: Judaism, Christianity, Islam, and Hinduism. Students study each of the religions in order to gain an understanding of its meaning to individual believers and its impact on human history. The course utilizes various types of print and visual resources and exposes students to foundational skills in research, writing, and public speaking. Open to third and fourth formers.

**PEACE AND JUSTICE**

All terms; 1 course credit  
RL210

This course explores the view of various religious traditions and key religious leaders on the important themes of peace and justice. Drawing on some of the central components of religious thought – compassion, neighborly love, repairing the world – the course examines contemporary topics such as poverty, human rights, racial justice, gender equity, peace and non-violence, and environmental sustainability and justice. Utilizing a variety of religious perspectives, students learn basic doctrines from each of the religions to aid in understanding, assessing, and developing solutions for the issues studied. The course includes a field trip or other hands-on experience that enables students to reflect personally on the issues. Open to third and fourth formers.

**THE RELIGIONS OF ASIA**

Winter term; 1 course credit  
RL407AD

This course explores the basic philosophy and practices of some of the influential religions of Asia, including Hinduism, Buddhism, Confucianism, Shinto, and Taoism. Students examine the historical development, ethics, and basic worldview of each tradition, enabling them to develop an understanding of the impact of each system both on individual lives and on society. Open to fifth and sixth formers, and fourth formers with the permission of the department.

**SPIRITUAL JOURNEYS**

Spring term; 1 course credit  
RL408AD

Humans have continually sought meaning in their lives and a connection with the divine. We ask the questions: Why am I here? Where am I going? This course examines the quest for spiritual meaning and understanding through the study of biography, memoir, scripture, and film. The course covers a wide variety of religious and spiritual traditions and provides a range of perspectives within those traditions. Students are exposed to the reflections of noted religious figures as well as everyday seekers and are encouraged to be tolerant of new perspectives and to reflect on their own spiritual questions. This course culminates in a final project. Open to fifth and sixth formers, and fourth formers with the permission of the department.

## **SOCIAL SCIENCES: ECONOMICS**

### **MACROECONOMICS**

#### **MACROECONOMICS, HONORS**

All terms; 1 course credit

EC400 (fall only); EC450H0

These courses examine basic economic concepts and macroeconomic theory, and serve as the department's introduction to the field of economics. Students begin by studying the fundamental concepts of scarcity, opportunity cost, production possibilities curves, and supply and demand. They then focus on the U.S. national economy and its links to the global economy using a variety of measures of economic performance and by examining economic fluctuations and economic growth. After learning the Aggregate Demand and Supply model, students analyze the impacts of fiscal and monetary policies, as well as other macroeconomic policies, on the nation's economy. EC450H0 covers these concepts in much more depth; the workload is more demanding and the pace of instruction is faster. Open to fifth and sixth formers every term, and to fourth formers only in winter and spring with the permission of the department.

#### **INTERNATIONAL ECONOMICS, HONORS**

Fall term; 1 course credit

EC455H0

Students study the reasons for trade, the balance of trade, and exchange rates, as well as government policies that affect trade and exchange rates. Students also examine different economic systems and economic development. To analyze the effects of these theories and policies and their international ramifications, students research different industrialized and developing countries. Open to fifth and sixth formers, and fourth formers with the permission of the department. *This course fulfills the contemporary global studies requirement.*

Prerequisite: Macroeconomics.

#### **MICROECONOMICS, HONORS**

Winter, spring term; 1 course credit

EC550H0

Students study consumer decision-making, the theory of the firm, and different types of markets for products and factors of production. They also examine government policy in different markets. As a case study, the students analyze a company and participate in a term-long simulation in which they run their own firm in a competitive market. Students communicate with suppliers and customers via email, keep their financial records on a computer spreadsheet, and at the end of the term prepare an annual report for their firm on the computer. Open to fifth and sixth formers, and fourth formers with the permission of the department.

Prerequisite: Macroeconomics.

### **ADVANCED TOPICS IN ECONOMICS, HONORS**

Spring term; 1 course credit

EC560H0

Students in this course examine a variety of current events as the context for reviewing the range of topics studied in the Macroeconomics and Microeconomics courses. In addition, they further their study of economics by exploring recent developments in economic theory and policies beyond the concepts and models studied in the two introductory courses. Students focus on a particular topic or issue in depth for their final research project.

Prerequisite: Macroeconomics and Microeconomics.

### **ENTREPRENEURSHIP**

Spring term; 1 course credit

EC570AD

In this course students learn about starting and managing a small business. In the classroom, they study the basics of business management through readings, discussion, and homework exercises. They then see these principles applied in the real world through guest speakers and visits to local businesses. By the end of the term, students develop their own ideas for a business and write a business plan. Open to fifth and sixth formers, and fourth formers with the permission of the department.

Prerequisite: Macroeconomics. (Microeconomics is helpful, but not required.)

### **DEVELOPMENT ECONOMICS, HONORS**

Winter term; 1 course credit

EC575H0

Nearly 25 percent of the world's population, an estimated 1.4 billion people, live in developing countries on less than \$1.25 a day. What can be done to help these countries? Do richer countries have an obligation to help developing countries? This course examines the variety of internal (e.g., geography, population, institutions) and external (e.g., foreign aid, trade, capital flows) factors that influence the economic development of countries. Students are introduced to the international organizations created to help countries with their economic development. In addition, students learn the variety of theories that have been suggested to explain variations in development among countries and the policies that have been proposed to support their development. As a case study, students compare the experiences of two developing countries, attempt to explain the difference in their development, and recommend appropriate policies for each to improve their development. This course is organized in a seminar format, with the students responsible for presenting the theories and their country examples to the class. Open to fifth and sixth formers. *This course fulfills the requirement in contemporary global studies.*

Prerequisite: Macroeconomics.

### **ENVIRONMENTAL ECONOMICS, HONORS**

Spring term; 1 course credit  
EC585HO

Economic theory provides powerful tools to analyze and address environmental issues. This course builds upon the concepts introduced in Macroeconomics and exposes students to microeconomic models and concepts to study environmental improvement. Starting with a quick recap of supply and demand, the course closely examines market efficiency, cost-benefit analysis, market failures (externalities, non-exclusion, free-riders, asymmetric information), and environmental policies (decentralized, command and control, and incentive-based solutions) before moving on to topics such as renewable vs. non-renewable resource management, sustainability and economic growth, and profits vs. environmental protection. Cases of both ill-considered policies that have accelerated environmental degradation, and well-designed policies that have resulted in more sustainable resource use are considered. Throughout the term students become experts in a particular aspect of environmental economics through a research project that culminates with a presentation. Open to fifth and sixth formers, and fourth formers with the permission of the department.

Prerequisite: Macroeconomics

*Note: This course is not open to students who have taken Environmental Economics during their time at the Kohler Environmental Center nor should students who plan to study at the KEC take this course.*

### **MONETARY THEORY, HONORS**

Winter term; 1 course credit  
EC650HO

This course examines the Federal Reserve and how it sets monetary policy, as well as the theory that underlies it. Students analyze current economic data, and political and international issues that impact the economy and monetary policy. Building on the theory learned in Macroeconomics, students use resources available from the Federal Reserve System, the federal government, statistical sources, the media, and academic sites. Practice in public speaking is a significant part of this course.

Prerequisite: Macroeconomics, Honors and Microeconomics, Honors and permission of the department. Open only to the most qualified students who have the permission of the department. Enrollment is limited.

## **SOCIAL SCIENCES: POLITICAL SCIENCE**

### **POLITICAL IDEOLOGIES**

Winter term; 1 course credit  
PS430AD

The course presents a comparative analysis of four major political ideologies: democracy, communism, fascism, and Islamism. Students examine theory and structure, as well as the historical development and contemporary forms of each ideology. Primary sources are used

extensively, as the students are asked to explore the ideas of such major political thinkers as Locke, Rousseau, Jefferson, Mill, Marx, Lenin, Sorel, and Nietzsche. Open to fifth and sixth formers, and fourth formers with the permission of the department.

### **DEMOCRACY, MEDIA, AND POLITICS**

Spring term; 1 course credit  
PS433AD

All politics are now mediated. Print media, radio, television, the Internet, and social media infuse our culture and transform the presentation of issues, candidates, and the daily practice of politics. To understand politics, one must understand the role of media in politics. This course is taught both online and blended to promote student-directed investigations and conclusions to the questions posed at the start of the course that guide the term's work. For example, in spring 2017 the course questions were: Why did Donald Trump win the 2016 Presidential election? How did the media influence the outcome, if at all? How did the media's role change in the 2016 election, if at all? This course is offered as a hybrid course in order to include students from other schools in the Eight Schools Association (ESA). Open to students of all ages from the ESA schools; at Choate, open to fifth and sixth formers, and fourth formers with the permission of the HPRSS department.

### **INTERNATIONAL RELATIONS, HONORS**

Fall term; 1 course credit  
PS460HO

This course introduces students to the theories and debates within the discipline of international relations, providing them tools to examine global politics through a variety of lenses. The first third of the term considers the classical underpinnings of international relations and the historical evolution of state sovereignty. In the latter part of the term, through theoretical readings as well as historical and contemporary case studies, students explore the fundamental questions and applications of contemporary international relations: What is "right" or "just" in international politics? What is the cause of conflict between and among states? Do democratic states promote peace more readily than authoritarian states? What role do international organizations play in maintaining a stable world order? Students read both western and non-western political theorists, and through both collaborative and independent work they study watershed events in international relations over the past century. Open to fifth and sixth formers. *This course fulfills the requirement in contemporary global studies.*

### **U.S. GOVERNMENT AND POLITICS I, HONORS**

Fall term; 1 course credit  
PS550HO

Students consider the organization, operation and interaction of the three branches of the United States government, both theoretical and actual. A central part of the course is a student-directed Model Congress, a role-playing exercise that simulates the U.S. Congress. This course includes a field trip to the State Capitol in Hartford. Open to fifth and sixth formers, and fourth formers with the permission of the department.

## **U.S. GOVERNMENT AND POLITICS II, HONORS**

Winter term; 1 course credit  
PS555HO

This course continues the work of PS550HO, exploring U.S. government and politics in greater depth through seminar discussions and materials addressing current issues and controversies in Washington and the states. The class takes a three-day trip to Washington, D.C. that includes meetings with officials and staffers in all three branches of the federal government, as well as figures from political parties, interest groups, and the media. Open to fifth and sixth formers, and fourth formers with the permission of the department.

Prerequisite: Successful completion of PS550HO or the permission of the department.

## **SOCIAL SCIENCES: PSYCHOLOGY**

### **INTRODUCTION TO PSYCHOLOGY**

All terms; 1 course credit  
PY400

This course provides an overview of the major components that comprise the scientific study of psychology. Students examine a variety of theoretical perspectives (biological, cognitive, behavioral, and psychoanalytic) as they work to develop an understanding of human thought and behavior. Among topics studied are nature vs. nurture, research methodology, brain structure and function, types of learning, emotions and motivation, cognition, and social behavior. In the process, students not only master the basics of current psychological theory, but also gain a better understanding of themselves and others.

### **SOCIAL PSYCHOLOGY, HONORS**

Fall term; 1 course credit  
PY435HO

Social Psychology is a scientific field that seeks to understand the nature and causes of individuals' thoughts and behaviors in social situations. This course examines how we view ourselves and others, the social forces that influence us, and how we relate to one another, by exploring social concepts such as attitudes, roles, attributions, conformity, persuasion, prejudice, aggression, and altruism. Open to fifth and sixth formers who have taken Introduction to Psychology or who have completed previous psychology course work.

### **ABNORMAL PSYCHOLOGY, HONORS**

Winter term; 1 course credit  
PY440HO

In this course, students delve into the study of major psychological disorders, becoming familiar with the multiple causes of these disorders as well as how they are viewed from different theoretical perspectives. Use of the Diagnostic and Statistical Manual of Psychiatric Disorders facilitates an understanding of how disorders are diagnosed, as well as provides a means to discuss intervention and prevention. It is recommended that students take Psychology, Honors before taking this course, but it is open to fifth and sixth formers who have taken Introduction to Psychology.

## **CHILD DEVELOPMENT, HONORS**

Fall, spring terms; 1 course credit  
PY470HO

In this course students examine the physical, emotional, social, and intellectual development of children from infancy through age 12 from a variety of psychological perspectives. In addition to classroom instruction, students work with preschoolers at the on-campus YMCA Learning Community one class block per week as part of the course requirement. Open to fifth and sixth formers who have taken Introduction to Psychology.

## **PSYCHOLOGY, HONORS**

Fall and winter terms; Winter and spring terms; 2 course credits  
PY550HO (fall and winter); PY551HO (winter and spring).

This course allows students to deepen their knowledge and understanding of key topics in psychology while also developing their critical thinking skills. Topics of study include the historical roots of psychology, the core concepts of psychology, and the rudiments of conducting psychological research; students also gain an increased understanding of the many connections among biological, chemical, neurological, evolutionary, cultural and cognitive influences on development. Strong reading and writing skills are critical components of this course. Open to fifth and sixth formers who have taken Introduction to Psychology.

## **COGNITIVE NEUROSCIENCE, HONORS**

Spring term; 1 course credit  
MD330HO

One of the fastest growing research areas in science is neuroscience. Cognitive and behavioral studies have attracted considerable popular and scientific attention in recent years and new techniques have opened up novel avenues for exploration. This course provides an introduction to the cellular and molecular mechanisms of neuronal function, and examines how cognitive processes can be explained by the structure and function of the brain. Beyond foundational knowledge and empirical methodology in neuroscience, this class also explores data from current studies in neurobiology and cognitive sciences. Open to students who have completed Biology or Introduction to Psychology.

## **DIRECTED STUDY IN HISTORY, PHILOSOPHY, RELIGION, AND SOCIAL SCIENCES**

The department offers Directed Study to students with particular interests in areas not already covered in our course offerings or to students who have a mastery of a topic that goes beyond our offerings. Directed Studies in the recent past have included: The History of Economic Thought, Gay and Lesbian History in America, Women and the Early Church, The First Great Awakening, Genocide and the Law, and Neuropsychology.

# LANGUAGES

Knowing a language other than English is an important skill for a 21<sup>st</sup> century citizen of any country. Beyond being a tool of communication, a language is a window into the history, culture and literature of other places and peoples. Indeed, the study of language in adolescence can, by exposing students to different cultural practices and points of view, help shape their personality. Studying another language broadens a young person's possibilities for self-definition and reduces the "foreignness" of others. It also builds cognitive skills that will buoy a person throughout life.

The Language Department aims to bring its students to a level of proficiency that will permit them to communicate effectively in a second language and to discover and appreciate another culture, either modern or ancient. Increased self-confidence, the enjoyment of another culture, and a greater potential for empathy, appreciation, and acceptance of all backgrounds are among the benefits we believe our students gain.

In the study of modern languages, full immersion in the target language is emphasized from the beginning; reading, writing, listening, and speaking are all important components of our curriculum, as is culture. English is the language of instruction for students of Latin, who devote the first year to intensive language study, moving on to authentic texts by the middle of the second year and to full-length works in the third and fourth years. Fourth and fifth year courses in all languages are opportunities to use the language to learn about literature, history, civilization, and contemporary culture, though in some cases linguistic proficiency is still the main goal. Although some of the languages taught at Choate may be reputed to be more challenging to learn, we tailor our curriculum so that a more difficult language does not make for a more difficult language course. By the same token, an easier language does not necessarily make for an easier language course.

Our courses aim to teach students:

- a sense of linguistic and cultural curiosity;
- the value of taking academic risks and making mistakes;

- patience, persistence, and humility in pursuing a difficult endeavor that takes time;
- to recognize and assimilate patterns in language;
- to discover that accuracy and detail are essential to good communication;
- to know the value of consistent, methodical, and self-directed preparation;
- to know and exercise the power of rhetoric in speaking and writing;
- to understand that language is infused with cultural information;
- to appreciate the English language as seen through the lens of another language;
- to recognize the untranslatable in each language; and
- empathy for, and understanding of, difference.

To earn a Choate Rosemary Hall diploma, students must complete a course of study through the third year (300 or 350 level) in Arabic, Chinese, French, Latin, or Spanish, or complete Choate's Arabic and Middle Eastern Studies Program. The requirement in contemporary global studies can be fulfilled with a range of courses (see pp. 5-6), including French in a Global Context (FR404AD, FR405AD, or FR406AD), the advanced language and culture courses in Chinese, French and Spanish, and all of the summer and term abroad programs listed below.

A number of study abroad program opportunities are available:

- an academic term in China, France, or Spain;
- an academic term at St. Stephen's School in Italy, open to students with a particular interest in classical studies;
- an academic term at King's Academy in Jordan, and
- summer opportunities include study and travel programs in China, France, Japan, Morocco, and Spain. Please see the section on Study Abroad for more details.

– Diana Beste, Department Head

*Note 1: New students are placed in the appropriate language course by the department based on an assessment of some or all of the following: the student's placement test, test scores, previous grades, stated language experience and teacher questionnaire.*

*Note 2: All students must meet department standards to qualify for and retain honors placement. Students in regular or advanced sections must have a course grade of A- or above and/or the recommendation of the department to qualify for an honors course; students in honors courses must have a minimum B+ course grade and/or the recommendation of the department to retain placement in an honors course.*

## ARABIC

### **BEGINNING ARABIC (Online course offering)**

Year; 3 course credits

AR120

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

*Note: AR120 does not prepare students to enter AR250HO, Second Year Arabic.*

### **INTENSIVE BEGINNING ARABIC, HONORS**

Year; 3 course credits

AR150HO

This course introduces students to Modern Standard Arabic, the written and formal spoken language of almost 200 million people from Morocco to Iraq, with an equal emphasis on reading, writing, speaking, and listening. By the end of this course, students are expected to read and comprehend short authentic Arabic texts, initiate and maintain conversations about everyday life, and write essays on academic topics. This is a student-centered immersion class where students have an opportunity to enhance their learning by taking an active role in the classroom. Our aim is to raise students' interest and motivation, and to challenge them with the use of activities that harness their creativity and intelligence. Moreover, students are exposed to elements of the Arabic culture such as short stories, poetry, music, and culinary art. This honors course moves at a fast pace using *Alif Baa: Introduction to Arabic Letters and Sounds* as well as part of *Al-Kitaab fi Ta'allum al-Arabiyya, Part One, 3rd edition* (chapters 1 to 7). Open to fourth, fifth, and sixth form students with no previous background in Arabic.

### **SECOND YEAR ARABIC, HONORS**

Year; 3 course credits

AR250HO

This course is designed for students who have completed AR150HO or its equivalent, as determined by the department. Students learn extensive vocabulary and encounter more advanced grammar and complex sentence structure. This course aims to develop students'

reading, writing, listening, and comprehension skills by using authentic Arabic materials. Emphasis is placed on pronunciation and communication skills to encourage students to communicate meaningfully in the target language. By the end of this course, students reach an intermediate level of linguistic proficiency and are expected to give oral presentations and to craft lengthy essays. Also, students in this course are exposed to Levantine colloquial Arabic, which facilitates practice of the language for everyday life, e.g., personal introductions, shopping, etc. This course covers the material in *Al-Kitaab fi Ta'allum al-Arabiyya: Part One, 3rd edition* (chapters 8-13) and is supplemented by extra material as needed. Open to students who have completed AR150HO or its equivalent.

*Note 1: AR120 (online course) does not fulfill the prerequisite for this course.*

*Note 2: AR150HO and AR250HO are required for students in the Arabic and Middle Eastern Studies Program. AR350HO is not a requirement for the AMES program.*

### **THIRD YEAR ARABIC, HONORS**

Year; 3 course credits

AR350HO

In this course, students are expected to manage extensive readings in Modern Standard Arabic, and to comprehend lengthy authentic listening materials and follow-up discussions on a variety of social, cultural, and political topics by using argumentative discourse, and to give extended oral presentations with facility. Emphasis is also placed on developing the stylistic aspects of their writing. By the end of this course, students acquire a broader range of vocabulary and more fluency in speaking and reach a high intermediate level of proficiency in Arabic. Students in this course continue exposure to Levantine colloquial Arabic, which allows them to communicate domestic needs and to participate in daily social interactions. This course uses *Al-Kitaab fi Ta'allum al-Arabiyya: Part Two, 3rd edition* and is supplemented by extra material as needed. Open to students who have completed AR250HO or its equivalent.

## CHINESE

### **BEGINNING CHINESE**

Year; 3 course credits

CN100

In this beginning course students learn pronunciation patterns, tones, and basic grammatical structures. For oral practice and conversation, approximately 500 words are introduced. For reading and writing, students learn 400 Chinese characters. Units on Chinese history and culture complement the language portion of the course. Open to students with no previous background in Chinese.

### **ELEMENTARY CHINESE**

Year; 3 course credits

CN125

This accelerated version of first year Chinese is designed for students who have had some previous exposure to the Chinese language. Though Beginning and Elementary Chinese (CN100

and CN125) follow the same base curriculum and methodology, speaking, listening, reading, and writing are covered in greater depth in this accelerated course.

#### **SECOND YEAR CHINESE**

##### **SECOND YEAR CHINESE, HONORS**

Year; 3 course credits  
CN200 or CN250HO

Students continue to work on Chinese grammar and vocabulary and approximately double their knowledge of vocabulary words and characters. Students are able to read and write short passages on familiar and personal topics. Units on Chinese history and culture help students develop a broader understanding and appreciation for their study of the language. Open to students who have completed the 100 level or its equivalent.

#### **THIRD YEAR CHINESE**

##### **THIRD YEAR CHINESE, HONORS**

Year; 3 course credits  
CN300 or CN350HO

This intermediate course gives students the opportunity to expand their oral and written knowledge of Chinese so that they are able to read short stories and discuss daily life topics in the target language. Students continue to build vocabulary with the addition of 400 new Chinese characters and 500 new words. In addition, the study of Chinese history and culture remain an integral part of the course. Open to students who have completed the 200 level or its equivalent.

#### **CHINESE FOR HERITAGE SPEAKERS, HONORS**

Year; 3 course credits  
CN355HO

This year-long course is designed to meet the specific needs of students of Chinese heritage who are new to Choate and have some aural and oral proficiency but more limited ability in reading and writing Chinese. The purpose of instruction is to utilize previous language background to lay a solid foundation for further study of Chinese language, literature, and culture. The course emphasizes three modes of communication, with special focus on reading and writing. It includes a study of Chinese culture and society as it is embedded in language, and is intended to give students a better understanding of Chinese culture, history, and social values. As the course progresses, students are gradually introduced to projects aimed at developing critical thinking and analytical capabilities, skills that will help them succeed as they move forward in our Chinese curriculum. Satisfactory completion of this course fulfills the diploma requirement in language.

#### **FOURTH YEAR CHINESE**

##### **FOURTH YEAR CHINESE, HONORS**

Three terms; 1 course credit (each term)  
CN401AD (fall); CN402AD (winter); CN403AD (spring) or  
CN451HO (fall); CN452HO (winter); CN453HO (spring)

This advanced sequence aims to help students solidify their knowledge of spoken and written Chinese. Students develop reading strategies to comprehend material composed in formal written Chinese. Authentic resources (literature, newspapers, magazines,

and online materials) are used. This sequence prepares students to continue their study of Chinese at an advanced level in college with emphasis on critical thinking skills and argumentative writing. Open to students who have completed the 300 level. Students who wish to pursue CN551HO, CN552HO, CN553HO must successfully complete CN451HO, CN452HO and CN453HO as prerequisites.

#### **CHINESE NEWS MEDIA**

Fall term; 1 course credit  
CN511AD

This course is designed to familiarize students with the language of print and broadcast media with a focus on news media. Students learn strategies and tactics applicable to newspaper reading, acquire skills essential for understanding news broadcasting, and discuss current events in the Chinese-speaking world. The course emphasizes oral communication by means of presentations, debates, and discussions. Written essays and projects also contribute to the development of a wider vocabulary and an ability to communicate with greater precision in Chinese. Open to students who have completed the 400 level or its equivalent.

#### **CHINA - A CHANGING SOCIETY**

Winter term; 1 course credit  
CN512AD

The objective of this course is to advance students' language proficiency with intensive reading and writing. The course is also designed to enhance students' understanding of the social and cultural transformation in contemporary China that resulted from the Economic Reform of 1978. The course emphasizes oral communication by means of oral presentations, debates, and discussions. Written essays and projects also contribute to the development of a wider vocabulary and an ability to communicate with greater precision in Chinese. Open to students who have completed the 400 level or its equivalent.

#### **CHINESE CINEMA SINCE 1980: ART AND SOCIETY**

Spring term; 1 course credit  
CN513AD

This course discusses influential Chinese films since 1980 as artwork and as reflections of China's cultural, social, economic, and political changes in the past three decades. Assignments are designed to help students develop proficiency in reading authentic materials, writing essays, and giving oral and written presentations. Open to students who have completed the 400 level or its equivalent.

#### **CONTEMPORARY CHINESE CULTURE AND SOCIETY, HONORS**

Three terms; 1 course credit (each term)  
CN551HO (fall); CN552HO (winter); CN553HO (spring)

This sequence of courses is an in-depth study of Chinese culture and current social issues in contemporary China. The courses are organized around three themes: *Family, Marriage and Population Policies* (fall) explores the impact of globalization on changing family structures, courtship patterns, gender relations and population policies in China. *Economy, Urbanization, and Environment* (winter) focuses on the major economic and social



issues that have resulted from China's post-1978 reform and rapid economic growth, e.g., worker migration, housing, urbanization and environmental awareness. *Social Media, Film and Arts* (Spring) examines China's social media landscape, the film industry and new trends in arts. Each course in the sequence is taught exclusively in Chinese, providing students with daily opportunities to develop proficiency in all communicative modes, via maximum exposure to authentic culture and language. Open to students who have excelled in CN451HO–CN453HO sequence, and have the permission of the department. *Each course fulfills the requirement in contemporary global studies.*

#### **CONTEMPORARY ISSUES IN CHINA, HONORS**

Fall term; 1 course credit  
CN651HO

This course focuses on current affairs and social issues in contemporary China. Using multimedia materials ranging from the internet, television, and films to traditional textbooks, students explore issues that include China's market reform, changing family structure, environmental protection, cinema, and education. Students in this course are immersed in a Chinese-language environment and should be prepared to discuss these issues in Chinese. Written assignments and projects are frequent. Open to advanced students who have taken the CN551HO–CN553HO sequence, and have the permission of the department.

#### **CHINESE IN THE CYBER AGE, HONORS**

CN652HO

This course is a guided exploration of cultural products accessible online as instruments of Chinese language learning, from blogs, forums, advertisements, and commercials to television movies and video clips. Students transcribe, annotate, analyze, and present materials both assigned and self-compiled to rediscover and reconstruct China's socio-cultural realities in the cyber age. Reading and writing are routine tasks and oral discussion and debates are important components of the course. Open to advanced students who have taken the CN551HO–CN553HO sequence, and have the permission of the department.

#### **CONTEMPORARY CHINESE FICTION: MIRROR OF SOCIAL CHANGE (1949-PRESENT), HONORS**

Spring term; 1 course credit  
CN653HO

Contemporary Chinese literary texts created after 1949 up to the present mirror a series of political, social, cultural, and ideological dilemmas of China. The class discusses fundamental issues of ideology, politics, morality, and new literary developments resulting from the drastic social transformation during this period. Reading and writing are routine tasks and oral discussion and debates are important components of the course. Open to advanced students who have taken the CN551HO–CN553HO sequence, and have the permission of the department.

## **FRENCH**

#### **BEGINNING FRENCH**

Year; 3 course credits  
FR100

This introductory course uses immersion to build communicative skills in French. Grammar, basic speaking proficiency, correct pronunciation, listening comprehension, and the ability to read short articles and stories and write simple idiomatic French are important components of the course. Classes, which are conducted mostly in French from the first day, employ a range of communicative activities, from role-playing to group dialogues. *Tes branché?*, the digital learning program used in this course, contains an online component that provides instant feedback on most exercises, as well as interactive video and listening activities that allow students to record and review their speech. In the spring term, students read a short French-language novel designed for beginning students. The course culminates with the first year benchmark exam, designed to evaluate reading, writing, listening, and speaking skills. Open to students with no previous background in French.

#### **ELEMENTARY FRENCH**

Year; 3 course credits  
FR125

This course is designed to help students with some previous experience in French improve their comprehension and application of the language. Though Beginning French and Elementary French (FR100 and FR125) follow the same base curriculum and methodology, speaking, listening, reading, and writing may be covered in greater depth in this accelerated course.

#### **SECOND YEAR FRENCH**

Year; 3 course credits  
FR200

Development and reinforcement of the four language skills are continued, with emphasis on expanding vocabulary, verb tenses, and use of pronouns. Simple compositions and a variety of in-class activities reinforce the material and enhance students' idiomatic fluency. The class reads short texts and a novel designed for intermediate French students, and Francophone cultures are integrated into the course. Students continue using the *Tes branché?* online learning system, complete with interactive video and audio materials stressing modern communication that is both accurate and colloquial. Open to students who have completed the 100 level or its equivalent. *Students who have distinguished themselves in FR200 may be recommended for FR350HO the following year.*

#### **SECOND YEAR FRENCH, HONORS**

Year; 3 course credits  
FR250HO

This is an honors course in grammar, reading, composition, and conversation whose base curriculum covers what is achieved in FR200 but in greater depth and at a brisker pace overall. Because of the rigor expected in the course, student progress is monitored closely in the fall term to assess appropriate placement. Those who

do particularly well throughout the year may be recommended for FR350HO the following year. Open to students who have distinguished themselves at the 100 level or its equivalent, and have the permission of the department.

### **THIRD YEAR FRENCH**

Year; 3 course credits  
FR300

Language skills and cultural appreciation acquired in the first two years are reinforced and extended through review, conversation, expository and analytical writing, films, music, and readings of short texts, poetry, and at least one full-length work. This course is taught with the assumption that most students want to continue their French studies into the fourth and fifth year levels, whether or not participation in a study abroad or summer program in France is in their plans. Accordingly, the curriculum in FR300 is designed to provide students with solid cultural knowledge and communicative skills to facilitate the transition to upper level courses. Open to students who have completed the 200 level or its equivalent.

### **THIRD YEAR FRENCH, HONORS**

Year; 3 course credits  
FR350HO

Extensive grammar review, consideration of unabridged literary works with accompanying films, expository and analytical writing, and in-class discussions constitute the core of this honors course, whose base curriculum covers at least what is achieved in FR300, but in greater depth and at a brisker pace overall. Because of the rigor expected in the course and the level of discourse encountered in the material, student progress is monitored closely in the fall term to assess appropriate placement. Open to students who have distinguished themselves at the 200 level and have the permission of the department.

### **FRENCH IN A GLOBAL CONTEXT**

Three terms; 1 course credit (each term)  
FR404AD (fall); FR405AD (winter); FR406AD (spring)

In addition to intensive grammar review, this sequence explores the literature, art, history, politics, film and culture of several countries in the French-speaking world. Virtual internet travel to Africa, the Caribbean, Vietnam and Quebec, all regions colonized at one time by France, is aimed at a globally informed understanding of French and American roles in current world events. The fall term is dedicated primarily to the study of francophone identities in Canada, focusing on Quebec, in particular. Students then travel virtually in the winter to a variety of other countries in *la francophonie*, including the North African countries of Le Maghreb and 1940's Indochina. In the spring, the focus on West African and Caribbean literature guides the study of ideas and philosophies of *la Negritude*. Following this, our focus returns to France as we explore the immigrant experience and conflicts of identity that arise as people try to balance their cultural heritage with a successful integration into French society. This sequence allows for greater understanding of concepts of identity, empathy and cultural diplomacy, while reviewing grammar and improving the sophistication of the students' written expression. Open to students who have completed the 300 level and have the permission of the department. *Each course fulfills the requirement in contemporary global studies.*

### **FRENCH LITERATURE: ENLIGHTENMENT, ROMANTICISM, MODERNISM, HONORS**

Three terms; 1 course credit (each term)  
FR451HO (fall); FR452HO (winter); FR453HO (spring)

In this honors literature sequence, students read canonical works from a variety of literary genres of the 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup>/21<sup>st</sup> centuries. In the fall, students study works by the philosophers of the French Enlightenment focusing on tolerance, the rights of man, and a critical look at one's society. In the winter, poetry and selections from Romantic, Realist, and Naturalist writers are considered as students discuss the artist's role in society, the economic and social implications of fast-moving technology, and family life. In the spring, selections by authors such as Giraudoux, Ionesco, Camus, de Clezio and Beaugrand are featured as discussion turns towards new themes: language, religion, nationalism, and patrimony as elements of personal and national identity. Although the emphasis in this course is on literature from France, literature from other Francophone countries is also included. Compositions, class discussions and textual analysis help students develop their interpersonal, interpretive, and presentational skills. Each term features a major project. Open to students who have distinguished themselves at the 300 level and have the permission of the department.

*Note: Although the topics studied in these courses build sequentially, no one course is a prerequisite for any other.*

### **THE FRANCOPHONE PRESS: MODERN JOURNALISM, AUDIOVISUAL MEDIA, AND THE POWER OF SOCIAL MEDIA**

Three terms; 1 course credit (each term)  
FR514AD (fall); FR515AD (winter); FR516AD (spring)

In this sequence, students examine current events and explore the ways in which they are relayed to various audiences in the printed press, audiovisual media, and electronic media. Students explore international and local French-language news stories, documentaries from various sources, and events that have been instigated or influenced by social media. The goal of this course is to foster critical thought in the production and analysis of news stories regarding political and social change. The culminating project of this course each term is the creation of a journalistic pathway (e.g., blog, documentary, talk show, social media site), in which students demonstrate their newly acquired journalistic lexicon and skills to relate news, craft a story, and influence opinion via social media. Open to students who have completed the 400 level or its equivalent.

### **ADVANCED FRENCH LANGUAGE AND CULTURE, HONORS**

Three terms; 1 course credit (each term)  
FR551HO (fall); FR552HO (winter); FR553HO (spring)

These advanced language and culture courses prepare students with a strong background in French to extend their skills beyond the classroom and into the real world. The courses are centered around six primary themes; exploring personal and public identities, families and communities, contemporary life, global challenges, science and technology, beauty and aesthetics. Authentic materials (non-fiction and fiction, print, audio, audiovisual, and social media) will help students to decipher semantic

registers and nuance while building linguistic competency on topics ranging from ecology and conservation to politics, law, economics, art history, and current events. Focusing on three modes of communication (interpersonal, interpretive, and presentational), the courses accentuate cultural study through comparison of products, practices, and perspectives. Linguistic accuracy, topical vocabulary, and personal creativity are honed as students tackle contemporary and historical controversies in the Francophone world through individual and collaborative research, presentation, conversation and debate, creative writing exercises (dialogues, correspondence, fictional prose, news articles), and analytical compositions. Open to the most qualified students who have completed at least FR451HO, FR452HO, or FR453HO, and have the permission of the department. *Each course fulfills the requirement in contemporary global studies.*

### **SPECIAL TOPICS IN FRENCH**

Beyond our fifth year courses, we offer a unique opportunity for teacher and students to collaborate in one of several realms—cultural, literary, political or linguistic. These courses address special topics from the French and Francophone worlds using a variety of genres (from websites to films to books) and, in so doing, aim to further refine students' oral and written expression and thinking in French. Close readings in the tradition of the *explication de texte*, along with analyses of critical essays and oral exposés, are expected of each student. Open only to the most qualified students who have the permission of the department.

### **VOICES OF FRANCE'S YOUTH, HONORS**

Fall term; 1 course credit  
FR651HO

Offered in alternate years; available 2017-2018

Historically in France, young people have had a powerful influence in art and politics. This course examines works composed in the French language by authors younger than 30 years of age. Blogs, books written in text message format, graphic novels, current slang terms, video clips, poems, websites, songs, short stories and film are studied as students explore the following questions: What are the current preoccupations of France's youth? What rhetorical strategies do young French writers use to convey their message? How do young French writers view themselves in relation to older, more established authors? Is the voice of France's youth more powerful than that of young people in the U.S.? Why or why not? How do French youth view Americans? After exploring these questions, students devise their own research question to explore through Skype interviews and correspondence with French youth. Findings are shared in presentations and/or short films created by students.

### **FRENCH THEATER AND ACTING, HONORS**

Winter term; 1 course credit  
FR652HO

Offered in alternate years; available 2017-2018

Theater reflects society's passions, fears, and aspirations; it is a living creation, alternately embracing and abandoning the written word in an insatiable quest to capture fleeting realities and define the human spirit. This course explores theatrical works and critical texts from the

17<sup>th</sup> century to the present, questioning evolving artistic and cultural values, dramaturgy, production aesthetics, and acting techniques, to culminate in student written, directed, and acted scenes reflecting modern society through the aesthetic confines of the neoclassical, romanticist, existentialist, and absurdist genres. Works include: Ryngaert's *Introduction à l'analyse du théâtre*, Naugrette's *L'esthétique théâtrale*, and Héril's *Entraînement théâtral pour les adolescents : A partir de quinze ans*, as well as the theatrical writings of Corneille, Molière, Racine, Marivaux, Beaumarchais, de Musset, Hugo, Stendhal, Zola, Guitry, Genêt, Sartre, Artaud, Beckett, Ionesco, and Serrault.

### **FRENCH FOOD: FROM THE TABLE TO THE PAGE, HONORS**

Spring term; 1 course credit  
FR657HO

Offered in alternate years; available 2017-2018

This course investigates the origins of gastronomy, the restaurant, and food culture in 19<sup>th</sup> century France. Through the critical consideration of novels, newspaper articles, film, and artwork, students trace articulations of "French cuisine" from the table to the page, exploring various themes inherent to French gastronomy and food culture (markets, restaurants, and terroir). Students discuss the philosophical implications of eating and discover the social, political, and aesthetic questions raised through literary representations of food in realist and naturalist fiction. Moreover, this course is designed to give students an experiential approach to understanding food culture: the foodways of our own region are explored to discover the resonances and divergences with early food writers. The culminating project for this course is a hands-on creative project (accompanied by a critical reflection) in which students explore the themes considered in the course through music, painting, photography, etc.

### **POÉSIE DE LANGUE FRANÇAISE, HONORS**

Fall term; 1 course credit  
FR654HO

Offered in alternate years; available in 2018-2019

In this course, students read and study poetry from the 15<sup>th</sup> century through the present day with a nod to poetic origins found in the *chansons de geste* of the French Middle Ages. Students study the different genres of poetry, poetic forms, and versification. Poems range from the *sonnets pétrarquistes* of the French 15<sup>th</sup> and 16<sup>th</sup> centuries and La Fontaine's fables of the 17<sup>th</sup> century, through Apollinaire's *calligrammes* of the early 20<sup>th</sup> century, to poetry of the Francophone world. The selected poetry represents most of the major literary movements (classicism, romanticism, realism, surrealism) as well as defining historical events in France (poetry of the French Revolution and of the French Resistance). Excerpts of classical plays (by Corneille and Molière) may also be examined for their poetic elements. Most importantly this course initiates college-bound students of French in the preparation of *explications de texte* (oral and written) about a work of literature. Other course work includes reading poems (and essays related to poetry), tests and quizzes about versification and poetic figures, and occasional memorized recitations of poetry.

### **ENNUI, ADULTERY, AND DEATH IN MADAME BOVARY, HONORS**

Winter term; 1 course credit

FR655HO

Offered in alternate years; available in 2018–2019

In this course, students read Flaubert's famous first novel, a story of passion and transgression that was attacked as obscene and scandalous by public prosecutors in 1856. In addition, the course examines the trial surrounding the publication of *Madame Bovary* and the novel's historical and aesthetic context. Most importantly, the class reads the entire work in the original French, continuing to analyze it in essays and oral presentations using the French tradition of the *explication de texte*. Also part of the course are film versions of the novel and a brief overview of the influence of *Madame Bovary* on 20<sup>th</sup> century English and American fiction.

### **FRENCH CINEMA, HONORS**

Spring term; 1 course credit

FR656HO

Offered in alternate years; available in 2018–2019

From the Lumière brothers' invention of the *cinématographe* in 1895 to the New Wave movement and beyond, the French continue to leave an indelible mark on the cinematic medium. In this course, students study films by such influential cineastes as Abel Gance, Georges Méliès, Jean Renoir, Henri-Georges Cluzot, François Truffaut, Jean-Luc Godard, Agnès Varda, Jacques Demy and Jean-Pierre Jeunet. Students will analyze the technical aspects of filmmaking, as well as the historical and cultural contexts of each work, and strive to develop their own critical voice as they increase their knowledge of the building blocks of cinema. The course will culminate in an original final project, for which students will create a scenario, prepare the shot-by-shot cinematography, cast, film, and edit a short film, incorporating influences from the works studied throughout the term.

### **GREEK**

#### **INTENSIVE BEGINNING GREEK, HONORS**

Year; 3 course credits

GR150HO

This honors course is for highly motivated language students who want to learn Classical Greek. Students rapidly learn the alphabet and phonology of the language while acquiring reading skills using ancient texts. Students must be willing to memorize a large quantity of vocabulary and morphology, and knowledge of advanced grammar in another language is essential. By the end of the course, students are able to read and appreciate authentic excerpts from Plato, Sophocles, Homer, Menander and others. Open to fifth and sixth form students who are extremely successful in another language at the 350 level or beyond.

*Note: Greek is offered as a full course only in years with solid student interest and teacher availability. In some years, Greek may be offered as a Directed Study.*

### **ITALIAN**

#### **INTENSIVE BEGINNING ITALIAN, HONORS**

Year; 3 course credits

IT150HO

This introductory honors course for highly motivated and enthusiastic language learners stresses grammar and vocabulary, basic speaking proficiency, correct pronunciation, listening comprehension, and the ability to read and write simple idiomatic Italian. Classes, which are conducted mostly in Italian from the first day, employ a range of communicative activities and make use of video and audio materials out of class via the internet and resources provided at the Language Media Lab. Open to sixth form students who are enrolled in another language at the 350 level or higher or who have completed their language requirement with a minimum grade of B in the previous language course.

### **LATIN**

#### **BEGINNING LATIN**

Year; 3 course credits

LA100

This course, with formal instruction in grammar, concentrates on bringing students quickly to the stage of reading Latin with confidence. The basal text, *Wheelock's Latin*, is supplemented by additional resources to provide students with insight into historical events from the Founding of Rome to the middle Republican era. Grammar topics include the present and perfect systems for all verbs and three of the five noun declensions. Etymological discussions and practice with derivatives enable students to improve skills in English vocabulary and grammar. Open to students with little or no previous background in Latin.

#### **SECOND YEAR LATIN**

Year; 3 course credits

LA200

Using *Wheelock's Latin* as the core text, students continue the study of grammatical constructions essential to reading Latin. Study focuses on reinforcement of first year material, followed by study of the passive voice, the final two declensions, and introduction to the subjunctive. By the spring term, students begin the practice of reading Latin at sight, with selections from Martial, Catullus, and Cicero. Historical discussions include the period from the Second Punic War to the fall of the Republic and the Birth of the Empire. Open to students who have completed the 100 level or its equivalent.

#### **SECOND YEAR LATIN, HONORS**

Year, 3 course credits

LA250HO

Using *Wheelock's Latin* as the core text but moving at a significantly accelerated pace, students complete their study of Latin grammar, covering the passive voice, the fourth and fifth noun declensions, and all common uses of the subjunctive. Historical discussions include the period from the Second Punic War to the fall of the Republic and the Birth of the Empire. By the spring term, students

become comfortable reading Latin passages at sight, including selections from Martial, Ovid, Catullus, and Cicero. Open to qualified students who have completed the 100 level or its equivalent, and have the permission of the department.

### **THIRD YEAR LATIN**

Year; 3 course credits  
LA300

This class is divided into two units. In the opening months, students complete their study of the basic Latin grammar, finishing the *Wheelock's Latin* textbook and taking advantage of supplementary reading passages. Among the topics of study are advanced uses of noun cases and the subjunctive mood. In the second half of the course, students turn to regular study of authentic Latin, beginning with short passages taken from a variety of authors and then focusing on longer, more complex works. Examples include Cicero's *First Catilinarian Oration* and Ovid's *Metamorphoses*. The historical and cultural contexts of these texts are explored through independent projects and presentations. Open to students who have completed the 200 level or its equivalent.

### **THIRD YEAR LATIN, HONORS**

Year; 3 course credits  
LA350HO

Students with superior Latin skills may be recommended for this honors course that focuses on reading classical prose and poetry and explores the historical context of the readings. Possible choices of material include Cicero's *First Catilinarian Oration*, Ovid's *Metamorphoses*, and *The Odes of Horace*. Students are expected to draw from supplementary readings and participate in discussions about the elements of style involved in oratory and poetry, ultimately being challenged to improve their skills in literary criticism. Open to qualified students who have completed the 200 level or its equivalent and have the permission of the department.

### **FOURTH YEAR LATIN**

Three terms; 1 course credit (each term)  
LA401AD (fall); LA402AD (winter); LA403AD (spring)

Students turn themselves to the dedicated and concentrated study of individual authors and specific works of literature, one text per term. Examples of study include the *Carmina of Catullus*, *Historia Apollonii Regis Tyri*, Cicero's *Somnium Scipionis*, Vergil's *Aeneid*, and the *Epistulae* of Cicero. Students are expected to read academic journal articles detailing context, style, and interpretation of the texts and respond to arguments, utilizing skills in analysis and argumentative writing. Class discussion aims to move past the discussion of simple translation and into the realm of interpretation. Open to students who have completed the 300 level or its equivalent.

### **LATIN LITERATURE: THE MYTH AND BIRTH OF EMPIRE, HONORS**

Three terms; 1 course credit (each term)  
LA556HO (fall); LA557HO (winter); LA558HO (spring)

In this honors sequence, students examine the founding myth of Rome and the birth of the Roman Empire by reading extensive selections from Vergil's *Aeneid* and Caesar's *De Bellō Gallicō*. The

sequence addresses differences in the genre of each work and expands on a variety of themes: what it means to be Roman, the view of "the other", the relationship between humans and gods, the implications of war, and the development of empire. Attention is given to literary interpretation, history, and cultural elements of the two works with significant supplemental reading in English. Open to students who have distinguished themselves at the 300 level, and have the permission of the department.

### **TOPICS IN ANCIENT ROMAN LITERATURE, HONORS**

Three terms; 1 course credit (each term)  
LA651HO (fall); LA652HO (winter); LA653HO (spring)

This sequence of intensive reading courses presents three distinct elements of Ancient Roman literature in a seminar-style class; one topic each term is selected by the instructor. Examples of possible topics include: Lyric Poets and Poetry, Hellenistic Philosophy in Rome, Theater and Early Comedy, The History of the Roman Republic, and Latin Composition. The sequence focuses on reading ancient sources while analyzing them through the lens of modern critics. Authors read and/or emulated include but are not limited to: Catullus, Horace, Lucretius, Seneca, Plautus, Terence, Livy, Sallust, Cicero, Ovid, and Propertius. Advanced reading and translation skills are necessary; open to students who have distinguished themselves at the 500 level and have the permission of the department.

## **SPANISH**

### **BEGINNING SPANISH**

Year; 3 course credits  
SP100

Students are introduced to the basic elements of the language and to the cultures of the Spanish-speaking world. Emphasis is on developing the four language skills: speaking, listening, reading, and writing. The ability to communicate in simple written and spoken Spanish is promoted through the use of a multimedia-based immersion program. Open to students with no previous background in Spanish.

### **ELEMENTARY SPANISH**

Year; 3 course credits  
SP125

Intended for students with some previous experience in Spanish, this course presents an accelerated introduction to the basic elements of the language and a study of the cultures of the Spanish-speaking world. The four language skills, i.e., speaking, listening, reading, and writing, are stressed. As in SP100, a multimedia-based immersion program facilitates the acquisition of basic fluency and accurate pronunciation.

### **SECOND YEAR SPANISH**

Year; 3 course credits  
SP200

Students continue to study grammar and vocabulary, and emphasis is placed on written and oral expression using correct sentence structure. Through a continuation of the multimedia-based immersion program started in the first year, students study

Spanish-American culture while building the four language skills. Open to students who have successfully completed the 100 level or its equivalent.

### **SECOND YEAR SPANISH, HONORS**

Year; 3 course credits  
SP250HO

Students pursue an accelerated study of intermediate and advanced grammar through a continuation of the multimedia-based immersion program started in the first year and finish the year by reading a collection of short stories by well known Spanish and Spanish-American authors. Students who do particularly well throughout the year may be recommended for SP350HO the following year. Open to students who have distinguished themselves at the 100 level or its equivalent, and have the permission of the department.

### **THIRD YEAR SPANISH**

Year; 3 course credits  
SP300

The four language skills and cultural appreciation acquired in the first two years are reinforced and extended through a full grammar review, compositions, conversation, oral presentations, film, music, literature and readings that explore historic and contemporary topics from the Spanish-speaking world. This course is designed to provide students with the necessary communicative skills and cultural knowledge to facilitate the transition to upper level courses. Open to students who have completed the 200 level or its equivalent.

### **THIRD YEAR SPANISH, HONORS**

Year; 3 course credits  
SP350HO

This honors level course stresses reading comprehension, oral-aural skills, and composition style. Students complete a full grammar review, engage in various types of writing, and deliver oral presentations on a regular basis. Students read a variety of literary texts (poetry, short stories, essays, and news articles) from the Spanish-speaking world. Spanish-language multimedia resources including short films, commercials, television programs, and music, are an integral part of the course. Open to students who have distinguished themselves at the 200 level and have the permission of the department.

### **LATIN AMERICAN STUDIES**

Three terms; 1 course credit (each term)  
SP401AD (fall); SP402AD (winter); SP403AD (spring)

This sequence explores the cultures and history of Spanish America from pre-Colombian times to the present, providing students with the background necessary to understand the roots of modern day culture and issues in the region. Language skills acquired in the first three years continue to be reinforced and extended on a daily basis through history-based readings in a textbook of civilization and culture, compositions, in-class discussion and oral presentations as well as authentic target-language materials. Spanish grammar is reviewed but is not the focus of the course. The fall term includes an overview of Spanish-speaking countries in the Americas as

well as an introduction to major Mesoamerican and Andean civilizations. The winter term focuses on Spanish exploration and conquest in the Americas, the colonial period and the formation of independent states. The spring term takes a thematic approach, focusing on the 20<sup>th</sup> and 21<sup>st</sup> centuries including current events. Open to students who have completed the 300 level and have the permission of the department.

### **SPANISH WORLD LITERATURE, HONORS**

Three terms; 1 course credit (each term)  
SP451HO (fall); SP452HO (winter); SP453HO (spring)

These courses are designed to expose students with a strong background in the Spanish language to contemporary literature from the Spanish-speaking world. While focusing on literature, students also discuss the social and historical contexts of the pieces studied. In addition, emphasis is placed on vocabulary acquisition, as well as on refining the students' written expression by practice with higher-level grammatical structures. The literature studied in this sequence prepares students who wish to pursue Spanish literature courses in the future. Open to students who have successfully completed the third year of the language or who have completed the second year and have participated in study abroad or summer program in Spain, and have the permission of the department.

### **CINEMA OF DISSENT IN SPAIN**

Fall term; 1 course credit  
SP511AD

After a brief introduction to the implications of Francisco Franco's 36-year-long dictatorship, which followed the Spanish Civil War (1936-1939), this course focuses on the cinema of dissent of the post-war era. In contrast to films sponsored by the Franquist government, the films of directors such as Berlanga, Bardem, Saura and Erice presented a much more critical look at the social problems of Spain in the 1950s, 1960s, and early 1970s. Students complete preparatory readings, view the films, work with related vocabulary and expressions from the movie scripts (when possible), and discuss specific themes of the films. Assessment is based on class participation as well as quizzes, short in-class writings, tests and digital presentations. This course is intended for non-native, non-heritage speakers of Spanish who have successfully completed the 400 level or its equivalent.

### **CONTEMPORARY CINEMA OF ARGENTINA**

Winter term; 1 course credit  
SP512AD

Argentina is a fascinating country that has experienced much economic and social upheaval in the last few decades. The country was profoundly affected by the "dirty war" in the late 1970s and early 1980s, when thousands of people "disappeared" or were tortured by the military junta. After a brief introduction to this and other important events in 20<sup>th</sup> century Argentina, the class views and discusses five to six films, dealing with topics such as the "dirty war" as well as the country's ongoing economic, social and political troubles. Assessment is based on oral participation in class as well as homework, vocabulary quizzes, short in-class writings tests and

digital presentations. Homework includes preparatory readings related to historical information and background of the films. Occasional short oral presentations are also assigned. This course is intended for non-native, non-heritage speakers of Spanish who have successfully completed the 400 level or its equivalent.

#### **CONTEMPORARY SPANISH LANGUAGE FILM**

Spring term; 1 course credit

SP513AD

This course is designed to promote greater understanding about selected cultural topics concerning the Spanish-speaking world as they relate to specific cultural and historical frameworks. Films are used to enhance listening comprehension, provide opportunities for writing and conversation practice, and promote cultural understanding in a historical context. The films have been selected from different parts of the Spanish-speaking world. Students view films in their entirety in class. Portions of the films' scripts may be used to further vocabulary development and review specific grammar topics. Nightly assignments are devoted to writing about the films viewed and background readings. Class work consists of viewing and discussing the films, class presentations, and pair and group activities. Assessments include quizzes, short writing assignments, tests and digital presentations. This course is intended for non-native, non-heritage speakers of Spanish who have successfully completed the 400 level or its equivalent.

#### **ADVANCED SPANISH LANGUAGE AND CULTURE, HONORS**

Three terms; 1 course credit (each term)

SP551HO (fall); SP552HO (winter); SP553HO (spring)

This sequence is designed to challenge students, with a strong background in the Spanish language, to develop their Spanish-language proficiency and cross-cultural competency in real world contexts. Students expand their knowledge of products, practices and perspectives that represent a variety of Hispanic cultures through the study of authentic materials (print, audio, audio-visual, non-fiction & fiction), learning experiences in the community and the development of independent projects. Students engage in daily discussions exclusively in the target language and produce written as well as spoken communication on a variety of topics in the form of structured oral presentations, informal conversation, persuasive essays and formal correspondence with sophisticated vocabulary and grammatical structures. These courses are organized around overlapping thematic units with a focus on identity in the fall, on global and contemporary issues in the winter, and on science and aesthetics in the spring. Open to the most qualified students who have completed at least SP451HO, SP452HO, or SP453HO, and have the permission of the department. *Each course fulfills the requirement in contemporary global studies.*

### **SPECIAL TOPICS IN SPANISH LITERATURE**

#### **POWER PLAYS IN SPANISH THEATER, HONORS**

Fall term; 1 course credit

SP655HO

From the *comedia del Siglo de Oro* to the theater of the absurd, this course explores representations of power dynamics in a variety of Peninsular Spanish and Spanish-American dramas. Possible playwrights include Lope de Vega, Buero Vallejo, Valle-Inclán, Lorca, Gambaro, and Dragún and Escabias. The course includes a creative writing component in which students craft a short play of their own. Open to students who have completed the 500 level courses or SP451HO, SP452HO, or SP453HO, with distinction and have the permission of the department.

#### **MACHISMO TO FEMINISMO AND BEYOND, HONORS**

Winter term; 1 course credit

SP656HO

The "macho man", the Latin lover, the Don Juan ... this course will investigate the literary sources of these stereotypes and archetypes of masculinity and how they have evolved over time. Furthermore, students will study many feminine voices in literature and explore the construction of gender and changing perceptions of masculinity, femininity and non-binary identities. Authors include Tirso de Molina, Sor Juana, Pardo Bazán, Lorca, Storni, de Burgos, and Ulibarrí. Open to students who have completed the 500 level courses or SP451HO, SP452HO, or SP453HO, with distinction and have the permission of the department.

#### **ALTERNATE REALITIES, HONORS**

Spring term; 1 course credit

SP657HO

This course will explore the power of the imagination to shape experience and how some authors and artists have developed styles and techniques to represent alternate realities. Works studied include selections from the Baroque masterpiece the *El ingenioso hidalgo don Quijote de la Mancha*, the surrealist films of Luis Buñuel and art of Salvador Dalí, to short stories in the genre of magical realism. Students will investigate perceptions of reality and the creative process itself. Open to students who have completed the 500 level courses or SP451HO, SP452HO, or SP453HO, with distinction and have the permission of the department.

### **DIRECTED STUDY IN LANGUAGE**

Occasionally students exhaust the offerings in the language program of their choice, at which point a student may propose a particular course of study to an interested and available faculty member on a tutorial basis. Directed Studies offered in the past by the language department include: French Existentialism, French Literature and Culture of the 19<sup>th</sup> century, *Don Quijote de la Mancha* and Advanced Ancient Greek.

# MATHEMATICS AND COMPUTER SCIENCE

The quantitative nature of our world makes it imperative for students to achieve literacy and proficiency with mathematical concepts, methods, and problem-solving strategies. Mathematics as a system of thought is considered a core part of the human cultural experience. Our mission is to help students appreciate this discipline in its pure and applied forms.

The department focuses on the development of logical, analytical, and critical thinking skills. To this end, teachers expect clear, cogent arguments in students' written work and increasingly emphasize the ability to read and discuss mathematics as students mature. Through a mixture of standard and novel problem types, students also develop self-confidence and creativity, thus enabling them to reach the highest level in our curriculum that their ability and discipline will allow.

The mathematics requirement consists of Algebra I, Geometry, and Algebra II. Most students continue beyond the required courses. The honors sequence puts a relatively greater emphasis on formal mathematical theory and rigor. For new students, math placement is based on the student's previous mathematics history and standardized test scores, a questionnaire completed by a former mathematics teacher, and a diagnostic assessment test. For returning students, placement is made by teacher recommendation and the approval of the department head.

Extensive course offerings and Directed Study opportunities enable students to master traditional topics as well as to gain an awareness of current developments in pure and applied mathematics. Incorporating advances in technology, our courses allow students to use graphing calculators and computers to solve problems and examine data. Computer Science courses emphasize structured programs and techniques and develop organizational and problem-solving skills. Students may join the interscholastic mathematics team, compete in regional and national mathematics contests, and participate in the peer tutoring program.

Given the many options available in the mathematics curriculum, students may consult with their teacher, adviser, form dean, or the department head to help plan their mathematics programs.

– Matthew K. Bardoe, Department Head

*Note: The use of a graphing calculator is required from Algebra II through calculus. The department supports the use of the TI-84 series calculators. Any calculator that has CAS (Computer Algebra System) capabilities will not be allowed on assessments.*

## **ALGEBRA I, ACCELERATED**

Year; 3 course credits  
MA125

This algebra course focuses on the development of precise and accurate habits of mathematical expression and the application of the tools of algebra to problem solving. Students explore linear relationships in depth as they graph and solve linear equations and

inequalities, and solve systems of linear equations both graphically and analytically. Students also begin to learn the language and notation of functions. Other topics include properties of exponents, radicals, informal geometry, probability, data analysis, matrices, and the introduction of quadratic relationships. Students are also challenged to become more independent learners and to make connections between different mathematical concepts.

## **GEOMETRY**

Year; 3 course credits  
MA200

In this course, students are given a thorough introduction to Euclidean geometry. In addition to learning to write deductive arguments, they are involved in discovering and exploring concepts that relate geometry to the real world and to other disciplines. Students also review and strengthen algebra skills and develop greater facility solving numerical problems. Open to students who have completed Algebra I.

## **GEOMETRY, HONORS**

Year; 3 course credits  
MA250HO

This course offers a formal deductive approach to the study of Euclidean geometry in two and three dimensions. From the outset, students focus on writing rigorous geometric arguments using a variety of techniques. In addition, coordinate geometry, transformations, and elementary geometric probability are studied informally throughout the course. Students also continue to review algebraic techniques and strengthen their ability to solve numerical problems. Open to students who have completed Algebra I and have the permission of the department.

## **ALGEBRA II**

Three terms; 1 course credit (each term)  
MA301 (fall); MA302 (winter); MA303 (spring)

This second-year algebra sequence begins with a review of basic algebra skills followed by a more in-depth study of linear and quadratic equations and inequalities, including an introduction to complex numbers. Matrices are also studied, from basic operations and determinants to inverses and matrix equations. Higher order polynomials and rational expressions are examined and a discussion of exponents leads to study of radical expressions, equations, and functions. Exponential and logarithmic equations and functions are also introduced. Throughout the course function notation, mathematical models, and graphing techniques are emphasized. The graphing calculator is used to both enhance understanding of these topics and increase knowledge of its use. Open to students who have completed Algebra I and Geometry.

## **ALGEBRA II, ACCELERATED**

Three terms; 1 course credit (each term)  
MA331 (fall); MA332 (winter); MA333 (spring)

This second-year algebra sequence covers all of the topics in the MA301-302-303 sequence, but at a faster pace and in more detail. The course also includes a study of sequences and series. Emphasis is placed on developing sound analytical and problem-solving



techniques. Open to students who have completed Algebra I and Geometry and have the permission of the department.

### **ALGEBRA II, HONORS**

Three terms; 1 course credit (each term)

MA351HO (fall); MA352HO (winter); MA353HO (spring)

A brief review of algebraic expressions, inequalities, absolute value and elementary probability is followed by a study of linear equations, functions, and systems. Matrix algebra is introduced, including applications. A thorough study of quadratic functions is undertaken followed by polynomial functions and associated theorems, including the Binomial Theorem. Other topics include permutations, combinations, radical functions, rational exponents, and inverses. The course continues with an in-depth study of exponential and logarithmic functions. Students analyze the conic sections, and the course concludes with a study of sequences and series. Students are encouraged throughout to think independently and are expected to be able to expand their knowledge by applying the basic concepts in new and productive ways. The graphing calculator is required and is used regularly to analyze data and to discover new concepts by identifying patterns and by making and testing conjectures. Open to students who have completed rigorous Algebra I and Geometry courses and have the permission of the department.

## **ELECTIVE COURSES**

### **VISUAL MATHEMATICS**

Spring term; 1 course credit

MA417

Mathematical concepts are embedded in many art forms—whether they were intended by the artist or as a result of what was aesthetically pleasing to the eye. This course offers students the opportunity to explore these connections from a mathematical perspective. Topics from geometry, such as constructions, proofs, the Golden Ratio, similarity, and polygons are explored. From analytic geometry and algebra, students work with transformations, compositions, vectors, matrices, fractals, and the Fibonacci sequence. Three dimensional constructs, including polyhedra, Platonic and Archimedean solids are included. Students complete art projects in relation to each topic throughout the term. Creations include mandalas, friezes, and tessellations, as well as three-dimensional and computer-generated pieces. Open to students who have completed Geometry.

### **STRATEGIC DECISIONMAKING**

Fall, spring terms; 1 course credit

MA418

This case study-driven course examines leadership, strategy, and negotiation techniques responsible for successful boardroom turnarounds and perilous Mt. Everest summit failures. Simulating a practical environment, student teams apply a problem-based learning system to research and present conclusions throughout the term. Another course component exposes students to basic financial statement analysis and an introduction to industry-recognized corporate valuation techniques. As the course

concludes, teams apply these skills through an exploration of the energy markets, specifically targeting alternative and renewable energy companies. Specific case studies may vary across sections. Open to students who have completed Algebra II.

*Note: This course earns one quantitative credit.*

### **STATISTICS**

Spring term; 1 course credit

MA432

This one-term course introduces students to fundamental concepts in statistics. Methods of gathering, displaying, and analyzing data are included. Topics include descriptive statistics and exploratory data analysis, design of experiments, sampling distributions and estimation, and fitting models to data. Problem sets explore applications in business, natural and social sciences, and sports. Open to students who have completed Algebra II.

*Note: Students who are planning on taking the year-long sequence in Data Science should not enroll in MA432.*

### **FUNDAMENTALS OF PRECALCULUS**

Three terms; 1 course credit (each term)

MA421 (fall); MA422 (winter); MA423 (spring)

This three-term course is designed for the student who wants to continue beyond math department graduation requirements, but for whom the precalculus or honors precalculus courses are not appropriate. Functions are studied extensively, including polynomial, trigonometric, exponential, and logarithmic functions. Additional topics include statistics and data analysis, probability, and sequences and series. Students may receive course credit for the first one or two terms without completing the sequence, but must begin in the fall term. Students who complete MA423 must have the permission of the department to enroll in MA436AD.

### **DATA SCIENCE**

Three terms; 1 course credit (each term)

MA441 (fall); MA442 (winter); MA443 (spring)

This three-term course is designed to offer background and preparation for college statistics courses required for many majors. The course focuses on gathering, organizing, simplifying, analyzing, and interpreting data. Topics include descriptive statistics and exploratory data analysis, design of experiments, sampling distributions and estimation, inference and decision making, and fitting models to data. A thorough introduction to probability is also included. Randomness, independence and conditional probability, discrete and continuous probability models, and counting methods are covered. Measuring the probability of an event, interpreting probability, and using probability in decision making are central themes of this course. Applications to games of chance, business, medicine, the natural and social sciences, policy making, and sports are introduced and explored. Students may receive course credit for the first one or two terms without completing the sequence, but must begin in the fall term. Open to students who have completed Algebra II.

## **ADVANCED ELECTIVES: PRECALCULUS, CALCULUS, AND HONORS STATISTICS**

### **PRECALCULUS**

Three terms; 1 course credit (each term)

MA436AD (fall); MA437AD (winter); MA438AD (spring)

This course focuses on the study of functions. Topics include polynomial, rational, exponential, and logarithmic functions with particular emphasis on their graphs and applications. Students engage in an in-depth study of trigonometric functions, including the laws of sines and cosines, trigonometric identities, inverse trigonometric functions, and techniques for solving trigonometric equations. Sequences and series, while introduced in Algebra II, are studied in a formal manner during this course. An introduction to displays of data, measures of variance, and the Normal distribution give students a basic background in statistics. The course finishes with an introduction to limits and the derivative. The course is designed to prepare students for either MA507AD, MA531HO, MA521HO, or CS550HO. Open to students who have completed Algebra II and have the permission of the department.

### **PRECALCULUS, HONORS**

Two terms; 1 course credit (each term)

MA450HO (fall); MA460HO (winter)

The topics of MA436AD and MA437AD are studied in greater depth, including a more intensive study of graphs of combinations of functions, the inverse trigonometric functions, identities, and trigonometric equations. In addition, students are regularly expected to solve more challenging and complex problems. Polar coordinates, polar graphs, and the polar form of complex numbers are studied. Other topics include DeMoivre's Theorem, sequences and series, limits of sequences, limits of functions of a real variable, vectors, and parametric equations in the plane. A review of conic sections is included, as needed. This course is designed to prepare students for the Calculus with Infinite Series sequence. Open to students who have completed Algebra II, Honors and have the permission of the department.

### **CALCULUS**

Three terms; 1 course credit (each term)

MA507AD (fall); MA508AD (fall, winter); MA509AD (winter, spring)

This three-term sequence covers a number of the topics included in an introductory college-level calculus course but without the rigorous emphasis on theory or symbolic manipulation. The sequence incorporates more practical applications than Calculus, Honors. Use of a graphing calculator is essential, both in class and on assignments. MA507AD is open to students who have completed precalculus and have the permission of the department.

*Note: Students who have received credit for a parallel term of honors calculus may elect this sequence, but may not enter MA508AD without successfully completing MA507AD or MA531HO, and may not enter MA509AD without successfully completing MA508AD or MA532HO.*

### **CALCULUS (4 TERMS), HONORS**

Four terms; 1 course credit (each term)

MA512HO (fall); MA513HO (winter); MA514HO (spring)

An initial study of functions, limits, and analytical geometry leads to the study of the derivative and differentiation techniques. Functions are explored symbolically, graphically, and numerically, and the relationship between a function and its derivative is carefully developed. Applications of the derivative include related rates of change, a formal analysis of local and absolute extreme values, and optimization problems. The concepts of the antiderivative and slope fields are introduced. Students learn to use a Riemann Sums to approximate the area under a curve, after which the concept of the integral is formally defined. Elementary techniques of integration are studied, including integration by substitution and by parts. The integral is studied as an area accumulator, and the Fundamental Theorem of Calculus is explored and applied, as are applications of definite integrals, including finding volumes, arc lengths, and average values of functions. Differential equations are studied. Solutions are considered graphically with slope fields and analytically with separable differential equations. Exponential growth and decay problems are revisited in the context of modeling with differential equations, and the logistic curve is explored. Open to students who have completed Precalculus and have the permission of the department.

### **CALCULUS (3 TERMS), HONORS**

Three terms; 1 course credit (each term)

MA531HO (fall); MA532HO (winter); MA533HO (spring)

This three-term sequence, intended for students that are unable to enroll in Calculus, Honors (4 terms), covers all of the key topics from differential and integral calculus. It is similar to the four-term sequence (MA511HO-MA514HO) but does not include as many advanced topics or as much review. Most of the topics from MA511HO-MA514HO are covered at a more rapid pace. Open to students who have completed Precalculus and have the permission of the department, or new students who have demonstrated a strong background in precalculus.

### **CALCULUS WITH INFINITE SERIES, HONORS**

Four terms; 1 course credit (each term)

MA561HO (spring); MA562HO (fall); MA563HO (winter); MA564HO (spring)

This four-term sequence introduces students to differential and integral calculus. This course includes all of the basic topics covered in MA511HO-MA514HO, as well as techniques of integration using trigonometric substitutions and partial fractions, improper integrals, and Euler's Method. This course includes a study of infinite sequences and series, Taylor polynomials with the Lagrange form of the remainder, and various techniques of operating on power series. The study of parametrically defined vector functions and polar functions, with applications, is also included. Open to students who have completed Precalculus, Honors and have the permission of the department.

*Note: Students who have taken Calculus, Honors (MA514HO or MA533HO) and have the permission of the department may take this course, beginning with either MA562HO or MA563HO.*

**STATISTICS, HONORS**

Three terms; 1 course credit (each term)  
MA521HO (fall); MA522HO (winter); MA523HO (spring)

This sequence encompasses the material covered in a first-year college-level statistics course that is required for many majors. Using case studies from a variety of disciplines, students explore in detail the background, concepts, and tools for studying data and its variability. The focus of the course is on problem solving (defining the problem, collecting and analyzing the data, interpreting and then drawing conclusions from the results and taking action), and statistical reasoning (understanding that randomness is not haphazard, utilizing distributions to explain uncertainty, selecting models to increase precision and to reduce bias, and recognizing that correlation is necessary but not sufficient to demonstrate causality). Modern technology, especially the graphing calculator, is used extensively to manipulate, simulate, and visually display the data. Students may receive course credit for the first one or two terms without completing the sequence, but must begin in the fall terms. Open to students who have successfully completed Precalculus and have the permission of the department.

**GAME THEORY, HONORS**

Winter term; 1 course credit  
MA575HO

This advanced elective is an introduction to game theory and strategic thinking. The course covers mathematics – logic, probability and statistics – with an emphasis on application. Beginning with representations and basic assumptions, including the extensive form; strategies and the normal form; beliefs, mixed strategies, and expected payoffs; and general assumptions and methodology, the course moves on to analyzing behavior in static settings. Dominance and best response; rationalizability and iterated dominance; location and partnership; and Nash equilibrium are covered. Game theory concepts are highly applicable in fields such as economics and business, political science, biology, computer science, and philosophy. Open to students who have completed MA514HO, MA533HO, or MA564HO and have the permission of the department.

**LINEAR ALGEBRA, HONORS**

Fall term; 1 course credit  
MA650HO

This course introduces the student to the study of vector spaces over the real numbers, linear mappings between vector spaces, and their matrix representations. Topics include an investigation of ways to represent and analyze lines and planes in space, with frequent use of the scalar product and cross product, the study of subspaces, bases and dimension, the kernel and image of a linear mapping, and determinants. Students are also exposed to examples of more general vector spaces. The theory is applied to the solution of systems of linear equations; other applications (e.g., eigenvalue problems, difference equations, Markov chains) may be considered as time permits. Open to students who have completed either MA514HO, MA533HO, or MA564HO and have the permission of the department.

**MULTIVARIABLE CALCULUS, HONORS**

Winter and spring terms; 2 course credits  
MA670HO

This two-term course builds on the foundation laid in the single-variable calculus and linear algebra courses. Students study the calculus of vector functions, with emphasis on functions defining curves in the plane, as well as curves and surfaces in space. The course treats explicit, parametric, and implicit representations of curves and surfaces, along with their tangent lines and planes. The uses of partial derivatives, directional derivatives, and the gradient are explored. The study of integration includes iterated integrals and multiple integrals, with Fubini's Theorem tying them together, along with line and surface integrals, culminating with the important theorems of Green and Stokes. Applications include extrema problems (with Lagrange multipliers), volume and surface area, and physical interpretations of the vector field theory. Open to students who have completed MA564HO and MA650HO and have the permission of the department.

**SEMINARS IN MODERN MATHEMATICS**

These term courses are designed to provide highly advanced students with an introduction to mathematics beyond the typical secondary curriculum. Students develop an appreciation of formal methods and improve their skill at understanding and constructing proofs. Each seminar includes an investigation of relevant problems and theorems, with some introduction to the mathematicians who posited or proved them. Students may take the first one or two terms without completing the sequence, but must begin in the fall term.

**FOUNDATIONS OF MODERN MATHEMATICS, HONORS**

Fall term; 1 course credit  
MA681HO

This seminar provides an introduction to the development of set theory, including the influence of Dedekind, Cantor, Hilbert, Russell, Gödel, Zermelo, Skolem, and von Neumann. The foundations of the axiomatic structure of mathematics are examined. The power and the fundamental and inescapable faults of this system are also explored, as well as the issue of the connection between reality and mathematics. Topics covered include first-order languages, orderings, cardinality, models, the axiom of choice, and constructing the real number system. Open to students who have completed MA670HO or are currently enrolled in MA650HO and have the permission of the department.

**TOPICS IN MODERN MATHEMATICS, HONORS**

Winter term; 1 course credit  
MA682HO

This seminar provides a survey of mathematical structures and systems focused on those areas that have given rise to the greatest leaps in understanding in mathematics in the last 100 years. The main concepts of abstract algebra, topology, combinatorics, and dynamical systems are introduced. In particular, students investigate mathematical structures and properties such as groups, rings, metric space, neighborhood, compactness, open sets, generating functions, recursive functions, and Markov Chains. Open to students who have completed MA681HO.

### **RESEARCH TOPICS IN MODERN MATHEMATICS, HONORS**

Spring term; 1 course credit

MA683HO

In this seminar students work collaboratively toward a solution to an outstanding research problem in mathematics, specifically in the area of combinatorics. Several easy-to-comprehend research topics are introduced from which students select a problem that most interests them. Working with other students and faculty, they generate ideas to pursue toward the solution of that problem. The computer software Sage is used to help students make and test hypotheses. Throughout the term students read current research papers in mathematics relevant to their problem, and make presentations on these papers in class to their peers. Each student creates a final report on the status of their research, which may be used by future students as a starting point for solving the problem. Open to students who have completed MA682HO.

### **COMPUTER SCIENCE**

Computer Science encourages students to see the world through the lens of algorithms and abstraction. These courses offer students to opportunity to learn the tools that allow them to create relevant and powerful programs. These offerings are designed for students who have a strong interest in exploring how computers work internally and how to write programs that are efficient and effective.

#### **INTRODUCTION TO PROGRAMMING**

Fall, spring terms; 1 course credit

CS200

This course is meant for students who have little to no experience in programming computers. Students learn the basics of algorithmic thinking, and design programs to solve simple problems. A number of different programming environments are used from highly structured programming environments such as Alice and Scratch. Students eventually gain familiarity with at least one high level programming language such as Python. Students learn the basics of variables, loops, conditional statements and standard data structures such as arrays and dictionaries. Students will also gain familiarity with how computers work and their architecture. Ultimately, the goal will be for students to use their computers to create and manipulate data sets and to automate tasks. Open to all students.

#### **INTRODUCTION TO ROBOTICS**

All terms; 1 course credit

CS300

This course introduces students to the fundamentals of robotics using the VEX platform. Students learn to design and build robots, to program autonomous behaviors, and to use sensors to improve their robots' abilities to interact with their environment. This course serves as an introduction to aspects of computer programming and covers such fundamental topics as program design and control, looping, and Boolean logic. Prior programming experience is not necessary. Open to all students.

### **ROBOTICS II**

Spring term; 1 course credit

CS310

This course in robotics builds on the fundamentals introduced in CS300, but students are expected to complete more advanced projects with greater autonomy. The design development process is further explored and students learn to use more complex programming structures. In addition to the VEX platform, students may also be introduced to other robotics systems. Open to students who have completed CS300 or have the permission of the department.

#### **PROGRAMMING THE WEB I**

Winter term; 1 course credit

CS320

In addition to learning how to design and implement web-based projects such as blogs, eye-catching portfolios and personal sites, and interactive web applications or games, students in this class also practice the art of applied logic and iterative approaches to problem solving. Students develop a solid understanding of best web practices with HTML5 and CSS3 (the basic scripting languages in web development), and practice the fundamentals of programming with JavaScript. Open to students who have taken CS200 or CS300 or have the permission of the department.

#### **PROGRAMMING THE WEB II**

Spring term; 1 course credit

CS321

Students in this course are introduced to backend programming through the creation of dynamic web pages (sites capable of accessing and displaying evolving data). To achieve this functionality, students learn how to implement web applications through the use of modern web development frameworks, and store, organize, and manipulate data in backend database structures. Students perfect their skills through a series of project-based assignments that require them to independently research and implement solutions, problem-solve creatively and practice iterative design. Open to students who have taken CS320 or have the permission of the department.

#### **ADVANCED ROBOTICS, HONORS**

Fall Term; 1 course credit

CS450HO

This course teaches students how to manage and design mechanical, electrical and programmable systems. Rather than working in predefined robotic environments (such as VEX), students use a variety of materials and systems to create their own robots. Programmable microcontrollers provide a flexible environment that can be applied to many robotics projects, and will be the main source of control logic. Students are expected to design and fabricate custom components. Important skills practiced in this class include: soldering, testing circuitry, CAD design, wiring, electrical prototyping with a breadboard, fabrication with power tools, and programming with appropriate languages. Open to students who have completed CS310 or have the permission of the department.

### **COMPUTER SCIENCE, HONORS**

Fall and winter terms; 2 course credits  
CS550HO

This two-term course introduces students to the principles of computer science, particularly algorithm and program design. Using the Python language, students work in an object-oriented paradigm as they study such traditional topics as conditional statements, loop structures, methods, arrays, recursion, and introductory graphics. Efficient, elegant design is emphasized throughout. Additionally, students learn to use inheritance, interfaces, and polymorphism as they design more complex programs. Following an examination of basic sorts, searches, and data structures, the course concludes with each student designing and completing a major programming project. Open to students who have completed CS200 or CS300 and are concurrently enrolled in Precalculus or higher, or have the permission of the department.

### **APPLICATION DEVELOPMENT, HONORS**

Spring term; 1 course credit  
CS555HO

For students with extensive programming experience, this course introduces the basics of mobile-platform application development. The programming language Objective-C is used as a basis for programming applications for iOS devices such as iPhones and iPads. Students complete both individual and group projects, which vary depending on student interests. Open to students who have completed CS550HO or have the permission of the department.

### **ADVANCED APPLICATION DEVELOPMENT, HONORS**

Fall and winter terms; 2 course credits  
CS575HO

For students with some experience in mobile-platform application development, this course introduces them to the Android operating system. Using the programming language Java and the Android software development kit, students build applications for Android devices (which comprise over 70% of all mobile devices.) Students learn the full scope of professional software development, from planning phases to product release. By the end of the course, students will have completed a fully-functional, publishable (or published) application. Open to students who have completed CS555HO or have the permission of the department.

### **MOBILE PROGRAMMING INTERNSHIP**

Students who have completed CS550HO and CS555HO and have shown exceptional promise may qualify for a summer internship in mobile programming. Choate has partnered with Applico, a leading mobile solutions firm, to provide the opportunity for our students to gain hands-on experience in application development by working in a professional office on real projects. Typically a student would enroll in CS575HO after the internship, possibly continuing to work with Applico on existing projects.

*Note: Students do not receive academic credit for the summer internship and any travel or living costs associated with the internship are not included in the academic year tuition and fees.*

## **MULTIDISCIPLINARY COURSES**

### **SOPHOMORE SEMINAR**

Fall and winter terms; .25 course credit (each term)  
Fall and spring terms; .25 course credit (each term)  
Winter and spring terms; .25 course credit (each term)  
MD201 and MD202

The Sophomore Seminar, required for all fourth formers, is designed to educate and facilitate discussion as students transition from adolescence to young adulthood. Topics include health and nutrition, growth and development, and at-risk behavior. The course meets one day per week, has assigned homework and is graded on a pass/fail basis. Students who have taken a course in health at a previous school are not exempt from this requirement.

### **REVERSE ENGINEERING: HOW THINGS WORK**

Winter term; 1 course credit  
MD230

This course introduces students to general principles of product design and function and examines some of the engineered items all around us. Students learn to take apart various mechanical and electrical devices and examine how component parts work together. Engineering skills such as sketching, 3D modeling, prototyping, testing, and clear communication are emphasized. An introduction to microcontrollers and programming is included and students build several devices of their own design. Hands-on experimentation is emphasized and students learn to use some 3D modeling software (Google SketchUp), 3D printers, and Arduino microcontrollers. Third and fourth form students have priority enrollment for this course; fifth and sixth form students may enroll with permission of the Science department.

### **TOPICS IN ENGINEERING**

Winter, spring terms; 1 course credit  
MD310

This introductory course is designed to provide students with an overview of some major engineering principles and applications, as well as an opportunity to implement those principles through experimentation, design-based projects, and presentations. Topics to be covered include graphical communication and drafting, basic material science, beam mechanics and deformation, and micro-engineering. The course will provide an interdisciplinary outlet for the mathematical skills and general scientific knowledge students have already acquired and also introduce new mathematical concepts to improve their understanding of how real-world systems are designed, modeled, and fabricated. Open to students who have completed one year of physics and Algebra II.

**COGNITIVE NEUROSCIENCE, HONORS**

Spring term, 1 course credit  
MD330HO

One of the fastest growing research areas in science is neuroscience. Cognitive and behavioral studies have attracted considerable popular and scientific attention in recent years and new techniques have opened up novel avenues for exploration. This course provides an introduction to the cellular and molecular mechanisms of neuronal function, and examines how cognitive processes can be explained by the structure and function of the brain. Beyond foundational knowledge and empirical methodology in neuroscience, this class also explores data from current studies in neurobiology and cognitive sciences. Open to students who have completed Biology or Introduction to Psychology.

**INTRODUCTION TO DESIGN: HOW TO MAKE ALMOST ANYTHING**

All terms; 1 course credit  
MD340

This course is a hands-on introduction to being a 21<sup>st</sup> century maker-scholar-inventor that meets students where they are. It is a makers' workshop, a design lab, and a creative-programming studio, intended to provide a supporting framework for students' research and development as they build innovative projects of their own design. This class focuses on storytelling and narrating what we do, documenting projects and generating a shared dialogue of what is observed and learned along the way. Meetings create a research space within which students pursue creative work that is conceptual, making vigorous engagements with historical, cultural and social aspects of the contemporary world. Students also create technical works that range from simple, "lo-fi" prototypes made from simple materials like cardboard to "HD" representations that might include virtual reality or e-textiles, for example, to make objects and products of their own design. This class is preeminently a place for students to ask questions, seek guidance, and exchange ideas. Course meetings consist of a combination of roundtable discussions, reflective writing, group "critiques," 5-minute presentations, design thinking exercises, and focused topic-and-tool-specific workshops. Open to fifth and sixth formers, and fourth formers with permission of the instructor.

**CREATING COMMUNITY CREATIVITY**

Spring term; 1 course credit  
MD350

Are you ready to engage with your community at a deeper level? This course is designed to challenge students to break down the barriers to innovative thinking and action so as to positively and confidently impact a community with which they affiliate. Students are provided with the permission, the environment, and the tools to further develop their powers of insight, observation, effective communication and empathy along with those of creative expression and problem-solving. In the first half of the course, students examine aspects of creativity and the iterative design-thinking process through the interpretation of assigned materials (readings, videos, etc.) and interactive mini-projects. Students are encouraged to explore through regular reflection, feedback and exchange of ideas via synchronous and asynchronous discussion and interaction with the surrounding community including local

innovators. In the second half of the course, as part of a final project, students work together or individually to propose and fully develop creative, practical solutions to identified community challenges. Open to fifth and sixth form students.

**JOURNALISM AND NONFICTION STORYTELLING**

Year; 3 course credits  
MD375

This course offers opportunities to learn and practice good storytelling, a skill essential to any field of work or study. What are the essential elements of a good story? What makes a story compelling to a reader, viewer or listener? How can smart statistics, rhetoric, and even economy of words strengthen a story? Students study and analyze long article nonfiction work from contemporary writers such as Ta-Nehisi Coates, Janet Malcolm and John McPhee, and work both individually and collaboratively on writing projects and presentations that address a variety of contemporary issues and events. Feedback is an essential element of the course. Workshopping provides opportunity to both give and receive constructive feedback. Students also practice data-gathering skills through targeted lessons in statistics and probability. While these skills support journalism in a written form, they also allow students to explore media including infographics, podcasts, and photojournalism. The course will enhance students' abilities to tell compelling stories with well-sourced data that is contextualized in service of the personal narrative. Open to sixth formers.

*Note: This course satisfies the sixth form English diploma requirement.*

**PUBLIC SPEAKING**

All terms; 1 course credit  
MD400

Effective oral expression is the first pillar of communication. In this course, students work toward expressing themselves with skill and purpose in all basic modes of public speaking: extempore, from notes, and from a formal text. The basics of good public speaking are discussed initially, and models from excellent addresses are observed frequently. Students also evaluate speakers on campus throughout the term. However, the majority of the class is spent speaking before one's peers. Students are responsible not only for planning and delivering as many as eight or nine speeches of different types, but also for both providing and profiting from the suggestions of one another. This experiential and analytic approach is the heart of the course. The iPad is used to further support the effort to help students "see" and imagine themselves as public speakers. Mixed among their more formal presentations, extemporaneous speaking is designed as both a fun and challenging change of pace. Confidence in and enthusiasm for self-expression are the twin goals. Open to all students.

**INTRODUCTION TO LOGIC**

Spring term; 1 course credit  
MD406

Virtually every human activity involves reasoning and argumentation. We use reasoning and argumentation whenever we solve problems, make decisions, unravel mysteries, or interpret works of art. Logic seeks to clarify reasoning, to separate good reasoning from bad, and to analyze and appraise arguments. In this course, students approach logic from both formal and informal perspectives. Students study the principles of correct reasoning, construct proofs, and develop the skills that are required to apply these principles in everyday life. During the term, students work to solve many "brain teaser" type problems and answer practice questions from the Law School Admission Test. Issues of proof, meaning, and semantics that are found in introductory college-level philosophy and logic courses are also considered. Open to fifth and sixth formers, and fourth formers with permission of the instructor.

**VISUAL MATHEMATICS**

Spring term; 1 course credit  
MA417

Mathematical concepts are embedded in many art forms—whether they were intended by the artist or as a result of what was aesthetically pleasing to the eye. This course offers students the opportunity to explore these connections from a mathematical perspective. Topics from geometry, such as constructions, proofs, the Golden Ratio, similarity, and polygons are explored. From analytic geometry and algebra, students work with transformations, compositions, vectors, matrices, fractals, and the Fibonacci sequence. Three dimensional constructs, including polyhedra, Platonic and Archimedean solids are included. Students complete art projects in relation to each topic throughout the term. Creations will include mandalas, friezes, and tessellations, as well as three-dimensional and computer-generated pieces. Open to students who have completed Geometry.

**STRATEGIC DECISIONMAKING**

Fall, spring terms; 1 course credit  
MA418

This case study-driven course examines leadership, strategy and negotiation techniques responsible for successful boardroom turnarounds and perilous Mt. Everest summit failures. Simulating a practical environment, student teams apply a problem-based learning system to research and present conclusions throughout the term. Another course component exposes students to basic financial statement analysis and an introduction to industry recognized corporate valuation techniques. As the course concludes, teams apply these skills through an exploration of the energy markets, specifically targeting alternative and renewable energy companies. Specific case studies may vary across sections. Open to students who have completed Algebra II.

*Note: This course earns one quantitative credit.*

**ISLAMIC CIVILIZATIONS OF THE MIDDLE EAST, HONORS**

Spring term; 1 course credit  
MD458HO

Mecca, Damascus, Baghdad, Isfahan, and Constantinople have all served as capitals for some of the most significant Islamic civilizations of the Middle East. From the rise of Islam through the fall of the Ottoman Empire, this course examines the values, traditions, and development of several Middle Eastern Islamic cultures and empires. Through the use of primary sources and visual materials, students explore the development of Middle Eastern Islamic religious thought, socio-political institutions, and cultural expressions such as art, literature, and architecture. Particular emphasis is placed on understanding works of art in their historical and social contexts. By studying a variety of primary and secondary sources students gain an understanding of and appreciation for the complexity of many of the Islamic cultures and civilizations that have called the Middle East home. Open to fifth and sixth formers, and fourth formers with the permission of the department.

*Note: This course is required for students in the HPRSS Arabic and Middle Eastern Studies Program.*

**THE GREENING OF AMERICA: THE ENVIRONMENTAL MOVEMENT, HONORS**

Fall term; 1 course credit  
MD521HO

The environmental movement in the United States has been motivated by a wide range of factors, including the natural beauty of the country, the destruction of some of that beauty, the work of naturalists, ethicists, theologians, historians and authors, catastrophic events that have captured the public's attention, and activists schooled and fueled by the sweeping changes in the 1960s. This multi-disciplinary course weaves together all of these perspectives as it traces the development of the environmental movement in the United States and the impact of key people and events on this movement and on the environment itself. The course draws from many disciplines as it examines historical, political, ethical, religious, economic and cultural aspects of the environmental movement. This course includes an experiential component that involves contact with the natural world at Choate and potentially beyond. Open to fifth and sixth formers, and fourth formers with the permission of the HPRSS department.

**SEMINAR IN ART HISTORY, HONORS**

Spring term; 1 course credit  
MD625HO

This seminar considers the architecture of Choate Rosemary Hall and its historical antecedents from Italy, England, and America. Considerable study is devoted to Ralph Adams Cram's Seymour St. John Chapel and Archbold Hall, I.M. Pei's Paul Mellon Arts Center and Icahn Center for Science, and Pelli Clarke Pelli's Lanphier Center. Students acquire an understanding of the principles of these buildings, their place in the history of architecture, and their impact on teaching and learning at our school. From examining the architectural components of a structure to appreciating the structure's physical and emotional impact on its surroundings, students learn to how to analyze a building critically. Students

are expected to play an active role in seminar discussions, to read scholarly material, to complete a creative assignment, and to lead class discussions from time to time. While no prior knowledge of art history is required, students should have a strong interest in the subject and excellent analytical skills. This course earns one visual arts credit. Open to sixth formers, and fifth formers with permission of the instructor.

## ONLINE AND HYBRID COURSES

Choate's online courses seek to introduce students to the essential skills and strategies of online learning, encouraging academic autonomy and an independent work ethic while broadening our curricular offerings. Online courses promote flexibility in a student's program of study, providing time and space for the focused and sustained pursuit of both academic and extracurricular passions. At the same time, these courses offer opportunities for belonging to virtual communities of learners who work together on shared tasks and connect through common interests.

### **BEGINNING ARABIC**

Year; 3 course credits  
AR120

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

*Note: AR120 does not prepare students to enter AR250HO, Second Year Arabic.*

### **ACCELERATED GREEK SEQUENCE**

Fall term; 1 course credit or Year; 3 course credits

Beginning Attic Greek is a collaborative online class which employs both synchronous and asynchronous web tools in teaching and learning. This course not only introduces the vocabulary, forms, and syntax of Attic Greek, but also the thoughts, feelings, and actions that characterized Greek culture. When we say "Attic Greek," we mean the Greek of Periclean Athens, when the civilization was at its apex. We use a mixture of online modules to provide grammatical and syntactical lessons along with textbook work to supply grammatical practice and readings in authentic Greek. Additionally, we use a suite of web-enhanced tools and applications to connect students at different ESA peer institutions in their endeavor to learn Attic Greek together. The course features project-based and collaborative assessments, using both translation and composition. Students submit weekly work for assessment and self-evaluation to chart their own progress. The course also includes some self-directed research projects which allow students to explore individual interests. This course is offered by the Eight Schools Association and is taught by a teacher from Phillips Academy. ESA students may take the course for the first term or for the full year. Open to all Choate students, with permission of the Language department.

### **THEATER HISTORY**

Spring term; 1 course credit  
TA320

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

### **WATER AND HUMANITY, HONORS**

Winter and Spring; 2 course credits

Water and Humanity examines the dynamic and tenuous relationship between water resources and human development. Exploring water from a multidisciplinary, project-driven perspective, students think critically about the central role water has played and must continue to play in the viability and vitality of all civilizations, as well as the many challenges that people face in sustaining, protecting, and gaining access to usable fresh water. Students encounter diverse materials, use holistic approaches,



and engage in innovative project planning to consider, understand, and propose solutions to complex water issues. This fully online course involves using Canvas, online videoconferencing, web-based communications technologies, as well as field research and project development. This course focuses on the value of water and on the issues that water scarcity presents within the contexts of such elements as religious belief and practice, the human-water relationship in fine art and architecture, national and imperial infrastructure, and industrial development. Students also think about the place of water in their own local, regional, and global communities, while researching and proposing their own solutions to complex multidisciplinary water issues. Through collaborative projects with opportunities for innovation and a final capstone, students enjoy the advantages of this online and interdisciplinary platform, which enables them to engage in dialogue and collaboration across the Eight Schools Association, with the goal of furthering thinking and conclusions about water's central dilemmas. This course is offered by the Eight Schools Association and is taught by a teacher from Lawrenceville. Open to sixth formers.

In addition to the online courses above, the following hybrid learning opportunity is available. Hybrid courses combine online work and synchronous online meetings with in-person interaction among participating students and teachers.

#### **DEMOCRACY, MEDIA, AND POLITICS**

Spring term; 1 course credit  
PS433AD

All politics are now mediated. Print media, radio, television, the Internet, and social media infuse our culture and transform the presentation of issues, candidates, and the daily practice of politics. To understand politics, one must understand the role of media in politics. This course is taught both online and blended to promote student-directed investigations and conclusions to the questions posed at the start of the course that guide the term's work. For example, in spring 2017 the course questions were: Why did Donald Trump win the 2016 Presidential election? How did the media influence the outcome, if at all? How did the media's role change in the 2016 election, if at all? This course is offered as a hybrid course in order to include students from other schools in the Eight Schools Association (ESA). Open to all students from the ESA schools; at Choate, open to fifth and sixth formers, and fourth formers with the permission of the HPRSS department.

## **SCIENCE**

Our objective in the Science Department is to give students a better understanding of, and a deeper appreciation for, the natural world. We are confident that the insights they gain through their study of science will contribute to their lives in a variety of important ways: it will improve their skills in critical thinking and problem solving; it will inform their decision making about scientific issues; it will give them confidence and resources to tackle an array of global problems related to resources and technology; and ideally, it will enhance their enjoyment of nature's marvels and encourage them to pursue further study in those areas of science which most excite them. Through our varied curriculum we train students to think critically and communicate clearly about scientific topics, we encourage curiosity and experimentation, and we teach techniques and technologies that are most useful in scientific research.

The study of physical sciences (physics and chemistry) acquaints students with the laws governing the inanimate universe and promotes quantitative scientific thinking and problem-solving skills. The study of biology introduces students to principles that connect all life on our planet and gives an important perspective on the human species. Because we view both areas of learning as critical for students at the secondary school level, we require that all students take a full year of a physical science (either physics or chemistry) and a full year of biology. These courses include a rich laboratory program, as direct, hands-on experience with measurement and data analysis helps students become fully aware of the challenges, limitations, and the excitement of doing scientific research.

Although only two years of science are required, we strongly recommend that all students take all three core science courses – physics, chemistry and biology – in that order. This sequence puts the most fundamental topics first, so that later courses can build upon central concepts taught in earlier ones. We work with students who enter Choate Rosemary Hall in the fourth, fifth, or sixth form year to place them appropriately into our science sequence.

Introductory (first-year) courses are offered at regular and honors levels in physics, chemistry, and biology, and laboratory work is an integral part of these courses. Honors courses are designed for students with particularly strong aptitude and interest, and entrance into these courses requires permission of the department. Elective courses are offered in each of these three areas and also in environmental science. These elective courses, cover a wide variety of specific topics and run the gamut from year-long college-level courses to one-term introductory courses at regular, advanced, and honors levels. For sixth formers who wish to pursue intensive course work in one particular area and then devote themselves to a project of their choosing, the Capstone Program is available by application. For rising fifth formers who wish to involve themselves in serious, original scientific investigation, the Science Research Program provides an amazing opportunity. Viewed as a whole, the courses and opportunities available in the Science Department enable students to design programs with the balance, rigor, and depth appropriate for their ability levels and interests.

– Benjamin Small, Department Head

*Note: Students planning to study biology while participating in a Study Abroad Program should read the note at the beginning of the Biology course listing and consult the head of the Science Department if there are any questions.*

## THE PHYSICAL SCIENCES: PHYSICS

### PHYSICS: MECHANICS TO WAVES

Year; 3 course credits

PH200

This introductory laboratory course introduces students to the fundamental principles that describe the physical universe. Mathematical equations are used to further students' understanding of relationships and physical laws. Regular lab exercises emphasize data collection, analysis, and hands-on experimentation. Topics include motion, forces, energy, waves, light, electricity, magnetism, and atomic physics. Problem sets are used throughout the year to supplement a largely conceptual textbook. Due to a difference in the sequence of topics, changes between PH200 and PH203 are not allowed after the second week of the fall term. Open to third and fourth form students who have completed Algebra I and have the permission of the department.

### PHYSICS: WAVES TO MECHANICS

Year; 3 course credits

PH203

A parallel course to PH200, this introductory laboratory course is designed specifically for students who are not as far along in their algebra studies or who are not confident in their algebra skills. PH203 uses the same textbook and covers essentially the same topics as PH200, but in a different order. The fall and winter terms focus on the more conceptual topics of waves, light, electricity, magnetism, and atomic physics. The more quantitative topics of motion, forces, momentum, and energy are covered in the spring term, when students are further along in their mathematical study. Regular lab exercises emphasize hands-on experimentation and application. Due to a difference in the sequence of topics, changes between PH200 and PH203 are not allowed after the second week of the fall term. Both PH200 and PH203 prepare students to move on to CH300. Open to third and fourth form students who are enrolled in Algebra I or at the recommendation of the department.

### PHYSICS, HONORS

Year; 3 course credits

PH250HO

This first-year laboratory course in physics is designed specifically for students with a keen interest in science and strong mathematical ability. The major areas of physics, such as motion, forces, energy, waves, light, electricity, magnetism, and nuclear reactions are explored. Regular lab exercises focus on data collection and analysis, experimentation, and real world applications. Open to third and fourth form students who have completed Algebra I and have the permission of the department.

### PHYSICS

Three terms; 1 course credit (each term)

PH401 (fall); PH402 (winter); PH403 (spring)

This laboratory course, taught as three consecutive term courses, is designed for students who enter Choate in their fifth or sixth form year. Taken sequentially, these courses cover a full-year of introductory physics. The emphasis of this sequence of courses is an investigation into the fundamental principles of physics and how they relate to the students' own real world experiences. Topics include motion, forces, energy, waves, light, electricity, magnetism, and nuclear physics. Open to fifth and sixth form students who have completed Algebra I and who have not previously taken introductory physics at a high school level.

*Note: Students who have completed PH200, PH203, or PH250 are ineligible for PH401, PH402, and PH403.*

### REVERSE ENGINEERING: HOW THINGS WORK

Winter term; 1 course credit

MD230

This course introduces students to general principles of product design and function and examines some of the engineered items all around us. Students learn to take apart various mechanical and electrical devices and examine how component parts work together. Engineering skills such as sketching, 3D modeling, prototyping, testing, and clear communication are emphasized. An introduction to microcontrollers and programming is included and students build several devices of their own design. Hands-on experimentation is emphasized and students learn to use some 3D modeling software (Google SketchUp), 3D printers, and Arduino microcontrollers. Third and fourth form students have priority enrollment for this course; fifth and sixth form students may enroll with permission of the department.

### TOPICS IN ENGINEERING

Winter, spring terms; 1 course credit

MD310

This introductory course is designed to provide students with an overview of some major engineering principles and applications, as well as an opportunity to implement those principles through experimentation, design-based projects, and presentations. Topics to be covered include graphical communication and drafting, basic material science, beam mechanics and deformation, and micro-engineering. The course will provide an interdisciplinary outlet for the mathematical skills and general scientific knowledge students have already acquired and also introduce new mathematical concepts to improve their understanding of how real-world systems are designed, modeled, and fabricated. Open to students who have completed one year of physics and Algebra II.

### ASTRONOMY: THE SOLAR SYSTEM

Fall, winter term; 1 course credit

PH320

This course is a descriptive study of the historical and modern developments in astronomy that pertain to the solar system. Topics studied emphasize the historical growth of modern astronomy, the observed characteristics of the planets (also the minor members of

the solar system), and the theories that account for them. Students have the opportunity to view the night sky with the School's telescopes. This course does not satisfy the physical science requirement. Open to all students.

#### **ASTRONOMY: STARS AND GALAXIES**

Winter, spring term; 1 course credit  
PH330

This course is a descriptive study of historical and modern developments in astronomy with particular emphasis on stellar and galactic astronomy. The observed characteristics of stars and galaxies, the basic types and functions of telescopes, and the theories and physical laws of stellar evolution and stellar groupings are investigated. Students have the opportunity to view the night sky with the School's telescopes. This course does not satisfy the physical science requirement. Open to all students.

#### **ELECTRONICS**

Winter term; 1 course credit  
PH460AD

This laboratory course introduces students to both the principles and the techniques of electronics. Resistors, capacitors, inductors, diodes, transistors, and other electronic devices are investigated in the classroom and in the laboratory. Students develop their experimental skills with multimeters, breadboards, oscilloscopes, and soldering irons, and practice building and analyzing circuits. Each student finishes the course with a modest project of their own choosing. Open to students who have completed one year of physics.

#### **ASTROPHYSICS, HONORS**

Spring term; 1 course credit  
PH480HO

The interrelation of the fundamental laws of physics and the behavior of the universe is examined in this laboratory course. More specifically, students investigate gravity, electromagnetism, nuclear reactions, light, and quantum mechanics and their relationship to such phenomena as orbits, stellar spectra, stellar energy generation, stellar evolution, galactic dynamics, the "Big Bang," and the evolution of the universe. Open to students who have completed one year of physics.

#### **ADVANCED PHYSICS (TRIGONOMETRY), HONORS**

Year: 3 course credits  
PH550HO

This second-year laboratory course builds on the conceptual understanding attained in a first year physics course and provides a rigorous, trigonometry based study of fundamental principles and natural laws. Emphasis is placed on problem solving and experimentation. Topics include: motion and Newton's laws, (including angular and rotational topics), gravitation, momentum and energy, mechanical waves and sound, electromagnetic waves, and some electricity and magnetism topics. This course is designed for students who had a good experience with first-year physics but who are not yet ready for a calculus-based study. Open to students who have completed one year of Physics and Algebra II, and have the permission of the department, and are at least concurrently enrolled in Precalculus,

#### **ADVANCED PHYSICS (CALCULUS)**

Year: 3 course credits  
PH650HO

This advanced laboratory course provides a thorough, college-level, calculus-based study of introductory classical mechanics, electricity, and magnetism. Open to students who have completed Physics, have completed or are currently enrolled in Calculus with Infinite Series (MA561HO - MA564HO), and have permission of the department.

### **THE PHYSICAL SCIENCES: CHEMISTRY**

#### **CHEMISTRY**

Year; 3 course credits  
CH300

This introductory laboratory course in inorganic chemistry explores fundamental principles of the discipline, including atomic theory, periodic law, chemical bonding, acid-base behavior, chemical equilibrium and electrochemistry. Laboratory experiments reinforce what students learn in the classroom and demonstrate principles of the scientific method and laboratory experimentation. Contemporary techniques for gathering and analyzing data are stressed as a means of obtaining evidence and verifying its reliability. By searching for regularities and patterns observed in the laboratory, students explore the behavior of many substances common to everyday life. Open to fourth, fifth, and sixth form students who have completed Algebra I.

#### **CHEMISTRY, HONORS**

Year; 3 course credits  
CH350HO

For students with a keen interest in science and with strong quantitative ability, this first-year laboratory course explores the principles of inorganic chemistry, including atomic theory, stoichiometry, thermochemistry, chemical bonding, periodic law, acid-base behavior, kinetics, reaction equilibria, and electrochemistry. Students are involved in an intensive laboratory curriculum. Through experiments and lab-based projects students acquire extensive experience with computer-assisted monitoring and analysis of experimental data. Open to fourth, fifth, and sixth form students who have completed one year of Physics and have the permission of the department.

#### **CHEMISTRY OF FOOD**

Spring term; 1 course credit  
CH430AD

Have you ever wondered why chili peppers burn your tongue or what the difference is between saturated and unsaturated fats? What happens when bread rises, when eggs cook, or when a banana ripens? All of these involve structural chemical changes or chemical reactions. Students who enjoyed chemistry the first time around will benefit from the chance to explore these real applications of chemistry that are centrally important to our daily lives. In this course students study the components of food, explore commercial and home processing of food, and learn how food is transformed by various cooking techniques. Readings,

tastings, field-trips, and lab activities will be used to enhance student understanding of this vitally important part of life. Open to students who have completed one year of Chemistry.

#### **ADVANCED CHEMISTRY, HONORS**

Year; 3 course credits  
CH550HO

This rigorous study of chemistry digs deeper into topics covered in a first year chemistry course including: atomic theory, bonding, reactions, stoichiometry, equilibrium, thermodynamics, and kinetics. Many applications of chemistry are explored, with a goal of understanding current events and the environment. Extensive lab work is required, including several inquiry-based exercises. Students develop the ability to work collaboratively in the lab by designing and conducting several project-length experiments. Students also complete a research project or group project on a topic of their choosing during the spring term. Open to students who have completed one year of chemistry (CH300 or equivalent), have completed Algebra II, and have the permission of the department.

### **ADVANCED TOPICS IN CHEMISTRY**

#### **ADVANCED INORGANIC CHEMISTRY I, HONORS**

Fall term; 1 course credit  
CH651HO

This course provides a thorough study of advanced stoichiometry and equilibrium systems with a focus on laboratory analysis. Topics include advanced acid-base theory, solubility equilibria, and thermodynamics. Students spend several weeks synthesizing and analyzing a coordination compound. Open to students who have completed one year of chemistry (CH350HO or equivalent), have completed Algebra II, and have the permission of the department.

#### **ADVANCED ORGANIC CHEMISTRY, HONORS**

Winter term; 1 course credit  
CH652HO

A study of the molecular structure and behavior of carbon compounds, this laboratory course explores the basic molecular patterns of the large organic molecules which are critical to life on earth. Molecular bonding and structure are examined with an eye towards understanding the physical and chemical properties of organic molecules. Kinetics and synthetic pathways of elementary organic reactions are examined in and out of the laboratory. Extensive experimental work is an integral part of the course. Projects include the isolation of orange oil and the synthesis of a soap from nutmeg. This course is the second term of the three-term Advanced Topics in Chemistry sequence; however, it may also be taken by an interested student as a stand-alone course. Open to students who have completed one year of chemistry (CH350HO or equivalent), have completed Algebra II, and have the permission of the department.

#### **ADVANCED INORGANIC CHEMISTRY II, HONORS**

Spring term; 1 course credit  
CH653HO

Students complete a review of thermochemistry, thermodynamics, and electrochemistry. Students also undertake an individual

or group research project in the spring term. Past projects have included preparation of biodiesel fuel from Dining Hall vegetable oil, poster projects of historically significant molecules, and design and presentation of unique chemical demonstrations. Open to students who have completed either: CH651HO or CH652HO and have the permission of the department.

### **THE BIOLOGICAL SCIENCES**

**A note for students participating in a Study Abroad Program who wish to take biology:** Students who wish to study abroad for a term generally are not able to sustain their study of biology during their term away from campus. The policies of the Science Department are intended to achieve a balance between supporting students who participate in a program abroad and maintaining the integrity of our courses and our requirements.

#### **Fall term away**

A fifth form student who studies abroad during the fall term has two options:

1. The student can enroll in the BI401 / BI402 sequence upon returning to Choate. With permission of the department, a strong student in BI401 may fulfill the final term of the requirement by taking BI580HO (Cell and Molecular Biology) or BI590HO (Genetics) in the sixth form year. There is no honors-level equivalent to BI401 or BI402.  
*Note: Depending on enrollment, the BI401 / BI402 sequence does not always run.*
2. A student who has the permission of the department and who does some independent work before winter term (under the guidance of the teacher) can join BI450HO for the winter and spring terms. This option must be planned well in advance of the student's term abroad. The student must complete the biology requirement with a one- or two-term laboratory based elective in either biology or environmental science in the sixth form year.

#### **Winter term away**

A fifth form student who studies abroad during the winter term may take BI401 upon returning in the spring and BI402 in the fall of the sixth form year or could take the winter and spring terms of BI400 in the sixth form year.

#### **Spring term away**

A fifth form student who studies abroad during the spring term can take BI400 or BI450HO in the fall and winter before going away. The student fulfills the third term of the biology requirement in one of the following ways:

1. A BI400 student takes BI402 the following fall term or, with the permission of the department, may take either BI580HO (Cell and Molecular Biology) or BI590HO (Genetics).
2. A BI450HO student must complete the requirement the following year with any one- or two-term laboratory-based elective in either biology or environmental science.

## **BIOLOGY**

Year; 3 course credits

BI400

This introductory laboratory course explores fundamental topics of biology, ranging from cellular biochemistry to the study of ecosystems. An understanding is developed by investigating the flow of energy through biological systems, studying changes within populations due to evolution, reproduction and genetics, and by examining the ability of organisms to respond to their environment. Open to fifth and sixth form students who have completed physics and/or chemistry. Open to fourth form students who have completed physics and/or chemistry on a case-by-case basis with permission of the department.

## **BIOLOGY**

Three terms; 1 course credit each term

BI401 (Winter and spring terms); BI402 (Fall term of following year)

This two-term sequence, designed for fifth formers who go abroad for one term, is similar in content to BI400 but begins in the winter and is staggered behind BI400 by one term. Those who study abroad in the fall can begin the sequence in the winter; those who are abroad in the winter return to BI401 in the spring, and those who are abroad in the spring finish the sequence with BI402 in the fall of their sixth form year. Open to fifth and sixth formers who have completed physics and/or chemistry.

*Note: The series is strictly for students who are off-campus for one term.*

## **CURRENT TOPICS IN BIOLOGY**

Winter term; 1 course credit

BI410AD

Newspapers, news reports, weekly magazines, even best-selling books and hit movies increasingly address current issues in biology: the ethics of genetics research; advances in reproductive technology; the controversy surrounding global warming; increasing bacterial resistance to antibiotics; the many uses and manipulations of DNA; HIV and AIDS incidence and research; the emergence of new diseases; and human impact on the environment, to name a few. This course draws on the current literature to study some of these important and interesting topics. The course stresses both individual and group work, with each student responsible for two significant projects during the term. Open to fifth and sixth form students who have completed or are enrolled in biology. *This course fulfills the requirement in contemporary global studies.*

## **BIOLOGY, HONORS**

Year; 3 course credits

BI450HO

Designed for students with demonstrated interest and ability in science, this first-year laboratory course presents topics of basic biochemistry, cell structure and function, comparative anatomy and physiology, genetics, and ecology. All of the subject matter is presented within the context of modern evolutionary theory and human interaction with the environment. Reading and discussion of current scientific literature are also an integral part of the course. Open to fifth and sixth form students who have completed physics and chemistry, and have the permission of the department.

*Note: BI450HO is not open to students who have already completed a year of high school biology.*

## **ANIMAL EVOLUTION/COMPARATIVE PHYSIOLOGY**

Spring term; 1 course credit

BI465AD

This laboratory course considers the great variety of complex organ systems and physical structures that have evolved in animals through natural selection. Students investigate adaptations and variations in the major animal phyla, including an examination of different approaches to reproduction, embryological development, gas exchange, excretion, and skeletal structure. The evolution of vertebrates from invertebrates provides structure to the course. The course ends with a look at the comparative physiology of vertebrates, which allows students to see the evolutionary relationship among the major vertebrate groups: fish, amphibians, reptiles, birds, and mammals. Extensive laboratory work is done, including the study of preserved specimens, and the dissection of representative invertebrates and vertebrates. Open to students who are currently enrolled in biology or have completed one year of biology.

## **HUMAN ANATOMY AND PHYSIOLOGY, HONORS**

Fall and winter terms; Winter and spring terms; 2 course credits

BI570HO (Fall and winter); BI571HO (Winter and spring)

This two-term laboratory course begins with a microscopic study of tissues and then explores the structure and function of several of the major systems of the human body. Laboratory work includes a systematic dissection of a cat, plus a study of other specimens. Reading and discussion of current scientific literature, especially in the areas of health and disease, are an integral part of the course. Open to students who have completed one year of biology or students who have completed two terms of biology and have participated in a Study Abroad Program.

## **ADVANCED TOPICS: ANATOMY AND PHYSIOLOGY, HONORS**

Spring term; 1 course credit

BI575HO

This one-term laboratory course expands on the study of human anatomy and physiology begun in BI570HO. Students move into more complex topics such as immunity and the body's defensive systems, human reproduction, embryology, growth, and development. In addition to a body systems study, students will look further into diseases and modern treatments. Open to students who have completed BI570HO or by permission of the department.

## **COGNITIVE NEUROSCIENCE, HONORS**

Spring term; 1 course credit

MD330HO

One of the fastest growing research areas in science is neuroscience. Cognitive and behavioral studies have attracted considerable popular and scientific attention in recent years and new techniques have opened up novel avenues for exploration. This course provides an introduction to the cellular and molecular mechanisms of neuronal function, and examines how cognitive processes

can be explained by the structure and function of the brain. Beyond foundational knowledge and empirical methodology in neuroscience, this class also explores data from current studies in neurobiology and cognitive sciences. Open to students who have completed Biology or Introduction to Psychology.

#### **CELL AND MOLECULAR BIOLOGY, HONORS**

Fall and winter terms; 2 course credits  
BI580HO

The bedrock of disciplines ranging from medicine to bioengineering, modern molecular biology is the study of how genes in a cell guide the production of biomolecules needed for life. In this laboratory based course, students explore how molecular biology can be harnessed to understand the nature of disease, produce targeted therapies, and engineer new biotechnologies. Students gain hands on experience in modern experimental techniques including DNA and protein analysis, and genetic engineering, apply their knowledge of molecular biology to read primary scientific literature and complete a long-term project. Open to fifth and sixth form students who have completed one year of biology.

#### **GENETICS, HONORS**

Spring term; 1 course credit  
BI590HO

The discovery that DNA is the blueprint for life was one of the great scientific advancements of the 20<sup>th</sup> century. Since then, improvements in DNA sequencing and analysis have revolutionized the field of genetics and opened the door to advances in both science and medicine. This course explores advances in genomic research, as well as the personal and societal risks that come with whole genome sequencing and genetic engineering. Additionally, students explore the interplay of genes and environment through non-Mendelian modes of inheritance. This course uses laboratory, seminar, and project-based methods. Open to fifth and sixth form students who have completed one year of biology.

### **THE ENVIRONMENTAL SCIENCES**

#### **GLOBAL SCIENTIFIC ISSUES: SEARCHING FOR SOLUTIONS**

Spring term; 1 course credit  
ES220

This course examines various scientific problems confronting the human species on our fragile planet and also looks at ideas for combating these problems. What sources of energy will best serve humankind in the future, while doing the least harm? How can we best employ water, for personal use and irrigation, without leading to health problems and soil degradation? What are the causes and effects of global warming, and how can the earth's temperatures be stabilized? What measures have proven effective, and what innovations may be employed in the future, in controlling AIDS, malaria and possible pandemics? How will the growing populations of the world obtain adequate nutrition and shelter? These questions call upon students to consider various viewpoints as they seek ways to achieve sustainability for the human species. The course includes oral presentations or debates as well as writing and

assessments. Open to third and fourth form students. *This course fulfills the contemporary global studies requirement.*

#### **THE GEOLOGY SEQUENCE:**

ES310, ES320 and ES330 together are a three-course sequence that introduce students to the dynamic processes and materials that are involved in the formation and ongoing remodeling of our planet.

#### **THE DYNAMIC EARTH**

Fall term; 1 course credit  
ES310

This course examines the structures of the Earth and the mechanisms by which our planet evolves. Plate tectonics and the heat engine that is the earth's core are explored. Students also study earthquakes and volcanoes to understand these processes and their effects on our planet and on the human population. Open to all students.

#### **THE EARTH'S MATERIALS**

Winter term; 1 course credit  
ES320

Minerals, rock types (igneous, sedimentary, metamorphic), and the rock cycle are studied in this course. Students examine the valuable geologic resources (fossil fuels, gems, precious metals) required by humans and look at the global impact of the exploitation of those resources. Open to all students.

#### **THE EARTH'S LANDSCAPES**

Spring term; 1 course credit  
ES330

Students explore the geologic processes that have given rise to the physical geography of the planet's surface, answering the question—why does the Earth look as it does? Mountain belts, the ocean floor, and glaciers are studied as dynamic processes at work on the Earth's surface. Open to all students.

#### **MARINE SCIENCE**

All terms; 1 course credit  
ES460AD

Combining a study of the biological, physical, and chemical aspects of the marine environment, this course stresses interrelationships and therefore focuses on specific ecosystems, including coastlines, estuaries, marshes, coral reefs, and the open ocean. A field trip provides opportunity to learn analytical techniques and to study the distribution of organisms. Open to fifth and sixth form students who have completed at least one year of a laboratory science.

#### **ENVIRONMENTAL SCIENCE, HONORS**

Fall and winter terms; 2 course credits  
ES550HO

This two-term laboratory course introduces the scientific principles underlying environmental processes and students develop the analytical skills required to evaluate various forms of evidence in environmental study. Because appreciating environmental issues requires synthesizing scientific and social perspectives, this course provides a background in Earth's biological, geological and chemical systems and explores major environmental issues from

historical, political, economic, and ethical viewpoints. Major course topics include population biology, biome ecology, energy flow and geochemical cycles, climate, pollution, biodiversity and resource use. Open to fifth and sixth form students who have completed (or are currently enrolled in) one year of chemistry and one year of biology, or have the permission of the department.

#### **ADVANCED TOPICS IN ENVIRONMENTAL SCIENCE, HONORS**

Spring term; 1 course credit  
ES555HO

This laboratory course allows students to delve further into the study of select major environmental issues, begun in ES550HO. Topics may include global warming, recycling of materials, air pollution, drinking water, and various environmental toxins. Supplementing classwork are field studies and trips that emphasize a hands-on, interdisciplinary approach to environmental assessment. Experiencing and understanding the plant and animal life common to New England fields and forests, students spend much of the spring also studying the re-emergence of life near Choate's campus. Open to students who have completed ES550HO or with the permission of the department.

### **THE SCIENCE RESEARCH PROGRAM**

The purpose of this program is to teach students the techniques and approaches used by professional scientific researchers as they carry out scientific investigations in the laboratory and in the field. The program consists of four consecutive term courses, beginning in the fall of the fifth form year and extending through the fall of the sixth form year, and includes a required summer component (between fifth form and sixth form years) during which students work as an intern and participate in actual laboratory research. There are two sections of this program, one with a more biological focus and a second with a focus in the physical sciences. Students who wish to be considered for the program must submit an application in the winter of their fourth form year. Each section consists of eight students, who are selected based on their academic abilities and their potential to contribute successfully to the program.

#### **THE COURSES**

The goal of the on-campus course work is to teach students about various aspects of scientific investigation including research, experimental design, data collection, and data analysis, and to prepare them for their work in a research lab over the summer. Entry into the fifth form fall course is by application to the program only. All other courses have as a prerequisite the preceding course in the sequence.

#### **EXPERIMENTAL DESIGN, HONORS**

Fall term; 1 course credit  
SR485HO

The focus of this laboratory course is developing experimental methods. In the biological science-focused section, students gain hands-on experience with modern experimental techniques including DNA and protein analysis, as well as genetic engineering. In the physical science-focused section, students expand their

knowledge of sensor technology, indirect measurement techniques, quantitative analysis, and data presentation through a series of intensive research projects and labs. In both sections, formal literature searches are carried out to support each experiment or project. Thus, significant time is spent mastering the use of database/search engines as well as reading through professional literature. Students also work on developing their presentation skills and begin the process of finding a summer mentor. Open to fifth formers by application in the winter of the fourth form year.

#### **RESEARCH SEMINAR I, HONORS**

Winter term; 1 course credit  
SR490HO

The focus of this laboratory course is reading professional literature and formally presenting the work of professional scientists. The underlying goal is for students to learn how to critically read complex scientific literature, make scientific presentations, and assess others' presentations. Students learn how to use PowerPoint effectively and hone their presentation skills. The process of absorbing the literature and giving presentations also guides students towards the winter goal of securing summer positions in scientific laboratories. By developing a solid understanding of the current research in a particular area, students put themselves in a strong position to discuss the possibility of summer work with scientists investigating that topic. By the end of the term, students ideally should have secured a summer laboratory position. Open to fifth formers who have completed SR485HO.

#### **PROTOCOL DEVELOPMENT, HONORS**

Spring term; 1 course credit  
SR495HO

The focus of the spring is preparing for the upcoming summer research. Securing a mentor at the beginning of the term is critical. Students then run a journal club based on an article written by their summer mentor and write a review article of the work done by their mentor and others in their field of research. The review article is a significant document that should not only prepare the student for the work they will complete in the summer, but also allow them to polish their scientific writing skills. Open to fifth formers who have completed SR490HO.

#### **SUMMER RESEARCH**

Having prepared fully for the experience, during the summer the student works full time in a laboratory setting under the guidance of their mentor scientist. Students must remain in contact with their SRP director at Choate during this summer research experience. As dictated by school policy, students do not get academic credit for this summer research and it does not count as a course on their transcripts. However, because this research is a required component of the SRP, it is acknowledged in their college paperwork.

*Note: As with all summer study undertaken by Choate students, costs are not covered by academic year tuition and fees. However, need-based financial aid may be awarded to students who otherwise could not fulfill this component of the SRP.*

## RESEARCH SEMINAR II, HONORS: STUDENT-GENERATED TOPICS

Fall term; 1 course credit  
SR500HO

The focus of the final term and the culmination of the program are a paper, oral presentation, and professional poster. The paper is a manuscript in the format of a publishable scientific work. The presentation is made in late fall to a large audience of interested members of the greater Choate Rosemary Hall community. The poster is of the quality one would find at professional scientific meetings, and will be placed on display in the Science Center. (The paper, presentation, and poster may help the student prepare for a local or nationwide competition, but the student would need to identify this goal early on in the program, as the timeline of some competitions requires paperwork to be filed well in advance of actual research. Additionally, the mentor would have to support this goal and the research would have to be worthy of submission. This is not a required aspect of the program.) In this final term of the program, sixth formers are encouraged to mentor the new fifth form students in all aspects of the SRP. Open to sixth formers who have completed SR495HO and approved summer research.

### THE CAPSTONE PROGRAM IN SCIENCE

Students who wish to pursue coursework on a focused topic and then undertake a project on that topic can devise a Capstone Program, in consultation with a teacher and the department head. Recent Capstone projects in science have investigated such diverse topics as chaos theory as applied to turbulence, diet physiology, Krebs cycle biochemistry, and the geology and chemistry of Mars.

### DIRECTED STUDY IN SCIENCE

Advanced students who wish to study a particular topic with a teacher in place of a course may apply for a Directed Study in science. The following are several Directed Studies that have been completed in the last several years:

- **ADVANCED TOPICS IN CALCULUS-BASED PHYSICS**  
Picking up where PH650HO leaves off, this Directed Study explores the use of calculus-based logic in topics other than mechanics and electricity-magnetism. Study may focus on thermal physics or on waves and light, depending on the interests of the student. It uses a college-level text.
- **ADVANCED TOPICS IN ORGANIC CHEMISTRY**  
This offering is for those students who wish to further their studies of organic chemistry after taking CH652HO, or those with a strong chemistry background who wish to pursue a special topic of interest. Students may expand their repertoire of organic reactions, further their understanding of reaction mechanisms, or learn about spectroscopic techniques used to identify new molecular structures. They may focus on a particular class of compounds such as polymers or carbohydrates; or they may review syntheses of historical significance such as that of vitamin B12.

## STUDY ABROAD

Choate Rosemary Hall is home to adults and students from around the United States and the world who learn and grow together in a close-knit community. However, Choate is but one small player on a vast world stage occupied by an increasingly diverse yet interconnected set of actors who speak, conduct business, learn, think and play in ways that cannot all be replicated on Choate's 458-acre campus. We believe that it is a 21<sup>st</sup> century imperative for young people to learn to adapt to places and cultures that are foreign to them. The sooner adolescents learn to overcome the personal challenges inherent in moving outside the familiar and encountering new cultural practices and ways of thinking, the better their chances of acquiring the level of resourcefulness, flexibility, and personal versatility that thriving in today's world demands. Our Study Abroad Programs broaden students' geographical, historical, linguistic, and cultural knowledge while maintaining Choate's high academic standards and emphasis on character and skills development. In addition, rather than offering students the typical sightseeing experience, these programs extend a rare invitation for students to immerse themselves in the language, daily routines and cultural habits of another country for an extended period of time.

Choate's Study Abroad Programs:

- enable students to improve their foreign language skills;
- build independence and self-reliance by asking students to advocate for themselves using the in-country support systems offered to them;
- foster resourcefulness and adaptability by exposing students to new ways of living and thinking;
- encourage students to reflect on their own backgrounds through the lens of the culture and attitudes of the host country;
- offer carefully tailored experiential learning opportunities for preparation as a global citizen; and
- fulfill the contemporary global studies diploma requirement

Above all, Choate's Study Abroad Programs offer a unique personal growth opportunity for the development of curiosity, creativity, and an appetite for adventure both at home and abroad.

### PLANNING AHEAD

Experience has shown that the fifth form year is the most advantageous time for students to participate in a study abroad program, although some students prefer to go as sixth formers, and outstanding fourth formers may also be selected. New fifth formers may be eligible for a study abroad program after the fall term of their first year. All students interested in study abroad should consider this opportunity ahead of time, carefully selecting their courses for the fourth, fifth, and sixth form years, so that the term abroad enhances their academic profile. Students are eligible for a study abroad program after they have successfully completed their second year of language study (second year honors level language students may attend in the spring term). More detailed information



is available from the Director of Global Programs or the individual program directors.

Students who wish to take Biology and/or United States History the year they participate in a study abroad program should consult the department course policies in this Course Catalogue. New students who would like to keep their options open for a study abroad program should indicate this fact on the course request sheet provided by the Registrar's Office.

*Note: Except for round-trip airfare, incidental personal expenses, and visa and passport fees where applicable, all costs of a term abroad are covered by the regular fees for tuition and board. Day students will need to pay the boarding supplement for their term abroad. Financial assistance, also applicable toward the transatlantic airfare and the boarding supplement for day students, is available to Choate students currently receiving financial aid.*

– Sara Boisvert, Director of Global Programs

*\*Dates and program rotation are subject to change due to enrollment numbers and other logistical concerns.*

## ACADEMIC TERM IN CHINA

Spring 2018\*

5 course credits

The Academic Term in Beijing, China immerses students in Chinese culture while dramatically improving proficiency in three modes of communication skills: interpersonal, interpretive, and presentational. Students live with host families for their entire stay in China. This homestay allows students to become part of a Chinese family and learn about Chinese culture first-hand.

Travel while in China extends into the local region including field trips from Beijing to the Forbidden City, Great Wall, Summer Palace, and Temple of Heaven. Excursions to Shanghai, Xi'an, Shangri-La in western China, and Hong Kong, allow students to compare and contrast rural and urban Chinese life.

– Carol Chen-Lin, Director

## COURSES IN CHINA

### CHINESE LANGUAGE

#### CHINESE LANGUAGE, HONORS

CNC46AD or CNC46HO

This course gives students the opportunity to expand their spoken and written knowledge of Chinese. There is a practicum class each week that takes advantage of the surrounding environment by teaching students to use Chinese in everyday life situations. Students are asked to complete such activities as buying train tickets, interviewing Chinese families, and/or making a video in Chinese. Tutorials are arranged for native speakers according to their individual needs.

### CHINESE LITERATURE

#### CHINESE LITERATURE, HONORS

CNC45AD or CNC45HO

The literary works of the period between 1978 and 1986 contain some of the richest and most poignant depictions of the political

and social changes in post-revolution China. In this course, students study English translations of contemporary short stories and reportage. The focus is on discussion of content, style, social norms and historical background. Class discussion, oral presentation, and interpretive essays are emphasized in this course.

## CONTEMPORARY CHINESE HISTORY

HIC44AD

This course examines modern Chinese society as it undergoes economic, political and social transformation in the 20<sup>th</sup> and 21<sup>st</sup> centuries. Topics include the Xinhai Revolution, the Sino-Japanese War, the Civil War, the Great Leap Forward, the Cultural Revolution, Four Modernizations and the Tiananmen Incident. Students read primary source documents in English translation and secondary studies. Field trips to different historic sites are part of this course.

## CHINESE ART

VAC43AD

This course introduces students to major artistic movements in China from the Zhou Dynasty to the present. Classes are complemented by field trips to museums and historic sites. Students are also introduced to hands-on experience in painting and calligraphy and have opportunities to attend the Beijing Opera.

## MATHEMATICS

Students continue in their sequential math courses while abroad. This class, which meets two to three times a week (approximately equivalent to the time the course meets at Choate), earns full academic credit.

## ACADEMIC TERM IN FRANCE

Winter 2018 \*

5 course credits

The Academic Term in Paris, France immerses students in the study of the history, art, language, literature, and culture of France. All classes are taught in French by native-French speakers. Students complement their academic immersion by living with host families, an experience that ensures students are exposed to French language and culture throughout their stay. In addition to their course work, each student completes an independent research project. Visits to museums, cultural landmarks, and monuments (one per class day) enhance and reinforce classroom work as do excursions outside of Paris.

– Anne Armour and Deborah Palmer, Co-Directors

## COURSES IN FRANCE

### SPEAKING AND WRITING

#### SPEAKING AND WRITING, HONORS

FRF46AD or FRF46HO

The focus of the work in this course is the student's daily journal. Classes are devoted to the study of grammatical points which are then to be explored in journal entries and to the systematic acquisition of vocabulary relevant to daily life in France. Students study current events to spark discussion on a wide variety of issues

affecting modern France and Paris. The ability to interpret and express oneself about current events using idiomatic expressions learned in situ builds a strong base for the understanding of language married to culture featured at subsequent levels of the French curriculum on campus.

#### **FRENCH EXISTENTIALISM**

##### **FRENCH EXISTENTIALISM, HONORS**

FRF45AD or FRF45HO

Students are exposed to the rigors of literary French as they become acquainted with some of the most important literary and philosophical moments of the 20<sup>th</sup> century. Prose works from Albert Camus and Jean-Paul Sartre frequently form the core readings. While writing about literature, students work on presenting both reactions to and analyses of literature in well-structured paragraphs and essays, with particular attention to precision of expression.

#### **FRANCE SINCE THE MIDDLE AGES**

HIF44AD

This course covers the major movements and events in French history from the Middle Ages to the present (such as the development of a centralized nation, the classicism of the Louis XIV era, the Enlightenment which led to the French revolution, the rise and fall of Napoleon, and the industrial era). The history and art history classes enrich each other in the exchange of context and images. Teacher-guided visits to Parisian museums and monuments such as Notre Dame de Paris, the Musée de Cluny, the Musée Carnavalet, the Palace and Gardens of Versailles and the Hôpital et Musée des Invalides, bring to life classroom presentations and nightly readings. Students are taught to analyze a variety of historical documents and to develop knowledge of French institutions that can inform their study of the greater Francophone world, a focus of higher levels of the French curriculum on campus.

#### **ART HISTORY THROUGH FRENCH MUSEUMS**

VAF43AD

This course introduces students to the major artistic and architectural movements in France and Europe, starting with Greek and Roman influences and moving through the Middle Ages, the French Renaissance, baroque art, classicism, neo-classicism, and the various movements of the 19<sup>th</sup> century, culminating with the beginnings of modernism. Classes are complemented by teacher-guided visits to museums and monuments. Written work takes the form of a cahier de visites in which students relate impressions of each afternoon excursion. The "reading" of cultural documents other than written texts (in this case paintings, drawings, sculpture and architecture) prepares students for such analysis at the advanced language level. Museums and sites visited include the Notre-Dame de Paris, and the Musée du Louvre among others.

#### **INDEPENDENT PROJECT: CONTEMPORARY FRANCE**

FRF42AD

With the help of a project adviser, students work from early in the term to choose, design and develop an independent research project based on an artistic or cultural topic beyond the classroom curriculum. Students meet regularly with the adviser to discuss ways to accomplish independent research and, with guidance, are

responsible for pursuing their project according to project-dictated deadlines. Students are encouraged to use interviews with Parisians, museums, monuments, libraries, and the city itself as source material. Providing a framework for the development of interpretive and presentational skills, a project presentation and a research paper delivered at the end of the term complete this course.

#### **MATHEMATICS**

Students continue in their sequential math courses while abroad. Tutorials, which meet once a week for one hour, are arranged to cover the essential topics of the term missed. The tutorials are designed to allow for students to transition back into their appropriate course upon returning to campus.

### **CLASSICAL STUDIES IN ITALY**

Fall 2017\*

5 or 6 course credits

Choate Rosemary Hall students have the opportunity to be boarding students for the fall term at St. Stephen's School, a day and boarding international high school located in the heart of Rome, Italy. St. Stephen's offers a rigorous academic program taught in English, that prepares their students for both the International Baccalaureate and an American High School diploma.

Of particular interest to Choate Rosemary Hall students of the classical languages, this program offers students the chance to pursue their studies in one of the premier historical centers of Western civilization. The variety of course offerings at St. Stephen's facilitates the fulfillment of diploma requirements and limits disruption of the Choate curriculum.

*Please note that non-Classics students interested in studying in Italy should have already fulfilled their diploma requirement for foreign language.*

*– Mary Elizabeth Williamson, Program Coordinator*

The courses below are among those Choate students might choose to take when studying at St. Stephen's. The course descriptions are excerpted from St. Stephen's Course Catalogue.

#### **MODERN EUROPEAN HISTORY**

IT804

This is a study of European history from the Enlightenment to the First World War. The time frame is 1760-1918. Geographically, the focus is on western and central Europe, with as much attention as possible to Italy. The course follows the main outlines of political and diplomatic history. Considerable attention is given to cultural, social and economic issues as well as the evolution of historical thought.

#### **IB CLASSICAL GREEK AND ROMAN STUDIES**

IT190HO

This course explores, within a historical framework, aspects of the literary, artistic, philosophical and political life of the civilizations of the classical world. The first semester (when Choate students attend St. Stephen's) is devoted to a study of Greek civilization, focusing on 'Greeks at war' through the works of Homer, Thucydides, and Euripides. Field trips are made where appropriate.

## **ART IN ROME**

IT910

This course is an intensive study of Baroque art and architecture in Europe covering the 16<sup>th</sup> and 17<sup>th</sup> centuries and including art from Italy, France, Spain, Germany, the Netherlands and England. Concentration is on major works, with particular attention paid to social, historical and political context, as well as patronage and the development of styles, themes, and techniques. Frequent field trips in Rome aim at linking local artistic developments with those of the broader European stage.

## **ART HISTORY**

IT905

This course is a survey of the history of Western art (painting, sculpture and architecture) with concentration on major works and the historical development of styles and themes. Classes include slide-illustrated lectures and on-site visits. Particular emphasis is given to classical Roman, Renaissance, and Baroque art works which can be seen in Rome. This course satisfies one visual arts credit at Choate.

## **ADDITIONAL COURSE OPTIONS AT ST. STEPHEN'S INCLUDE:**

- Mathematics (commonly Algebra II and Precalculus)
- Foreign Language (Latin and Italian)
- Islamic History and Civilization (satisfies the Choate philosophy or religion requirement)

## **ACADEMIC TERM IN JORDAN**

Fall 2017\*

5 or 6 Course Credits

Arabic language students, or students interested in taking the Arabic language, have the opportunity to study abroad for the fall term as a part of the Arabic Year program at King's Academy in Madaba, Jordan. Founded in 2007, King's Academy is a co-educational boarding school enrolling over 500 students and modeled after Deerfield Academy, King Abdullah II's alma mater. The language of instruction at King's Academy is English. As a participant in Arabic Year, Choate students will take a double period of Arabic language, Arabic Literature in Translation, and Modern Middle East. In addition, students can continue with mathematics and science courses, or select from other King's Academy course offerings.

– *Georges Chahwan, Program Coordinator*

## **ACADEMIC TERM IN SPAIN**

Spring 2018\*

5 course credits

The Academic Term based in La Coruña, Spain exposes students to Spanish history, art, language, literature, and culture. In this language immersion program, students live with host families where they are able to put their language studies to immediate use. Classes, offered at both the Honors and Advanced levels, are taught in Spanish by native-Spanish speakers familiar with the challenges American students face when studying abroad.

Throughout the term, in addition to visits to the historical and cultural sites of La Coruña, there are day trips to Santiago de Compostela, Betanzos and other points of interest in the region. The term concludes with an intensive ten-day trip consisting of visits to Sevilla, Salamanca, Córdoba, Granada, Toledo, Segovia and Madrid. This excursion provides students with the opportunity to see in person the artistic and historical marvels they have encountered in their classes.

– *Nancy Burress and Louis Bao, Co-Directors*

## **COURSES IN SPAIN**

### **ADVANCED GRAMMAR TOPICS**

#### **ADVANCED GRAMMAR TOPICS, HONORS**

SPS46AD or SPS46HO

This course encompasses a complete review of Spanish grammar, with special attention to the subjunctive and other problematic areas for American students of Spanish. Vocabulary building and the use of common idiomatic expressions are also important components of this course. Stronger groups work to develop techniques of persuasive composition with a focus on style and effective expression.

### **MAJOR SPANISH AUTHORS**

#### **MAJOR SPANISH AUTHORS, HONORS**

SPS45AD or SPS45HO

Students read complete works by playwrights such as Casona, novelists such as Delibes, and short storytellers such as Matute and Manuel Rivas. Other works read can include *Lazarillo de Tormes*, *La Celestina*, as well as poetry by Alberti, Lorca y Machado. The goals are the development of reading comprehension, the ability to analyze a plot, and essay writing skills, i.e., the necessary tools for success in the department's advanced courses upon return to Choate. Students participate in class discussions about these works and deliver oral summaries in Spanish.

### **SPAIN: A CROSSROAD OF CULTURES**

HIS44AD

This course gives an overview of the development of the Iberian Peninsula from the initial appearance of the Celtiberians to Spain's transition to a democracy in the late 1970s. Attention is drawn to the diversity of civilizations that have helped contribute to the Spain of today and to the interactions among them. Students learn of the series of invasions, conquests, and re-conquests that both created a nation and left indelible marks on its architecture, language, and culture.

### **ART HISTORY: CONTRIBUTIONS OF SPAIN**

VAS43AD

This course traces the development of architecture from the Romanic to Gothic to 20<sup>th</sup> century styles, while concurrently tracing the history of Spanish painting, first as simple religious expression and then as social and humanistic expression. The class focuses upon the contributions of major Spanish painters, such as Velazquez, El Greco, Goya, and Picasso. Students see many of the works first hand when they visit the Prado Museum in Madrid during the "excursión final."

**SPAIN: CONNECTIONS FOR THE WORLD**

SPS47AD

For ages, Spain has been an economic, intellectual, and cultural crossroads between north and south, and east and west. Its role in the contemporary world is no different. It is a member of the European Union, but also has linguistic, historical, economic and cultural connections to Latin America, North Africa, West Africa, the Middle East, the Philippines, Eastern Europe—both as former colonies and as places where a high percentage of Spain's immigrants come from, whether Spanish-speaking or not. This phenomenon of connections is studied in three different aspects of Spain's relation to other countries in the world: 1) immigration and emigration, 2) politics, and 3) commerce.

**MATHEMATICS**

Students continue in their sequential math courses while abroad. Tutorials, which meet once a week for one hour, are arranged to cover the essential topics of the term missed. The tutorials are designed to allow for students to transition back into their appropriate course upon returning to campus.



# SUMMER PROGRAMS AND THE ACADEMIC SCHOOL YEAR

Recognizing the need to assist students and families in planning their high school career and preparing for college, the Choate Rosemary Hall Summer Programs offers courses for both Choate and non-Choate students during its five-week summer session.

Although a Summer Programs course does not appear on the student's Choate Rosemary Hall transcript, and hence is not factored into a student's grade point average, there are several advantages to taking a course during the summer:

- a high school course may satisfy a Choate diploma requirement, with the approval of the Choate Rosemary Hall department head and the Director of Studies;
- successful completion of a Summer Programs course may allow a student to accelerate within a department's sequence of courses; and
- student who are weak in a discipline can gain exposure to course material that they might find difficult to master in the academic school year.

*Note: Following the completion of Choate Summer Programs courses, the Summer Programs Office sends summer transcripts of current or matriculating Choate students to the Choate Registrar's Office. While courses taken in the summer (including those which satisfy diploma requirements) do not appear on a student's official Choate Transcript, they are listed on the Summer Transcript which is attached to the official transcript and thus become a permanent part of the student's academic record at Choate. Any additional transcripts a student may have from previous secondary schools are also kept on file in the Registrar's Office while the student is at Choate. The College Counseling Office has access to the files in the Registrar's Office and uses them as needed during a student's college application process.*

## HIGH SCHOOL COURSES

Upon successful completion of the course, Choate students will be placed into the next course in a sequence and may be eligible for placement in an honors course in that discipline. Placement is determined by the academic department.

The admission process is as follows: Both current and matriculating Choate students are provisionally accepted although they must demonstrate proficiency on the subject placement test and complete the appropriate Summer Programs application form. For current Choate students, final acceptance is based on the recommendations of the current subject teacher, department head, and form dean. For matriculating Choate students, final acceptance is based on review of the regular school application materials and review of the subject placement test.

The School's policy is that summer course work supplements the academic program that a student undertakes during the school year and may not be used to obtain a reduction in the School's minimum course load requirement of five courses per term.

## VISUAL ARTS

The following visual arts courses may fulfill part of Choate's diploma requirement in the arts. Matriculating and current Choate students who wish to fulfill a diploma requirement in the arts with one of these courses must meet with the head of the Arts Department. (Placement of Choate students in a subsequent arts course is determined by the department.) Completion of the diploma requirement is contingent upon completion of a body of work or portfolio during the summer course and submission of that work for evaluation to the head of the Arts Department during the first week of fall classes.

### CERAMICS

fa012

This course introduces students to the medium of low-fire clay. Instruction is given in the techniques of hand-building, wheel work, glazing, underglazing, and a variety of other finishing and sculptural methods. Basic techniques are covered during the first part of the term. During the second part of the course students are encouraged to concentrate on developing a single technique and on finishing a project that expands their knowledge of the craft. Students produce two or three pieces during the class, which culminates in a show of the students' best works in the Gallery of the Paul Mellon Arts Center. Open to all students.

### DRAWING

fa013

In this drawing course students explore concepts of line, form, and composition. A wide variety of materials and techniques is used to realize this objective. Students are taught to draw from observation and from their imaginations. Emphasis is placed on individual growth and development, and the course culminates with a showing of student work in the gallery of the Paul Mellon Arts Center. Open to all students.

### OIL PAINTING

fa014

This course introduces students to the basic techniques of oil painting. Students explore the key elements of still life, portraiture, and landscape (when the weather permits). Students are taught how to see and how to mix color, modulate values, and develop form. Assignments are based on traditional and contemporary painting techniques and are designed to stimulate the student's imagination and technical facility. At the end of the program, students display their works in the gallery of the Paul Mellon Arts Center. Open to all students.

### VIDEO PRODUCTION

fa015

This class takes students through the pre-production, production, and post-production steps in the creation of video projects. In pre-production students plan, script, and storyboard their ideas.

In production students learn how to use a digital video camera to effectively collect images that communicate a story to the audience. Camera technique and control, balanced with good composition, are mastered in conjunction with sound capture and reproduction so that ideas can be effectively expressed to an audience. In post-production editing, students need to be comfortable with basic computer operations as rough video footage is captured and then edited using non-linear editing software. Student projects begin with the isolation of elements of production and design and progress to more short but complete group video projects. At the end of the session projects are presented to the community at an informal screening.

## **HISTORY AND SOCIAL SCIENCES**

### **WORLD RELIGIONS**

HS10

This course exposes students to the beliefs, practices, ethics, and history of four major world religions: Judaism, Christianity, Islam, and Hinduism. Students study each of the religions in order to gain an understanding of its meaning to individual believers and its impact on human history. The course utilizes various types of print and visual resources and exposes students to foundational skills in research, writing, and public speaking. Matriculating and current Choate students (incoming freshmen and rising sophomores only) who wish to fulfill the diploma requirement in philosophy/religion with this course must meet with the head of the History, Philosophy, Religion, and Social Sciences Department. (Placement of Choate students in a subsequent HPRSS course is determined by the department head as well.)

## **MATHEMATICS**

### **IMMERSION GEOMETRY**

MA25

This survey course covers the standard year-long geometry curriculum as it examines the fundamentals of Euclidean geometry and provides the opportunity for motivated students to accelerate their academic program. Students explore and discover concepts that relate geometry to real-world applications. Connections to algebra help students review and strengthen their problem-solving skills. The Geometer's Sketchpad, a dynamic software package, is used to highlight important topics. After gaining experience making conjectures and testing hypotheses, students progress to writing formal deductive proofs, using flow charts and paragraphs as well as the two-column format. Because students will be in class for the full academic day in order to complete this year-long course in the summer, they may not enroll in additional courses. This course is appropriate for students who have completed Algebra I. Matriculating and current Choate students who complete this course successfully will fulfill the diploma requirement in geometry. (Placement of Choate students in a subsequent math course is determined by the head of the Mathematics and Computer Science Department.)

### **INTRODUCTION TO ALGEBRA II**

MA21

For students who have completed Algebra I and desire to be introduced to Algebra II, this course aims to enhance the understanding of fundamental concepts and offers ample opportunity to strengthen skills. Topics include evaluating algebraic expressions, solving linear equations, and inequalities. Students are exposed to various techniques for solving systems of linear equations, as well as linear programming applications. In addition to studying polynomial functions, quadratic equations, functions, and relations are examined in detail. Graphing calculators are used not only for demonstration purposes but also as a tool for investigation. This course is open to students who have completed Algebra I. For Choate students, it is the equivalent of the first term of Algebra II. (Placement of Choate students into MA302, MA332 or MA352 is determined by the head of the Mathematics and Computer Science Department.)

### **SPECIAL TOPICS IN ALGEBRA II**

MA31

This course exposes students to the more advanced topics in Algebra II. Students explore exponential and logarithmic functions, radical functions, and rational functions. If time permits, the course concludes with a study of sequences and series. Students use graphing calculators throughout to enhance understanding of key concepts. This course is open to students who have completed Algebra I and possess experience in Algebra II. For Choate students, it is the equivalent of the third term of Algebra II. A diagnostic test is administered on the first day of the class to determine appropriate placement. For current Choate students who have taken MA301 and MA302 (or MA331 and MA332 or MA351HO and MA352HO), this course may be taken to complete the diploma requirement in Algebra II. (Placement of Choate students in a subsequent math course is determined by the head of the Mathematics and Computer Science Department.)

## **SCIENCE**

### **GLOBAL SCIENTIFIC ISSUES: SEARCHING FOR SOLUTIONS**

SC15

This course takes up various scientific problems confronting the human species on our fragile planet and also examines the ideas for combating these problems. What sources of energy will best serve humankind in the future, while doing the least harm? How can we best employ water, for personal use and irrigation, without leading to health problems and soil degradation? What are the causes and effects of global warming, and how can earth's temperatures be stabilized? What measures have proven effective, and what innovations may be employed in the future, in controlling AIDS, malaria and possible pandemics? How will the growing populations of the world obtain adequate nutrition and shelter? These questions call upon students to consider various viewpoints as they seek ways to achieve sustainability for the human species. The course includes oral presentations or debates as well as writing and assessments. Matriculating and current Choate students

(incoming freshmen and rising sophomores only) who wish to fulfill the diploma requirement in contemporary global studies with this course must meet with the head of the Science Department.

## PREREQUISITES

The following courses will satisfy certain prerequisite requirements for Choate courses.

### INTRODUCTION TO PSYCHOLOGY

HS25

Focusing on recent developments in psychology and self-understanding, this course covers several theories of personality, neuroscience, and human behavior. A developmental approach to various psychological theories (e.g. those of Freud, Horney, Skinner, Erikson, Rogers) creates a framework for the study of identity and self-image, gender, family and peer relationships, and conformity and prejudice. (Students who successfully complete this course will have fulfilled the prerequisite for Choate's upper-level psychology courses.)

### TRIGONOMETRY

MA32

In this course, students thoroughly examine the six trigonometric functions and their graphs. They learn how trigonometric expressions are evaluated, using not only a calculator, but also reference angle computations. They also review the concept of an inverse function and learn to evaluate and graph inverse trigonometric functions. In addition, trigonometric identities are derived and verified, and students learn a variety of techniques for solving trigonometric equations. The course concludes with a study of right triangle trigonometry and the laws of sines and cosines.

Prerequisite: Algebra II.

### PRECALCULUS

MA33

This course is fundamentally a study of functions. In addition to gaining a better conceptual understanding of functions in general, students extend their knowledge of polynomial, exponential, and logarithmic functions. Graphing technology enables students to fully investigate and understand the relationship between families of functions and their graphs. A variety of applications, including growth and decay models, provide students with the opportunity to use mathematics to examine real world phenomena. Depending upon the needs of the students in the class, the course will also draw from such topics as parametric equations, vectors, sequences and series, and limits. This course does not include a study of trigonometric functions.

Prerequisite: Algebra II.

Taken together, MA32 and MA33 cover a great deal of material in five weeks; thus, these courses are designed for students with strong Algebra II skills. Current Choate students who have completed Algebra II and want to begin a calculus sequence in the fall may consider taking these courses. Students who are planning to study abroad fall or winter term may take one or both of these courses in order to remain "on track" to begin calculus in the spring. At the same

time, students who want to preview topics that will be covered in Precalculus I and II may also benefit from taking these courses. In all cases, students considering taking these courses must discuss the matter with the head of the Mathematics and Computer Science Department.

Three high school enrichment courses prepare students to begin their study of political science and economics.

- AMERICAN GOVERNMENT & POLITICS (KI41)
- FOUNDATIONS OF POLITICAL THOUGHT (KI42)
- ECONOMIC PRINCIPLES (HS21)

## SUMMER STUDY ABROAD

Choate Rosemary Hall offers the following summer programs. See pp. 63-67 for descriptions of the China, France and Spain academic term Study Abroad Programs which are similar in content even though the summer programs are of a shorter duration (4 or 5 weeks). Participants successfully completing a summer abroad program will fulfill the contemporary global studies diploma requirement. Students successfully completing Choate's Summer Program in France earn a visual arts credit. The application deadline for our programs in China, France, Morocco, and Spain is **March 15**.

Summer in China	– Carol Chen-Lin, director
Summer in France	– Anne Armour (Wallingford) and – Deborah Palmer (Paris), co-directors
Summer in Morocco	– Georges Chahwan, director
Summer in Spain	– Nancy Burress (Wallingford) and – Louis Bao (Spain), co-directors
Summer in Japan	– Sara Boisvert, coordinator

### SUMMER IN MOROCCO

Our four-week program in Morocco is open to beginning through advanced level Arabic language students as well as intermediate to advanced level French language students who are interested in studying in this Francophone region. Students live with host families in Rabat (either Arabic or French-speaking), attend appropriate language classes, take a course in Moroccan colloquial Arabic, and participate in lectures and cultural activities designed to immerse themselves fully in Moroccan culture. Excursions to Fez, Chefchaouen, Meknes, Merzougua, Auberger (the desert), Ouarzazate, and Marrakech round out the experience.

### SUMMER IN JAPAN: TOIN INTERNATIONAL EXCHANGE STUDENT PROGRAM (TIES)

Each summer, up to four Choate students are selected to travel to Yokohama, Japan, where they live with host families and attend Toin Secondary School for four weeks. The program, which requires no prior study of Japanese, affords these students the opportunity to improve their understanding of Japanese culture. Toin is a private, co-educational day school with modern facilities and high academic standards. Choate students interested in studying Japanese language and culture thrive in this challenging environment. The application deadline for the TIES program is



in late January. Interested students should contact Sara Boisvert, Director of Global Programs, [sboisvert@choate.edu](mailto:sboisvert@choate.edu).

Please contact the Summer Programs Office for further information, [choatesummer@choate.edu](mailto:choatesummer@choate.edu) or (203) 697-2365 or visit the Summer Programs website [www.choate.edu/summer](http://www.choate.edu/summer).

## **SUMMER ONLINE ENRICHMENT COURSES**

In addition to the courses that are offered on campus, Choate offers the following online study opportunities to either new or returning students, as indicated in each description. These summer offerings are for enhancement and enrichment—they are optional, no fee is charged, and no grades are assigned. The goal of each is to provide students a greater familiarity and comfort level with material they will face once school starts in the fall, and in the case of The Physics Primer, an introduction to the Choate campus and academic culture.

### **ALGEBRA I**

Algebra I is offered to incoming students whose math placement for their first year has been determined to be at the level of Algebra I. Algebra is the backbone for all we do in math at Choate and given that many students have already had some experience in algebra, this summer opportunity permits those who are interested to strengthen their knowledge of algebra and hone their quantitative skills under the guidance of a Choate teacher. All a student needs to participate are the desire to learn, a computer, and an Internet connection.

The course consists of up to 12 modules that are self-paced, with short assessments that can be taken multiple times to verify mastery of the material. These modules are hosted on Canvas (our online learning management system) and are accompanied by an online textbook and multimedia materials that together provide access to the content in several formats. The teacher is also available for support as are the other students who've elected to participate in this online learning community. An added benefit of the course is that, upon completion, students will know some of their future classmates (and at least one teacher) before arriving on campus in September.

Substantial progress in this online course could mean placement (determined by our math department head) into Geometry come fall, in which instance the Algebra I diploma requirement is deemed fulfilled.

Algebra I runs for four to five weeks, from early July to mid August.

### **LANGUAGE MAINTENANCE PROGRAM**

The Language Maintenance Program or LMP is offered by departmental invitation to those returning students in Chinese, French, Latin, or Spanish who've had to step away from their language studies for a time due to study at the Kohler Environmental Center, for example, or an extended period spent away from campus and the language classroom. The LMP experience reintroduces students to study of the target language so they feel comfortable returning to its study in September after a significant time away. The LMP is also appropriate for students who

have struggled for some reason in their language studies during the most recent academic year and need to brush up on their skills before continuing these studies come fall.

The structure of the LMP varies depending on the language, student, and teacher, but key features of all LMPs include independent work using multimedia materials accessible online, self-tutorial exercises, and individual weekly sessions between teacher and student on Skype or another appropriate interface that enables practice with the target language. Throughout the program, all skill areas are reinforced: reading, writing, listening, and speaking.

The LMP runs for four to five weeks, usually from early July to early August, though some flexibility in this schedule is possible by mutual agreement between teacher and student.

### **PHYSICS PRIMER**

The Physics Primer is a four-week online primer that helps prepare incoming third and fourth formers for our year-long Mechanics to Waves physics program, our core introductory physics course and the first year-long laboratory science these young students take at Choate given our physics-first science curriculum. The Primer consists of four week-long units: 1) Introductions and Graphing; 2) Introduction to Motion; 3) Introduction to Vectors & Forces; and 4) Working with your Calculator, Relating Variables in Equations. The course runs asynchronously; however, students are expected to meet weekly deadlines.

In addition to being exposed to some physics, during the course students get to know their instructor, a physics teacher at Choate, as well as other new students who've elected to participate in this online experience, so they will know some familiar faces when they arrive on campus in September for their first year. Throughout the course students are also introduced to some of the technology used on campus, including Choate email, iPads (which are required), Canvas (our online learning management system), and Dropbox. Are some of these not familiar to you? Are you interested in getting a head start in physics? Then consider accepting our invitation to become part of this online learning group should your academic record earn you placement into Mechanics to Waves.

The Physics Primer runs from early July to early August and is offered by departmental invitation to new students placed into PH200: Mechanics and Waves. Placement is determined by the science department head.

# STANDARDIZED TESTING

While standardized test scores are not the only credential (nor the most important) in a student's college application, they do provide colleges and universities with a means of comparing student abilities. Many, but not all, colleges and universities require standardized testing as part of the admission application, and in most cases either the SAT or ACT may be used to satisfy this requirement.

Choate's curriculum helps students prepare well for various standardized tests. Because each course of study at Choate is tailored to an individual's talents and interests, as well as to our diploma requirements, students should discuss with their academic advisers (if applicable), their deans, and/or their college counselors regarding the appropriate time to take specific standardized tests.

The Choate College Counseling Office (CCO) recommends that students sit for a total of one or two SAT and/or ACT exams by the end of the fifth form year, in order to obtain a baseline assessment of a student's standardized testing strengths and weaknesses. Students may use testing dates in the fall of the sixth form year to improve their standardized test scores, if necessary, as they develop and learn more through the Choate curriculum.

Students must register for the SAT and ACT online at [www.sat.org](http://www.sat.org) and [www.actstudent.org](http://www.actstudent.org), respectively. The ACT, SAT, and Subject Tests are offered on various Saturday morning dates throughout the school year.

## PSAT/NMSQT

In October, all fourth and fifth form students take the PSAT, which assesses evidence based reading and writing, and math skills. Students receive scores on a 160-760 scale for both the math section and the combined reading and writing section, which add together for the total score, reported on a 320-1520 point scale. PSAT scores are neither reported to, nor viewed by, colleges for purposes of admission.

In the fifth form year, the PSAT score is used as the National Merit Scholarship Qualifying Test. The NMSQT identifies students who performed exceptionally well on the test and who may later be invited to participate in the National Merit Scholarship Competition. A student who qualifies will be notified in September of the sixth form year and will be contacted by the college counselor to complete the NMSQT application.

## SAT

Choate students wishing to use the SAT as their standardized test for college applications are encouraged to take their first SAT in January of the fifth form year. Typically, fifth formers are advised to take the exam again in May or June, and once again, if appropriate, during the fall of their sixth form year. The SAT consists of five sections (writing & language, reading, two math and an optional essay), scored on a 200-800 point scale for the writing, language and reading sections, and a 200-800 point scale

for the math sections, combined for a possible score of 1600. The essay is scored separately on a 2-8 point scale for each of three areas: reading, analysis and writing. The CCO recommends that Choate students take the exam with the optional essay section. The exam is three hours and 50 minutes long, including the optional 50-minute essay. More information, including instructions on registering for tests, can be found at [www.sat.org](http://www.sat.org).

## SUBJECT TESTS

The SAT Subject Tests are each one-hour in length and a student can elect to take up to three at any SAT administration date, except in March, when only the SAT is offered. While some colleges do not require Subject Test scores, some may recommend as many as three. The appropriate time to take an individual subject test will vary from student to student. Typically, a Subject Test is most advantageous just after completing a course related to the test subject. Students should always check with the CCO, the subject area teacher, their academic adviser, and/or their form dean with questions about the appropriate time to take such a test. Students should also consult individual college websites for the testing requirements of specific programs. Each Subject Test is scored on a 200-800 point scale.

- Language and Language with Listening Test: This test should not be taken before the third year of language study has been completed. If, however, a student has just completed a term or summer abroad program, the test should be taken as soon as possible afterward. For students with strong listening comprehension in the foreign language, the Language with Listening Test (administered in November only) may be a good addition to their testing portfolio. Students must provide their own personal CD player for the administration of a listening test.

*Note: Students whose first language is not English may benefit from taking a Subject Test in their native language to demonstrate literacy in that language. Students should be aware that not all colleges that require or recommend the Subject Tests will allow students to use a Subject Test in their native language in lieu of another academic subject. Non-native speakers may be required to take the TOEFL (see below) to demonstrate fluency in English; requirements vary by college.*

- Math Level 1: This test is recommended for students who have not taken Precalculus by the spring of the fifth form year.
- Math Level 2: This test is recommended for students who have taken Precalculus, Precalculus Honors or any more advanced math class.
- Physics, Chemistry and Biology E/M: These tests may be taken after completing the corresponding year-long introductory course. Honors-level courses give especially good preparation for the tests, but some students have done very well after regular-level courses. There is generally

a modest correlation between grades in a course and performance on the corresponding Subject Test. In general, students should have a B+ or better at the honors level if they are considering taking the test. Students who wish to take the Biology Subject Test should take Biology M, and students taking Biology at the Kohler Environmental Center should take Biology E. Consultation with the instructor about what might be appropriate for a given student is strongly encouraged.

- U.S. History: This test should be taken after a student has successfully completed the year-long course.
- World History: Due to the chronology and content covered in this test, we do not recommend it for our students.
- Literature: This test is recommended for students who love to read and study literature and who have sensitivity to literary genre, form, style, and nuance. It should be taken no earlier than June of the fifth form or in the fall of the sixth form year.

## **ACT**

The ACT is comprised of four subject area tests (English, Reading, Mathematics, and Science) and an optional essay (the ACT Plus Writing); Choate recommends that all students taking the ACT also complete the essay component. Students who wish to take the ACT may do so at Choate in December or April of the fifth form year, and September, October or December of the sixth form year.

The ACT provides four separate sub-scores (1 is the lowest, 36 is the highest), one for each subject area, as well as a composite score that is the rounded average of the four sub-scores. In addition, the optional essay is scored on a 2-12 point scale. More information, including instructions on registering for tests, can be found at [www.actstudent.org](http://www.actstudent.org).

## **PRACTICE ACT**

Choate administers a practice ACT test, mirroring the content and structure of the ACT, in the spring of the fourth form year. The results of this practice test help students prepare for the ACT and can help determine if the ACT is an appropriate test for a student to take. Fourth form students are automatically signed up to take this test.

## **WHEN SHOULD STUDENTS TAKE THE SAT OR ACT?**

By taking the PSAT in the fourth and fifth form years and the practice ACT in the spring of the fourth form year, students and families have an idea of their student's predicted success on the tests, and if they have a preference for either one.

If the student prefers to concentrate on the SAT, a recommended pattern for taking the SAT is to sit for the SAT in January, March (not offered at Choate), and/or May of the fifth form year, reserving the June test date for Subject Tests. Students have the October, November, December, and January test dates in their sixth form year if they need more test dates for the SAT and/or Subject Tests. In most cases, the October test scores would be received by colleges in time to be considered for early decision/early action application deadlines. Some colleges will also consider November testing results for early decision/early action applications.

If the student prefers to concentrate on the ACT, a recommended pattern for taking the ACT is to sit for the exam in December, February (not offered at Choate and not offered at test sites in New York state), April and/or June of the fifth form year, and in September, October, and/or December of their sixth form year. Please keep in mind that the June ACT test date occurs after Choate students leave campus for the summer, so students would take this test near home. Also, the September and October test scores would be received by colleges in time to be considered for early decision/early action application deadlines.

## **AP EXAMS**

Offered at Choate in May each year, AP Exams are administered by the College Board and can be used to obtain course credit, advanced standing, and/or advanced placement at many colleges and universities. For more information, visit [collegeboard.com/apcreditpolicy/index.jsp](http://collegeboard.com/apcreditpolicy/index.jsp).

These tests may be appropriate when students have completed advanced courses in the target subject. Students should check with their teachers to determine whether an AP Exam is advised.

AP Exams are not required for U.S. college applications, but good scores could enhance a student's application. AP Exams are an important component of international applications – especially to universities in the United Kingdom. Students should consult their college counselor about reporting AP scores during the college application process. (Some international universities, including selective institutions in the United Kingdom, do frequently require AP scores.)

AP Exams are scored on a 1 (low) to 5 (high) scale. AP Exam scores are not listed on Choate transcripts. Students register for AP exams through Choate, but for more information in general please see: [www.collegeboard.com/student/testing/ap/about.html](http://www.collegeboard.com/student/testing/ap/about.html).

## **TOEFL IBT**

The Test of English as a Foreign Language is an internet-based test (iBT) and is for students whose native language is not English (regardless of citizenship or language of instruction). Fifth form students whose first language is not English may take the test over the summer before the sixth form year in their home country and, if necessary, once again in the fall. For more information, including registration information, consult the TOEFL website: [www.ets.org/toefl](http://www.ets.org/toefl).

## **ADDITIONAL TESTING INFORMATION**

- When students receive their PSAT score results, helpful test taking information for the SAT is also provided through the College Board's partnership with Khan Academy. This is a free service.
- Students and families are also encouraged to consult the websites for the exams at [www.sat.org](http://www.sat.org) and [www.actstudent.org](http://www.actstudent.org) for helpful test tips, sample tests, and test descriptions for the SAT and ACT.
- Choate hosts formal test preparation courses offered by Summit Test Prep each year. For more information, contact the Testing Coordinator at (203) 697-2461.

- The website [www.fairtest.org](http://www.fairtest.org) provides a comprehensive list of all test optional and test flexible institutions. The list includes many selective colleges that do not require standardized tests as a component of the application process.
- Eligible students may use fee waivers to cover the costs of standardized testing. Qualified students will also receive a limited number of free score reports to send to colleges. In addition, if students take a standardized test using a fee waiver, they may receive a number of college application fee waivers. Students should see the Testing Coordinator to discuss whether they are eligible.

### **NON-STANDARD ADMINISTRATION OF THE PSAT, SAT, SUBJECT TESTS, ACT AND AP EXAMINATIONS**

If the presence and nature of a learning disability places a documented functional limitation on the student and the College Board or ACT has granted accommodations, the School will provide that student with all necessary accommodations during standardized tests. Such accommodations may include, but are not limited to, extra breaks, extra time on the SAT, Subject Tests, AP exams, PSAT exams, and the ACT. Students who receive accommodations at Choate are not automatically granted accommodations on standardized tests, and must work with the school to request accommodations with ACT and or the College Board. Students and families interested in learning more about this should contact the Testing Coordinator in the College Counseling Office or the Director of Studies.

## CHOATE ROSEMARY HALL DIPLOMA REQUIREMENTS SUMMARY

	4 Year Student	3 Year Student	2 Year Student	1 Year Student	Post-Graduate Student (PG)
<b>ARTS</b>	1 term - 3rd form 1 term - 4th or 5th form 1 term - 6th form - 2 Different Areas (DA, MU, TA or VA)	1 term - 4th or 5th form 1 term - 6th form - 2 Different Areas (DA, MU, TA or VA)	1 term - 5th form 1 term - 6th form	1 term	1 term
<b>ENGLISH</b>	4 years*	3 years*	2 years*	1 year*	1 year*
<b>HISTORY</b>	World History (usually 4th form) US History (5th or 6th form)	World History (usually 4th form) US History (5th or 6th form)	US History (5th or 6th form)	US History	None
<b>PHILOSOPHY/ RELIGION</b>	1 term	1 term	1 term	1 term	None
<b>LANGUAGE</b>	Completion through 300/350 level language or the AMES Program	Completion through 300/350 level language or the AMES Program	Completion through 300/350 level language or the AMES Program**	Completion through 300/350 level language or the AMES Program	None
<b>MATHEMATICS</b>	Algebra 1 Geometry Algebra 2	Algebra 1 Geometry Algebra 2	Algebra 1 Geometry Algebra 2	Algebra 1 Geometry Algebra 2	None
<b>SCIENCE (Lab based)</b>	1 year Physical Science 1 year Biological Science	1 year Physical Science 1 year Biological Science	1 year Physical Science 1 year Biological Science	1 year Physical Science 1 year Biological Science	None
<b>QUANTITATIVE</b>	14 secondary school credits	14 secondary school credits	14 secondary school credits	14 secondary school credits	None
<b>GLOBAL STUDIES</b>	1 term	1 term	None	None	None
<b>COMMUNITY SERVICE</b>	30 hours	30 hours	20 hours	None	None
<b>ATHLETICS</b>	3 terms per year (or 2 terms + 1 term of an alternate activity per year)	3 terms per year (or 2 terms + 1 term of an alternate activity per year)	3 terms per year (or 2 terms + 1 term of an alternate activity per year)	3 terms per year (or 2 terms + 1 term of an alternate activity per year)	6th form requirement
<b>SOPHOMORE SEMINAR</b>	2 terms in the 4th form	2 terms in the 4th form	None	None	None

\*Students can be exempted from one term of English only once in their career.

\*\*If no prior language course has been taken in high school, a student should expect to complete six terms of a diploma language. Additional information can be found in the Diploma Requirement and Individual Department sections of the Course Catalogue.

# FOUR-YEAR ACADEMIC PLAN

To get an overview of a student's academic career, record required courses first and fill in desired electives, knowing that interests will change over the years. Advisers and form deans assist students not only in selecting courses but also in making decisions about participating in extracurricular activities, pursuing various summer opportunities (including here at Choate), and considering a Signature Academic Program.

Keep in mind, too, that although every effort is made to offer the courses during the terms indicated in this Course Catalogue, there are times when low enrollment and/or available resources do not allow a course to run.

**STUDENT:** \_\_\_\_\_ **DATE:** \_\_\_\_\_ **CLASS:** \_\_\_\_\_

Include courses at Choate and elsewhere; diploma requirements are listed on page 76.

**THIRD FORM** Summer courses/plans:

FALL	WINTER	SPRING

**FOURTH FORM** Summer courses/plans:

FALL	WINTER	SPRING

**FIFTH FORM** Summer courses/plans:

FALL	WINTER	SPRING

**SIXTH FORM** Summer courses/plans:

FALL	WINTER	SPRING



# 2016-2017 FACULTY LIST

**REBECCA J. ABBATE**

languages  
Hamilton College, B.A., University of Connecticut, M.A.

**MUSTAFA ABDUL-RAHIM**

mathematics and computer science  
Dartmouth College, A.B., M.A.

**ISABEL L. AGUIRRE-KELLY '08**

English  
Georgetown University, B.A.

**PATTI T. ANTÚNEZ '83**

languages  
Boston College, B.A.

**AMANDA R. ARCAND '94**

languages  
St. Louis University, B.A., M.A.

**ANDY B. ARCAND**

English  
Wesleyan University, B.A., M.A.L.S.

**ANNE E. ARMOUR**

Co-Director of Programs in France; languages  
Amherst College, B.A., Middlebury College, M.A.

**GORDON F. ARMOUR '76**

Form Dean; English  
Trinity College, B.A., Dartmouth College, M.A.L.S.

**JOEL D. BACKON**

Director of Academic Technology; history, philosophy, religion, & social sciences  
Wesleyan University, B.A., M.A.L.S.

**JOANNE BAILEY**

Associate Director of Admission  
Wheaton College, B.A.

**ASHLEY M. BAIROS '06**

science  
Middlebury College, B.A.; Green Mountain College, M.S.

**MATT K. BARDOE**

Department Head, mathematics and computer science  
Ohio State University, B.S., University of Illinois at Chicago, M.S., Ph.D.

**JEFF D. BEATON**

Assistant Director of Admission  
Bates College, B.A.

**JUDIE W. BENDER**

Associate Director of Counseling Services  
University of California at Davis, B.A., San Diego State University, M.S.W., L.C.S.W.

**DIANA L. BESTE**

Department Head, languages  
State University of New York – Brockport, B.A.,  
University of Massachusetts – Amherst, M.A.T.

**HARRIET K. BLANCHARD**

Director of Teaching and Learning Center; English; history, philosophy, religion,  
& social sciences  
Wheelock College, B.S., Lesley College, M.S.

**SARA BOISVERT**

Director of Global Programs  
Middlebury College, B.A.

**PAUL A. BOZZI**

Sound Technician & Assistant Technical Director

**TIM G. BRADLEY '73**

Associate Director of Admission  
Albertus Magnus College, B.S.

**ALLYSON B. BREGMAN**

Associate Director of College Counseling  
Connecticut College, B.A., University of Michigan, M.A., Ph.D.

**DANA E. BROWN**

Senior Associate Director of Admission; Director of Diversity Recruitment  
Smith College, B.A.

**JULIA F. BROWN '83**

Form Dean; languages  
Mount Holyoke College, B.A., Western New England College School of Law, J.D.

**ALLY P. BRUNDIGE**

Director of Spiritual Life; history, philosophy, religion, & social sciences  
Yale University, B.A., University of KwaZulu-Natal, M.A., Yale Divinity School, M.Div., S.T.M.

**NANCY S. BURRESS**

Co-Director of Programs in Spain; languages  
Ohio Northern University, B.A., University of Michigan, M.A.

**ALISON J. CADY**

Director of Strategic Planning and Communications  
University of Vermont, B.A., Boston College, M.A.

**GEORGES CHAHWAN**

languages  
Lebanese University, Center of Languages and Translation, DESS, University of Geneva, M.A.

**DERON N. CHANG**

science  
Middlebury College, B.A. Yale University, M.F.S.

**CAROL CHEN-LIN**

Co-Director of Programs in China; languages  
The Chinese University of Hong Kong, B.A., M.Phil., University of Connecticut, Ph.D.

**KRISTIN K. S. CHIN**

mathematics and computer science  
Hamilton College, B.A., University of New Hampshire, M.S.

**KOJO CLARKE**

languages  
Franklin and Marshall, B.A., Northwestern University, M.S.Ed.

**KAYLA A.C. CLOUD**

English  
Wesleyan University, B.A.

**JOHN S. COBB**

English  
University of Vermont, B.A., Middlebury College, M.A., Hartford Seminary, M.A.R.

**CHRIS H. COLEMAN**

Assistant Director of Admission  
Franklin and Marshall College, B.A., Johns Hopkins University, M.A.

**JOHN H. CONNELLY**

history, philosophy, religion, & social sciences  
Trinity College, B.A., Springfield College, M.Ed.

**LORRAINE S. CONNELLY**

Associate Director of Communications for Marketing and Media  
Hunter College, B.A., Northeastern University, M.A.

**CYRUS COOK**

English  
Bowdoin College, A.B., Wesleyan University, M.A.L.S.

**JAN D. COOK**

science  
Carnegie Mellon University, B.S., Yale University, M.S.

**DANIEL J. COURCEY III '86**

Executive Director of Development & Alumni Relations  
Bowdoin College, B.A., Wesleyan University, M.A.L.S.

**ALIYA J. COX**

Assistant Director of Athletics  
University of Massachusetts – Lowell, B.S.

**JESSICA L. CUNI**

arts  
Swarthmore College, B.A., Brooklyn College, M.F.A.

**LISA V. CURRIE**

mathematics and computer science  
Yale University, B.A.

**TODD F. CURRIE**

science  
Dartmouth College, A.B.

**ALEX D. CURTIS**

Headmaster  
Swarthmore College, B.A., Princeton University, Ph.D.

**SHARONDA R. DAILEY**

Associate Director of College Counseling  
Boston University, B.S., Wesleyan University, M.A.L.S.

**CHAR L. DAVIDSON**

Director of Counseling Services  
Grand Valley State College, B.S., University of Connecticut, M.S.W., L.C.S.W.

**JIM P. DAVIDSON**

history, philosophy, religion, & social sciences  
Grand Valley State College, B.A., Yale University, M.A.



**JAKE P. DELLORCO**

mathematics and computer science  
Tufts University, B.A., Columbia University, M.A.

**PATRICK B. DENNEHY**

Form Dean; Assistant Director of Athletics  
St. Lawrence University, B.S., M.Ed.

**DEIGHNA L. DERIU**

arts  
Southern Connecticut State University, B.A.

**COURTNEY S. DESTEFANO**

history, philosophy, religion, & social sciences  
Skidmore College, B.A., Boston College, M.A.

**ELLEN Q. DEVINE**

Department Head, English  
Cornell University, B.A., University of Connecticut, M.A.

**KYLE D. DI TIERI**

mathematics and computer science; science  
Rensselaer Polytechnic Institute, B.S.

**CHRIS R. DIAMOND**

Director of Health Center  
Wesleyan University, B.A.; Mount Sinai School of Medicine, M.D.

**LEIGH A. DINGWALL '84**

history, philosophy, religion, & social sciences  
Dartmouth College, A.B., University of St Andrews, M.Phil.

**KATE S. DOAK**

English; arts  
University of Pennsylvania, B.A., Middlebury College, M.A., Yale School of Drama, M.F.A.

**SAM J. DOAK**

Form Dean; history, philosophy, religion, & social sciences  
Oberlin College, B.A., New York University, M.A.

**ELIZABETH A. DROEL**

mathematics and computer science  
University of Rochester, B.A., Roger Williams University, B.S.,  
University of South Florida, M.A., University of Rhode Island, M.S.

**MB DUCKETT IRELAND**

English  
Columbia University, B.A.

**TIMOTHY D. EASH**

Associate Director of College Counseling  
University of Michigan, B.A.

**STEPHEN C. FARRELL**

English  
Wesleyan University, B.A., M.A.L.S., Middlebury College, M.A.

**SUSAN P. FARRELL**

Associate Director of Summer Programs  
Yale University, B.A., Wesleyan University, M.A.L.S.

**TRAVIS W. FELDMAN**

i.d. Lab Facilitator  
St. John's College, B.A., University of Victoria, B.C., M.A. University of Washington, Ph.D.

**ANGIE F. FLYGH**

Associate Director of College Counseling  
Harvard University, B.A.

**JOHN H. FORD**

science  
Brown University, A.B., Wesleyan University, M.A.L.S.

**AMY D. FOSTER**

Department Head, history, philosophy, religion, & social sciences  
Harvard/Radcliffe, A.B., Yale University Divinity School, M.A.R.

**TOM S. FOSTER**

history, philosophy, religion, & social sciences  
Dartmouth College, A.B.

**ERIK J. FREEMAN**

history, philosophy, religion, & social sciences  
Brigham Young University, B.A., Utah Valley University, B.A., Brandeis University, M.A.

**CHARLIE M. FUENTES**

Adviser to Students of Color; languages  
Trinity College, B.A., University of Connecticut, M.A.

**JON C. GADOUA**

science  
Clarkson University, B.S., M.S., Rensselaer Polytechnic Institute, M.S.

**NED GALLAGHER**

Director of Athletics; history, philosophy, religion, & social sciences  
Williams College, B.A.

**SELENA L. GELL**

science  
Brandeis University, B.A.; Brown University, Ph.D.

**TRACY L. GINDER-DELVENTHAL**

arts  
Carnegie Mellon University, B.F.A., M.F.A.

**AMIN ABDUL-MALIK GONZALEZ**

Director of Admission  
Wesleyan University, B.A.

**MARK A. GOSZTYLA**

English  
University of New Hampshire, B.A., M.F.A.

**PAT F. GUELAKIS**

science; mathematics and computer science  
Trinity College, B.S., Worcester Polytechnic Institute, M.S.

**JANE D. GUSTIN**

arts  
Kansas City Art Institute, B.F.A., Johnson State College, M.F.A.

**TED E. HARTSOE JR.**

history, philosophy, religion, & social sciences  
Trinity College, B.A., University of Pennsylvania, M.A.

**MEGHAN A. HEALEY**

mathematics and computer science  
Smith College, B.A., New York University, M.P.S.

**KEITH HINDERLIE**

Director of Equity and Inclusion  
University of New Hampshire, B.A.; Boston College, Ph.D.

**CRAIG D. HLAVAC**

arts  
University of Connecticut, B.A., B.S., Yale University, M.M., University of Hartford, Ed.D.

**CHRIS W. HOGUE**

science  
University of California Berkeley, B.S., M.S., Ph.D.

**BRIAN E. HOLLOWAY JR.**

Head Athletic Trainer  
University of Connecticut, B.S.

**CHARLIE S. HOPKINS**

history, philosophy, religion, & social sciences  
University of Chicago, A.B.

**ANDREW P. HOPKO**

arts  
Western Connecticut State University, B.S., M.S.

**PAUL A. JACKSON**

languages  
University of Florida, B.A., Indiana University, M.A., Arizona State University, Ph.D.

**MADDY G. JACOBS**

Admission Officer  
Kenyon College, B.A.

**DOUG S. JAMES**

English  
Princeton University, A.B., Middlebury College, M.A.

**COURTNEY R. JASER**

Librarian  
Clark University, B.A., The University of Manchester, M.A., Pratt Institute, M.S.

**KYRA E. JENNEY**

history, philosophy, religion, & social sciences  
Gettysburg College, B.A.

**KATIE H. JEWETT**

Director of Curricular Initiatives, languages  
Dartmouth College, A.B., University of Michigan, M.A., Ph.D.

**CRAIG E. JOHNSON**

history, philosophy, religion, & social sciences  
Oglethorpe University, B.A., Wesleyan University, M.A.L.S.

**ZACH S. KAFOGLIS**

mathematics and computer science  
Yale University, B.A.

**MICHAEL KAPLAN**

counseling  
Yale University, B.A., Cornell University, M.D.

**ALY M. KEGEL**

arts  
Yale University, B.A., Carnegie-Mellon University, M.M.

**CASEY V. KELSEY**

science  
Brown University, B.A., University of Pennsylvania, M.A.

**KAREN L. KLEIN**

Director of Nursing  
University of Michigan, B.A., Yale University School of Nursing, M.S.N., A.P.R.N.

**KOLINA K. KOLEVA**

mathematics and computer science  
San Diego State University, B.A., M.A.

**MELLISA A. KOOMSON**

Director of Community Service  
Chestnut Hill College, B.A.

**TIFFANY N. KORNEGAY**

history, philosophy, religion, & social sciences  
Tufts University, B.A.

**ADRIANE E.M. KRUL**

mathematics and computer science  
Bowdoin College, B.A.

**MARCIA L. LANDESMAN**

Director of College Counseling  
Swarthmore College, B.A., New York University School of Law, J.D.

**TOM L. LARSEN**

science  
Bowdoin College, B.A., Columbia University, B.S., Harvard University, M.Ed.

**KATIE L. LEVESQUE**

Dean of Faculty; English  
Yale University, B.A., Middlebury College, M.A.

**KATRINA E. LINTHORST HOMAN**

Sustainability Director, science  
Colgate University, B.A., University of Massachusetts, M.S.

**DAVID M. LOEB**

English  
Yale University, B.A., M.A.

**ALEX M. LONG**

Assistant Director of Student Activities

**CHARLIE E. LONG**

languages  
Oberlin College, B.A., Middlebury College, M.A.

**BILL LUSTENADER**

arts  
Vassar College, B.A.

**EMILY LUTIN**

arts  
Hobart & Williams Smith Colleges, B.A.

**JACK S. MARRINAN**

mathematics and computer science  
Middlebury College, B.A.

**THOMAS MARTIN**

arts  
Oberlin College, B.M., The Juilliard School, M.M.

**LAUREN A. MARTINI**

science  
New York University, B.S., Yale University, M.S., Ph.D.

**ED S. MCCATTY**

Adviser to Students of Color; English  
Amherst College, B.A., Yale University Divinity School, M.Div.,  
University College London, M.A. Lit.

**MATT S. MCDONALD**

Director of Financial Aid; Associate Director of Admission  
Dartmouth College, A.B.

**GRACE B. MCGEE**

Assistant Director of Admission  
Washington and Lee University, B.A.; Virginia Tech, M.A.

**BOB A. MELLON**

arts  
State University of New York at Fredonia, B.A., Wesleyan University, M.A.L.S.

**NANCY C. MILLER**

Form Dean; English  
Mount Holyoke College, B.A.

**CLAIRE L. MINNEMAN**

Associate Director of College Counseling  
Boston College, B.A.; Harvard University, M.Ed.

**JESSE A. MINNEMAN**

history, philosophy, religion, & social sciences  
Bowdoin College, B.A.

**NICK T. MOLNAR**

mathematics and computer science; English  
University of Pennsylvania, B.A.

**OLIVER K. MORRIS**

languages  
University of Florida, B.A., M.A.

**WILL G. MORRIS**

Associate Dean of Students and Director of Residential Life, science  
University of North Carolina, B.S., Columbia University, M.A.

**ANDREW MURGIO**

mathematics and computer science  
Dartmouth College, A.B., Columbia University, M.A.

**HILLARY NASTRO**

Senior Associate Director of Admission  
Hamilton College, B.A.

**STEPHANIE A. NEUL**

mathematics and computer science  
Williams College, B.A.

**ALLISON M. NISHITANI**

science  
University of Southern California, B.A., Harvard University, Ph.D.

**KIM NORMAN**

mathematics and computer science  
Bucknell University, B.A.

**WILL P. NOWAK '06**

mathematics and computer science, history, philosophy, religion, & social sciences  
Northwestern University, B.A.

**ANDREW M. O'CONNOR**

Spears Endowment, campus ministry  
Thomas More College, B.A., University of Dallas, M.A., St. Joseph Seminary

**FRAN P. O'DONOGHUE**

science  
Dartmouth College, A.B., Wesleyan University, M.A.L.S.

**JORGE OLMO JR.**

Coordinator, Choate Icahn Scholars and Gakio-Walton Scholars;  
mathematics and computer science  
Connecticut College, B.A.

**EMILY R. OSTERHOUT**

Athletic Trainer  
Springfield College, B.S., Southern Connecticut State University, M.S.

**JULIE A. OXBOROUGH-YANKUS**

science  
St. Olaf College, B.A.

**BARBARA PARIS**

Spears Endowment, campus ministry  
Boston University, B.A., Hunter College, M.S.

**NICKIE E. PAUL**

history, philosophy, religion, & social sciences  
University of Miami, Oxford, OH, B.A., University of Connecticut, Ph.D.

**LIBBY M. PEARD**

Director of Parent Relations; Director of International Students  
University of Virginia, B.S., Wharton School of the University of Pennsylvania, M.B.A.

**MIKE F. PEED**

English  
University of the South, B.A.

**JENN L. PELLETIER**

history, philosophy, religion, & social sciences  
Trinity College, B.A.

**MATT B. PENDLETON**

Athletic Trainer  
Sacred Heart University, B.S., University of Hartford, M.Ed.

**BETH A. PETERS**

languages  
State University of New York at Albany, B.A., Middlebury College, M.A.

**JESSICA C. PFEIL**

mathematics and computer science  
Virginia Tech, B.S., New York University, M.A.; Columbia University, M.Phil.; Ph.D.

**SOFIA TIRADO PONTES**

English  
University of Notre Dame, B.S.; Rutgers University, M.A.

**JASON RAITI**

Chief Investment Officer  
Dartmouth College

**BROOKE A. REA**

English  
Bucknell University, B.A., Columbia University, M.A.

**YASER S. ROBLES**

history, philosophy, religion, & social sciences  
Brandeis University, B.A., University of Buffalo (SUNY), M.A.,  
University of Albany (SUNY), Ph.D.

**KEVIN D. ROGERS**

Director of Studies; science  
Dartmouth College, A.B., Harvard University, M.Ed.

**KATHRYN G. ROSE-NOONAN**

languages  
Mt. Holyoke College, B.A., Harvard University, M.A., Ph.D.

**AMY E. SALOT**

English; history, philosophy, religion, & social sciences  
Amherst College, B.A., Wesleyan University, M.A.L.S.

**RICK E. SALTZ**

Chief Financial Officer  
Cornell University, B.S., M.B.A.

**JOE M.V. SCANIO**

science  
Harvard University, A.B., University of Michigan, M.S.

**BRAD SEYMOUR**

arts  
Colby College, B.A., University of Connecticut, M.A.

**EERA SHARMA**

Director of Summer Programs; languages  
Mount Holyoke College, B.A., Middlebury College, M.A.

**VERONIQUE SHAY**

languages  
Albertus Magnus, B.S.

**MEGAN P. SHEA**

English; Teaching and Learning Center Support  
Bates College, B.A., Middlebury College, M.A.

**NEIL A. SHIMMIELD**

mathematics and computer science; history, philosophy, religion, & social sciences  
University of Nottingham, B.A., Oxford, Phil. (ABD), Wesleyan University, M.A.L.S.

**STEPHEN J. SIPERSTEIN**

English  
Wesleyan University, B.A.; Boston College, M.A., University of Oregon, Ph.D.

**BEN SMALL**

Department Head, science  
Middlebury College, B.A.

**ANDREA SORRELLS**

mathematics and computer science  
Agnes Scott College, B.A., Harvard University, M.Ed.

**L.J. SPINNATO**

Assistant Director of Admission  
Amherst College, B.A.

**MONICA ST. JAMES**

Director of Alumni Relations  
St. Louis University, B.A., M.A.

**CYNTHIA STAHURA**

Assistant Director of Admission  
Mount Allison University, N.B., B.S., B.Ed.

**ERIC G. STAHURA**

Senior Associate Director of College Counseling  
Bowdoin College, B.A.

**JAMES W. STANLEY**

Dean of Students; history, philosophy, religion, & social sciences  
Trinity College, B.A., M.A.

**NICOLE A.N. STOCK '05**

Assistant Athletic Director for Sports Information; Admission Officer  
Brown University, B.A., Northeastern University, M.A.

**CATHRYN S. STOUT**

English  
Wellesley College, B.A., University of Mississippi, M.A.

**LARRY G. STOWE**

science  
Yale University, B.A., University of Chicago, M.S., Ph.D.

**MARQ W. TISDALE**

mathematics and computer science  
State University of New York – Potsdam, B.A., M.S.T.

**JEN E. TULEJA**

Director of the Andrew Mellon Library  
University of Massachusetts, B.A., Simmons College, M.L.S., Indiana University, M.S.Ed.

**LAURA LYNN VAN MIERLO**

Dean; science  
St. Lawrence University, B.S., University of Saint Joseph, M.S.

**CATHERINE C. VELEZ**

Registrar  
Union College, B.A.

**MIKE A. VELEZ '00**

Form Dean; history, philosophy, religion, & social sciences  
Middlebury College, B.A., Wesleyan University, M.A.L.S.

**PHIL T. VENTRE**

arts  
New England Conservatory, B.M., M.M.

**KATHLEEN LYONS WALLACE**

Associate Headmaster; science  
University of Connecticut, B.A., B.S., Middlebury College, M.A.

**CRAIG M. WARREN**

Librarian  
Brown University, A.B., Louisiana State University, M.L.S.

**ANGELA WESTON**

languages  
Fairfield University, B.S., Middlebury College, M.A.

**EMILY LOVEJOY WHITE '06**

Form Dean, science  
Bryn Mawr College, A.B., Tulane University, M.S.

**TOM G. WHITE**

Director of Faculty Development; history, philosophy, religion, & social sciences  
Rutgers University, B.A., M.A.

**JUDI M. WILLIAMS**

Adviser to Students of Color; history, philosophy, religion, & social sciences  
Syracuse University, B.A., New York University, M.A.

**MARY LIZ WILLIAMSON '94**

languages  
Wesleyan University, B.A., University of Georgia, M.A.

**DOUG G. WOLFF**

science  
Southwest Texas State University, B.S., M.S.

**YUXIN XIE**

science  
Massachusetts Institute of Technology, B.S.; University of Chicago, M.S.

**JIM J. YANELLI JR.**

Director of Student Activities Center  
University of Maryland, B.A., University of California, M.S.Ed.

**KALYA YANNATOS**

Director of the Arts; Department Head, arts

**HEATHER A. YORK**

science  
University of Minnesota, B.A.; University of Kansas, Ph.D.

**MO E. ZELAYA**

Associate Director of College Counseling  
Trinity College, B.A., Boston College, M.A.

**DAN ZHAO**

languages  
Dalian University of Foreign Languages, B.A.,  
Bloomsburg University of Pennsylvania, M.A.

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