



LAKE FOREST ACADEMY

Midwestern Heart. Global Mind.

Course Offerings

2018-2019

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Overview

Advanced Level and Advanced Placement (AP) courses

LFA's Advanced level and Advanced Placement (AP) courses have the distinction of being our most challenging academic programs. Students planning on applying for admission to an Advanced level or AP course need to position themselves by performing well in their current academic course. The decision to apply for entry into an Advanced level or AP course should be made in consultation with the LFA advisor, the parents, and the individual academic department. Admission to Advanced level and AP courses is decided by the appropriate department in conjunction with the Dean of Students. The respective department head should be approached for further information. LFA does not weight grades for Advanced level and AP courses in computing a student's GPA. Students enrolled in AP courses are not required to take the AP exam. Although it is strongly encouraged, it is not mandatory. Students are responsible for paying any exam fees.

Independent Study

Lake Forest Academy believes in the concept of Independent Study for interested, qualified, and mature students. To assist our students in acquiring the techniques necessary to work independently outside the framework of standard courses, and to encourage and cultivate intellectual curiosity, LFA offers students the opportunity to construct and pursue an approved independent course of study. Refer to the student handbook for specific guidelines and criteria.

School Year Abroad

This program, founded in 1964, is sponsored by the three charter schools of Exeter, Andover, and St. Paul's. The heads of these three schools serve as permanent members of SYA's board of trustees. In addition to these three charter schools, SYA's association includes a consortium of other top U.S. independent schools that have demonstrated a strong commitment to foreign and classical language instruction as well as international education. Admission to these programs is competitive. The total enrollment in each program is about 60 students.

The programs are conducted during the school year in Beijing (China), Rennes (France), Viterbo (Italy), and Zaragoza (Spain). Its courses have been fully accredited by LFA and other schools within the consortium. The purpose of these programs is for students to participate in a full academic year as well as to reap the benefits of living in a foreign culture while achieving a level of real fluency or skills virtually impossible to attain at their home schools. Since some of LFA's graduation requirements (e.g., U.S. History or science) cannot be fulfilled in Beijing, Rennes, Viterbo, or Zaragoza, interested students should develop as early as possible a long-range plan of studies that will assure their eligibility.

In each program, students live with host families and participate fully in their lives. They join athletic and cultural organizations with their Chinese, French, Italian, or Spanish counterparts and travel both on several school-sponsored trips as well as independently. Academically, each student pursues a minimum of five courses selected from a curriculum especially designed for School Year Abroad students. Standard junior and senior English and mathematics courses are taught in English, generally by teachers

from the charter or member schools. Subjects such as literature, language, history, civilization, and art history are taught in the target language by native instructors. The classes are rigorous and reflect the standards of the sponsoring schools. All College Board examinations are offered.

The programs in France, Italy, and Spain are designed for students going into their junior or senior year who have completed two years of French, Latin, or Spanish. The program in China is for students also going into their junior or senior year, but no previous study of Mandarin is necessary for students who wish to spend their junior, senior or post-graduate year in Beijing. Each of these programs offers a full year of residence and study in the respective country. The program in China offers the option of a fall term as well. The cost of each program does not differ significantly from the cost of a year as a boarder at LFA. Financial aid is available. Catalogs and further information on application to the program may be obtained from the LFA SYA coordinator.

Academic Requirements

Students normally take five or six courses each year. At least four of these courses must be from the liberal arts disciplines of English, mathematics, science, history, and foreign language. The Academy's minimum graduation requirements are as follows (18.5 credits total):

- English: four years (one each year at LFA)
- Mathematics: three years (including at least algebra I, geometry, and algebra II)
- History, Science, Languages: three years in at least two of these disciplines and two in the third, including at least two full year lab sciences. All students must take either World History II or Advanced Placement World History and either U.S. History or Advanced Placement U.S. History.
- Fine Arts: three semesters for incoming freshmen and two semesters for any incoming sophomore, junior, or senior

Students need at least two additional full-year credits to meet the minimum graduation requirements (one of these must be from the areas of math, science, English, history, or languages) and must also fulfill the requirements of the Athletic Department and Seminar Program. All students are assigned to a seminar group, with whom they are required to meet every cycle.

Students who join the Academy from other countries and who are already fluent in a non-English native language are encouraged, but not required, to study a language in addition to English while they are at LFA. If they choose not to do so, they must successfully complete at least three years in both science and history in addition to meeting the total credit requirements.

English

Yearlong Courses

English 9: Survey of English and Literacies

This course introduces the foundational skills of close reading, critical writing, and public speaking. The course takes a genre-approach (short stories, poetry, novels, nonfiction essays, dramatic scripts) and emphasizes skills in reading, writing, speaking, listening, viewing, performing, and doing. Study skills are highlighted, as are rudimentary research skills. Students are taught to think with precision, specificity, and clarity in order to engage in sophisticated analysis. Writing assignments range from short, analytical papers to a variety of personal and creative pieces. This work ultimately culminates in the students' understanding of how to construct and logically develop a formal argument in a sustained essay of three to five pages in length. Students will study literary terms and devices and varied genres/poetic forms in order to develop voice and authority in their own writing. Special attention is paid to grammar, punctuation and sentence structure. Students will also be introduced to basic public speaking skills that culminate in the presentation of an expository speech. [One credit.]

English 10: American Literacies

This course develops and reinforces students' capacities for critical thinking, writing, speaking, listening, viewing, performing, and doing and builds awareness of how meaning is constructed through various American experiences. The main goals of the course are to study the ways in which authors, playwrights, filmmakers, and visionaries have captured and shaped America's national identity over the past four centuries; to cultivate students' enjoyment and comprehension of literature and media; and to introduce them with the skills they need to be confident, empowered readers, writers, thinkers, and makers of meaning ready to work at the university level. Students develop their written voices in a variety of genres, and instructors emphasize writing as a process. Aspects of argumentation are introduced and advanced through a persuasive speech while research and skills are further developed. [One credit.]

English 11: Global Literacies and Advanced Composition

This course refines students' capacities for critical thinking, writing, speaking, listening, viewing, performing, and doing and builds awareness of how meaning is constructed through global literacies. The course emphasizes literacies from around the globe including, but not limited to Asia, Europe, Africa, North and South America, and Oceania. The main goals of the course are to study the ways in which authors, playwrights, filmmakers, and visionaries have captured and shaped identities around the world; to nurture students' enjoyment and comprehension of literature and media; and to provide them with the skills they need to be confident, empowered readers, writers, thinkers, and makers of meaning ready to work at the university level. Students develop their written voices in a variety of genres, and instructors emphasize writing as a process. Aspects of argumentation are reinforced and advanced through public speech while research and study skills are tightened. [One credit.]

English 11: AP Language and Composition: World Cultures

This course is designed to challenge students as readers, writers, and thinkers by exposing them to a variety of genres and by engaging them in multiple modes of writing. The primary focus is the understanding of literary and rhetorical techniques. The course will be organized thematically, with fiction and nonfiction texts spanning both genres and historical time periods to allow students to gain a broad understanding of the ways in which various writers use rhetoric to approach a range of issues in multiple cultures. In addition to international novels, plays, short stories, and poetry, texts include nonfiction essays, editorials, speeches, and memoirs. We will also examine images and film as texts, extending our interpretive and analytical reach to art, photography, political cartoons, advertisements, documentaries, and feature films. Students will engage with these texts through multiple modes of writing, including personal reflection, research papers, persuasive essays, rhetorical analysis, and critical analysis. This course is open to juniors who have earned an A- or higher in their current English class and/or received the teacher's recommendation. [One credit.]

Senior Courses

The senior year in English is designed to develop intellectual curiosity, interpretive and expressive abilities, imaginative thinking, and work ethic. All courses emphasize the development of sound skills in analytical, interpretive, and creative writing; critical reading and research; vocabulary and public speaking; and the use of relevant technologies. Instructors provide a review of grammar, mechanics, and usage as needed and utilize interdisciplinary resources when appropriate. Students will demonstrate mastery of course content through a variety of assessments. Even though courses differ in subject matter, the shared pedagogy relies heavily on the collegiate models of discussion-based classes, writing intensive seminars, and public speaking opportunities. Senior English options include three full-year course options or eight semester options.

Yearlong Courses

English 12: AP Literature and Composition

This is a college-level course for students who have demonstrated a keen interest in literature and success in analytical writing. The course is designed to further cultivate those students' critical capacities as readers and writers through studying a wide variety of authors, styles, and literary periods. Classes are predominantly discussion-based, with particular emphasis on the finer points of literary craftsmanship; students should expect 30-40 pages of nightly reading and frequent writing assignments. Students are evaluated on the basis of their mastery of content and terminology, the precision and clarity of their analytical writing, and the originality of a variety of forms of creative expression. While the course will prepare students for the Advanced Placement exam, its larger aim is to cultivate in them an appreciation of the lifelong value of engaged reading and lively critical thinking. This course is open to seniors who have earned a B+ or higher in their current English class and/or received the teacher's recommendation. [Prerequisite: Departmental approval. One credit.]

English 12: Language, Culture, and Identity through Dialogue and the Literary Text

The literary text is used as a vehicle for reflection for discussions, dialogue, and debate on issues of language and identity construction and for allowing students an opportunity to live vicariously in other ethnocultural worlds. The focus is on autobiographical as well as fictional narrative with diversity as a means to our understanding of the “self” in relation to the “other.” Students will explore literature and media, both fiction and nonfiction, that focuses on the experiences of those who live within and between cultural worlds, struggling to find voice, meaning, and balance in their lives. Students will also examine language in its many forms (first and second languages; spoken and written; syntax and semantics), culture in its variety (nations, social institutions, people, social groups), and identity (essentialism and social constructionism). A key focus will be on the power of narrative as a means to understanding oneself. The literary text will be used to connect with language, culture, and identity; learning about others and, in the process, learning more about our own life story. The course will culminate in a final public oral presentation project that incorporates multiple creative and analytical formats. [One credit.]

English 12: Multiliteracies

In addition to reading traditional texts, multiliteracies explores the impact and influence of mass media and popular culture by examining texts such as films, songs, video games, action figures, advertisements, CD covers, clothing, billboards, television shows, magazines, newspapers, photographs, and websites. These texts abound in our electronic information age, and the messages they convey, both overt and implied, can have a significant influence on students’ lives. For this reason, critical thinking as it applies to media products and messages assumes a special significance. Understanding how various texts are constructed and why they are produced enables students to respond to them intelligently and responsibly. Students must be able to differentiate “between fact and opinion; evaluate the credibility of sources; recognize bias; be attuned to discriminatory portrayals of individuals and groups, including women and minorities; and question depictions of violence and crime” (Canada Ministry of Education, 2006). New London Group's '*A Pedagogy of Multiliteracies*,' which addresses how to teach literacy skills in a 21st century, digital age is considered. This framework's main components include situated practice, overt instruction, critical framing, and transformed practice. Basically, this framework speaks to the need for changed pedagogies around literacy instruction. [One credit.]

English Electives

Journalism I

Journalism I is designed to give students an introduction to several key journalistic skills and topics including: the responsibilities of being a journalist, journalistic ethics and law, news writing, features writing, opinion writing, sports writing, becoming a more powerful, more readable writer, interviewing, developing a nose for news, covering a beat, copy editing, writing headlines and photography basics. Students will also gain exposure and practice in the modern news world of digital media, including web editorial writing and the role of social media platforms. Many of the lessons presented in class will focus

on real-world examples, using both professional publications and *The Spectator* as starting points for discussion. No previous experience is required; personal integrity and an eagerness to learn are required. After taking this course, students will be eligible to join and write for the newspaper. Students will try their hand in all genres of newspaper writing during the year. Students will be graded according to effort, meeting deadlines, and mastery of class topics. [One credit, *does not count toward English graduation requirement.*]

Journalism II

This course will give students the opportunity to learn about journalism firsthand by producing a monthly newspaper, corresponding news website, and developing content for various social media platforms in a professional manner, just as they would in many of today's journalism and marketing positions. Every student focuses on producing the print publication, but also gains skills and experience working on the digital publication and social media concurrently. Students write in a variety of genres, from straight news writing to features and opinion writing. Students will cover beats around the school and will have real input into what goes into print or on to the web each month. Due to the team-and deadline-driven nature of publication, students on the newspaper must be willing to communicate proactively and openly about the status of their ongoing work with their classmates and the teacher and show a real commitment to meeting deadlines consistently. The class will help students develop the following skills: effective and powerful writing for publication, multimedia journalism, time management, making ethical decisions in a real-world setting, working with others to get jobs done, effective reporting, effective interviewing, and giving and receiving feedback. Students will utilize their basic photography, page design, and graphic skills introduced in Journalism I, while enhancing, and building upon those skills throughout the year. The publication process will also afford opportunities to explore some concrete and theoretical topics of journalism, based upon the national trends or stories of the day. [**Prerequisite: Journalism I.** One credit, *does not count toward English graduation requirement.*]

Advanced Journalism

Advanced Journalism students take leadership roles in either print or digital concentrations as Editor in Chief, Managing Editor, Web Editor, and Social Media Director, to name a few. Students take leadership roles in the management and execution of assignments, both digital and print, but also serve as writers and reporters to present stories in a number of mediums. Leadership, project management and brand development/management are skill sets taught in both courses. Again, students will be required to complete at least seven major projects -- the monthly print publications or web/multimedia content. [**Prerequisite: Journalism II.** One credit, *does not count toward English graduation requirement.*]

Fall Semester Courses

For the 2018-2019 Academic Year, Grade 12 semester options may include:

English 12: Senior Composition and the Writer's Workshop

This class provides students the opportunity to develop their writing through a variety of skills, including, but not limited to exposition, narration, persuasion, research, and impromptu responses. The emphasis is on composition and writing for college. Using a workshop format, this course focuses on writing as a process, with a strong emphasis on revision. Students will enhance their ability to read and analyze selected models of prose writing, as well as synthesize other authors' ideas. They will also refine their grammar skills and explore technology available in school libraries. Student progress is evaluated throughout the semester in a manner that authorizes students to take an active role in their writing and learning. A student's overall performance is evaluated at the end of the semester based on a comprehensive writing portfolio review. [Half credit.]

English 12: Foundations of Speech and Communication: Intrapersonal Skills

Speech communication is the study of human symbolic behavior in many forms. Speech is the oldest academic discipline, (tracing its roots to Aristotle), and one of the most modern in its concern with interpersonal relationships. Initially taught in the schools of ancient Greece, speech communication retains value because of its practical nature. This course helps students develop their understanding and appreciation of human communication processes and explores oral and written communication practices. The first semester course develops an awareness of intrapersonal communication while also emphasizing the significance of oral communication and listening for success in academic, work, and social lives; delivers an understanding of how language is used to create change; develops competent delivery skills; evaluates information found in research and public discourse; and emphasizes the role of tone, voice, and audience. The first semester course will emphasize intrapersonal communication skills. The course may include activities such as public speaking, oral interpretation, public address, an analysis of the self (self-concept; self-esteem; self-awareness), and conflict management. Assessments will be based on participation and performance activities, listening skills, growth, risk, peer review, and written work. [Half credit. **No prerequisite.**]

English 12: Short Fiction

Students in this course read not so much as critics looking for themes and symbols, but more as apprentice writers searching for elements of craft and structure, the most fundamental, yet most elusive components of the author's creative effort. The discovery of these components yields a gold mine of instructional material to be used by students to generate original stories after reading and interpreting fiction sources. Classes combine careful discussion of assigned readings with brainstorming, oral tellings, and writing exercises. Students present new fiction to the class each cycle for critique and compose frequent critical responses to the readings. To gain a better appreciation for the amazing wealth to be found in the heritage of our short fiction and to learn from as many masters as possible, we study many of the works included in *The Norton Anthology of Short Fiction*. A public reading for the school community, a portfolio of original fiction, and submission of one piece for publication may complete the course. [Half credit.]

Spring Semester Courses

For the 2018-2019 Academic Year, Grade 12 semester options may include:

English 12: Senior Composition and the Writer's Workshop

This class provides students the opportunity to develop their writing through a variety of skills, including, but not limited to exposition, narration, persuasion, research, and impromptu responses. The emphasis is on composition and writing for college. Using a workshop format, this course focuses on writing as a process, with a strong emphasis on revision. Students will enhance their ability to read and analyze selected models of prose writing, as well as synthesize other authors' ideas. They will also refine their grammar skills and explore technology available in school libraries. Student progress is evaluated throughout the semester in a manner that authorizes students to take an active role in their writing and learning. A student's overall performance is evaluated at the end of the semester based on a comprehensive writing portfolio review. [Half credit.]

English 12: Written Expressions

This course emphasizes creative writing, playwriting, screenwriting, and other forms of fiction/nonfiction writing. Students will refine their skills in writing and analyzing stories, plays, and poetry. Projects, readings, and assignments will cover the various genres that allow students to pursue individual interests. Class discussions focus on the analysis and consideration of different writing styles and genres including, but not limited to, fiction, poetry, and drama. Students explore writing in greater depth than in previous courses of study, examining how various genres impact writing style and what it means to create voice in writing. The course format is a workshop that includes daily writing. Students will give and receive feedback and peer edit in small and full class groups. Students are also required to read and annotate fiction and nonfiction. All students participate in a wide variety of approaches to literacy development and apply what they learn to the art of writing creatively. [Half credit.]

English 12: Foundations of Speech and Communication: Interpersonal Skills

This second semester course reviews human communication processes and enhances oral and written communication practices while considering interpersonal communication skills. The course emphasizes the art of persuasion; refines delivery skills; assesses the quality of arguments; evaluates information found in research and public discourse; and cultivates rhetorical sensitivity in order to better connect with individuals and audiences. The course may include activities such as an analysis of historical and modern rhetorical theory and criticism, interpersonal communication, small group communication, public speaking, debate, and/or parliamentary procedure. Assessments will be based on participation and performance activities, listening skills, growth, risk, peer review, and written work. [Half credit. **No prerequisite.**]

English 12: Literary Analysis: The Lost Generation

After World War I, a group of enormously talented American writers fled to Paris seeking intellectual freedom and cultural refuge. Together with their European counterparts, this “Lost Generation” lived a decadent, bohemian lifestyle. They partied late into the night, drank to excess, engaged in casual romances, and at the same time produced some of the world’s great fiction, poetry, and art. As a countercultural movement, members of the Lost Generation, together with such contemporaries as Freud, Marx, and Nietzsche, challenged conventional ideas and values, inspired profound intellectual, cultural, and literary changes, and forged new world views. Concurrent developments in art, architecture, music, and fashion transformed popular culture and social mores in America. To gain an understanding of this rich and complex period, we will study selections of prose and poetry from such Lost Generation writers as Hemingway, Fitzgerald, Joyce, Eliot, Pound, H.D., Loy, Woolf, and Stein; the influence of such influential thinkers as Freud, Marx, Nietzsche, and others, and the development of literary modernism. We will also investigate the art, architecture, and popular culture of the period. Our approach will be multicultural, multi-genre, and interdisciplinary. [Half credit]

ESL

The ESL program at Lake Forest Academy is an intensive program in English as a Second Language. The program is designed to prepare students for academic work by offering them a full course load in ESL, including Grammar, Reading/ Writing, and Speaking/ Listening. The students are placed in the appropriate level based on their ability in English. Students in both Intermediate ESL and Advanced ESL also enroll in a math course. Students begin a full program of non-ESL courses upon completion of Advanced ESL.

Intermediate ESL

Intermediate ESL is a one-semester course designed for students with an intermediate ability in English. The Grammar portion of the course includes the study of verb structures and passives. The Reading/ Writing portion of the course introduces students to elements of literature and expository writing, first in paragraph form and then in essays. The Speaking/Listening portion of the course focuses on developing students' note taking skills as the basis for discussion and writing.

Advanced ESL

Advanced ESL is a one-semester course designed for students with an upper-intermediate to advanced ability in English. The Grammar portion of the course includes the study of complex sentence structures and phrases and the conditional. The Reading/Writing portion of the course teaches students to write argumentative essays based on current issues and expository essays based on modern short stories. The Speaking/Listening portion of the course strengthens students' note taking skills while introducing them to aspects of classical literature.

FINE & PERFORMING ARTS

Yearlong Courses

Acting I

If you've ever wondered what it would feel like to act on stage, or if you've acted before and are looking for a structured exploration of the craft, this course an approachable and methodical introduction to live performance. Students will finish the course comfortable and confident on stage, able to create a character, react to dramatic circumstances, use their voice and body effectively, and work on a creative team. This yearlong class focuses on auditions, fundamentals of voice and movement, interpreting the monologue, beginning scene work and analysis, and ensemble movement, acting, and collaboration. [One credit]

Advanced Acting

For students who have complete Acting I or who have substantial previous acting experience, this class is the challenging next step in contemporary performance technique as well as period styles. Students will deepen their ability to create and portray characters and to analyze scripts from an actor's perspective, to interact with directors and ensemble members in both scripted and devised processes, and to best understand their voice and body as instruments. **[Prerequisite: Acting I or departmental approval, One credit]**

Advanced Studio Art

This is a rigorous course, which requires the production of an extensive portfolio. Through direct teacher instruction, individual and group critiques, and independent focused studio activity and research, students will acquire the conceptual, technical, and critical abilities to execute their personal ideas and complete a portfolio which demonstrates mastery in concept, composition, and execution. A major gallery exhibition will be presented in late spring featuring work completed during the year. This course is open to juniors and seniors. Open Cressey hours in addition to class periods are required as part of the expectations of this course. **[Prerequisite: Two or more consecutive visual arts courses or departmental approval, One credit]**

AP Art History

This course offers a broad, global survey of the world's various artistic traditions from antiquity to present day. The course familiarizes students with some of history's most important achievements in the visual arts and architecture, as well as with larger patterns of artistic production and consumption that unfolded over time. Students also learn to recognize the ways in which art-making intersects with other cultural formations, such as religion, economies of exchange, and political ideologies among others, and in turn how these contexts can be Used to construct historically-grounded interpretations of art objects. Assessments consist principally of exams and papers that will reinforce students' capacity for visual analysis and evidence-based observation and interpretation. Students with no studio art experience are welcome to take the course. **[Prerequisite: World History II (including concurrent enrollment), One credit]**

AP Music Theory

In AP Music Theory students first learn fundamental rudiments of music reading, writing, and listening. Beginning with basic note identifications and music organization, students will progress through learning elements of harmony, rhythm, and musical structure. Second semester course content includes such topics as advanced harmony, analysis, composition, sight-singing, harmonic and melodic dictation, and form. Ear training skills are emphasized through written and aural topics. While musical study will focus on Classical and Romantic era music, jazz and popular styles will also be discussed. **[Prerequisite: Departmental approval, One credit.]**

Black & White Photography and Digital Media

This course is an introduction to the overarching concepts and ideas of both film and digital photography and will also incorporate aspects of video, film, and animation. You will be introduced to a wide variety of tools and techniques surrounding photography and digital media including 35mm film and cameras, film scanners, mobile devices and apps, digital SLR cameras, film and paper development, and digital darkroom techniques. Ultimately, you will spend much of the time in the “making” phase. The class will focus on experimentation and understanding of basic concepts within these mediums. The goal is to get to a point where you can utilize the concepts and techniques in order to create more thought-provoking art pieces that express an idea and are visually appealing. [One Credit]

Choir

Choir offers students an intense and enjoyable vocal performance opportunity, featuring a wide range of repertoire from popular music to substantial choral works. Topics relating to music theory and history are taught in conjunction with ensemble repertoire. The choir performs four major concerts per year for Parents Weekend, Winter Concert, Oratorio Concert and Spring Pops Concert, and also sings for numerous other smaller events such as all school meetings, admissions events and alumni events. Every other year the Choir travels to New York City or other locations to perform and attend concerts, and other off-campus trips are also taken throughout the year. The choir has established an impressive history of hosting Visiting Artist performances and master classes with Broadway composers and performers such as Jason Robert Brown, Zina Goldrich, Marcy Heisler, Liz Callaway, Lucas Steele and Scott Coulter. Previous choral experience is encouraged but not required for participation in Choir. [One credit]

Directing

Working with actors, technicians, musicians, and writers to communicate a vision to an audience is complex, challenging, and deeply satisfying. Directing requires a focused and well-rounded interpretive artist and a skilled leader. This course is an in-depth study of theater directing and the collaborative process involved in producing a play. Focuses include script analysis, thematic research, concept development, and actor coaching. Students will be required to think creatively, act industriously, and communicate effectively. Participants will develop essential skills in collaboration and project management. They will work with peer actors, present directed work to the LFA community, and learn to process critical feedback from their collaborators and audience.

[Prerequisite: Advanced Acting or departmental approval, One credit]

Electronic Music Ensemble

This course serves to give students an outlet for collaborative exploration, improvisation, and organized performance of both the traditional dance-oriented and the experimental forms of electronic music. Heavy emphasis is placed on group composition and improvisation, while iOS fluency remains paramount to an individual musician's success in the course. Students may expect to demonstrate the musical potential of various technologies, interpret notated pieces (for both solo and ensemble), collaborate with other musicians in composing new works for group performance, develop programming and sequencing skills using DAWs and Object-Oriented Programming tools, improvise within loosely structured pieces, and purposefully experiment with new musical forms. Electronic Music Ensemble musicians use both iPads/iOS apps and traditional desktop platforms such as Ableton Live, Soundtrap, etc. (only iPads and apps are required for the class). A series of performances will be scheduled throughout the academic year. [**Prerequisite: Advanced Music Production or departmental approval**, one credit]

Orchestra

Orchestra is offered to students who have an instrumental performance background and a desire to perform great instrumental works together. Orchestra members must have at least a basic level of independent musical ability on their instruments, as well as experience playing in other large ensembles. Students will prepare music for performances while gaining musical skills from scale playing, basic music theory, and rhythm reading. While there is no set requirement for individual practice, students are expected to maintain a satisfactory level of performance on all assigned music. Orchestra performs at various times throughout the year including Parents Weekend, seasonal concerts, Graduation, and Move-Up Day. Other performance opportunities include Alumni Weekend, the LFA Spring Gala, and school assemblies. Additional performances may include, but are not limited to, off-campus concerts, adjudications, and an Orchestra trip on the even numbered years. [One credit]

Piano I

This course is an introduction to piano playing and music concepts through a group learning format. Students work together to learn beginning musical skills such as note reading and rhythm, and apply them daily in their musical efforts. Class activities include technique skills such as scales and arpeggios, group pieces, and solo repertoire. Regular assignments and playing assessments are given, and individual practice outside of class time is stressed to help develop playing ability. The highlight of each semester is a class piano recital performed for friends and family. This class is intended for pianists at the beginning level, and more advanced pianists should speak with the instructor about individual lessons. [One credit]

Two Dimensional Studio

In this course, we will work from the basis of both imagined and observational two-dimensional art making in order to develop and express our ideas visually. We will work with a variety of drawing, painting and printmaking materials as we explore the development of artistic compositions. The course will focus on experimentation and understanding of basic concepts as we seek to discover, refine, and enhance our individual artistic styles. Moreover, this course is designed to promote experimental thinking and risk-taking within the two-dimensional medium. Art media might include: graphite, colored pencil, charcoal, pastel, watercolor, gouache, acrylic, and oil paint. We will explore various techniques

for rendering the illusion of objects in space including the use of simple shapes, ellipses, construction lines, perspective, negative space, and the manipulation of light and shadow. The emphasis is on the acquisition of skills and the recognition and development of personal style. [One Credit]

Two Dimensional Design

The objective of this course is to introduce students to the elements and concepts of two-dimensional design. Familiarity with the terminology, concepts and basic materials utilized in the studio by visual artists will be explored. An understanding of two dimensional design principles underlies all 2-D art from drawing and painting to photography, illustration, printmaking and graphic design. We will exploit the powerful manipulative power of the computer using the Adobe programs to create many of our two dimensional compositions. Several of the projects for this course will be created using a computer as the main tool.

Design is the process of selection of all visual elements used by artists to express themselves. Principles taught in this course have direct application to all art media and provide a foundation and direction for learning skills in other courses. [One Credit]

Fall Semester Courses

Ceramics I

This course introduces students to creating and using the pottery wheel by sculpting clay by hand. Students will learn various techniques for adorning the surface of their clay objects using glazing and printmaking methods. Students will explore the historical significance of ceramics in various cultures as well as the aesthetic traditions of making functional pottery. Through this exploration, students will become proficient in a number of skills that are used when working with clay, including: throwing and trimming work on the pottery wheel, slab building, coiling, and basic surface decoration techniques. [Half credit]

Electronic Music I

From beat production to experimental music, technology plays a foundational role in the creation of music today. In this class, we dive right in with simple tools that will have you making music regardless of your previous experience. As the semester progresses, you will learn the processes in order to take your music to the next level while learning more advanced skills in production. A large portion of the technology in class will be provided, including access to professional-level music production software (Ableton Live and SoundTrap). iPads are required for use with TableTop, which is a free app that will require some in-app instrument purchases. By the end of the term, you will be ready to produce your own beats, program synths for EDM, or record original music. [Half credit]

Public Speaking

There is no field of endeavor in which participants do not benefit greatly from effective skills in communication and persuasion. Confident bearing, ability to craft convincing arguments, and facility with language are universal keys to success. This course teaches methods, strategies, and physical techniques for speaking in front of an audience. Students will learn to formulate specific purpose statements, analyze and adapt to audiences, organize ideas, recognize rhetorical and logical strategies,

choose language deliberately, construct outlines, and write and deliver credible presentations, becoming more effective speakers and more critical audience members. [Half credit]

Sculpture

This course is recommended for students who want to gain a basic understanding of the concepts and materials Used in creating three-dimensional artworks. Students will be introduced to a comprehensive range of sculpture techniques and will work with a variety of mediums including clay, glass, textiles, paper, plaster and metal. During the course of the semester students will become familiar with different art forms and practices Used by various. cultures throughout the world. [Half credit]

Theater Technology I

This is an introductory course which investigates the technical aspects of designing and running a theatrical production. This course will introduce students to the basic principles of scenic design, sound design, and lighting design as well as other aspects of technical theater. Students will learn to safely use many of the tools and equipment required to set the stage for a performance. Students will be involved in all aspects of production, from conceptualization and construction to operation and management. As an aspect of the course, students will be required to serve as technical crew for many of the Academy's productions and special events. [Half Credit]

Introduction to Woodworking

This course is designed to expose students to the fundamental elements and skills of basic woodworking. Students will understand the safe, effective and efficient use of both hand and power tools, while emphasizing craftsmanship, planning, and finishing. As students progress, they will create various woodworking projects that reinforce and challenge skills while exploring areas of functional object making. [Half credit]

Writing for Performance

Is the notion of seeing characters you've created come to life (played by actors) interest you? Have you ever considered writing your own one-act play? How about performing a monologue in your own voice or as a character as in *The Santaland Diaries* or *Miranda Sings*? Would you like to perform slam poetry, or create a scripted podcast like *Welcome to Nightvale* or *36 Questions*? Students in this course analyze classic or critically lauded text from each form (traditional representation one-acts, monologue, slam, and scripted podcast), identifying and discussing essential components and values including character voice, plotting, pacing, and "movement in space." Once familiar with the structure and requirements of the studied forms, students will develop a portfolio of their own work, responding to technique-specific writing prompts and utilizing daily feedback from peer writers, performers, and the instructor in a writing lab/workshop environment. In addition to creating theatrical artifacts, students will gain critical insight towards the appreciation of scripted performance. Students will see and critique live performance on and off-campus and work by each student will be performed publicly by the authors or using students actors from within and without the class. [Prerequisite: English 9, Acting 1, or departmental approval], Half credit]

Spring Semester Courses

Advanced Music Production

Once you are familiar with the creative process in Ableton Live, Soundtrap, and other production tools (from EM1), you are ready to delve into the world of advanced music production and collaborative music making. This class will focus primarily on development of musical style and composition technique through guided tutorials, discussions about basic music theory, and listening assignments. Students will engage in project-based learning activities that require them to compose a piece of music within certain parameters, then look to add their own ideas through the editing and mixing process. The class will include opportunities to share finished work with the community in a variety of venues. **Prerequisite: Electronic Music 1 or departmental approval**, Half credit]

Ceramics II

This course builds on skills learned and practiced in Ceramics I. Students in Ceramics II move on to more challenging techniques in hand-building, including coil pots and large-scale slab construction. Wheel work focuses on mastering form and throwing larger, more complex work. An introduction and mastery of mold making and slip casting techniques will be discussed. Self-evaluation and weekly practice outside of class time are important parts of the learning process throughout the course. **[Prerequisite: Ceramics I or departmental approval**, Half credit]

Public Speaking

There is no field of endeavor in which participants do not benefit greatly from effective skills in communication and persuasion. Confident bearing, ability to craft convincing arguments, and facility with language are universal keys to success. This course teaches methods, strategies, and physical techniques for speaking in front of an audience. Students will learn to formulate specific purpose statements, analyze and adapt to audiences, organize ideas, recognize rhetorical and logical strategies, choose language deliberately, construct outlines, and write and deliver credible presentations, becoming more effective speakers and more critical audience members. [Half credit]

Sculpture

This course is recommended for students who want to gain a basic understanding of the concepts and materials used in creating three-dimensional artworks. Students will be introduced to a comprehensive range of sculpture techniques and will work with a variety of mediums including clay, glass, textiles, paper, plaster and metal. During the course of the semester, students will become familiar with different art forms and practices used by various cultures throughout the world. [Half credit]

Theater Technology II

This course offers a more comprehensive study into the various elements of technical theater production, including lighting, sound, and scenic design. Continuing themes from the previous course, students will explore various production roles, and develop management and production skills while

creating and implementing original technical designs. Students will be expected to draw on knowledge from the previous course while mastering new concepts and skills. Students will be involved in all levels of production, from conceptualization and construction through operation and management. As an aspect of the course, students will serve as technical crew for many of the Academy's productions and special events. **[Prerequisite: Theater Technology I, Half credit]**

Introduction to Woodworking

Introduction to Woodworking is a semester-long course developed to familiarize students to the fundamental skills and methods of woodworking. Students will work with hand tools and power tools with an emphasis on proper technique and safety. Projects constructed within the course are the result of the development of skills, creativity, and craftsmanship. Throughout this course, students will be challenged to make complex aesthetic decisions and modifications to their process while developing tool and material competencies. [Half credit]

Advanced Woodworking

Advanced Woodworking is a semester-long course designed to build upon the skills and concepts gained within the Introduction to Woodworking course. Students will use many of the same tools from the first course but with different operations expecting different results. This course will challenge students to develop compound problem-solving skills while working to develop self reliance, higher-order tool skills, ingenuity, and perseverance. **[Prerequisite: Introduction to Woodworking, Half credit]**
[Half credit]

Writing for Performance

Is the notion of seeing characters you've created come to life (played by actors) interest you? Have you ever considered writing your own one-act play? How about performing a monologue in your own voice or as a character as in *The Santaland Diaries* or *Miranda Sings*? Would you like to perform slam poetry, or create a scripted podcast like *Welcome to Nightvale* or *36 Questions*? Students in this course analyze classic or critically lauded text from each form (traditional representation one-acts, monologue, slam, and scripted podcast), identifying and discussing essential components and values including character voice, plotting, pacing, and "movement in space." Once familiar with the structure and requirements of the studied forms, students will develop a portfolio of their own work, responding to technique-specific writing prompts and utilizing daily feedback from peer writers, performers, and the instructor in a writing lab/workshop environment. In addition to creating theatrical artifacts, students will gain critical insight towards the appreciation of scripted performance. Students will see and critique live performance on and off-campus and work by each student will be performed publicly by the authors or using students actors from within and without the class. **[Prerequisite: English 9, Acting 1, or departmental approval, Half credit]**

Arts Concentration

Lake Forest Academy Arts Concentration

The Arts Concentration program invites disciplined students with exceptional ability in the arts to further develop their talents within the context of a rigorous academic program. In addition to specific course requirements, Concentration students will have the opportunity to improve their skills during after-school lessons, programs, and practice time, providing them with opportunities for in-depth, one-on-one instruction with fine arts faculty.

- The **Arts Concentration in Music** helps prepare advanced music students for success in college music programs. The Concentration in Music provides committed vocal and instrumental music students the opportunity to intensely concentrate on their artistic development. The students participate in weekly private music lessons, small ensemble rehearsals, solo performances, concerts and other events. Participation is by audition.
- The **Arts Concentration in Theater** prepares advanced theater students for college theater programs and/or professional theatre pursuits. Committed participants interested in performance, directing, or technical theatre and design will be given special guidance and an arena in which to develop their craft. To participate in the program, students must participate in advanced classes, school productions, weekly directed study, and pursue some degree of external experiences in theatre as agreed upon with the faculty mentor.
- The **Arts Concentration in Visual Arts** is intended for juniors and seniors who plan to submit a portfolio for college admission. Students will learn the process of properly documenting and presenting their work for college admissions. To participate in the program, students must be enrolled in a visual arts course fall and spring semesters and participate in art exhibits.

Global

The Global Department houses the Global Concentration, a two-year cohort program culminating in a Capstone Celebration. In addition, the Global Department provides innovative introductions or in-depth study of subject matter that is global in nature. These courses allow all students the opportunity to further individualize and deepen their global education while at Lake Forest Academy. Course offerings will rotate regularly as faculty from a variety of departments design creative, student-centered learning environments.

Yearlong Courses

Global Concentration: Cohort

In this two-year concentration, students begin working with a cohort of classmates. The cohort design is at the heart of the Global Concentration and is what makes it unique. Students will be part of this dynamic, student-driven cohort for both years of the program. This will allow students to collaborate, developing their skills and delving into a variety of topics. The cohort is designed to be purposeful, reflective, interdisciplinary and collaborative. Multiple off-campus experiences are included in the program. Students must apply to the concentration in April of their sophomore year. **[Application required. Open only to juniors]** [Half credit per year] **This class must be taken as a 6th course. It may be taken as a 7th course.**

Global Concentration: Capstone

In the final year of the concentration, students continue to work in their cohort. They devote much of their time to their individualized capstone project, working closely with a mentor to help them develop their project. Engaging with a community outside of Lake Forest Academy is a key requirement of each student's capstone. The Capstone Celebration, during which all students will showcase their work to the wider community, will take place in April of their senior year. **[Prerequisite: Open only to seniors who have completed Global Concentration: Cohort]** [Half credit per year] **This class must be taken as a 6th course. It may be taken as a 7th course.**

Global Water Challenges

Will our world run out of water soon? Will our communities create new scientific ways to make ocean water drinkable? How will countries and regions with water shortages ensure that all people get equal access to water in the future? These are just some of the many questions we will explore in this class. Students will learn the latest science of global water and ways to advocate for water rights for communities in the United States and around the world. This is year-long class that meets half-time. [Half credit per year] **This class must be taken as a 6th course. It may be taken as a 7th course.**

Fall Semester Course

The Good Life: An Exploration and Study of Global Happiness

According to the 2017 World Happiness Report, the United States is the “story of reduced happiness.” With an increased emphasis being placed on gratitude in our society today, why is it that so many people still find themselves searching for “happy”? The Good Life: An Exploration and Study of Global Happiness will look at cultures and countries around the world in order to discover what happiness looks like globally and uncover how so many individuals find gratitude. In direct relation to this course’s inherent focus on pluralism, topics discussed will include ownership, giving, choices, and lifestyle. [Half credit]

Spring Semester Course

Opium and Opioids: The History, Chemistry, and Economics of Pain Relief

In this course, students will study the global use of painkillers (opium and opioids) from a historical, chemical, neuro-biological, medical and economic perspective. The aim will be to gain a greater understanding of the reasons for and impact of the deadliest drug crisis now facing United States. This will be a discussion-based course, where students will be asked to lead classes on a variety of topics of their interest related to the opioid crisis. It will also involve fieldwork in the local community in order to deepen students’ understanding of the problem, and it will conclude with an opinion piece or policy paper suggesting real solutions for overcoming the crisis. [Half credit]

History and Social Science

Yearlong Courses

World History I

This course takes a thematic approach to the study of pre-modern world history and is a vital precursor to students' later history courses at Lake Forest Academy. Topics that will be explored in this course include comparative religions, economics, political science, human and physical geography, sociology, anthropology, and archaeology. Students will also be exposed to research and writing skills that will be valuable for further history study. This course is designed for 9th grade students. [One credit.]

World History II

This course examines the history of the world from 1500 to the present, especially the nature and transformation of civilizations in the Middle East, Asia, Africa, the Americas, and Europe. Through class work, reading, essay writing, and research, students explore the interaction between these regions, competing economic and political systems, developing nationalism and the rise of the West, and industrial capitalism. Students do not need to have taken World History I to enroll in this course. This course is not open to 9th grade students. [One credit.]

AP World History

This course examines the history of the world from 8000 B.C.E to present. The purpose of the course is to develop greater understanding of the evolution of global processes and contacts, in interaction with different types of human societies. The course is built around six overarching themes: patterns and impacts of interactions among major societies, change and continuity across world history, impact of technology and demography, systems of social structure and gender structure, cultural and intellectual developments, and changes in functions and structures of states. Additionally, the course emphasizes the use of analytical reading and writing skills, a critical evaluation of primary and secondary sources, analysis of historiography, oral presentations, and discussion groups. Furthermore, this course stresses student-centered learning. This course is recommended for sophomores who have earned a B+ or higher in their previous year's English class and an A- or higher in their previous year's History course. **[Prerequisite: Departmental approval]**. [One credit.] Students who are not recommended may petition to the department chair.

U. S. History

This course surveys the history of the United States from the Columbian period to the present, including the colonial period, national independence, slavery, the Civil War, urbanization and industrialization, the expanded role of the federal government, and the involvement of the United States overseas. Students review the U.S. Constitution and the operation of federal and state governments, and explore the experiences of women, workers, and ethnic and racial minorities. In addition to traditional unit tests, students also engage in debates, presentations, and creative projects. The year culminates with a major

research paper on a topic of their choice. This course is recommended for juniors and seniors. **[Prerequisite: World History II or AP World History].** [One credit.]

AP U.S. History

This course covers similar topics to those in U. S. History but examines them in greater depth and devotes more time to considering changing historical interpretations. Instead of completing a single, large research paper, as is required in U.S. History, students in this course conduct smaller research projects throughout the year. This course also devotes time to preparing students for the sorts of essay questions which appear on the AP exam. This course is recommended for juniors and seniors who have earned a B+ or higher in the previous year's English course and an A- or higher in the previous year's History course. **[Prerequisites: World History II or AP World History and departmental approval].** [One credit.] Students who are not recommended may petition to the department chair.

History Electives – Yearlong Courses

***NOTE:** History electives are open to juniors and seniors. Sophomores may take history electives upon approval of the department.*

AP Economics

This course is a college-level class that introduces students to the principles of economics and their application and relevance to current public policy issues. Students examine the development of the contemporary global economy and are introduced to the theoretical tools that help them analyze important economic and business issues. These tools include both micro- and macro-economic theory, which the students use to solve economic problems and construct a research paper on the international economy. In the second semester, students will study the organization of markets, theory of the firm, theories of economic development, and the role of governments in all areas of the global economy. Special attention is given to contemporary development concerns, such as issues in the economics of health, education, and the environment, as well as to the development of world trade and the expansion of global business. Specific time is also spent on practicing multiple-choice and free response answers in preparation for the AP examinations in micro- and macro-economics. This course is recommended for juniors and seniors who have earned a B+ or higher in their previous year's history course. **[Prerequisite: AP Calculus AB or BC (including concurrent enrollment), students who do not meet the math requirement may petition to the department chair].** [One credit.]

AP United States and Comparative Government and Politics

This yearlong, college-level course examines the government institutions, politics and policy challenges of seven countries by uniquely blending both the AP US Government and Politics course and the AP Comparative Government course. In addition to an in-depth examination of American government and politics, this course studies the institutions and policy-making of six core countries: the United Kingdom, Russia, China, Iran, Mexico, and Nigeria. Employing a comparative approach throughout, the content of this course changes as the political landscape of the world changes. Students develop the tools to critically analyze these global political developments as they occur. Assessments include traditional AP-like tests, but students also regularly engage in real-life project-based learning including debates, simulations and current event briefings. This course prepares students to take two AP Exams in the

spring: United States Government and Politics and Comparative Government and Politics. This course is recommended for juniors and seniors with a keen interest in global politics. [One credit.]

Fall Semester Courses

Introductory Economics

This course introduces the basic principles of economics and their application and relevance to public policy issues. Emphasis is placed on the development, current state and future position of political economy of the United States in an international context as well as introducing basic theoretical tools to aid analysis of central economic issues and debates. The theory includes basic micro-economic models to explain market behavior and macro-economic models to explain price levels and output in national economies. The objectives of this course are to provide the basic tools for understanding fundamental economic issues and to stimulate thinking and consciousness on the central areas of debate. [Half credit.]

Global Affairs

The focus of the class will be current events/global issues that affect the student as a global citizen, a resident/citizen of the United States and a student of Lake Forest Academy. The purpose of the course is to be able to make connections between current events and history, and to encourage students to become more active and engaged global citizens. Topics covered will be student driven and in past years have ranged from why college is so expensive, the isolation of North Korea, and the ethnic cleansing in Myanmar. Assignments will include nightly reading and reading responses, short papers (1-2 pages), and a 5-7 page research paper at the end of the semester. These assignments will help students to develop critical thinking skills, analytical writing skills, and a deeper understanding of their place in a globalized world. [Half credit]

Spring Semester Courses

The City of Big Shoulders: A History of Chicago

This course will incorporate academic texts, primary source music, the arts and architecture, politics, crime, sports, and more to thematically explore the history of Chicago. Chicago's moniker "The Second City" is now defunct; the city is the equal of any other in the United States and has the stories to prove it. From a small outpost on the edge of the new nation to its status as a world-leading metropolis, Chicago rewards those who take the time to learn about its history. Assessments will include tests, essays and projects. [Half credit.]

Entrepreneurship

This course introduces students to the nature of business and entrepreneurship. It will focus on what it takes to become a successful entrepreneur through the use of economic theory and the various skills one needs to start and run their own business. Students will learn how to identify, assess and develop a business plan as well as how to find and evaluate business opportunities. The role of marketing, accounting, risk assessment, and other mediums needed to become an entrepreneur will be covered

extensively throughout the semester. The students will develop their own business models including a fast casual restaurant, a minor league sports franchise, a small business using a microloan, and marketing an original invention. (Open to juniors and seniors) [Half credit]

Mathematics

Yearlong Courses

Algebra I

This course covers the concept of using variables to represent numbers and arithmetic equations. Students spend time developing arithmetic and problem-solving skills while covering the following topics: properties of real numbers, basic operations, writing and solving algebraic equations and inequalities with one and two variables, polynomials and factoring, first- and second-degree functions and their graphs, quadratic equations, and radical expressions. The course has two additional components. First, a web-based, artificially intelligent assessment and learning system (ALEKS) is in place to help quickly and accurately determine exactly what a student knows and doesn't know in a course. It then allows for practice and assessment of areas of known weakness. Second, a mathematics laboratory has been implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. A calculator is important to the course. As a minimum, a scientific calculator is required, but a Ti-Npsire CX (CAS) is recommended and will be used for in-class demonstrations. [One credit.]

Geometry

This standard course in geometry covers concepts of Euclidean geometry including definitions, postulates, and theorems. Areas of study include angles, parallel lines, congruent and similar triangles, polygons, the Pythagorean Theorem, trigonometry, circles, area and volume. The focus is on analytic geometry and algebra review, but the course also includes a proof component. There is a mathematics laboratory which allows students to have hands-on experience with technology and real-world mathematical modeling. A scientific calculator, at a minimum, is required. [**Prerequisite: Algebra I.** One credit.]

Geometry Advanced

This advanced course in geometry covers concepts of Euclidean geometry including definitions, postulates, and theorems. Areas of study include angles, parallel lines, congruent and similar triangles, polygons, points of concurrence, the Pythagorean Theorem, vectors and orthogonality, trigonometry, circles, area and volume. The standard content is explored with greater depth than the regular Geometry course with a more of an emphasis on proofs and algebraic skills. There is a mathematics laboratory which allows students to have hands-on experience with technology and real-world mathematical modeling. A scientific calculator, at a minimum, is required. [**Prerequisites: Algebra I and departmental approval.** One credit.]

Algebra II

This course looks at topics both symbolically and graphically. Major topics include polynomials (linear, quadratic, and higher degree), powers and roots, exponentials, logarithms, and trigonometry. Within these areas, transformations, systems of equations, inequalities, applications, and modeling are addressed. The course has two additional components. First, a web-based, artificially intelligent assessment and learning system (ALEKS) is in place to help quickly and accurately determine exactly what a student knows and doesn't know in a course. It then allows for practice and assessment of areas of known weakness. Second, a mathematics laboratory has been implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. The use of a calculator is an integral part of the course, and we require all students to have a Ti-Nspire CX (CAS or non-CAS) or a TI-84 calculator. [**Prerequisite: Algebra I.** One credit.]

Algebra II with Statistics

This course covers graphing relationships and solving equations through the exploration of data. Students will collect and analyze data with statistical techniques and then learn the algebraic ideas necessary to explore the relationships in greater depth. Data collection will be done with a number of techniques including use of our mathematics laboratory. Statistical topics covered include: data collection techniques, organizing and displaying data through graphical and numerical analysis, probability, and statistical inference. Algebra topics covered include: solving and graphing linear, quadratic, radical, rational, polynomial, exponential, logarithmic and piecewise functions, as well as solving systems of equations. A web-based, artificially intelligent assessment and learning system (ALEKS) is in place to help quickly and accurately determine exactly what a student knows and doesn't know in a course. It then allows for practice and assessment of areas of known weakness. A graphing calculator is required for this course and the Ti-Nspire CX (CAS) is recommended and will be used for in-class demonstrations. The Ti-84 will also be allowed for use. [**Prerequisite: Geometry.** One credit.]

Algebra II/Precalculus Advanced (APA)

This course covers topics from Algebra II and Precalculus in a single year. Topics include inequalities, quadratic and polynomial functions, rational functions, exponents and logarithms, matrices, conic sections, sequences and series, polar coordinates, and trigonometry (including analytical trigonometry). This course is recommended for students who have demonstrated excellent analytical and mathematical skills in prior courses, and the ability to understand and apply new concepts quickly. The course will meet 7 periods per cycle, and students will need to devote significant time for daily homework and preparation. The course prepares students for placement in AP Calculus. The course has two additional components. First, a web-based, artificially intelligent assessment and learning system (ALEKS) is in place to help quickly and accurately determine exactly what a student knows and doesn't know in a course. It then allows for practice and assessment of areas of known weakness. Second, a mathematics laboratory has been implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. A graphing calculator is required for this course

and the Ti-Nspire CX (CAS) is recommended and will be used for in-class demonstrations. The Ti-84 graphing calculator can also be used. This course is recommended for students who have earned an A- or higher in their previous math class. **[Prerequisites: Geometry and departmental approval. One credit.]**

Precalculus

This course covers a variety of topics: linear, quadratic, and polynomial functions, rational functions, logarithmic and exponential functions, trigonometry, vectors, systems of equations, sequences and series and conic sections. This course prepares students for placement in AP Calculus. There are two additional components to this course. First, a web-based, artificially intelligent assessment and learning system (ALEKS) is in place to help quickly and accurately determine exactly what a student knows and doesn't know in a course. It then allows for practice and assessment of areas of known weakness. Second, a mathematics laboratory has been implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. A graphing calculator is required for this course and the Ti-Nspire CX (CAS) is recommended and will be used for in-class demonstrations. The Ti-84 can also be used. **[Prerequisites: Algebra II and departmental approval. One credit.]**

Conceptual Precalculus

This course covers the topics listed in the Precalculus course description though at a pace and level less demanding than Precalculus. These topics include: linear, quadratic and polynomial functions, rational functions, logarithmic and exponential functions, and trigonometry. The course has two additional components. First, a web-based, artificially intelligent assessment and learning system (ALEKS) is in place to help quickly and accurately determine exactly what a student knows and doesn't know in a course. It then allows for practice and assessment of areas of known weakness. Second, a mathematics laboratory has been implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. A graphing calculator is required for this course and the Ti-Nspire CX (CAS) is recommended and will be used for in-class demonstrations. The Ti-84 graphing calculator can also be used. Upon successful completion of the course, students are prepared for Discrete Math, AP Statistics, or Calculus. **[Prerequisites: Algebra II or Algebra II with Statistics. One credit.]**

Calculus

This course studies rates of change and their application to many physical and social phenomena, such as the velocity of a satellite or the profits of a corporation. This course also covers such topics as functions, limits, differentiation and basic integration, and emphasizes practical applications of calculus in business, economics, science and engineering. There is a mathematics laboratory component implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. A graphing calculator is required for this course and the Ti-Nspire CX (CAS) is recommended and will be used for in-class demonstrations. The Ti-84 graphing calculator can also be used. **[Prerequisites: Precalculus, Conceptual Precalculus or Algebra II/Precalculus Advanced. One credit.]**

AP Calculus AB

This course examines such topics as limits, differentiation, applied maximum/minimum problems, related rates, transcendental functions, and techniques of integration. This course, which follows the AP syllabus, is designed to be roughly equivalent to a semester and a half of a college calculus course. This

course is recommended for students who have demonstrated excellent analytical and mathematical skills in prior courses, and the ability to understand and apply new concepts quickly. Students will need to devote significant time for daily homework and preparation, and they commit to taking the AP examination. There is a mathematics laboratory component implemented to allow students to have hands-on experience with technology and real-world mathematical modeling. A graphing calculator is required for this course and the Ti-Nspire CX (CAS) is recommended and will be used for in-class demonstrations. The Ti-84 graphing calculator can also be used. This course is recommended for students who have earned a B or higher in their previous math class. [**Prerequisites: Precalculus or Algebra II/Precalculus Advanced and departmental approval.** One credit.]

AP Calculus BC

This course includes all topics covered in AB Calculus as well as infinite series, vectors, and polar and parametric functions. This course, which follows the AP syllabus, is designed to be equivalent to two semesters of a college calculus course. This course is recommended for students who have demonstrated excellent analytical and mathematical skills in prior courses, and the ability to understand and apply new concepts quickly. Students will need to devote significant time for daily homework and preparation. There is a Mathematics laboratory component implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. A graphing calculator is required for this course and the Ti-Nspire CX (CAS) is recommended and will be used for in-class demonstrations. The Ti-84 graphing calculator can also be used. This course is recommended for students who have earned an A- or higher in their previous math class. [**Prerequisites: Precalculus or Algebra II/Precalculus Advanced and departmental approval.** One credit.]

Discrete Math with Applications

This course is a college-preparatory course for seniors that will use sophisticated mathematics to give students the tools to become financially responsible young adults. The course employs algebra, precalculus, probability and statistics, and geometry to solve financial problems that occur in everyday life. Real-world problems in investing, credit, banking, auto insurance, mortgages, employment, income taxes, budgeting and planning for retirement are solved by applying the relevant mathematics. There is a Mathematics laboratory component implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. Field projects, computer spreadsheets, and graphing calculators (TI-Nspire CX (CAS or non-CAS) required) are key components of the course. The Ti-84 graphing calculator may also be used. [**Prerequisite: Algebra II.** One credit.]

AP Statistics

This course introduces the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students learn four broad conceptual themes: exploring data, planning a study, anticipating patterns, and statistical inference. Students enrolled in this course, which follows the AP syllabus, commit to taking the AP examination. There is a mathematics laboratory component implemented to allow students to have actual hands-on experience with technology and real-world mathematical modeling. A graphing calculator is required for this course and the TI-Nspire CX (CAS) is recommended and will be used for in-class demonstrations. [**Prerequisite: Algebra II.** One credit.]

Fall Semester Courses

Game Theory

This course is a foundational course in the field of game theory. It provides an introduction to the world of strategy. The three major units covered are two person zero-sum games, non-zero-sum games and n-person games. Topics will include the prisoner's dilemma, Nash equilibrium, games against nature, utility theory, and numerous applications including economics, computer program, logic and political science. There is a mathematics laboratory component implemented to allow students to have hands-on experience with technology and real-world mathematical modeling. **[Prerequisites: Calculus and AP Statistics (including concurrent enrollment) or department approval.** Half credit.]

Spring Semester Courses

Multivariable Calculus

This course reviews limits, derivatives, and integrals from single-variable calculus and extends the concepts to functions of two or more variables. Topics of study include partial derivatives, directional derivatives and gradients, tangent planes and normal lines, extreme of functions of two variables, iterated integrals, double and triple integrals and applications. The course focuses on the understanding of these topics from analytical, numerical and graphical perspectives. There is a mathematics laboratory component implemented to allow students to have hands-on experience with technology and real-world mathematical modeling. **[Prerequisites: Calculus and AP Statistics (including concurrent enrollment) or department approval.** Half credit.]

COMPUTER SCIENCE

Fall and Spring Semester Class

Intro to Computer Science will provide a feel for a number of programming languages including Java, Python, Swift, and more. The course will focus on coding environments which create a GUI driven interface which allows the students to visually see how changes in code affect output. After working through the units in each coding language, each student will create two fully functional programs of their design, one for an iOS device written in Swift and one in another language. Students will be encouraged to publish their final projects to the App Store (Swift) and/or distribute them online. [Half credit]

Yearlong Courses

AP Computer Science A is equivalent to a first semester, college-level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both object-oriented and the imperative problem solving and design using Java language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems. The AP Computer Science A course curriculum is compatible with many CS1 course in colleges and universities. This course prepares students to take the AP Computer Science A exam. [One credit].

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving. Together, these aspects of the course make a rigorous and rich curriculum that aims to broaden participation in computer science. This course prepares students to take the AP Computer Science Principles exam. [One credit].

MODERN & CLASSICAL LANGUAGES

***NOTE ON ADVANCED STUDY:** In the study of French, Spanish, Latin, and Chinese, there is an option available at most levels for Advanced study. These courses explore the material offered at that level in-depth and may interest students who have a special interest in or facility for the language. Advanced courses are generally conducted predominantly in the target language. Enrollment in Advanced language courses is subject to departmental approval. Advanced study is not offered in level one language courses.*

CHINESE

Yearlong Courses

Chinese I

This course introduces the standard (Mandarin) Chinese phonetics system (Pinyin), basic grammatical structures, and functional daily language use. The course emphasizes the training of all four language skills (speaking, listening, reading, and writing) and develops an understanding of socio-linguistics and the socio-cultural factors that are important to cross-cultural communication. Students will also learn how to type Chinese. [One credit.]

Chinese II

This course continues to emphasize the training of all four language skills (speaking, listening, reading, and writing) begun in the first year. Students will also develop a more sophisticated understanding of socio-linguistics and the socio-cultural factors that are important to cross-cultural communication. Besides continuing to work with basic grammatical structures and functional daily language, students will learn and practice Chinese calligraphy. [**Prerequisite:** Chinese I. Advanced study available. One credit.]

Chinese III

This course reinforces what has been taught in Chinese II and continues the development of the four major language skills (listening, speaking, reading, and writing) by introducing new and more sophisticated language structures and vocabulary. Students develop conversational skills by participating in discussions and role-playing. Compositions in Chinese are a regular part of the curriculum. [**Prerequisite:** Chinese II. Advanced study is available. One credit.]

Chinese IV

This course reinforces what has been taught in Chinese III and continues the development of the four major language skills: listening, speaking, reading, and writing. Intensive conversation, writing, and translation are required. This course places a particular emphasis on building vocabulary. Writing skills progress to include descriptions, storytelling, and the integration of extended vocabulary and sentence structure. [**Prerequisite: Chinese III.** Advanced study is available. One credit.]

AP Chinese Language and Culture

This course introduces advanced language structures, grammar, functions, and related cultural knowledge. Chinese remains the only language used in class. The reading broadens the range of students' vocabulary and their understanding of the content, as well as improving students' language skills. It is designed to provide students with opportunities for a deeper understanding in specific areas or topics and to broaden their cultural understanding. Supplementary materials will also be used to help students prepare for the AP Chinese Language and Culture exam. [**Prerequisites: Chinese IV Advanced or III Advanced with departmental approval.** One credit.]

Chinese Cultural Studies

This course is an introduction to Chinese culture, including social life, thought, history, literature, music, and fine arts. It is designed to deepen students' immersion in the Chinese language and culture through the study of literature, film, music, theater, arts, and current events in Chinese communities worldwide. It helps students further develop their Chinese language skills through the study of various topics. Students are provided with opportunities to apply the language knowledge they have learned in class to real world experiences. Developing appreciation and awareness of the Chinese cultures is an integral theme throughout the course. In semester one, emphasis is placed on the major cultural and social developments from prehistory to the twentieth century that are relevant to an understanding of modern China. The second semester helps students understand more about the lifestyles of modern Chinese people and the philosophies that guide their lives. Students also acquire an in-depth glimpse into modern Chinese culture. The readings include stories, essays, and plays, mostly by leading writers of recent decades. The course also includes movie adaptations of these writings, radio and TV broadcasts. Students will produce research projects based on specialized readings or different topics. The research projects will be presented both orally and in written form throughout the two semesters. During Spring Break, students will engage in a real-world immersion experience in Chinese life, language and culture by traveling to the Chinese-speaking world and focusing on a community service project. This course is most appropriate for non-native Chinese students who have successfully completed AP Chinese Language and Culture. [**Prerequisites: Chinese IV Advanced or departmental approval.** One credit.]

FRENCH & SPANISH

Yearlong Courses

French I and Spanish I

These courses introduce elementary grammatical concepts, present and past tenses, basic sentence patterns, and a number of idiomatic expressions. Major units emphasize practical daily situations, such as greeting people, expressing opinions, talking about the weather, counting and telling time, traveling, shopping and discussing family relationships. The courses also present a variety of cultural material. [One credit.]

French II and Spanish II

These courses further develop reading, aural comprehension, speaking and writing skills by introducing several new major language structures. These include the imperfect tense and the contrast between the two past tenses, as well as direct and indirect pronouns. Students acquire a broader vocabulary base of new words and expressions, often working in small groups to maximize use of the language and studying authentic material from the target languages, such as newspapers, films, and websites. Students complete projects relating to French or Spanish geography, politics, society and culture. [Prerequisite: French/Spanish I. Advanced study is available. One credit.]

French III and Spanish III

These courses emphasize oral, written, and listening facility, bringing students to a higher level of language proficiency. Students learn additional and more sophisticated grammar and vocabulary; read advanced material such as newspaper editorials, literary prose and poetry; and compose essays in the target language. These courses further explore the customs, history, geography and culture of countries where the languages are spoken. [Prerequisite: French/Spanish II. Advanced study is available. One credit.]

French IV Advanced

This course focuses on comprehension, conversation, and listening skills, emphasizing recognition and use of complex grammar and new vocabulary in everyday speech. To increase proficiency, students participate in class discussion, listen to and watch authentic media, compose essays of many kinds, including opinion and creative pieces, and confront practical, everyday scenarios. Students read articles and short stories and participate in debates in class to gain awareness of relevant social issues. In this course, students utilize a wealth of online resources, including TV5Monde, France 24, and Bien-Dire to maximize their linguistic and cultural understanding, to stay abreast of current events, and to effectively communicate in the target language. [Prerequisite: French III. One credit.]

Spanish IV Advanced

Spanish IV Advanced provides language practice in speaking, writing, listening comprehension, and reading. It serves as preparation for AP Spanish Language and Culture or other electives. Students refine their language skills, acquire an advanced and nuanced vocabulary, and deepen their understanding of complex grammar. They also broaden their knowledge of Hispanic culture. Readings include a variety of authentic, unabridged texts in Spanish, such as journalistic writing, essays and other works of literature. The course includes other authentic media, such as films, songs, and visual art. Students complete a variety of written and spoken work tailored to authentic everyday experience, entirely in the target language. Major units include topics related to Identity, Daily Life, Society, and History. **[Prerequisite: Spanish III. One credit.]**

AP French Language and Culture and AP Spanish Language and Culture

This course provides rigorous practice in reading, writing, speaking, and listening for the purpose of gaining proficiency in the language. Students also study advanced grammar and vocabulary, read and discuss original texts of varying genres and styles, write compositions, give oral reports and gain cultural knowledge through videos, songs, and Internet research. Debates, Harkness discussions, recordings, and other conversational activities build fluency. Language proficiency is built within the context of the six themes prescribed by the AP curriculum: Global Challenges, Beauty and Aesthetics, Science and Technology, Family and Community, Personal and Public Identities, and Contemporary Life. Both AP courses, conducted entirely in the target language, build proficiency in the language while assisting students in preparing for the required AP language examinations. **[Prerequisites: French / Spanish IV Advanced or III Advanced with departmental approval. One credit.]**

Contemporary Civilization and Culture of Latin America

Through the study of the history and formation of today's Latin American countries, students gain the background information that forms the base for their views of contemporary culture. The course provides students with an opportunity to study how Latin American cultures may differ from their own, giving them a better understanding of their own worldview. Many of the areas studied have vast gaps between rich and poor, and many areas are still mired in poverty due to racial, social, and political factors. In semester one, students are presented with a historical and cultural overview of Latin America. The course explores the manner in which a history of conflicts and events has shaped the modern political and social structures in Latin America. Students will have many opportunities to improve their verbal skills through oral presentations. Semester two builds on the topics studied in the fall by selecting a particular country in Latin America on which to focus. Students work to create an iBook on the selected country as their final project. This course often has a curricular travel component to Latin America during Spring Break. This course is most appropriate for students who have successfully completed AP Spanish Language and Culture. **[Prerequisites: Spanish IV Advanced or departmental approval. One credit.]**

Le Monde Francophone (The French-speaking world)

Language is not just about grammar. Language is a means of communication, of expressing oneself. What role does language play in identity? In this advanced French course, students will better

understand the French-speaking world through readings, film, exploration of current events, and direct contact with French speakers around the globe. Students will study the people and cultures of this global language. The first semester of this year-long course will focus on the relationships between North Africa (what is often referred to as “The Maghreb”) and France. The long history between Morocco, Algeria, and France is a rich one, full of violent episodes and peaceful ones. The influx of North African immigrants to France has created fascinating cultural dilemmas, especially as second and third generation French citizens still question their own identity. Through art forms, national education programs and politics, students will learn more about colonization and its aftereffects, as well as the current challenges of living in dual languages and cultures. Most important, students will learn to interpret the information in order to apply it to other global situations, perhaps some in their own countries. For the second semester, our focus will shift toward Western Africa (Senegal, Cote d’Ivoire) and then on to the Americas: a region with a very rich Francophone presence. As our studies lead us through Canada, the Caribbean and South America, students will learn about history, differing cultural attitudes and the reasoning behind them, and the extent to which language is linked to identity. This course often has a curricular travel component during Spring Break (Morocco or Guadeloupe). This course is most appropriate for students who have successfully completed AP French Language and Culture. [Prerequisites: French IV Advanced or departmental approval. One credit.]

AP Spanish Literature and Culture

AP Spanish Literature and Culture is a college-equivalent course available for students who wish to pursue advanced language studies with a close examination of canonical works in Spanish, Spanish-American, Latino, and Chicano literature. The course provides an introduction to the major literary movements in the field of Hispanic literature. Students read original, unabridged works from the fifteenth century through the twenty-first century. The course includes a review of literary analysis, including genre-specific approaches, literary terms and some relevant literary theories. Students also study the socio-cultural contexts in which the course texts were written and many possible thematic links among them. There is a secondary emphasis on approaches to the visual arts of the Hispanic world and their connection to literary works studied in the course. Students develop their presentational, interpretive and interpersonal language skills through assignments in class and at home, including critical writing, listening and discussions. The class is conducted entirely in Spanish. This course is most appropriate for students who have successfully completed AP Spanish Language and Culture. [Prerequisites: Spanish IV Advanced or departmental approval. One credit.]

Fall Semester Courses

Advanced Topics in Linguistics: French Phonetics

In this semester-long, advanced-level course, we leave grammar, writing, and reading behind and work strictly on pronunciation and listening skills. Through close study of liaisons and *enchaînements*, as well as rhythmic groups and general intonation, students will learn about the basic flow of spoken French and work to incorporate this into their speech. Study of the International Phonetic Alphabet (vowel, consonant, semi-vowel sounds, etc.) solidifies their confidence in the proper pronunciation of any word

in spoken French. Students are graded on written, spoken, and listening assignments. Independent work is an important component of this course. A research project in English or French covering dialects and pronunciation differences of spoken French throughout the world is the culmination of the semester. [Prerequisite: French III. May be taken concurrently with other French courses. Half credit.]

Conversación y cultura del mundo hispano (Conversation and Culture of the Hispanic World)

In this semester-long intensive conversation course, students hone their speaking and listening abilities as they examine advanced vocabulary and linguistic structures in authentic contexts. Students further develop their speaking skills through real-life situation-based discussions, debates, performances, and oral presentations. Students work to develop the lexicon necessary to be comfortable in a multitude of pertinent real world scenarios. Students also further refine their reading, writing, and literary analysis capabilities through in-depth study of culturally relevant legends, myths, folkloric histories, songs, journalistic articles, literary works, and short films of various Spanish-speaking countries. Students investigate and assess the linguistic nuances found in these texts and describe their historical foundation and social implications. Through investigation of cultural traditions, students analyze and examine the origins and contemporary significance of principal cultural celebrations and traditions. The course is taught entirely in Spanish. [Prerequisite: Spanish III. Half credit.]

Spanish Literatures and Cultures

This semester elective presents notable works of literature of the Spanish-speaking world, with an emphasis on short works of fiction, drama and poetry. The readings include both works that present universal themes and those that reflect specific historical realities. As a result, students gain an introduction to major socio-cultural developments in Spain, Spanish America, and Spanish-speaking communities in the United States, which form the backdrop and context for the authors' writings. Students also gain an understanding of notable literary styles employed by Spanish-speaking authors, such as the picaresque, personal testimony, and magical realism and the fantastic. Students also learn literary terms in Spanish as part of the course. Course themes may include interpersonal relationships, cultural encounters, religions, the construction of gender, struggle, and oppression, and technologies, ethics, and alienation. The course will provide opportunities for students to hone their reading, speaking, writing, and listening skills in Spanish and to practice interpretive, interpersonal, and presentational modes of communication. Typical class work will include class discussions, debates, presentations, performances, reflection assignments, formal writing, and creative projects.

[Prerequisite: Spanish III or departmental approval. Half credit]

Spring Semester Courses

Advanced Topics in Communication: French Conversation

In this semester-long, advanced-level course, students will hone speaking and listening skills through many different scenarios: informal discussion, prepared performances, debates, theatre, interactive video, etc. Intensive building of vocabulary and accompanying structures will help to increase the

students' comfort level in a variety of situations. Time will also be devoted to body language and gestures, helping students to understand and use nuance. Students will be placed in many different situations with constantly changing variables so that they are able to express themselves more clearly and concisely and in the proper register, be it formal or informal. [**Prerequisite: French III.** May be taken concurrently with other French courses. Half credit.]

Cultura y asuntos contemporáneos del mundo hispano (Culture and Current Events of the Hispanic World)

In this semester-long current events, culture and conversation course, students focus their attention on learning intensively about Latin America and events that have occurred and will occur during this semester. Students begin by learning to identify the location and leadership of all Spanish-speaking countries/territories in North and South America, the Caribbean, Europe and Africa. Review of the colonization of these countries prepares students to further delve into the “whys” of what happens in these countries. Furthermore, students become “experts” on 2-3 countries and share information about these countries through journalistic articles. Students further develop their oral proficiency skills through real-life situation-based discussions, debates and oral presentations. Students work to develop the lexicon necessary to be comfortable in a multitude of pertinent real world scenarios including grammar reviews as necessary. The course is taught entirely in Spanish. [**Prerequisite: Spanish III.** Half credit.]

Monograph in Hispanic Literature: The Short Story

This semester elective focuses on a specific literary genre, movement, author or theme, to be chosen by the instructor. The spring 2019 topic is a close examination of the short story, including specific approaches to analyzing narrative writing and structure of the short story as a literary form. Students build upon the knowledge acquired in the first semester to closely examine a particular set of topics, though the first semester is not a prerequisite. The course will provide a survey of the historical and cultural circumstances in which the works were produced, giving students a deeper view into an area of Hispanic cultural history and literary movements. Some topics may include Realism and Naturalism, Surrealism, the Latin American Boom and Post-Boom, Magical Realism and the fantastic and national independence, democracy and authoritarianism. Students will continue to practice using literary vocabulary, as well as interpretive, interpersonal, and presentational modes of communication. Typical class work will include class discussions, debates, presentations, performances, reflection assignments, formal writing, and creative projects. [**Prerequisite: Spanish III or departmental approval.** Half credit]

LATIN

Yearlong Courses

Latin I

This course introduces students to the fundamentals of Latin grammar, syntax, and vocabulary and emphasizes the development of sound reading and composition skills. Ancillary topics include a survey of Roman history from the early legends of its Trojan ancestry and its founding by Romulus to the establishment of the Empire under Augustus; a thorough study of Greek and Roman mythology with special emphasis on the stories of gods and heroes; a close look at Roman culture and technology and their enduring influence on the West and an introduction to the archeology of ancient Greece and Rome, including Troy and Athens. Students also develop English vocabulary skills through the study of Greek and Latin roots. A wide range of technological platforms will facilitate teaching, learning, and research. [One credit.]

Latin II

This course finishes the study of the fundamentals of Latin grammar, syntax, and vocabulary begun in Latin I, introduces the subjunctive mood and its advanced constructions, and emphasizes further development of sound reading and composition skills. Ancillary topics include a survey of Roman history from the establishment of the Empire to the fall of Rome, a review of Greek and Roman mythology with special emphasis on the stories of heroes, and a close study of the geography of the ancient Mediterranean. The course continues the development of English vocabulary skills through Greek and Latin roots, as well as the study of Roman culture, technology, and archeology—including the sites of Pompeii, Ephesus and Knossos—begun in Latin I. A wide range of technological platforms will facilitate teaching, learning, and research. [**Prerequisite: Latin I.** Advanced study is available. One credit.]

Latin III

This course immerses students in the unabridged prose and verse of genuine Romans, reviews the important concepts of Latin I and Latin II, and introduces new grammatical and syntactical elements as they appear in the readings. Developing reading fluency is the primary goal. Texts include selections from Catullus, Petronius, and Martial. Students will research the history, culture, geography, mythology, and private life that relate to the authors under discussion and will present their findings by teaching classes and leading discussions individually and cooperatively. A wide range of technological platforms will facilitate teaching, learning, research, and presentation. [**Prerequisite: Latin II.** Advanced study is available. One credit.]

Latin IV Advanced

This course explores the literature, history, and culture of the first century BCE, arguably ancient Rome's most complex, chaotic, and compelling period. Original sources, including Vergil's *Aeneid*, Caesar's *Commentarii de bello Gallico*, and Cicero's orations *In Catilinam* reveal not only the trials of the late Republic, but also the triumphant birth of the Empire and the Golden Age. In addition to reading selections from these works, students will research the political and cultural life of the period, especially private life, and will present their findings by teaching classes and leading discussions individually and cooperatively. A wide range of technological platforms will facilitate teaching, learning, research, and presentation. Students who wish to take the AP Latin exam may prepare independently with the instructor. [**Prerequisite: Latin III Advanced or departmental approval.** One credit.]

SCIENCE

Yearlong Courses

Biology I

The Biology I course is a lecture-based class designed to give the student an introduction to the major concepts of Biology. The material is categorized into larger units to emphasize the connections between topics. First semester material focuses on the major principles of life and is divided into the units of; the Nature of Science, Ecology, Cell Structure, Cellular Metabolism, and Cellular Replication. Second semester builds off the first semester and introduces the students to Genetics, Heredity, Evolution, the History of Life, Classification, and the Human Body. Labs, hands-on activities, and projects will also be performed throughout the course to enhance the lessons, and give the students the opportunity to apply the material. The student can expect a fair amount of reading with consistent reinforcement in class. Upon successful completion of the course, the student will have a better appreciation of the natural world around them and be prepared for any intro level biology course in college.

[Prerequisites: Physics I , One credit.]

Advanced Biology

Advanced Biology is designed for the more aggressive student willing to go above and beyond the general understanding of the major topics of Biology. In Advanced Biology the students will be introduced to the same topics of Biology 1: scientific method of thinking and exploring the natural world, the compounds and traits of living organisms, the cell structures and cycles, cell metabolism, DNA structure and replication, protein synthesis, inheritance, life development, evolution, ethics, organ systems, characteristics of populations and ecology. Laboratory experiments and activities will be performed to enhance the lessons and challenge the students' understanding of the material. The students can expect a large amount of reading, which will be built upon in lectures. Upon completion of the course, the student will have a firm understanding of the concepts and know the material that will be covered in any intro level biology courses in college. This course is recommended for students who have earned a B or higher in their Chemistry class. [Prerequisites: previous or concurrent enrollment in Chemistry and departmental approval. One credit.]

AP Biology

AP Biology gives students an advanced conceptual framework for modern biology and introduces science as a process rather than the accumulation of facts. Student-moderated discussion, group and individual activity and extensive laboratory work integrate several major themes, including evolution, energy transfer, cell biology, biochemistry, and the relationship of structure to function. This course emphasizes the application of biological knowledge and critical thinking to understanding and developing ideas relating to societal issues and environmental issues dealing with biology. Students who

commit to this course will be expected to have basic knowledge of cells and cell structures, macromolecules and chemical bonds, principle of inheritance, and energy transfer. Students will have guided reading to ensure they have this base knowledge in place before the first day of class. This course is recommended for students who have demonstrated superior diligence and analytical skills in prior science courses. **[Prerequisites: Chemistry and Biology or departmental approval.** One credit.]

Chemistry I

Chemistry I is an introductory course that studies the principles that determine the behavior of matter. It provides a lifelong awareness of both the potential and limitations of science and technology. Topics covered will be molecular bonding and structure, the mole, stoichiometry, solids, liquids and gases, the periodic chart, acids, and bases. Students engage in numerous laboratory investigations, problem-solving exercises, and group activities. **[Prerequisite: Physics I.** One credit.]

Advanced Chemistry

Advanced Chemistry is an introductory course that examines the same topics as in Chemistry I, but with more rigor and greater depth. Topics covered will be molecular bonding and structure, the mol, stoichiometry, solids, liquids and gases, the periodic chart, acids, bases, organic chemistry and nuclear chemistry. Each student will develop independent thinking skills by applying the concepts learned in class to a variety of rigorous chemistry problems, both qualitative and quantitative. Numerous laboratory activities will build upon the ideas discussed in class. This course is recommended for students who have demonstrated strong mathematical and analytical skills in prior courses and who have earned a B+ or higher in Physics. Students who have already taken Chemistry I should not enroll. **[Prerequisite: Physics I.** One credit.]

AP Chemistry

AP Chemistry offers a theoretical understanding of chemical reactions through an examination of molecular structure and rearrangement. Through numerous laboratory investigations, students gain a theoretical understanding of chemical reactions by studying calculations with chemical formulas, aqueous reactions, atomic structure, periodic properties of elements, chemical bonding, phases of matter, kinetics, equilibria, acid-base reactions, thermodynamics, electrochemistry, nuclear chemistry and organic chemistry. This course is recommended for students who have demonstrated excellent analytical and mathematical skills and who earned a B+ or higher in Advanced Chemistry or an A- or higher in Chemistry I. **[Prerequisite: Chemistry or Advanced Chemistry or departmental approval.** One credit.]

AP Environmental Science

AP Environmental Science is a college-level course that integrates extensive lab work, field work, and projects as part of the many units of study. The goal of AP Environmental Science is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. Topics include earth systems and resources, ecology, population,

land and water use, energy resources and consumption, pollution, and global change. Students are highly encouraged to participate in the curricular travel component during one week of Spring Break, and a summer reading is a required part of the course. This course will prepare students to take the Advanced Placement Exam. [**Prerequisites: Chemistry, Biology, and Algebra II. Concurrent enrollment in Biology or Algebra II is possible with departmental approval.** One credit.]

Physics I

This course is an introductory course for freshmen only that emphasizes a conceptual understanding of the fundamental principles that govern the universe. The students will explore motion, forces, energy, gravity, waves, optics, circuits, magnetism, and modern physics. The application of various skills and techniques learned in Algebra I and Geometry will be reinforced. Frequent laboratory activities and investigations will allow the students to comprehend abstract concepts better and to improve their analytical skills. This course is for 9th grade students. [One credit.]

Advanced Physics

Advanced Physics is an introductory course that investigates the fundamental principles of our universe with an emphasis on a conceptual understanding as well as a quantitative one. Students will be working regularly in the lab and will be expected to apply the concepts learned in the classroom to real-world situations. The topics covered will be linear motion, forces, energy, momentum, rotational motion and mechanics, pressure, waves, sound, optics, and electricity. This course is recommended for students who have earned a B- or higher in their previous math class. Students who have taken Physics I should not enroll. [**Prerequisite: Algebra II.** One credit.]

AP Physics C

This course delves deeply into the kinematics and dynamics of translational, rotational, and simple harmonic motion. This class is equivalent to a semester-long, college-level introductory physics course for scientists and engineers. The concepts of force, mass, acceleration, energy, and momentum will be thoroughly investigated. Other topics will include electric and magnetic fields, circuits, and optics. This course is recommended for students who have earned an A- or higher in their previous math class. [**Prerequisite: AP Calculus AB or BC (including concurrent enrollment).** One credit.]

Principles of Engineering

This year-long curriculum focuses on the relevant application of science, math, engineering and technology (STEM) concepts to electrical, mechanical, environmental and biomedical engineering. Students will discover how modern engineers design and build new technologies using math and science, together with their ingenuity. Students will learn and apply the engineering design process during hands-on activities and projects. In addition, they will utilize critical thinking skills to design solutions to real-world problems. Techniques involving brainstorming, reverse engineering, and research will also be applied during this process. This class is open to seniors who meet the requirements and juniors with departmental approval. [**Prerequisites: B+ or higher in: Regular Precalculus , Chemistry, and Physics.** One credit.]

Biochemistry Research Using Chromatographic Methods I

This class uses various chromatographic methods to identify the components of complex mixtures by differential movement through a two-phase system, in which the movement is effected by a flow of a liquid or a gas (mobile phase) and percolates through a second adsorbent phase (stationery phase), or a second liquid phase. Students will prepare the samples themselves and collect and analyze the data using instruments such as high performance liquid chromatography (HPLC), gas chromatography (GC) and thin layer chromatography (TLC). This class is open to committed and motivated seniors and juniors with approval. Qualified students should have earned a B or higher in their Chemistry class.

[Prerequisite: Chemistry. One credit.]

Biochemistry Research Using Chromatographic Methods II

This class is a continuation of Biochemistry research using chromatographic methods. The student who has taken year one will continue their research using chromatographic and other methods, depending on the research project that they are performing. Students will prepare the samples themselves and collect and analyze the data using instruments such as high performance liquid chromatography (HPLC), gas chromatography (GC) and high performance thin layer chromatography (HPTLC). This class is open to committed and motivated seniors who have taken the first year biochemistry class. **[Prerequisite:**

Biochemistry Research Using Chromatographic Methods I. [One credit.]

AP Psychology

Advanced Placement Psychology is a full year college level course. It is designed to introduce students to the systematic and scientific study of behavior and mental processes of human beings and other animals as defined by the College Board and the American Psychological Association. AP Psychology deepens the exploration into the human psyche and human behavior through the exploration of the history and varied approaches within psychology, brain function, sensation and perception, states of consciousness, human development and learning acquisition, motivation and emotion, cognition, testing and individual differences, personality theory, abnormal behavior and treatment, and social psychology. The course will include a variety of assessments including student-led discussions, traditional tests, projects, papers, and presentations. The overall content covered in this course fulfills the College Board's requirements for AP Psychology, and students are expected to take the Advanced Placement exam for this course.

***Note: ONLY OPEN TO SENIORS. Not open to students who have taken Introduction to Psychology.** [One credit.]

Fall Semester Courses

Introduction to Psychology

Introduction to Psychology is a semester long course that is designed to introduce students to the systematic and scientific study of behavior and mental processes. Students will explore the biopsychosocial influence on topics such as memory, learning, personality, sleep, human growth and development, motivation, stress, and abnormal behavior. The goal of this course is to challenge students to connect with and relate to the various psychological concepts in their daily lives. Students will be expected to read from a variety of sources each night in order to best participate in class discussions,

activities, and projects throughout the duration of the semester. ***Note: ONLY OPEN TO SENIORS.** Students who plan to take AP Psychology should not enroll in this one-semester course. [Half credit.]

Anatomy and Physiology: Foundations

This course is designed for the student who has already completed any level of biology and is interested in advancing their understanding of the human body. The course material will cover the structure, organization, and functions of the human body systems. Anatomy and Physiology begins by reemphasizing the structure of the cell and basic metabolic reactions of the cell. Once the basics are covered, the course will progress to studying the following systems: integumentary, skeletal, muscular, and nervous. Anatomy and Physiology is a lecture and discussion-based course accompanied by laboratory activities and dissections. **[Prerequisite: Biology.** Half credit.]

Forensic Science: Ancient Cases with an Anthropology Focus

In this course, students will study and apply forensic science techniques to historical cases. Forensic science is predominately a lab class with an emphasis on solving problems using the skills learned in this class. During this semester long class, students will explore techniques used by forensic anthropologists to investigate evidence from ancient burials and crime scenes. The topics covered in this class will include: types of evidence (soil, bone, physical trauma, pollen and spores, blood, crime and accident reconstruction with a focus on burial scenes, and computer modeling of facial reconstruction using skulls. Students will investigate ancient cases involving pharaohs, kings, the first gun shot in the Americas, presidents, czars, and stone-age cases. Grades will be based on presentations, lab reports, and quizzes. [Half credit.]

Introduction to Astronomy

The purpose of this course is to present a broad view of the field of Astronomy. Course topics will be organized with an “Earth-Out” approach and include foundations of astronomy, historical perspective, origin of the Solar System, properties of planets, near earth objects, life cycle and types of stars, galaxies, and the search for extraterrestrial life. There will be weekly hands-on labs, as well as sky-viewing opportunities throughout the semester. What’s going on in the sky tonight? Join the class and find out. **[Prerequisite: Two years of lab science.** Half credit]

Spring Semester Courses

Anatomy and Physiology: Advanced Systems

This course introduces the student to the intricate design and functions of the more complex systems of the human body. These systems include the endocrine, cardiovascular, immune, digestive, respiratory, urinary, and reproductive. The course will also cover supporting topics such as special senses and nutrition. Similar to the first semester Anatomy and Physiology course, the material will be presented by way of lectures, class discussions, lab activities, and dissections. **[Prerequisite: Biology.** Half credit.]

Forensic Science: Modern Cases

In this course, students will learn how to observe and analyze the world around them and apply this science to legal matters. This is predominately a lab class with an emphasis on problem solving. Students will explore techniques used by forensics teams and crime labs to investigate evidence from crime scenes. The topics covered in this class will include: evidence study (hair, fiber, blood, bone, glass, soil, etc.), observation of the crime scene and data collection, presentation of evidence in a court setting, and methods of analysis using knowledge from various scientific fields, such as chemistry, anthropology, and pathology. The grade from this class will be based mostly on lab reports and presentations about evidence and techniques used to analyze evidence. This course is recommended for students who have taken Biology and Chemistry. [Half credit.]

Introduction to Natural Disasters

The purpose of this course is to provide an interdisciplinary overview of Earth's surface processes that directly impact humanity. This course will integrate principles in geology, meteorology, oceanography, and astronomy. We will explore the characteristics, causes, global distribution, estimated frequencies, and effects of the following natural hazards: earthquakes, volcanoes, flooding, landslides, sinkholes, thunderstorms and tornadoes, coastal hazards, climate change, wildfires, and extraterrestrial impacts. We will also look at approaches to mitigate the effects on humans and how humans are exacerbating the frequency and effects of some of these natural disasters. By the end of the course, students will have an overview of Earth's natural hazards and how they impact societies and economies in a globalized world. [**Prerequisite: Two years of lab science.** Half credit]

STUDENT SEMINAR PROGRAM

The **Seminar Program** provides opportunities to guide each student in the development of insight about community, participation, leadership, wellness, and self. By focusing on a central question each year and utilizing The Search Institute's Asset-Building as a foundation, students have the opportunity to further the depth of insight about themselves, their place at LFA, and their place in the world. These questions all lead into the cultivation of character, scholarship, citizenship, and responsibility.

Freshman Seminar

The primary focus of Freshman Seminar is the transition and adjustment to the Academy by encouraging students to consider what it means to be part of the Lake Forest Academy community. Strategies for a successful transition and adjustment, both academically and socially, are explored. School rules and expectations are reviewed, centering on the four pillars of Lake Forest Academy's mission statement. Emphasis is placed on study skills, public speaking, time management, iPad instruction (including online resources and databases), and exam preparation. Students also look at the importance of multiculturalism and pluralism within our diverse student community. They discuss the idea of what makes up identity, and then each student creates a multimedia presentation that expresses what they view as being the most important parts of who they are. With regard to wellness, an emphasis is placed on physical health. Students receive information on nutrition and exercise, first aid, life balance, stress management, conflict resolution, effective communication, substance use prevention, and relationship education. Through this survey of topics, students identify personal strengths and areas of growth needed to successfully engage in all aspects of the LFA community.

Sophomore Seminar

In the fall, Sophomore Seminar is an extension of Lake Forest Academy's Service Learning Program. Through the exploration of current social issues in conjunction with students' personal service engagement experiences, students are encouraged to determine how their own personal values and beliefs can make a difference in the world around them. Starting in January, students are required to collaborate and launch a service project, then reflect upon the experience of engaging in the community. At the end of the second term students learn how to protect and enhance their digital footprint and become better cyber citizens. They meet with law enforcement officers, college counselors, communication and IT specialists to prepare them for online risks and benefits as they become more and more visible to universities and employers on social networks.

Junior Seminar

Junior Seminar encourages students to explore individual values, beliefs, perceptions, and interpretations. Class discussions focus on personal experiences and reflections that foster greater connectedness, communication of own perspective, and standing up for beliefs/values/etc. Students explore diversity and multiculturalism and how these concepts relate to who we are as individuals, with an underlying focus on civic responsibility, leadership, and community-building. Students are also introduced to the complexities of human behavior through topics such as Addiction, Eating Disorders, Mental Health and Brain Disorders, Suicide prevention, and the Myers-Brigg Personality Assessment. Students examine their fears, values, goals, and priorities through reflections and class discussions. Periodically, students work with the Office of College Counseling to prepare for College Night in September, the LFA College Workshop in the second semester, ongoing testing options, and commencement of the college search and application process.

Senior Seminar

Senior Seminar focuses on the college application process (first semester) and life after LFA (second semester) as we continue with efforts to cultivate mind, body, and spirit to develop moral and ethical thoughtfulness, nuanced social consciousness and leadership skills. Students receive general information about the college search, application, and decision-making processes. Topics include campus visits, essay writing, recommendation procedures, standardized testing, interviews and LFA College Counseling protocol. Each student also completes individual career exploration exercises and activities. The class also addresses specific issues involving the transition to college, including time management, academic policies, social pressures, and older adolescent health information. Students continue to explore the integration of personal values and beliefs with personal choice, goal-setting, and goal actualization, with emphasis on skills necessary for responsibly managing greater independence. Senior year culminates with a final project presented to members of the community to wrap up the high school sojourn.