

Upper School

Modern & Classical Languages

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
Chinese: Advanced		2.00	Active	US - 403	1.00	US Academic
Prerequisite: Chinese Intermediate This course is a continuation of Chinese Intermediate. Students will work as individuals, in pairs, and groups to present, interpret, and negotiate meanings through active communication to enforce all four core areas of language proficiency. By the end of the course, students will be able to demonstrate the ability to use the language in unrehearsed situations.						
Chinese: Culture & Civilization		2.00	Active	US - 125	1.00	US Academic
Prerequisite: Chinese Advanced Through this course, students will interpret a broad range of written and oral texts. Students will develop their aural proficiency through exposure to a wide variety of oral texts, ranging from the formal language heard in news broadcasts to informal language found in movies, pop songs, and television dramas. They will also develop the speaking proficiency to be able to create a level-appropriate speech or report, produce a video, and narrate personal experiences and current events in a coherent fashion with comprehensible pronunciation and intonation. By the end of the course, students will have the basic fluency in the target language and be able to demonstrate level-appropriate skills in course work and communications.						
Chinese: Intermediate I		2.00	Active		1.00	US Academic
Building on the base of Introductory Mandarin, this is a one year course designed to develop student’s awareness and appreciation of the elements of Chinese culture and to teach the students to communicate adequately in many situations. Students will learn to read, write, speak, and understand spoken Chinese. A developmental approach to the acquisition of essential vocabulary will build upon different themes at each level. It is most important to note that the target language is used extensively and it is the student’s responsibility to work with the teacher to master this essential oral component. In some stages a bilingual approach is used to explain grammar or to introduce cultural concepts especially at the early levels. Students are required to participate in spontaneous two-way interactions, such as conversing face-to-face or exchanging written correspondence activities, in order to develop the capacity to respond in culturally appropriate ways to understand conversations among native Chinese speakers. By the end of the course, students will be able to demonstrate the ability to use the language in unrehearsed situations.						
Chinese: Intermediate II		2.00	Active		1.00	US Academic
Building on the base of Introductory Mandarin, this is a one year course designed to develop student’s awareness and appreciation of the elements of Chinese culture and to teach the students to communicate adequately in many situations. The course offers a review of basic grammar but focuses on more complex structures useful to the Intermediate student and also offers many activities to practice and expand the students’ vocabulary. It aims at improving students’ ability to express opinions, to narrate, compare and connect. Students are required to participate in spontaneous two-way interactions, such as conversing face-to-face or exchanging written correspondence activities, in order to develop the capacity to respond in culturally appropriate ways to understand conversations among native Chinese speakers. By the end of the course, students will be able to demonstrate the ability to use the language in unrehearsed situations.						
Chinese: Introduction		2.00	Active	US - 401	1.00	US Academic
This course introduces Mandarin Chinese as a second language for non-native speakers at the high school level. It provides students with the opportunity to develop communicative skills in both spoken and written Chinese at a basic level. Pinyin phonetic system will be introduced as a bridge to the Chinese language. The course approaches the language through theme-based dialogues with oral and written practice in grammar, vocabulary, pronunciation and language usage. Various interactive activities and projects are included throughout the course to make language						

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learning meaningful and to motivate students to broaden their cultural understanding and appreciation of the Chinese culture. By the end of the course, students will be able to use language skills to demonstrate basic knowledge of oral and written structures.						
Chinese: Literature		2.00	Active	US - 404	1.00	US Academic
Prerequisite: Chinese Advanced or Culture and Civilization To qualify for this course, students need have a solid foundation in the Chinese language both in speaking and writing. Students will adjust to expression differences between the colloquial and literacy, between the classical and idiomatic, and between different social levels and educational backgrounds. Grammar is studied in context and readings that are relevant to cultural exploration. Upon completion of this course, students will build their linguistic proficiency through discussions of Chinese culture, not only elite culture, but also folk culture, to further their understanding of the Chinese language and life with different angles and viewpoints.						
French: Advanced		2.00	Active	US - 453	1.00	US Academic
Prerequisite: French Intermediate To qualify for this course, students should have a solid background in both speaking and writing French in the present, past and future so that the course can move quickly through the grammar and vocabulary review. At this level, students gain a more complete understanding of French grammar, speak more fluently in French, and understand spoken and written French in many cultural settings. Students are exposed to a variety of readings: poetry, short novels and articles, and write critical short essays on these works. There will be regular oral presentations as well. Students continue to expand their communication skills with correspondents in French-speaking countries and work to understand the cultural nuances of communicating with French-speaking people. In addition, students study the history and culture of many Francophone countries and study some French history and literature. Upon completion of this course, students should have basic proficiency in French: be able to communicate in a variety of settings in French speaking countries.						
French: Francophone Culture and Civilization		2.00	Active	US - 456	1.00	US Academic
This course examines themes in Francophone civilization through the study of short stories and novels, nonfiction articles and film. The course is discussion-based with an emphasis on the four language skills: listening, speaking, reading and writing. Students will do both presentational and interpersonal speaking in addition to a thorough review of advanced grammar concepts. The course is conducted entirely in French, and students are expected to participate in the target language. Students will keep a journal of questions, writings and vocabulary. Additionally, students will complete research projects that expand their knowledge of civilization and culture. Themes to be explored in this course include: how the French educational system addresses a diverse student body, preservation of African culture in France and conflicts around urban versus country life in France and Canada today.						
French: Intermediate I		2.00	Active	405	1.00	US Academic
Prerequisite: French Introduction This course teaches students the grammar and vocabulary to communicate adequately in many situations in French-speaking countries. Students are expected to understand and speak French in the class at all times. Students are expected to be comfortable writing in French at a basic level and will work to develop greater fluency in writing. Readings will include articles and newspapers—all chosen to help students understand the culture of Francophone countries. Cultural projects are done to further their exploration of these countries. There is an expanded emphasis on listening						

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comprehension and correct pronunciation in this level. Upon completion of this intermediate course, students should be able to communicate in the present, past and future and understand most of the French spoken in a real context.						
French: Intermediate II		2.00	Active	406	1.00	US Academic
Prerequisite: French Intermediate I or recommendation This is the second year of Intermediate French where students will continue to explore the topics and grammar at the intermediate proficiency level. This course teaches students the grammar and vocabulary to communicate adequately in many situations in French-speaking countries. Students are expected to understand and speak French in the class at all times. Students are expected to be comfortable writing in French at a basic level and will work to develop greater fluency in writing. Readings will include articles and newspapers—all chosen to help students understand the culture of Francophone countries. Cultural projects are done to further their exploration of these countries. There is an expanded emphasis on listening comprehension and correct pronunciation in this level. Upon completion of this intermediate course, students should be able to understand most of the French spoken in a real context and speak well enough to be understood.						
French: Introductory		2.00	Active	US - 451	1.00	US Academic
This course introduces students to the fundamentals of French: speaking, listening, culture, reading, writing and grammar. The vocabulary studied will be relevant to communicating while in a Francophone country. Students study the culture of French speaking countries through cultural projects, interactive videos and through regular communication with correspondents in French-speaking countries. Upon completion of the course, students will be able to speak in a clear manner with a good pronunciation in the basic present, future and past.						
Latin: Advanced I		2.00	Active	US - 434	1.00	US Academic
The work in this course is organized around an advanced text that continues with and expands upon the syntax and vocabulary presented in Latin Intermediate. Through translating and supplementary materials, students will learn about the Roman army, civil war, travel, and the expanding world of Late Republican and Early Imperial Rome. Specific themes in Classical mythology will be examined and discussed as well. Emphasis is placed upon proficiency with the Latin inflectional endings and vocabulary and preparing students to read longer Latin passages independently and with confidence. During the second semester, students will investigate an assigned medium and design a piece of artwork depicting a dramatic moment from a favorite myth.						
Latin: Advanced II		2.00	Active		1.00	US Academic
The work in this course is organized around an advanced text that continues with and expands upon the syntax and vocabulary presented in Latin Intermediate. Through translating and supplementary materials, students will learn about the Roman army, civil war, travel, and the expanding world of Late Republican and Early Imperial Rome. Specific themes in Classical mythology will be examined and discussed as well. Emphasis is placed upon proficiency with the Latin inflectional endings and vocabulary and preparing students to read longer Latin passages independently and with confidence. During the second semester, students will investigate an assigned medium and design a piece of artwork depicting a dramatic moment from a favorite myth.						
Latin: Foundations II		2.00	Active		1.00	US Academic
This course is an introduction to the grammar and vocabulary of Classical Latin.						

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Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
<p>Students will learn the basic syntax of Latin nouns, pronouns, adjectives, and verbs. The knowledge and experience they gain from this foundations course will help them to understand English grammar (the parts of speech and their usage) and to improve their English language skills, allowing them to become better speakers and more proficient writers. Students will consider Roman culture and daily life, the city of Pompeii (its art and architecture, destruction, preservation, and conservation), major periods in Roman history, and the Greek and Roman gods in the Classical Pantheon. Students can anticipate a trip to the Kelsey Museum to examine the ancient Roman collection there and designing a final project that depicts an aspect of Roman life.</p>						
Spanish: Advanced I		2.00	Active	427	1.00	US Academic
<p>Prerequisites: Intermediate 2 and/or teacher recommendation This course offers the study of Spanish at a more complex and intensive level. Students work collaboratively as well as independently with strong accountability. This course integrates the four language skills: listening, speaking, reading and writing through the use of technology, thematic readings, conversation, recordings and presentations. The course is conducted entirely in Spanish and students are expected to participate in the target language.</p>						
Spanish: Advanced II		2.00	Active	428	1.00	US Academic
<p>Prerequisites: Completion of Spanish Advanced 1 and/or teacher recommendation This course offers the study of Spanish at a more complex and intensive level. Students work collaboratively as well as independently with strong accountability. This course integrates the four language skills: listening, speaking, reading and writing through the use of technology, thematic readings, conversation, recordings and presentations. The course is conducted entirely in Spanish and students are expected to participate in the target language.</p>						
Spanish: Advanced III		2.00	Active	429	1.00	US Academic
<p>Prerequisites: Advanced 2 and/or teacher recommendation This course offers the study of Spanish at a more complex and intensive level. Students work collaboratively as well as independently with strong accountability. This course integrates the four language skills: listening, speaking, reading and writing through the use of technology, thematic readings, conversation, recordings and presentations. The course is conducted entirely in Spanish and students are expected to participate in the target language.</p>						
Spanish: Hispanic Civilization and Culture		2.00	Active		1.00	US Academic
<p>Prerequisite: Spanish Advanced 3 This course offers a chronological journey through Mexico and Latin America focusing on major events that shaped their history and culture. The year culminates in Spain where we explore themes related to family values and cultural traditions. In this course students work collaboratively as well as independently with</p>						

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strong accountability. This course integrates the four language skills: listening, speaking, reading and writing through the use of technology, thematic readings, films and presentations. The course is conducted entirely in Spanish and students are expected to participate in the target language.

Spanish: Intermediate I		2.00	Active	407	1.00	US Academic
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Prerequisites: Some limited exposure to the basics of Spanish but not beyond the Novice-Mid level.
 This course continues to study the fundamental skills of Spanish: speaking, listening, reading and writing. The vocabulary studied will be relevant to communicating while in a Spanish speaking country. Students study the culture of Spain and Latin American countries through cultural projects, interactive videos and thematic readings.

Spanish: Intermediate II		2.00	Active	408	1.00	US Academic
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Prerequisites: Intermediate 1 and/or teacher recommendation
 This course builds upon the foundations of introductory-level Spanish study. Students work collaboratively as well as independently with strong accountability. This course integrates the four language skills: listening, speaking, reading and writing through the use of technology, thematic readings, conversation, recordings and presentations. The course is conducted entirely in Spanish and students are expected to participate in the target language.

Spanish: Introductory		2.00	Active	US - 464	1.00	US Academic
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Prerequisites: No previous experience in Spanish
 This course is a true introduction to Spanish. This course introduces students to the fundamental skills of Spanish: speaking, listening, reading and writing. The vocabulary studied will be relevant to communicating while in a Spanish speaking country. Students study the culture of Spain and Latin American countries through cultural projects, interactive videos and thematic readings. Upon completion of the course, students will be able to use simple structures and tenses in order to speak in a clear manner well enough to be understood.

Academic Research Program

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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Academic Research Program - ARP - 9		2.00	Active	US - 9001	0.00	US Academic
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This year-long course prepares students for skill development in problem-solving, research and writing. The students learn to apply the Design Thinking process to real-world problems in order to create better solutions. The students will learn to identify underlying needs through empathy, harness and develop the ability to creatively brainstorm and generate ideas, critically think, collaborate for meaningful solutions, prototype, test and share their products. As they engage in these activities, they will become more mindful of the process, ultimately developing confidence in their ability to successfully navigate open-ended challenges. In concert with efforts in core academic disciplines, this course will begin to equip students with the skills necessary to complete meaningful independent research and study. Students will explore the differences between intrinsic and extrinsic motivations for learning and the benefits of each. Students are expected to work to the best of their ability and adhere to high academic standards of excellence, engagement and ethical behavior. These standards will be defined as they relate to each project through discussion and actions.

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Academic Research Program *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
Academic Research Project - ARP - 11		1.00	Active	US - 9002	1.00	US Academic

This semester-long course promotes dispositions of independent inquiry while developing the research and writing skills to complete an Academic Research Project prospectus. Students will initially engage in various activities to explore interests to decide on one topic that is sustainable, feasible, and fun. During the second half of the course, students will commit to deep exploration of one self-selected topic. By the conclusion of the course, all students will complete an Academic Research Project prospectus to be carried out during their senior year.

Academic Research Project - ARP - 12		2.00	Active	US - 9003	1.00	US Academic
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In this culminating phase of the Academic Research Program, students further explore their research topic. They will engage in sustained, independent study, writing annotations and literature reviews while speaking with experts, creating products, and sharing ideas with their peers. Students will present their work periodically to the Liggett community, refine their work in consultation with their ARP advisor and mentor, and ultimately present their findings and final product to experts, peers, and members of the community.

Creative & Performing Arts

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
Art Studio		1.00	Active	US - 149	1.00	US Academic

In this course, students complete a variety of visual problem-solving assignments focused primarily in the areas of drawing, painting, printmaking, mixed media, sculpture, and design. Exposure to and experimentation with a variety of methods, materials, and processes is essential in establishing a common art vocabulary and to lay the foundation for future growth as a visual artist. Essential to the course is an emphasis on the elements of art and principles of design. Art history and appreciation are also woven throughout the curriculum. As students continue their studies in the second and third semesters, their work is guided by unique syllabi that reflect increasing levels of complexity and higher expectations. They are expected to build upon the skills learned in previous semesters to raise their art-making to the next level and begin to develop a personal voice through their work. Students who are considering Art Studio Advanced or college-level art study are encouraged to use the projects completed in Art Studio as a vehicle for individual expression with an eye toward portfolio development.

Art Studio Advanced		2.00	Active	US - 105	1.00	US Academic
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Prerequisite: Three semesters of art, including at least one semester of art studio (two or more recommended). Students must also submit of a plan of work and a portfolio for review.

This course is an invitational studio course open to students who exhibit strong interest and ability in the visual arts. To be recommended for this course, students must submit a portfolio of works in drawing and painting and demonstrate a thorough understanding of art history. Emphasis is placed on the creative exploration of ideas, processes and media experimentation. In addition, students must work with a disciplined approach to produce the necessary works for successful completion of this course. Students produce a portfolio which can be submitted to the Advanced

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Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
Placement Program for grading as an AP Studio Art Examination. Students must declare an area of concentration (Drawing, 2D-Design or 3D-Design). The focused art student who elects Advanced Art Studio as a junior, and successfully completes all requirements of the course can repeat Advanced Art Studio and work on a second portfolio in a different area of concentration as a senior. As part of their assessment, students participate in an exhibition highlighting their work.						
Arts: Shakespeare Stagecraft		1.00	Active		1.00	US Academic
Theatrical design is collaborative, practical, and interdisciplinary. In this course, we will design the set, lights, costumes, props, and sound for a production of a Shakespeare play, beginning with script analysis and ending with the production. Students will learn the basics of stagecraft, research the rich history of technical theatre, and form artistic interpretations of the chosen text based on their reading and research. All students will work together to create a design gallery to accompany the performance, with History students taking the lead on research and writing and Art students taking the lead on designing the gallery’s visual elements. As this course is part of the Liggett Shakespeare Project, students will collaborate with classmates in the Shakespeare: Dramaturgy course and the Liggett Players. Stagecraft students will be responsible for completing the production design and constructing some elements of the sets, props, and costumes. Special guests to the class will include professional designers and technical staff. Seniors who opt to complete all three parts of the Liggett Shakespeare Project (Dramaturgy, Stagecraft, and Production) in a single year may be approved to waive enrollment in ARP-12.						
CAD: Design in Art and Architecture		1.00	Active	US - 128	1.00	US Academic
Employing three dimensional imaging technologies, this course will explore the process of creating meaningful designs for buildings and theatre spaces. Students will complete all of the steps of design from floor plan to rendering and construction planning. Students may look beyond theatre to architecture and interior design for project work. This course is open to students of all computer and theatre skill levels.						
Ceramics		1.00	Active	US - 103	1.00	US Academic
Ceramics is an introductory course using clay as an expressive medium with emphasis on hand-building and wheel throwing techniques, application of glaze materials, the understanding of form, color, structural relationships and a variety of kiln firing techniques. The course will develop student awareness of problem solving, and chemical reactions, as well as enhance insight into tools, history and the mechanics of art. Students may take a second semester of Ceramics to continue their study. Second semester students will utilize the potter’s wheel for furthering their wheel throwing techniques.						
Ceramics II		1.00	Active	US - 110	1.00	US Academic
Prerequisite: Ceramics I						
Contemporary Music Workshop		1.00	Active		1.00	US Academic
Calling all pop and rock musicians! This course is open to guitarists, drummers, ukulelists, bassists, keyboardists, vocalists, and singer-songwriters of any ability. Students will form small groups to create and rehearse rock, pop, and contemporary music repertoire. Students will explore elements of musical form, style, lyrics, and patterns as they relate to contemporary media. Vocalists and drummers should plan on learning a secondary instrument to balance instrumentation needs. Contemporary ensembles may be asked to perform at community events and concerts outside of class.						

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Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
Design in Crafts Media		1.00	Active	US - 117	1.00	US Academic
<p>This course is concerned with two-dimensional visual art concepts using craft materials (glass, fabric, polymer clay). Emphasis is placed on studying elements of design: line, color, value, shape, form, space, and texture. Students explore, experiment, observe, and evaluate their work and others. This course is designed to help students make informed visual choices and have control over the use of art elements and principles. Principles of design include balance, unity, contrast, emphasis, pattern, movement and rhythm. The transfer of concepts, operations, and values is important to other disciplines; science and mathematics also deal with symbols and their meanings. Students may take a second semester to continue their individual study.</p>						
Digital Fundamentals: Yearbook		1.00	Active	US - 113	1.00	US Academic
<p>This semester course is designed to provide a foundation for use of core technology tools in graphic design. Using the Adobe Create Suite as a foundation. Students will explore key software tools (Photoshop, Illustrator, InDesign). In addition students will explore on line media tools that support the development of the school yearbook. Students will be involved in all aspects of the production of this publication while exploring the various technology-based tools integral to its creation. An emphasis is placed on photographic composition, scanning, graphic design fundamentals and use of current program such as Adobe Photoshop. A digital camera (compact or SLR) of 4.0 mega pixels or greater is strongly suggested. Staff members wishing to apply for an editor's position in their senior year should have at least one year prior experience in the class.</p>						
Digital Photography		1.00	Active	US - 100	1.00	US Academic
<p>Time will be spent learning and perfecting photographic techniques using digital media. Aesthetic qualities, and contextual considerations will be explored. Students will also employ digital cameras, and computer software (Photoshop) to explore the possibilities of electronic image manipulation. In addition to making photographs, students will study the history of photography. Digital images may be captured with a digital camera or other digital devices (iPhone/ iPad, etc.). A portfolio will be produced during the semester that can be presented to colleges for admissions consideration.</p>						
Digital Photography II		1.00	Active		0.00	US Academic
<p>Time will be spent perfecting photographic techniques using digital media. Aesthetic qualities, and contextual considerations will be explored. Students will also employ digital cameras, and computer software (Photoshop) to explore the possibilities of electronic image manipulation. In addition to making photographs, students will focus on the Adobe Programs such as Photoshop and Illustrator to help create digital art work. Digital images may be captured with a digital camera or other digital devices (iPhone/ iPad, etc.). A portfolio will be produced during the semester that can be presented to colleges for admissions consideration.</p>						
Digital Publications: Yearbook		2.00	Active		1.00	US Academic
<p>Prerequisites: Digital Photography 1, Photography 1, or Digital Publications As historians, journalists, and artists, students will expand their knowledge of photography, graphic design, and writing skills using Jostens Yearbook Avenue in order to craft our school-wide publication, Spirit. Students will be involved in all aspects of the production while placing an emphasis on collaboration and communicating visually through photographic composition. Students who are committing to Spirit are charged with assembling a lasting Liggett legacy. Get ready to leave your mark!</p>						
Directing for Stage and Screen		1.00	Active	US - 121	1.00	US Academic

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Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
<p>This course will investigate the process of directing and managing film and performance events. Students will develop a deeper appreciation for film literature as they analyze and prepare to direct selected scenes and materials for presentation in this class. Starting with storyboarding, and computer generated video, students will produce a 30-second commercial. Students will also study the historical development of directing and management through readings and assignments dealing with theatrical personalities. Students will complete a series of digital video based film projects.</p>						
Introduction to Film		1.00	Active	US - 145	1.00	US Academic
<p>All art forms tell a story, but perhaps no art form inundates our senses more than film. In less than three hours, films transport us back in time, whisk us across the sea and boldly take us into the future. In this one semester class, students will engage in an introduction to film studies. Through Giannetti’s classic textbook, <i>Understanding Movies</i>, and through the viewing of several films, students will see how a series of film clips are arranged to deliver a comprehensive visual narrative. Students will be encouraged to look past the “story” of a film and discover the visual and musical art forms central to most narrative films. Essays, cinematic lab reports, quizzes, tests and a final exam will measure student achievement. Films may include <i>The Godfather</i>, Coppola; <i>Citizen Kane</i>, Welles; <i>Rear Window</i>, Hitchcock; and <i>Crouching Tiger, Hidden Dragon</i>, Lee.</p>						
Introduction to Graphic Design		1.00	Active		1.00	US Academic
<p>Graphic Design is a creative process that combines art and technology to communicate ideas; it is the process of visual communication and problem-solving through the elements of art and principles of design, particularly type, space, and composition. This course will give students a foundation in Graphic Design by introducing them to the various aspects of the field. Students will work on projects utilizing industry standard software (Adobe Photoshop, Illustrator, and InDesign). After students learn the design process, they will apply it in the creation of various products.</p>						
Introduction to Theater Performance		1.00	Active	US - 140	1.00	US Academic
<p>This course is designed to develop performance skills in both public speaking and stage presentations. Students will explore the development of a message and carefully analyze existing speech and dramatic materials. Script and character analysis, along with the study of acting techniques, will be used to enhance each student’s talent and understanding of public performance. Students will develop speeches of demonstration and persuasion based on the study of theatre history, as well as performances from theatre and film.</p>						
Music Production		1.00	Active	US - 142	1.00	US Academic
<p>The Music Production elective is an experience designed to inspire students who desire to combine their interests of music and technology. Students will meaningfully create and respond to music using industry-standard programs and recording equipment. Students will finish this course with a portfolio of their own composed, mastered, and recorded audio works including a podcast, film score, remix, and original composition. This course is technology-based and limited to 9 students.</p>						
Musical Innovation & Leadership		1.00	Active		1.00	US Academic
<p>Students will realize their potential as young artists, creators, innovators, and leaders by using musical creation as a vehicle to draw from the abstract to create something tangible, constructively critique their peers, lead discussions, suggest and support ideas and reconcile opposing views through compromise. This process will not only help develop the student’s own voice, but will also help give them confidence to become active</p>						

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Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
participants in group projects.						
Photography I		1.00	Active	US - 159	1.00	US Academic
<p>This course explores the fundamentals of black and white photography. Emphasis is placed on photography as a technical medium with attention given to design and compositional elements. Film development, printing techniques, and film camera operations are taught. The history of photography and its impact on the world will also be investigated. Students are required to have a 35mm SLR manual camera, with a working light meter. In the Spring semester, students who have taken Photo I, may take a second semester of Darkroom photography if there is room in the section. The class is combined with Photo I students. The second semester darkroom experience parallels the Digital Imaging course but using darkroom techniques.</p>						
Photography II		1.00	Active	US - 108	1.00	US Academic
<p>Prerequisite: Photography I</p> <p>This course is a Darkroom based extension of Photography I. In the Spring semester, students who have taken Photo I, may take a second semester of Darkroom photography (if there is room in the section. The class is combined with Photo I students.) The second semester darkroom experience parallels the Digital Imaging course but using darkroom techniques. Projects include collage, panoramas, self-portraiture, and special techniques including solarization, and alternative chemistry.</p>						
Piano Lab		1.00	Active	US - 162	1.00	US Academic
<p>This course is open to those students new to music who are interested in learning basic music theory and keyboard skills. Students will participate in group piano instruction in the electronic keyboard lab as part of the course of study. Students will be expected to demonstrate familiarity in the operation of a piano by learning and playing music on the keyboard. This course is limited to 8 students.</p>						
Piano Lab II		1.00	Active		1.00	US Academic
<p>No description available.</p>						
Public Speaking: Beyond the TED Talk		1.00	Active	US - 109	1.00	US Academic
<p>Early work in this course will establish the foundations for public speaking through the study of traditional techniques in speech presentation. These techniques will be advanced to extend into new media, pod cast, and technology based explorations. This course is technology based and limited to 9 students.</p>						
Upper School Advanced Band		2.00	Active	US IND - 231	1.00	US Academic
<p>By recommendation of instructor/audition</p> <p>US Band Advanced is open to students who seek additional opportunities on their instrument outside of class and wish to accelerate personal growth on their instrument. In addition to rehearsing with the US Band, advanced students will be directed to prepare auditions for state festival honor bands in the fall and will be required to prepare and perform a solo for rating at the MSBOA Solo & Ensemble Festival in the spring. US Band performs</p>						

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at community events and concerts outside of class.

Upper School Band

2.00

Active

US IND - 23

1.00

US Academic

US Band is a comprehensive 9-12th grade experience designed to musically inspire and challenge students with previous experience playing woodwind, brass, or percussion instruments. Students will meaningfully create, perform, and respond to music from a variety of time periods and cultures while refining instrumental technique and skill. Students will perform as members of small groups and as members of the large ensemble. Piano, guitar, and bass guitar may be admitted by audition only. US Band performs at community events and concerts outside of class.

Upper School Choir

2.00

Active

US - 163

1.00

US Academic

Choir is open to anyone with an interest in singing. This course is designed for students who are interested in pursuing music after high school and the beginning choir student who just loves to sing. Choir meets during the school day and presents approximately three to five performances per year. Music of all types, including classical, spirituals, jazz and popular music will be covered each term. Students have performance assessments at least once per quarter which include sight-singing in four parts (soprano, alto, tenor and bass).

Upper School Choir Advanced

2.00

Active

US - 164

1.00

US Academic

By recommendation of instructor/audition

Advanced Chorale is open to students who have previously participated in Chorale and wish to further their experiences and responsibilities in a singing ensemble. In addition to the regular requirements of the Chorale, the student will be encouraged to prepare and audition for MSVMA Honors Choir. The student should also prepare and perform a solo at MSVMA solo and ensemble festival. Advanced Chorale students will assume added responsibilities which may include section leader, student conductor, accompanist, choreographer.

Upper School Orchestra

2.00

Active

US IND - 31

1.00

US Academic

By recommendation of instructor/audition, open to 9 & 10

The US Orchestra is open to those who can demonstrate ability on string instruments (violin, viola, cello, and bass). Music of all types, from duets and trios to small ensembles, and from a variety of styles (e.g., classical, popular, movie, world) will be studied and performed. All students are expected to participate in scheduled performances throughout the year. Students must be members of a performing ensemble to participate in MSBOA Events. Enrollment in private lessons is strongly encouraged.

Upper School Orchestra Advanced

2.00

Active

US IND - 321

1.00

US Academic

By recommendation of instructor/audition, open to 11 & 12

US Advanced Orchestra is open to students who have previously participated in US Orchestra and wish to further their experiences and responsibilities in a string ensemble. In addition to the regular requirements, the student will be encouraged to prepare and perform a solo or ensemble at MSBOA solo and ensemble festival. Advanced Orchestra students will assume added responsibilities which may include section leader, student conductor, music librarian, advanced octet member, and extra concert preparation.

Upper School *continued from previous page...*

Creative & Performing Arts *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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English

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
English: American Dream		1.00	Active	US - 257	1.00	US Academic

This course focuses on how writers, especially playwrights, from diverse backgrounds have portrayed the American Dream. We will explore the history of the American Dream—what did it mean when it was first envisioned and articulated, what has it meant over time, and what meanings does it have now? In addition, we will consider how the different facets of one’s identity have historically affected one’s perception of and access to achieving some version of the American Dream. Finally, we will examine the ideological power of the American Dream, assessing its validity alongside its value for both the past and the present. When available, film versions of the plays will be viewed and analyzed in class.

English: Core I		2.00	Active	US - 202	1.00	US Academic
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Students focus intensively on critical thinking skills to view writing as a tool for sophisticated thinking as well as a medium of scholarly exchange. Elements of this study will emphasize the fundamental concepts of rhetoric that form the basis of reasoned discourse. Students develop textual analysis skills to achieve greater understanding of structure and theme. This allows students to engage four essential questions concerning independence, identity, conformity, and rebellion. In addition to opening units on personal narratives and short stories, texts will cover a range of genres, with core texts likely including *The Catcher in Rye*, *The Merchant of Venice*, and King’s “Letter from a Birmingham Jail.”

English: Core II		2.00	Active	US - 210	1.00	US Academic
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This course explores American narratives as represented in important folktales, autobiographies, slave narratives, short stories, essays, plays, poems, and novels. The course follows a chronological structure that fits well with ARP 10/American History, which students take at the same time. Essential topics include colonization, industrialization, migration, slavery, urbanization, immigration, individualism vs. collectivism, family, love, and The American Dream. As students investigate key developments and movements in American literature from the Puritans to the present, they build on their close reading, writing, and analytical skills from Core I.

English: Creative Writing - Poetry		1.00	Active		1.00	US Academic
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This course invites students to explore and practice writing poetry and is designed to serve both accomplished students and novices wishing to improve their level of comfort with the rudiments of poetic expression. In addition to reading a book on the craft of writing poetry, students will study many shorter professional poems, explicating, analyzing, and mimicking as they develop a unique poetic voice. At its core, the class is about observing the world, brainstorming/sharing ideas, and revising one’s written work to develop voice and style.

English: Dramaturgy		1.00	Active		1.00	US Academic
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Upper School *continued from previous page...*

English *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
<p>Dramaturgy is the study of theatre and the onstage representation of dramatic art. In this course, we will intensively study a single major work by Shakespeare, reading it twice—first for comprehension, plot, and character; second for language, historical context, and interpretation. Each English student will present a research paper on literary interpretations of the play. Each History student will present a research paper on the play’s performance history. As this course is part of the Liggett Shakespeare Project, students will collaborate with classmates in the Shakespeare: Stagecraft course and the Liggett Players. Students in Dramaturgy will be responsible for forming a cohesive interpretation of the text, creating an abridged playscript based on their analysis, researching the historical background and context of the text, and aiding the actors and designers in understanding the language and themes of the text. Special guests to the class will include professional actors, directors, and playwrights. Seniors who opt to complete all three parts of the Liggett Shakespeare Project (Dramaturgy, Stagecraft, and Production) in a single year may be approved to waive enrollment in ARP-12.</p>						
English: Gothic Literature		1.00	Active	US - 256	1.00	US Academic
<p>How does literature attempt to speak the unspeakable and represent extreme states of the human condition? What interests do representations of terror, horror, and trauma serve? Is Gothic literature primarily escapist, or does it serve important ethical, aesthetic, and political functions? This course explores these questions by analyzing the history, values, and techniques of Gothic literature within the American tradition. We will study short stories by writers including Poe, Hawthorne, O’Conner, and Jackson, while Toni Morrison’s <i>Beloved</i> will serve as the central text. The film version of <i>The Shining</i> will also enrich our understanding of Gothic literature’s enduring legacy. Students should be prepared to engage with mature, provocative, and challenging content.</p>						
English: Literature of Protest		1.00	Active	US - 236	1.00	US Academic
<p>Scholar Howard Zinn defines protest literature as "any form of communication that engages social consciousness and may move someone to action." From our founding fathers who penned The Declaration of Independence to 17-year-old Darnella Frazier who posted bystander footage, on Facebook, of George Floyd telling police he can't breathe, we know that protest literature can occur in many forms, revealing the best and worst of the human condition. In this course, we will gain a deeper understanding of the transformative movements that define a nation: civil rights, gender rights, labor, and environmentalism, through the people who give voice to them. Most importantly, we will consider the extent to which we assume collective ownership of protest and the tremendous weight of bearing witness to the historical significance it continues to carry in our society.</p>						
English: Missing Pieces of the Canon		1.00	Active	US - 239	1.00	US Academic
<p>Some literary works are very entertaining, while some are intellectually important, but some works fit into both categories, perhaps making them truly "great." The purpose of this class is to study some of the great texts not currently represented in Liggett English classes. Given this criterion, the texts are not chosen due to a shared theme, topic, era, or geographical area—they are simply "great" works that enrich one’s cultural and intellectual currency.</p>						

Upper School *continued from previous page...*

English *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
<p>The structure of the class will be straightforward: reading assignments as daily homework, class discussion the following day, occasional informal written responses, with formal analytical essays as summative evaluations. In addition to focusing on the meaning of each text in its own right, one central question will be whether each text legitimately belongs in "the canon" and why/why not. Part of this determination will be based on how each text balances accessibility with profundity – whether or not the text addresses human concerns that are universal or limited to a specific time/situation. Students will progress in developing their own opinions on what factors a work of literature should possess to be truly "great."</p> <p>Pending future changes in other parts of the Liggett English curriculum, the potential texts include Oedipus the King, Macbeth, The Adventures of Huckleberry Finn, Slaughterhouse 5, and The Things They Carried.</p>						
English: Nature Writing		1.00	Active		1.00	US Academic
<p>The course explores nature writing through diverse voices across time and place. We'll read from a variety of genres: travel journals, essays, scientific journals, short stories, memoirs, poetry, and excerpts from novels. Students will have the opportunity to write analytical essays as well as in the genres in which we read. Writing in those genres will require students to perform activities such as exploration and observation in Southeast Michigan.</p>						
English: Non-fiction Writing		1.00	Active		1.00	US Academic
<p>Journalism is writing with a <i>purpose</i>. It can inform, expose, investigate, condemn, or simply delight, but it always has one goal: to discover and share the truth. This course will introduce students to the reporter's toolbox: gathering information, developing sources, finding an "angle," and writing for a mass audience. Students will split their time between analyzing professional journalism and conducting their own original reporting. We will follow developing news stories, study pieces by great reporters of the past, and bring several current masters of the craft into the classroom. At the same time, each student will go through the entire process, from conception to publication, of reporting two original pieces--one breaking news story and one human interest story.</p> <p>REQUIRED TEXTS 2020 <i>AP Stylebook</i> (do NOT get a copy from a previous year) Half of the class will need print or digital editions of the <i>New York Times</i> and the <i>Detroit News</i> Half of the class will need print or digital editions of the <i>Wall Street Journal</i> and the <i>Detroit Free Press</i></p>						
English: Poetry		1.00	Active	US - 253	1.00	US Academic
<p>This course focuses on the insights and pleasures that poetry provides. We will study early, modern, and contemporary masters to highlight crucial moments and forms in English verse; we will also take daring detours that will allow us to make illuminating connections. Our focus will be on developing as close readers and critical thinkers who delight in the power and beauty of language. We will consider what seeing the world from poets' perspectives might mean for our lives and what doing so might contribute to today's world.</p>						
English: Politics and Minority Art II		1.00	Active		1.00	US Academic
<p>This course will focus on the same issues as PMA I but examine different texts. Students who take the first course will experience a deeper exploration of similar topics, but the first course is not a prerequisite; the previous offering is relevant but not required or necessary. Texts include</p>						

Upper School *continued from previous page...*

English *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
Zora Neale Hurston’s <i>Their Eyes Were Watching God</i> , Octavia Butler’s <i>Kindred</i> , and James Weldon Johnson’s <i>Autobiography of an Ex-Colored Man</i> .						
English: Shakespeare: Comedy and Tragedy		1.00	Active	US - 229	1.00	US Academic
Shakespeare’s plays offer a treasure trove of provocative questions we can use to examine our own identities and beliefs: Are we free agents or pawns of fate? What constitutes true friendship? Are we at our best when taking action or keeping our own counsel? Do we form our judgments fairly, or are they shaped by the rumors and opinions of those around us? Do we fall in love more because of physical beauty and social expectations or spiritual interconnectedness (MFE0)? We will examine how Shakespeare’s comedies and tragedies explore these questions and how his plays remain relevant today.						
English: Short Story		1.00	Active	US - 214	1.00	US Academic
This class will focus exclusively on the short story, investigating a variety of literary issues, some of which are universal and some of which are unique to the genre. Due to the brevity of each text, students will have an opportunity to encounter and analyze a much wider range of authors and writing styles than in a class that reads standard-length novels and plays. A central goal of the course is to help students to discover and define personal preferences and then pursue them in individual projects that focus on specific authors, topics, styles, or literary movements. The works for this class have been selected with an eye to serious, adult-themed literature that would serve as preparation for university study.						
English: The Craft of Writing		1.00	Active	US - 215	1.00	US Academic
This course offers students an opportunity to develop their writing habits and skills to help them prepare for the writing demands of advanced work in English, ARP, and Liggett’s other academic courses. Emphasizing student choice and voice, Craft of Writing allows students to select the topics of their compositions; in addition, it illuminates how purpose, genre, and audience intertwine when creating “good” writing. In sum, this course “demystifies,” as Gerald Graff puts it, “the moves of academic writing”; helps students understand writing as a process; offers extensive practice with and feedback on essential writing skills; and argues that writing in both academic and non-academic contexts provides a means to profound discovery and transformation.						
English: Utopian & Dystopian Literature		1.00	Active	US - 233	1.00	US Academic
Our world, imperfect and messy, has not always satisfied artists. Seeking another world about which to write, authors create perfect worlds—or perfectly oppressive ones. These worlds, perfect utopias and malignant dystopias, allow artists to shape not only their characters but the society in which they live as well. This course will explore a variety of utopian and, especially, dystopian literature in writing and film. We will study a wide range of shorter texts alongside the class’s major texts, George Orwell’s <i>Nineteen Eighty-Four</i> and a more recent novel such as Octavia Butler’s <i>Parable of the Sower</i> .						
English: Women's Literature		1.00	Active	US - 254	1.00	US Academic

Upper School *continued from previous page...*

English *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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This course explores how women’s literature engages with gender norms, expectations, and assumptions. How does the literature define and portray both oppression and empowerment? We will be interested in the ways that institutions—political, legal, marital, business, religious, educational, entertainment, and artistic—promote beliefs about the nature and proper roles of people based on conceptions of gender. How do such views get disseminated, and what are their effects? Who benefits when particular views about gender become widely accepted and seen as natural? Who suffers? How does gender intersect with other components of identity such as class, race, ethnicity, and sexual orientation? What roles does literature play in illuminating these questions?

History & Social Studies

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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Civics		1.00	Active		1.00	US Academic
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This course will offer a survey and introduction into the topics of government and civic engagement, especially in relation to the United States of America. We will study the institutional and political developments that influence our modern system, especially representative democracy and the role of issues that shape public policy. Students will engage with the Constitution to better understand the foundation, structure, and functions of our governmental system in the hopes of developing a civic identity.

The first quarter will contain a study of the basic institutions and functions of government. For example, the Constitution and the Bill of Rights, federalism, the three branches, separation of powers, checks and balances, and civil rights and liberties. In the second quarter, students will put this knowledge to work by participating in a six week long simulation that will ask them to respond to an issue using the functions and structures of government to come up with a solution as a class.

Environmental History		1.00	Active	US -3 304	1.00	US Academic
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So much effort in studying history is spent on human to human interaction. Human interaction with the environment is often contextualized in terms of technological progress and overcoming physical challenges, but our historical actions have had, and will have, long lasting effects on our living space. The purpose of the course is to have students understand that our quality of life and existence are predicated upon the state of the environment. The course will emphasize place as students will look at least one example from Michigan and the Great Lakes in depth. Students will also have the opportunity for multi-discipline study based on the need for more specific understanding in the biological or chemical fields.

History of Mathematics		1.00	Active	US - 715	1.00	US Academic
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Prerequisite: Algebra II/Trigonometry

This is a course on the evolution of mathematical ideas. It will survey the early history of mathematics, from the ancient world into the 18th century. As amateur historians, students will read original sources in the history of mathematics; as such, part of their learning will be derived from the master mathematicians themselves, as opposed to secondary sources. Problems will be investigated through both mathematical and historical lenses. Students will be diving into the history of mathematics and will also be challenged by the mathematical content of some of the greatest mathematical achievements of our ancestors.

History: Women's History		1.00	Active	US - 332	1.00	US Academic
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Upper School *continued from previous page...*

History & Social Studies *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
<p>History books are often filled with the adventures, accomplishments, and exploits of remarkable men; those same pages are less filled with examples of remarkable women, but not for a lack of existence. This course examines the notable, but lesser known women in history. Students will read, engage in discussion, research historical figures and topics, apply their understanding, and ultimately wrestle with paramount questions. Questions addressed include: what makes a person worthy of notoriety? Why is truth omitted or altered? How does censorship affect its audience? How do changing perceptions of gender affect women’s role in society?</p>						
History: African American History		1.00	Active		1.00	US Academic
<p>This course provides an overview of African American history and culture. Topics include major events, persons, and issues spanning the period from African heritage to contemporary times. This course will look at an often overlooked, yet incredibly important, portion of American history. In the early weeks of the course, we will examine early facts and concepts that center around African Tribes and the years of African Americans enslavement in America. The course will, however, primarily focus on the cultural strides, joy, as well as continuing struggles of African Americans. Although the history of African Americans is one of struggle and almost constant adversity, it is also one of strength and perseverance. Despite the challenges, African Americans lived, loved, formed enduring communities, and created a unique culture. Since their involuntary arrival on the shores of North America during the early seventeenth century, Africans and their descendants confronted adversity by means of individual and collective action in numerous ways. The course explores these dimensions of the African American experience, and in so doing, highlights the multifaceted ways they made their own history while simultaneously shaping and contributing to the history of the United States. (Prehistory-Present Day)</p>						
History: America in Depression and War		1.00	Active		1.00	US Academic
<p>This course examines the impact of the two defining events of the early twentieth century: the Great Depression and World War II. We will investigate the ways in which depression and war redefined American politics and society. Our course texts are both collections of oral histories from the era, allowing the voices of those who experienced these changes to guide our understanding. By focusing on the experiences of ordinary people, we will gain a more intimate understanding of the transformations in politics, labor relations, and the roles of marginalized groups, such as women and African Americans. At the end of the semester, students will apply the skills they learned in the course to conduct an oral history interview of their own on a topic of their choice, contributing to a library of oral histories that future Liggett students can use for research.</p>						
History: American Electoral Process		1.00	Active	US - 330	1.00	US Academic
<p>This class will offer a unique perspective on the study of American government as the country enters another election season. By interacting with elections that changed American history, their rules and regulations, and closely following the campaigns of the important elections in our state and around the country students will gain a special understanding of the issues that motivate every citizen to vote for certain candidates or causes. The core content of this class will be tied into the political issues that shape every discussion at the family dinner table and in the workplace, the power of the two-party political system, and the current events that can cause drastic change in a campaign at any time. Throughout the semester leading up to the election students will follow a particular state of interest and complete project-based assessments involving research, simulations, and facilitating group discussion to give the class a holistic understanding of a political scene that involves much more than the presidential election.</p>						
History: Comparative Religion		1.00	Active		1.00	US Academic
<p>Why are we here? What’s the purpose of our existence? How do we make sense of the unknown? These questions have been at the heart of belief</p>						

Upper School *continued from previous page...*

History & Social Studies *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
<p>systems since humans developed the ability to think in the abstract. Belief systems, in turn, become an important part of religion, which has had an enduring influence on global culture and politics. This course will examine the origins of major belief systems and religions around the world, with special attention to the political and cultural contexts in which they grew, as well as how they have changed over time. Through engaging in a comparative analysis of these belief systems and religions, students will contemplate the impact religion has had on division and unity in the modern world.</p>						
History: Dramaturgy		1.00	Active		1.00	US Academic
<p>Dramaturgy is the study of theatre and the onstage representation of dramatic art. In this course, we will intensively study a single major work by Shakespeare, reading it twice—first for comprehension, plot, and character; second for language, historical context, and interpretation. Each English student will present a research paper on literary interpretations of the play. Each History student will present a research paper on the play’s performance history. As this course is part of the Liggett Shakespeare Project, students will collaborate with classmates in the Shakespeare: Stagecraft course and the Liggett Players. Students in Dramaturgy will be responsible for forming a cohesive interpretation of the text, creating an abridged playscript based on their analysis, researching the historical background and context of the text, and aiding the actors and designers in understanding the language and themes of the text. Special guests to the class will include professional actors, directors, and playwrights. Seniors who opt to complete all three parts of the Liggett Shakespeare Project (Dramaturgy, Stagecraft, and Production) in a single year may be approved to waive enrollment in ARP-12.</p>						
History: European Union		1.00	Active	US - 327	1.00	US Academic
<p>Following the devastation of World War II, a collection of European states formed an economic partnership that, over time, expanded to a political and economic union containing 28 European states, over 500 million citizens, and one of the largest economies in the world. The European Union and its immediate predecessors have also been credited with preventing intra-European conflict for over fifty years. In this course, learners will explore the historical background of this organization, the intergovernmental and supranational nature of its institutions, and current challenges (such as Brexit) facing the union today. Learners in the course should be prepared to read academic political science texts and primary sources such as treaties, write extensively, perform significant research into a specific member state of the European Union and be willing to frequently and substantively engage with their peers in a semester-long simulation of the European Council of Ministers and European Commission.</p>						
History: Latin America		1.00	Active	US - 351	1.00	US Academic
<p>Latin America is unlike any other region in our planet’s history: separated for centuries from Afroeurasia, when the two hemispheres finally reunited the people of the Americas experienced apocalyptic catastrophe. But out of the ashes arose a plethora of entirely new cultures comprised of Old and New World characteristics. The road to today hasn’t always been smooth for the people living here. After conquest by the Spanish and Portuguese was completed, colonies soon began to dream of independence, which they eventually gained. However, self-autonomy proved just as rocky of a road as conquest, and as the 20th century progressed, many nations suffered economic, social, and political woes. This class will survey Latin American history after 1492 CE, but will focus on the eras of conquest, independence, and 20th century dictatorship. The class will also take a different approach to textbooks: students will read historical fiction novels, written by contemporary authors, and synthesize the themes and messages they convey.</p>						

Upper School *continued from previous page...*

History & Social Studies *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
History: Middle East		1.00	Active	US - 356	1.00	US Academic
<p>Several years ago, reporters polled State Department officials with the question: "What is the difference between Sunni and Shi'a Muslims?" Almost none of them, including the incoming chair of the Intelligence Committee, could answer correctly. This course, among other things, will help learners better familiarize themselves to this region through a survey of the region's culture and politics, with the primary emphasis on current and historical issues such as the Arab-Israeli conflict, the Iranian Revolution, and the Arab Spring. Learners in the course will also participate in an online, interactive simulation with schools around the country, where they act as representatives from the various countries involved in the Arab-Israeli conflict in an attempt to reach a permanent settlement. Learners in the class will read regularly from academic and primary source material, will write frequent analytical responses and policy position papers, and cooperate frequently with their peers as we all build a stronger understanding of this region.</p>						
History: Native American Studies		1.00	Active	US - 363	1.00	US Academic
<p>Native Americans were not uncivilized savages, nor were they mere victims of white oppression. The truth is far more complicated than those oversimplified, yet common, misconceptions. In this survey course of Native American Studies, we will take a "big picture" look at the history of American Indians from pre-contact through present day. By looking at different themes, such as culture, trade, the relationship with the government, and present-day issues, we will discover how Native Americans were—and continue to be—active agents in their own history. Throughout the course, students will work with a distinct indigenous culture in an effort to understand the issues that still impact Native Americans today.</p>						
History: Origins of Civilization		1.00	Active		1.00	US Academic
<p>Civilization has been our way of life for thousands of years now, and as a result we don't much think about how or why we transitioned to it from the hunter-gatherer lifestyle. The 18th century philosopher Jean-Jacques Rousseau noted that, "man was born free and everywhere he is in chains," arguing that our agreement to live in civilization sacrifices at least a portion of that natural-born freedom. Other philosophers, like Thomas Hobbes, disagreed, choosing to believe that our species is better off in civilization than before when life was "solitary, poor, nasty, brutish, and short." Transitioning from hunting and gathering to agriculture was no simple change; it revolutionized our way of life. What is the nature of humankind? Are humans inherently good or bad? Why did humans give up the hunting and gathering lifestyle? Why were rules and laws created? Why did our species enter into a social contract in which we give up certain rights and freedoms? This course will seek to infer answers to these questions and more.</p>						
History: Race, Ethnicity, and Social Inequalities		1.00	Active		1.00	US Academic
<p>Examination of the historical and present position of various racial and ethnic groups within our society, as well as women and other marginalized groups. Emphasis is on the diversity of American racial and ethnic groups and the description and explanation of historical, social, economic, and structural inequalities that exist within and among them. General attention is also given to the analysis of the social and cultural causes of prejudice and discrimination. This course seeks to explore the compelling question, "Why are race and inequality ongoing, pervasive issues in America."</p>						
History: Russian/Soviet-U.S. Relations in Popular Culture		1.00	Active	US - 335	1.00	US Academic

Upper School *continued from previous page...*

History & Social Studies *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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"I guess what I'm trying to say, is that if I can change, and you can change, everybody can change!" In the film, Rocky IV, Rocky Balboa's address to the Soviet crowd after he defeated Russian boxer Ivan Drago in sparks an important question: was it the United States that changed Russia, or the other way around? This course explores the history of Russian/Soviet-U.S. relations in the past 100 years by tracing the ways in which each country has portrayed the other in films and works of popular culture. In doing so, students will critically examine the ways in which our understanding of contemporary Russian-U.S. relations has been shaped by stereotypes we see on screen.

History: Shakespeare Stagecraft		1.00	Active		1.00	US Academic
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Theatrical design is collaborative, practical, and interdisciplinary. In this course, we will design the set, lights, costumes, props, and sound for a production of a Shakespeare play, beginning with script analysis and ending with the production. Students will learn the basics of stagecraft, research the rich history of technical theatre, and form artistic interpretations of the chosen text based on their reading and research. All students will work together to create a design gallery to accompany the performance, with History students taking the lead on research and writing and Art students taking the lead on designing the gallery's visual elements. As this course is part of the Liggett Shakespeare Project, students will collaborate with classmates in the Shakespeare: Dramaturgy course and the Liggett Players. Stagecraft students will be responsible for completing the production design and constructing some elements of the sets, props, and costumes. Special guests to the class will include professional designers and technical staff. Seniors who opt to complete all three parts of the Liggett Shakespeare Project (Dramaturgy, Stagecraft, and Production) in a single year may be approved to waive enrollment in ARP-12.

History: World War I		1.00	Active	US - 307	1.00	US Academic
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"The First World War killed fewer victims than the Second World War, destroyed fewer buildings, and uprooted millions instead of tens of millions - but in many ways it left even deeper scars both on the mind and on the map of Europe. The old world never recovered from the shock."- Edmond Taylor, in The Fossil Monarchies

This is a course about understanding the world we live in today by studying the past. World War I helped to shape many of the ideas and institutions we encounter in our everyday lives. This is not necessarily a course about war: the war will certainly play a prominent role in our class, but it is more about how humans respond to change, crisis, and tragedy. Learners will study soldiers, civilians, politicians, nurses, writers, artists, women, and many more different individuals and groups of people in a quest to understand the human condition through primary sources, academic articles and media. In this class, learners' own research interests are paramount. They will have an opportunity to study a topic and research question of interest in great depth, and share their understanding through a dynamic museum exhibition open to the public at the end of the course.

United States History		2.00	Active	US - 306	1.00	US Academic
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In this course, students consider the nature of the American experiment and exceptionalism by exploring the forces, themes and conflicts of United States history from the geographic and demographic origins of North America to the Cold War of the twentieth century. The course will establish a focus on place, specifically the local Detroit metropolitan area, as a significant mold for the raw material of people's lives and conditions. While utilizing a chronological framework, the human story - the interaction of individuals of all national origins, at all levels of society - will be studied. This examination includes close reading of source materials, artifact analysis, debates, point-of-view exercises, topical projects and essay writing. Students practice research skills throughout the course, and develop and defend a thesis in the second semester as part of a formal research paper.

Upper School *continued from previous page...*

History & Social Studies *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
World History		2.00	Active	US - 303	1.00	US Academic

In World History 9, students not only learn history, they learn to become historians themselves. Students learn to approach history as a jigsaw puzzle -- meaning can be constructed by identifying the individual parts and framing the boundaries. Students will use a variety of thinking tools and routines, such as considering causation, perspective, evidence, and argumentation. The course begins with an examination of the universe and world in which humans developed, then investigates the origins of society. Following that, the course looks at the first cities and empires, then the interregional webs that connected societies together. Lastly, the course examines the process of globalization and its effects on the world. This course adopts a multi-perspective, multi-geographical approach to history. Students will examine primary and secondary sources, participate in activities and simulations, and craft historical arguments and counter-arguments. This is not a course in memorizing dates and names!

Mathematics

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
Advanced Math Seminar: Combinatorics		1.00	Active	US - 756	1.00	US Academic

No description available.

Advanced Math Seminar: Logic & Proof		1.00	Active	US - 755	1.00	US Academic
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No description available.

Advanced Statistics		2.00	Active		1.00	US Academic
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Pre-requisite: Completion of Precalculus or Enrolled in Precalculus

Advanced Statistics introduces students to the world of data and statistical analysis. Students will explore four main themes in this course: exploring data, sampling/experimentation, probability, and statistical inference. Living in the age of big data, the course will allow students to utilize statistical analysis tools and technology to help support their individual research.

Algebra II/Trig		2.00	Active	US - 705	1.00	US Academic
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Prerequisite: Algebra I and Geometry, or departmental recommendation.

In this course, more advanced topics in algebra are introduced and examined, and the topics of trigonometry are studied comprehensively. Major emphasis is given to the extension of number concepts to include complex numbers and the extension of function concepts to include polynomial, exponential, logarithmic and trigonometric functions. Students will explore these concepts from algebraic, numeric, and graphic perspectives. A TI-83 or 84 graphing calculator is required. This course can be taken concurrently with geometry with departmental approval.

Algebra II/Trig Honors		2.00	Active	US - 780	1.00	US Academic
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Prerequisite: Algebra I and Geometry, and departmental recommendation

This course is the first honors course in the five-year accelerated program which begins with advanced algebra in the eighth grade and culminates in the study of Calculus Honors in the senior year. The more advanced topics of algebra are studied in depth and a thorough treatment of trigonometry is included. There is a strong emphasis placed on the study of functions, which is enhanced through the use of the required TI-83 or 84

Upper School *continued from previous page...*

Mathematics *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
graphing calculator. Application of skills to non-routine problems is stressed, and students are introduced to matrices and combinatorics.						
Calculus		2.00	Active	US - 710	1.00	US Academic
Prerequisite: Precalculus This course is designed to provide a solid foundation in both differential and integral calculus. Topics of study include limits and continuity, derivatives, techniques of differentiation, application of the derivative, integration, techniques of integration, and applications of integration to area and volume. Topics from algebra and trigonometry are reviewed where necessary. A TI-83 or 84 graphing calculator is required.						
Calculus Honors		2.00	Active	US - 712	1.00	US Academic
Prerequisite: Precalculus Honors, or departmental recommendation This course follows closely the syllabus for Calculus AB as prescribed by the Advanced Placement College Board program. Topics of study include limits and continuity, differentiation, integration, and the techniques and applications thereof. Additional topics such as partial fractions and L'Hospital's Rule will also be introduced, and topics from precalculus--inequalities, functions, trigonometry, and logarithms--will be reviewed as necessary. The course stresses the importance of critical thinking, and all problems will be approached from analytical, graphical, and numerical perspectives. A graphing calculator is required, and a TI-84 will be used for classroom demonstrations.						
Math I		2.00	Active		1.00	US Academic
This integrated math course incorporates a strategic interweaving of algebraic and geometric concepts with authentic connections among theory and application, algorithm, and mathematical practices, designed to naturally scaffold the learning of mathematics. The purpose of this course is to formalize and extend the mathematics that students learned in middle school with an emphasis on learning geometric concepts through algebraic application, reasoning and modeling. Students will reason, communicate, and make connections to prepare for mathematics throughout high school and beyond. This integrated math course prepares students to enroll in the next course in the sequence, Math II.						
Math II		2.00	Active		1.00	US Academic
This integrated math course incorporates a strategic interweaving of algebraic and geometric concepts with authentic connections among theory and application, algorithm, and mathematical practices, designed to naturally scaffold the learning of mathematics. The purpose of this course is to reinforce the concepts students learned in Math I while extending into more advanced topics in statistics, algebra, and trigonometry. Students will reason, communicate, and make connections to prepare for mathematics throughout high school and beyond. This integrated math course prepares students to enroll in the next course in the sequence, which is either Integrated Math III or Honors Pre-Calculus.						
Precalculus		1.00	Active		1.00	US Academic
No description available.						
Precalculus		2.00	Active	US - 707	1.00	US Academic
Prerequisite: Algebra II/ Trigonometry, or departmental recommendation						

Upper School *continued from previous page...*

Mathematics *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
The major concepts introduced in Algebra II/Trigonometry--properties of real and complex numbers; polynomial, logarithmic and trigonometric functions--are examined in greater depth. Conic sections, probability, and sequences and series are covered on a cursory level, and emphasis is placed on the connection of mathematical ideas to real-world situations. Students explore the concept of a limit and are introduced to the calculus operation of differentiation. A TI-83 or 84 graphing calculator is required.						

Precalculus Honors

2.00 Active US - 708 1.00 US Academic

Prerequisite: Algebra II/Trigonometry Honors, or departmental recommendation

This course includes an in-depth examination of coordinate geometry as well as polynomial, exponential, logarithmic and trigonometric functions. Conic sections, vectors, and polar coordinates are introduced and explored. In the second semester, sequences and series are studied as an introduction to the concept of limits, and students will complete the year with a brief look at differential calculus. Throughout the year, graphic solutions to non-routine problems will be explored through the use of the TI-83 or 84 graphing calculator.

Textbook: No textbook is required for this course; all supplementary materials will be provided by the instructor.

The Risk of Personal Finance

1.00 Active US - 714 1.00 US Academic

Prerequisite: Algebra II/Trigonometry

This course introduces students to the different types of mathematics that they will run into as a member of our society. The course starts with income tax information and learning about the IRS. It then moves to different retirement funds, what they are, and how to use them. The course will expose students to the different types of loans including but not limited to mortgages, car loans, lines of credit, credit cards, and student loans. The course will wrap up talking about lottery and casino odds. After this course, students will have a better understanding of the finances they will face in adulthood.

Scheduled Study

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
Structured Study Hall		1.00	Active		0.00	

US Structured Study Hall

The Upper School curriculum is supported through instruction to build skill connections and confidence in students. Support for core classes can include a review of concepts, review of assignment expectations, and time to work with the ability to receive guidance. Time management and planning for assignment completion will continually be modeled and prompted. Written expression will be enhanced using a workshop model in conjunction with the students' English, Science, and History classes using mini-lessons and reciprocal feedback for editing and revisions. Technology applications will be embedded throughout the class. Students will use technology tools that aid in the organization of ideas, organization of essay content, grammar, spelling, and note-taking.

Study Hall 1.00 Active US SH - 100 1.00

No description available.

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Scheduled Study *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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Science

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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Advanced Biology: Anatomy and Physiology		1.00	Active	US - 942	1.00	US Academic
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Prerequisite: Biology

This elective course in anatomy and physiology examines the structure and function of the human body and mechanisms for maintaining homeostasis within it. Students will explore body systems, such as the cardiovascular, respiratory, nervous, digestive, muscular, skeletal and reproductive.

Collaborative and individual in-depth research projects emphasize the integration of systems as they relate to health issues. Extensive laboratory exercises provide first- hand experience with the structures and processes.

Advanced Biology: Genetics		1.00	Active	US - 933	1.00	US Academic
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Prerequisite: Biology

The key ideas and modern applications of genetics will be addressed in this elective class. Lab investigations and active reading of journal articles provide students with the scientific basis for understanding issues relating to genetic engineering - including gene manipulation, gene cloning, recombinant DNA technology, gene therapy and genetic modification. Through collaborative and individual in-depth research projects, students may explore topics such as human development, cloning, stem cell research, DNA fingerprinting, genetic basis of disease, agricultural crop breeding, reproductive technologies, and the conservation of genetic diversity in nature.

Advanced Biology: Immunology		1.00	Active		1.00	US Academic
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Immunology is the study of the immune system: a combination of biological structures and processes that protect our bodies from disease. This lab-based elective course examines the molecular and cellular interactions and principles of the immune system. Topics include innate immunity, adaptive immunity, antibody structure, viruses, vaccinations, allergic reactions, autoimmune diseases, and cancer immunology.

Advanced Chemistry I: Solutions and Equilibrium		1.00	Active	US - 937	1.00	US Academic
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Prerequisites: Chemistry Honors and recommendation of department chair

Students will begin with an investigation of physical equilibrium concepts as well as advanced topics in solution chemistry including boiling point elevation, freezing point depression, distillation, colligative properties, and colloids. Students will then calculate rate constants and rate laws, look at how the rate constant can be changed through different methods, and how elementary steps of a reaction lead to an overall rate law. The semester will end with an introduction to the equilibrium constants K_c and K_p , Le Chatlier's principle, and the factors that influence the equilibrium point of a reaction.

Advanced Chemistry II: Energy and Oxidation Reduction Reactions		1.00	Active	US - 944	1.00	US Academic
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Prerequisites: Solutions and Equilibrium and recommendation of department chair

Students will investigate acid base equilibria, as well as percent ionization, buffer solutions and titrations. They will study how equilibrium affects the

Upper School *continued from previous page...*

Science *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
behavior of acids and bases in solution, and will be able to tell the difference between K_a and K_b and understand how this value affects the pH of a solution. The final portion of the equilibrium section will focus on molar solubility of compounds and how that can be affected by either pH or the formation of complex ions. Students will then discuss the three Laws of Thermodynamics, as well as how Gibbs Energy relates to the formation of different compounds. We will construct calorimeters and begin the understanding of how energy is transferred between objects as well as how energy is transferred between a reaction and objects surrounding the object; finally looking at how Gibbs Energy affects the equilibrium of a reaction. During the electrochemistry portion of the class, students will look at how reduction/oxidation reactions can be harnessed as electrical power. The students will investigate concentration cells as well as different types of batteries, including dry cell, lead storage, and fuel cells. The semester will conclude with an introduction to polymer chemistry.						
Advanced Physics II: Electricity and Magnetism		1.00	Active	US - 946	1.00	US Academic
Prerequisite: Physics Honors or Classical Mechanics with concurrent Calculus and physics teacher recommendation This course will introduce and elaborate on concepts in electricity and magnetism. Students will collaboratively explore concepts such as Coulomb's Law, Gauss' Law, electric potential and electric potential energy, capacitance, combination circuits, magnetic fields, and electromagnetism through inquiry-based investigation and problem-solving. Students will apply their knowledge in the lab with a significant amount of electronics. This course will require significant use of trigonometry, complex algebraic problem solving techniques, computational coding, and differential and integral calculus. The course content will promote growth of science skills in modeling, collaborating, investigating, coding, technical reporting, and engineering solutions.						
Advanced Physics: Calculus-Based Mechanics		1.00	Active	US - 938	1.00	US Academic
Prerequisites: Physics Honors or Classical Mechanics, Calculus (can be taken concurrently) and recommendation from department chair. Calculus Based Mechanics more fully develops the concepts covered in Classical Mechanics and the first semester of Physics Honors. The pace is fast, and the use of calculus is integral. Through collaborative lab and problem-solving, and computational coding, students explore the mechanics concepts of one and two-dimensional motion, Newton's Laws of motion, Mechanical Energy, Momentum, Rotational Motion, Rotational Kinematics, Simple Harmonic Motion and Gravitation. The course content will promote growth of science skills in modeling, collaborating, investigating, coding, technical reporting, and engineering solutions.						
Biology		2.00	Active	US - 960	1.00	US Academic
Students enrolled in this course will study cell biology, biochemistry, genetics, evolutionary theory, and anatomy. Although focusing on human life, students will be introduced to other organisms that share our planet. The structure of the course is organized by biological systems to provide students with the opportunity to make connections between micro and macro-biology. Additionally, students are introduced to upper level science lab techniques and refined research and scientific writing skills. The course is taught using the active learning model which focuses on individual responsibility and collaboration to maximize engagement.						
Chemistry		2.00	Active	US - 915	1.00	US Academic

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Science *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
<p>This course is designed for students to investigate the concepts of chemistry through skills-based learning. Learning will be tracked in the five core science skills: I can investigate, I can solve, I can collaborate, I can communicate and I can reflect. Students will practice these 5 skills through the study of chemistry. Topics covered include: matter, scientific measurement, particle motion, describing substances, internal structure of particles, chemical reactions, counting particles, stoichiometry, the nucleus, and beyond the nucleus. Laboratory investigations, simulations, and projects entailing research, creativity, and applications will enhance understanding of the above topics.</p>						
Chemistry Honors		2.00	Active		1.00	US Academic
<p>Prerequisite: Biology, concurrent Honors Algebra II/Trig and departmental recommendation This course is offered primarily to sophomores who have taken Biology and who are seriously considering pursuing a science-related major in college. Topics covered include: the kinetic theory of gases, chemical formulas and stoichiometry, energy, the Periodic Table, quantum theory, molecular structure and bonding, solutions, double displacement and oxidation-reduction reactions, and an introduction to chemical thermodynamics. Laboratory investigations and projects entailing research, creativity, and applications will enhance understanding of the above topics. This course is strongly recommended for students who are planning to take Physics Honors and/or chemistry electives.</p>						
Computer Science		1.00	Active	US - 941	1.00	US Academic
<p>Computer science is a broad category of computing applications. The topics of study will include the internet, digital information exchange, programming, big data, and application development. The course content will promote growth of science skills in modeling, collaborating, investigating, coding, technical reporting, and engineering solutions. Students will build an understanding and an appreciation of how computer science is applied to shape their world. Students will explore positive and negative effects of technology use and big data applications to build a well-rounded understanding of how technology affects individuals, relationships and society. Students will learn Javascript and Python programming languages. Students will work in teams to design, develop and publish meaningful coding projects and applications. This course is intended for students who wish to explore the field of computer science and develop refined computer programming skills. Previous coding experience is not required.</p>						
Environmental Science		1.00	Active	US - 932	1.00	US Academic
<p>The focus of this course is to develop the skills necessary to understand the science behind current environmental issues and apply that understanding to the development of viable, attainable solutions. In order to develop the skills necessary to think and act as an environmentalist, students will generate hypotheses, design and execute laboratory experiments, analyze data and communicate their findings. During the course students will explore the dynamics of healthy ecological systems, foundational ecology. Students will explore how human interactions with the environment have altered and shaped the world around us. Students will have the opportunity to conduct field research and investigative labs during this course.</p>						
Forensic Science and Biotechnology I		1.00	Active	US - 939	1.00	US Academic
<p>Prerequisite: Biology and Chemistry</p> <p>Forensic Science is the application of science investigation to the criminal justice system. Through pattern recognition and analytical testing, evidence collected can be used to help paint the picture of truth. In this course, students will discover the basics of crime scene investigation, including crime scene</p>						

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Science *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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processing and evidence analysis. This course will study famous criminal cases as we move through each unit. The type of evidence analysis focused on this semester will be more tailored to pattern recognition and physical science such as fingerprints and blood spatter. Students will analyze or create mock crime scenes in order to test their skill.

Forensic Science and Biotechnology II		1.00	Active	US - 940	1.00	US Academic
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Prerequisite: Biology, Chemistry

This course focuses on the analytical approach of biological and chemical evidence and how it is used in crime scene or death investigations. You do not need Forensic Science & Biotechnology I to take this course, however, there will be a heavy emphasis on your biology and chemistry knowledge. We will examine different scientific techniques used to analyze biological/chemical evidence and their documentation. Some essential questions we will cover include: How has DNA impacted the field of forensic science? What is a controlled substance? How has the opioid crisis affected crime scene protocols? What makes a substance toxic? How are medical examiners able to determine time of death? And many more. There is also a possibility we will visit the Oakland County Medical Examiner's Office.

Fundamentals of Chemistry		2.00	Active		1.00	US Academic
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This course focuses on foundational chemistry skills and concepts. The real world applications of each topic will be explored as well as how concepts connect to one another.

Geology		1.00	Active	US - 936	1.00	US Academic
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Prerequisite: Biology

Geology is an introductory course covering materials and structure of the Earth and the processes acting on and, in the Earth, to produce change. This course will build on the science skills focused on by other science department courses with a heavy focus on Using/Interpreting Models, Scientific Reasoning, Communication, including assessment on Reflection/Metacognition. Topics include rocks & minerals, geologic history/time, weathering, erosion, plate tectonics, fossils, mountain building, earthquakes, volcanos, with a special focus/view of using Michigan geology as our model to understand geologic processes when applicable. Throughout the course, students will be asked to keep physical specimens of rock types & minerals to showcase skills learned in the lab through an interview with the instructor at the end of the semester. Students will also be able to explore a geologic interest independently and present it in a format that they choose; research/lab paper, poster, video, podcast, presentation, etc.

Kinesiology: Biomechanics		1.00	Active		1.00	US Academic
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Prerequisite: Biology

In Kinesiology: Biomechanics, students will have the opportunity to study human movement from a variety of perspectives. This section will focus on the biomechanics of the human body, anatomy of the skeletal system joints, and movement. Injury prevention, rehabilitation, and sports medicine topics will also be examined. The content of this course will also help promote skills used when commonly exploring or treating the human body and how the numerous systems of the human body work together to create movement and to repair itself. The topics used to develop these skills will include a deeper understanding of anatomy and medical terminology, what an undergraduate kinesiology program entails, and studies in injury

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Science *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
<p>prevention. Students will deepen their understanding of the human body through studies on its systems, and applying this knowledge to procedures such as preventive injury exercises (stretching, understanding range of motion). Nutrition and its role in sports and lifelong health will also be examined.</p>						
Kinesiology: Exercise Physiology & Motor Control		1.00	Active		1.00	US Academic
<p>Prerequisite: Biology</p> <p>In Kinesiology: Exercise Physiology & Motor Control students will have the opportunity to study human movement from a variety of perspectives. This section will focus on exercise physiology and how hormones, cardiovascular health, and metabolism are impacted by varying degrees of daily and athletic activities. Other units include health and fitness, and motor control/development. The content of this course (similar to Kinesiology: Biomechanics) will help promote skills used when commonly exploring or treating the human body and how the numerous systems of the human body work together to create movement and to repair itself. The topics used to develop these skills will include a deeper understanding of anatomy and medical terminology, what an undergraduate kinesiology program entails, and necessary injury treatment and prevention. Students will deepen their understanding of the human body through studies in exercise physiology, physical therapy, occupational therapy, and biomedical research. Students will also have the opportunity to research the different ways neural and behavioral mechanisms impact human body movement over the lifespan of all people.</p>						
Physics Honors		2.00	Active		1.00	US Academic
<p>Prerequisite: Chemistry Honors, Pre-calculus Honors and recommendation of department chair</p> <p>This course offers a study of fundamental physical concepts such as mechanics, kinematics, oscillatory motion, electricity and magnetism, and modern physics in greater depth than that presented in the regular physics courses. It is intended for students who are very able in mathematics, and who have demonstrated outstanding ability in science courses at Liggett. The course content will promote growth of science skills in modeling, collaborating, investigating, coding, technical reporting, and engineering solutions. Collaborative laboratory work, mathematical problem solving, engineering projects, and computational coding are the main methods of exploring the topics. This course fulfills the physics graduation requirement.</p>						
Physics: Classical Mechanics		1.00	Active	US - 901	1.00	US Academic
<p>Prerequisite: Chemistry and recommendation of department chair</p> <p>This physics course introduces the fundamental concepts of forces and motion, including the study of one and two-dimensional motion, Newton's Laws, momentum, mechanical energy, and oscillation. The course content will promote growth of science skills in modeling, collaborating, investigating, coding, technical reporting, and engineering solutions. Experiments, discussions and projects in this class will cover topics such as static structures, projectile motion, force vectors, collisions and rollercoasters. Students will computationally code physics in Python to further understanding of mathematical models and develop useful technical skills. Students should have a working knowledge of algebra, specifically rearranging equations to solve for an unknown variable, solving systems of two unknowns and two equations, geometry and right triangle trigonometry. This course fulfills the physics graduation requirement.</p>						
Physics: Light, Optics & Astronomy		1.00	Active		1.00	US Academic

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Science *continued from previous page...*

Course	Course Abbreviation	Course Length	Status	Course Code	GPA Weight	Grade Plan
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Light has been the sole source of information from the cosmos for humans until the recent addition of gravitational wave measurement. Light, in all bands of the electromagnetic spectrum, continues to be the most important source of data from outside our planet. We will explore the nature of light, how it can be used in optics, and how light and gravitation are used in astrophysics to understand our Universe. The course content will promote growth of science skills in investigation, solution design, collaboration, metacognition and communication. Students will build an understanding and an appreciation of how physics shapes the cosmos, how. The course will have an element of project-based learning, with students designing projects and assessments to create a meaningful personalized pathway for exploring our topics.