



CATS Academy Boston

Program of Studies

2026-27





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Our Mission Statement

CATS Academy Boston offers an American co-educational college preparatory boarding and day program (grades 8 - Postgraduate) for domestic and international students who are linguistically, culturally, and academically diverse.

Focusing on the needs of everyone, the Academy helps students realize their full potential and attain admission to the college choice that is right for them. CATS Academy provides a supportive learning community where all students receive the necessary guidance to achieve their goals, aided by a personalized learning plan.

CATS Academy Boston prepares talented, globally minded students to realize their full potential through a personalized education that strengthens English fluency, cultivates critical and creative thinking, and supports each student's path to college and beyond. Within a diverse and supportive community, our students grow into confident learners, compassionate peers, and ethical leaders ready for a global future.

CATS Academy Boston works to empower every student to discover their strengths, embrace challenges, and shape their future with clarity, purpose, and confidence—starting here, going anywhere.



Graduation Requirements

CATS Academy Boston's academic program is arranged around required core courses and a range of electives. In order to graduate, students will be expected to have completed the following at minimum:

- English Literature - 4 years
- Mathematics - 4 years (including Algebra II)
- ESL (English as a Second Language) - up to 4 years (for non-native speakers)
- World Languages - 3 years (for all native English speakers)
- Science - 3 years (including 2 years of a lab science)
- Social Sciences/History - 3 years (including one year of US History)
- Arts and/or Technology - 1 year

Honors and Advanced Placement (AP) Courses

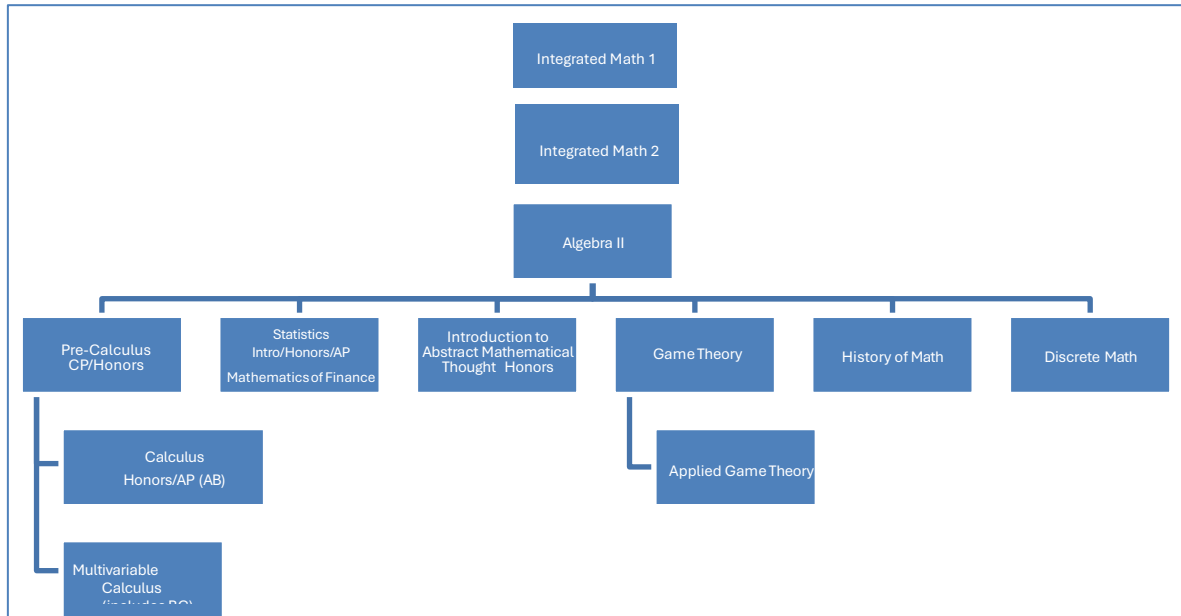
Honors courses offer highly motivated students an opportunity to study a specific course in greater depth and at a faster pace. Students in Honors courses are expected to produce more work and to develop higher level critical thinking skills.

Advanced Placement courses are college level courses that prepare students to take College Board exams in May to establish advanced placement in college courses or credit toward a college degree. Department approval is required for enrollment in Advanced Placement courses. Most American universities take AP results into consideration in the admissions process. Course offerings are subject to change.

CATS Academy offers the following Advanced Placement courses:

- AP English Language and Composition
- AP English Literature and Composition
- AP Biology
- AP Chemistry
- AP Physics C: Mechanics
- AP Calculus AB
- AP Computer Science A
- AP United States History
- AP World History
- AP Macroeconomics
- AP Microeconomics

Progression Chart



Notes:

- All students must take four years of Mathematics.
- Students must complete Algebra II as a graduation requirement.
- Once they have completed Algebra II, they can choose from the six elective strands, in any order or simultaneously.

Academic Course Selection & Scheduling Process

February/March

- Department Chairs and teachers discuss placement for returning students in core courses: English, Social Science, Science, Mathematics, ESL/World Language

April

- Students review core academic placement with Advisors
- Students choose electives for the upcoming fall/spring semester with Advisors

May

- Requirement review of core courses completed by Academic Office

June

- Master Schedule designed by Academic Office

July/August

- New students interview with Faculty/Department Chairs regarding course placement & electives (electives are based on seniority & schedule availability)
- All student schedules are created

September

- Class schedules finalized by beginning of school year

Courses 2026-2027

Arts

Performing Arts

Acting (Semester course offered fall or spring, or both)

No pre-requisite

The purpose of this course is for students to develop an understanding and appreciation of the art of acting through a study of improvisation, textual analysis, character analysis, active listening, and games. Students will learn the fundamentals of acting through improv games and performing a contemporary piece of theater using acting skills practiced in class.

Advanced Acting (Semester course offered fall or spring, or both)

Pre-requisite: Intro to Acting or audition and permission of Instructor.

The purpose of this course is to expand student's understanding and appreciation of the art of acting through study of advanced improvisation, textual analysis, character analysis, the Miesner technique, the Hagen technique, and the Stanislavsky system! This class will focus on emotional realism, with a significant emphasis on truthfulness in performance. Students will be asked to apply that core truthfulness to a variety of contexts that the contemporary working actor contends with. This course will ask students to continue to make the transition away from reliance on the classroom context to prepare their scenes and monologues, further developing the skill set and autonomy necessary to become professional actors.

Cinema Arts (Semester course offered fall and spring)

No pre-requisite

The purpose of this course is to expand students' understanding and appreciation of the art of cinema through a study of cinematography, composition, editing, sound, special effects, film genre, screenwriting, acting, and directing. In this class we will view, analyze, and discuss a number of films that represent the highest achievement of the art form.

Dance (Semester course offered fall and spring)

No pre-requisite

The purpose of this course is for students to learn fundamental dance techniques, discover styles of dance, and experience performing as an ensemble for an audience of teachers and peers. Students will focus on the fundamentals of three different dance styles: Ballet, Jazz, and Creative Dance. Students will learn foundational techniques, refine their work, and present their work in a show open to the school community.

Music

Piano (Semester course offered fall and spring)

No pre-requisite

Piano provides students with training in basic piano technique, musical notation, and music appreciation. This course is designed to develop skills both individually and in small groups. Students will have the opportunity to explore repertoire from different cultures and historical periods as they learn the basics of note reading and performance techniques. A command of the basic elements of music is developed through exercises in performance, composing and arranging. Students need no prior experience playing the piano to enroll in Piano.

Guitar (Semester course offered fall and spring)

No pre-requisite

Guitar provides students with training in basic guitar technique, music theory, musical notation, and music appreciation. This course is designed to develop skills both individually and in small groups. Students will have the opportunity to explore repertoire from different cultures and historical periods as they learn the basics of note reading, guitar tablature, and performance techniques. A command of the basic elements of music is developed through exercises in performance, composing and arranging. Students need no prior experience playing the guitar to enroll in Guitar.

Music Technology and Production (Semester course offered fall and spring)

Pre-requisites: ESL Level 3 or higher

Music Technology and Production is designed to allow students to explore audio design, music composition, audio manipulation, and music production. Students will be able to express their creativity and gain a deeper understanding of music through the use of DAWs (Digital Audio Workstations), notation software, and various other applications. Students will develop the skills to create and edit audio projects and produce musical compositions using current technology.

Percussion Lab (Semester course offered fall)

Percussion Lab is a course designed to afford students an opportunity to engage in experiential learning using various percussion and rhythmic instruments. Percussion instruments utilized will be drums (djembe, Surdo, Timbale, Drum set) handheld percussion (tambourines, tar, shakers, claves, guiro etc.) and in certain cases bass, guitar, piano and voice. Ensemble playing, rhythmic accuracy, listening skills, and improvisational techniques will be explored. This class will focus on expanding students' musical abilities, cultural awareness, and rhythmic vocabulary through individual learning and group music making experiences. The percussion techniques of various cultures will

be explored through traditional rhythms and ensemble playing, as well as through emulation of modern and popular styles.

Performance Ensemble (Semester course offered spring)

Pre-requisites: Instrumental Audition and Instructor approval

The Performance Ensemble will consist of learning and performing pieces of contemporary music in an ensemble setting. Students are expected to have a certain level of instrumental or vocal proficiency to join the class. Rhythm section roles as well as improvisation will be explored. Recreation of existing music will serve as a basis for developing further musical vocabulary. Music will be taught in a variety of ways including notation, tablature, ear training, and developmental exercises.

Visual Arts

Illustration (Semester course offered fall and spring)

Pre-requisite: Basic drawing and painting skills encouraged

This class explores commercial illustration methods and emphasizes creating a visual narrative through the depiction of expression, figures in action, and the illusion of space in an effort to evoke the viewer's emotions. Media used in this class include pen and ink, colored pencils, watercolor paint, and marker. Lessons in figure drawing, perspective, composition, and color theory will be covered in class.

Creating Comics (Semester course offered fall and spring)

No pre-requisite

This course is an introduction to creating comics. Students learn effective visual storytelling techniques, how to compose a comic page, and how to create a visually entertaining story. Traditional materials such as pencil and ink are used to develop comic illustrations. Students work from assigned scripts and write and draw their own five-page comic. Creative writing, composition, anatomy, and fine art drawing skills are developed as students explore the art of creating comics.

Figure Drawing (Semester course offered fall and spring)

Pre-requisite: Instructor's approval

This course introduces students to the fundamentals of drawing the human figure through observation and practice. Students will explore proportion, gesture, anatomy, line, form, and movement while developing their ability to capture the structure and character of the figure. Students will also learn how clothing fits, moves, drapes, and creases. The goal of this course is to give students the tools they need to confidently draw the human figure for illustration, comic, painting, and/or fashion.

Graphic Design (Semester course offered fall and spring)

No pre-requisite

The purpose of this course is to introduce students to elements of graphic design. Students utilize computer programs from the Adobe Creative Cloud such as Photoshop and Illustrator. Class projects include poster design, photo manipulation, logo design, and creating a business identity. Students learn valuable skills in color, composition, and typography and the importance these have on creating eye-catching design.

Introduction to Drawing (Semester course offered fall and spring)

No pre-requisite

Introduction to Drawing is a studio course that introduces students to the comprehensive visual language of drawing. Various projects and presentations expose students to numerous drawing approaches, including ways of structuring the picture plane, creating believable space with linear perspective, and modelling form with shading. Students apply these skills to idea generation, form development, experimental variations on a design, investigative studies of creative problem solving, and expressions of movement and spatial illusion. Students will learn and practice the vocabulary and terminology of the medium.

Introduction to Painting (Semester course offered fall and spring)

No pre-requisite

The purpose of this course is for students to explore, experiment, and become familiar with the medium of paint. They build skills of observation through painting from observation, and learn to create form, volume, space, and materiality of objects through paint. Students build an understanding of the properties of color, composition, mark-making, and perspective. They develop an understanding of basic art and design terminology and use the vocabulary to express visual ideas and concepts.

Advanced Painting (Yearlong)

Prerequisite: Intro Painting or permission of instructor

The purpose of this course is to explore, experiment, and become familiar with the various methods of process available within the framework of painting and its related practices and achieve a level of mastery of techniques. Students will explore the possibilities of mark making, shape arrangement, patterns, layers, and composition to build imagery and portray space, form, representation, and abstraction. They will further explore, practice, and discuss the vocabulary related to the expression of visual ideas and concepts.

Printmaking (Semester course offered fall and spring)

No pre-requisite

The purpose of this course is to explore, experiment and become familiar with the various methods of printmaking. In this survey course, students learn a variety of print methods, including monotype, collagraph, linocut relief, screen-printing, and etching. Students will explore the possibilities of each method and experiment with combining two or more methods. Students will gain a well-rounded understanding of the most popular methods of making prints, and develop a vocabulary of the terminology of the medium.

Introduction to Sculpture (Semester course offered fall and spring)

No pre-requisite

The purpose of this course is to explore, experiment, and become familiar with the various methods and materials available within the framework of sculpture and its related practices. Students will explore the possibilities of varied materials, and experiment with combining materials in a single sculpture. They will learn to consider all aspects of a sculptural object; the view from all sides, materials used, quality of craftsmanship, and conceptual context. Students will learn to express their ideas with the vocabulary and terminology of the medium.

CSVPA Portfolio Development (Yearlong)

Pre-requisite: Portfolio Review and teacher approval

Through studio assignments, practice, application of design concepts, and informed decision-making, students assemble a body of artwork that demonstrates a high level of quality and growth over time of content, technique, and process. Students develop mastery in concept, composition, and execution. All students enrolled in this section of CSVPA Studio Art will have the opportunity to work in depth within the media of painting and drawing. This course is designed to aid students with preparing a high-quality portfolio for submission to art schools or university.

Fashion

Introduction to Fashion (Semester course offered fall, spring or both)

No pre-requisite

The purpose of this course that teaches students to express themselves through creativity and design of apparel. Through studio assignments, practice, application of design concepts and informed decision-making, students assemble a body of work that demonstrates a high level of quality and improvement. Students develop mastery in concept, composition, and execution. All students enrolled in Introduction to Fashion will have the opportunity to work in depth within the media of drawing, sewing, and garment

construction. This course is designed to aid students with learning how to be confident in their work, decision making skills, and artistic abilities.

Advanced Fashion (Yearlong)

Pre-requisite: complete Intro to Fashion and/or teacher approval

In Advanced Fashion, students learn to express themselves through the development of a cohesive fashion collection. Through studio assignments, practice, application of design concepts, and informed decision-making, students assemble a body of work that demonstrates a high level of quality and growth over time of content, technique, and process. Students develop mastery in concept, composition, and execution. All students enrolled in CSVPA Advanced Fashion will have present their collection to the school community in a fashion show at year's end. In addition, students will develop portfolios for college applications and industry experience.

Costume Design (Semester course offered fall, spring or both)

No pre-requisite

The purpose of this course is to teach students about the theatrical costume design industry. They will practice how light, sound, and production can influence design. Through studio assignments, practice, application of design and theater concepts, collaborations, and informed decision making, students will assemble a body of costumes and other clothing items that demonstrates a high level of quality and growth in content, technique, and process. All students enrolled in Introduction to Costume Design will have the opportunity to work in depth within the media of drawing, sewing, theater research, and garment construction. Final projects will be showcased in the spring musical production for the school community to see and enjoy.

English Literature

Literature 1 - 4 are available at both the College Prep and Honors levels. Honors courses are designed for students seeking a more advanced academic experience and typically require greater background knowledge. These classes move at an accelerated pace, explore additional content in greater depth, and set higher expectations for independent thinking, analysis, and academic performance compared to College Prep courses.

AP Language and Composition (Yearlong)

Pre-requisites: Returning students: A- or higher in Literature 3: Independence Honors; a sample of analytical writing submitted to the English Department Chair; completion of significant summer assignment; approval of the previous instructor. New students: approval of English Department Chair based upon placement test scores and previous English grades.

AP English Language and Composition prepares students to become skilled readers of complex prose and purposeful writers across a range of rhetorical situations. Students analyze nonfiction texts to evaluate an author's purpose, audience, and use of rhetorical strategies, while composing their own writing for varied purposes and contexts. The course emphasizes close reading, critical thinking, and evidence-based argumentation, aligning with college-level expectations for analytical writing and discussion. Students read *Between the World and Me*, *Narrative of a Slave*, *The Fire Next Time*, *Beloved* and *Citizen*, along with a curated list of poems, articles and essays.

AP Literature and Composition (Yearlong)

Pre-requisites: Returning students: A- or higher in Literature 3: Independence Honors; a sample of analytical writing submitted to the English Department Chair; completion of significant summer assignment; approval of the previous instructor. New students: approval of English Department Chair based upon placement test scores and previous English grades.

AP English Literature and Composition focuses on the close analysis of fiction, drama, and poetry, requiring students to interpret how meaning is shaped through structure, style, language, and theme. Students engage with challenging literary works and develop sophisticated analytical writing that addresses complexity, ambiguity, and multiple interpretations. The course emphasizes sustained textual analysis, command of literary terminology, and revision of ideas, preparing students for advanced academic study and lifelong engagement with literature. Students read *The Things They Carried*, *Metamorphosis*, *Hamlet* and *Frankenstein*, along with a curated list of poems and short stories.

English Skills (Yearlong)

No pre-requisite

The English Skills course introduces students to the foundational practices of literary study, with an emphasis on close reading, academic writing, and evidence-based interpretation. Students learn basic literary terms and apply them to a range of texts while developing strategies for reading with attention to language, structure, and meaning. They also build their reading fluency and pronunciation.

The course emphasizes the interconnected nature of reading, writing, thinking, and discussion, helping students build confidence as emerging literary thinkers. Through guided analysis and structured writing tasks, students learn to support interpretations with textual evidence and to articulate ideas clearly in both written and oral forms.

Texts may include selections from *Brown Girl Dreaming*, novels from the *Harry Potter* series, *The Girl Who Loved Tom Gordon*, and *The Hunger Games*, along with selected short stories and poetry.

Literature 1: Society and the Individual (Yearlong)

Literature 1: Society and the Individual introduces students to academic literary analysis and formal writing, with a focus on how literature explores the relationship between individuals and the societies they inhabit. Students learn to apply literary terms, develop interpretive claims, and write analytical responses in MLA format, grounding their ideas in close textual evidence. Through the study of modern texts, students examine issues of responsibility, identity, and choice, using literature as a lens for understanding both society and their own roles within a global community. The course emphasizes critical thinking, structured discussion, and revision of ideas as students encounter texts that resist simple interpretations. Core texts may include *Long Way Down*, *The Curious Incident of the Dog in the Night-Time*, and *Unwind*, as well as a selection of short stories and poems.

Literature 2: Journeys (Yearlong)

This course examines physical, emotional, and spiritual journeys in literature, emphasizing how authors use narrative structure, character development, and symbolism to convey meaning. Students continue to build essential literary vocabulary while advancing from comprehension to sustained textual analysis. The course integrates close reading, analytical writing, and academic discussion, encouraging students to interpret complex texts and consider multiple perspectives. Public speaking assignments require students to present interpretations supported by textual evidence, helping them develop confidence and clarity in oral communication. Texts may include *The Odyssey*, *The Body*, *Chronicle of a Death Foretold*, *Things Fall Apart* and selected short stories and poems.

Literature 3: Independence (Yearlong)

Literature 3: Independence explores the theme of independence through texts that examine personal freedom, cultural identity, and self-determination, particularly within

American and American-influenced traditions. Students analyze how literature reflects and challenges the ideas that shaped movements such as the American Revolution and Transcendentalism. The course emphasizes analytical independence, asking students to formulate original interpretations, evaluate competing perspectives, and support claims with close textual evidence. Writing projects require students to engage deeply with complexity and ambiguity while refining their academic voice. Texts may include *American Born Chinese*, *The Joy Luck Club*, *Being Henry David*, *The Great Gatsby*, as well as selected poems and short stories.

Literature 4: Critical Lenses (Yearlong)

Literature 4: Critical Lenses focuses on advanced literary analysis through the application of critical lenses, including feminism, Marxism, and psychoanalysis. Students examine how different interpretive frameworks shape meaning and evaluate the strengths and limitations of each lens when applied to complex texts. Through close reading, analytical writing, and discussion, students analyze authorial choices, rhetorical strategies, and thematic development, preparing them for college-level literary study. Emphasis is placed on constructing nuanced arguments, engaging multiple perspectives, and revising interpretations in response to evidence. Texts may include *A Midsummer Night's Dream* (feminist lens), *Dr. Jekyll and Mr. Hyde* (psychoanalytic lens), *Animal Farm* (Marxist lens) and *Frankenstein* (students choose the lens) as well as selected poems and short stories.

Literature 1 Honors: Society and the Individual (Yearlong)

Literature 1 Honors: Society and the Individual builds students' skills in academic literary analysis through the thematic exploration of how individuals and societies interact. Students examine novels that foreground different kinds of protagonists, each modelling a different relationship between the individual and society: the ethical protagonist, the heroic protagonist, the poetic protagonist, and the dystopian protagonist. Students learn to apply literary terms, develop interpretive claims, and write analytical responses in MLA format, grounding their ideas in close textual evidence. Through the study of modern texts, students examine issues of responsibility, identity, and choice, using literature as a lens for understanding both society and their own roles within a global community. Core texts may include *Long Way Down*, *A Christmas Carol*, *The Curious Incident of the Dog in the Night-Time*, and *Unwind*, as well as a selection of short stories and poems.

Literature 2 Honors: Journeys

Literature 2 Honors: Journeys students read and analyze texts from around the world to explore commonalities across cultures and examine universal truths about human nature. Through these readings, students learn to identify the underlying meaning of a text and to consider where their own self-identities reside. Writing assignments focus on narrative, informative, analytical, and persuasive skills, while multiple presentations give students the opportunity to practice their English-speaking skills and build confidence. Once these world literature concepts have been sufficiently explored, they are placed alongside

contrasting perspectives. Texts may include *The Odyssey* by Homer (translated/edited by Emily Wilson), *The Body* by Stephen King, *Chronicle of a Death Foretold* by Gabriel García Márquez, and *Things Fall Apart* by Chinua Achebe.

Literature 3 Honors: Independence

Literature 3 Honors: Independence challenges students intellectually and emotionally by examining complex dimensions of independence, self-discovery, social alienation, and personal development through literature. The course emphasizes analytical independence, asking students to formulate original interpretations, evaluate competing perspectives, and support claims with close textual evidence. Students also learn about major movements in American literature and how they contribute to an ongoing dialogue about American identity. Texts may include *The Crucible*, *Citizen*, *Song of Myself and Other Poems*, *The Great Gatsby*, and *Brave New World* as well as many poems, essays and short stories.

Literature 4 Honors: Critical Lenses

Literature 4 Honors: Critical Lenses focuses on elevating literary analysis through the application of the critical lenses of feminism, Marxism, and psychoanalysis to canonical texts in English. Students become more sophisticated readers, more eloquent speakers, and more authentic writers of the English language by learning about how critical lenses open up new perspectives in textual analysis. The course helps develop critical thinking and analytical skills by encouraging students to focus on multiple meanings and various interpretations of text. Students study literary movements and understand the defining characteristics of each while learning new vocabulary and concepts that make their literary analyses deeper and more sophisticated. Texts may include *A Midsummer Night's Dream* (feminist lens), *Dr. Jekyll and Mr. Hyde* (psychoanalytic lens), *Animal Farm* (Marxist lens) and *Frankenstein* (students choose the lens) as well as selected poems and short stories.

Science-Fiction: What the Future Says About Today and Yesterday (Semester course)

Pre-requisites: ESL Level 3 or higher

Our imagination has shaped the world we live in and will determine what the world of tomorrow will look like. Science-Fiction harnesses that imagination and has given us laws and technology. Science-Fiction has given us dire warnings and utopias to strive for. It has given us reasons to be afraid and reasons to hope. This course will examine the Science-Fiction genre in film and literature using multiple lenses and we will analyze how these fictional stories have had real-world effects. For the duration of this course, students will engage in meaningful discussions, philosophical debates, deep-dive analysis, and be able to express themselves creatively.

World Mythology: The Lore of Humanity and the Gods We Make (Semester course)

Pre-requisites: ESL Level 3 or higher

One of the defining traits of humanity is curiosity. The desire to *Know* has driven humanity from the Stone Age to the Modern Era. The mortar that fills in the gaps of our knowledge

and keeps our society together are the stories we tell each other. The stories we tell about the world we live in has shaped the course of society from campfire to 8K screens. This course will examine the myths and legends from around the world using multiple lenses and analyze the specific effects they have had on societies across history. Students will engage in meaningful discussions, deep-dive analysis, extensive research, and build on and continue to develop skills that are integral to their educational success.

Creative Writing (Semester course)

Pre-requisites: ESL Level 3 or higher

Creative Writing encourages students to find their own voice and write authentically in it. Students read a wide range of published creative writing and discuss how it works: how writers use language, rhythm, images, and structure to express something powerful and surprising in perfect clarity. These readings aren't about finding the "right answer" but about noticing what makes a poem, story, or essay concrete and tangible to the reader. Students also write their own poems, stories, and essays. They experiment with different techniques and share their drafts in a supportive workshop setting. By the end of the course, students have produced polished work in multiple genres, and they have learned about the art of submitting their own work for publication.

English as a Second Language (ESL)

English Conversation (Yearlong)

Prerequisites: Test results for ESL Level 2 using a secure placement test administered by CATS Academy Boston.

The English as a Second Language (ESL) Level 2 course is specifically designed for international students who are at a HIGH BEGINNING comprehension level of the English Language and who plan to continue with their education in a US/UK university/college, where English is the medium of instruction. Using the latest technology, the students focus on learning English for communication purposes including vocabulary, grammar, pronunciation, reading, and listening comprehension, writing, and speaking.

Students practice new vocabulary while interacting in class or working on individual or group research projects. The course uses the textbook "American English File" (Listening and Speaking and Reading and Writing) with the on-line component by Oxford University Press. It is supplemented by original streaming news, authentic audio and video resources, and publications that relate to topics covered in the textbook and reflect everyday life and cultural events in the US and worldwide. There is required reading, listening, and writing homework, including work on-line, and there are tests and quizzes in class to work on test-taking strategies.

English Grammar (Yearlong)

Pre-requisites: Test results for ESL Level 3 using a secure placement test administered by CATS Academy Boston (new students only) or successful completion of the ESL Level 2 course at CATS.

The English as a Second Language (ESL) Level 3 course is specifically designed for international students who are at an INTERMEDIATE comprehension level of the English Language and who plan to continue with their education in a US/UK university/college where English is the medium of instruction. It focuses on improving and further developing students' ability in English for Academic Purposes (EAP), with the emphasis on grammar, reading, writing, speaking, listening comprehension skills, academic English vocabulary, researching, and applying those skills to students' own subjects.

Students work on understanding spoken and written English and on developing the ability to speak and write clearly and effectively. Students learn vocabulary and presentation skills, increase writing and thinking skills developed in English, and apply critical thinking and writing skills to a variety of academic assignments, including analyzing texts. They work on grammar and academic vocabulary development. In addition, the course includes extended work on academic English, pronunciation skills, conversational English, and the use of idiomatic expressions.

There is required reading and writing homework, including work on-line, and there are tests and quizzes in class to work on test-taking strategies. The course is built on the Focus on Grammar (FOG) Level 3 Student Book textbook (Pearson) and an on-line application, Membean, to address students' individual learning needs in expanding their vocabulary. It prepares students for future TOEFL examination and is based on using the latest technology. It may include various individual and group activities, original streaming news, authentic audio and video materials, and publications that relate to topics covered in the textbook and reflect everyday life and cultural events in the US and worldwide. There is required reading and writing homework, including work on-line, and there are tests and quizzes in class to work on test-taking strategies.

Advanced English Grammar (Yearlong)

Prerequisites: Test results for ESL Level 4 using a secure placement test administered by CATS Academy Boston (new students only) or successful completion of ESL Level 3 course at CATS.

The English as a Second Language (ESL) Level 4 course is specifically designed for international students who are at the HIGH INTERMEDIATE comprehension level of the English Language and who plan to continue with their education in a US/UK university/college where English is the medium of instruction. It helps students to build confidence in the proper use of academic English grammar, enrich their academic English vocabulary, and practice the command of academic English. While the main focus of the ESL Level 4 course is to work on English grammar and vocabulary, the course is also aimed at further developing and mastering students' advanced skills in English for Academic Purposes (EAP): writing, reading, speaking, listening comprehension, researching, and applying those skills to the students' own subjects.

Students continue working on understanding spoken and written English and the ability to speak and write clearly and effectively. Students acquire more sophisticated academic English vocabulary and presentation skills, improve writing and thinking skills developed in English, and apply critical thinking and writing skills to a variety of academic assignments, including analyzing complex texts. In addition, the course prepares for the TOEFL examination, includes extended work on academic English and TOEFL vocabulary, pronunciation skills, conversational English, and the use of idiomatic expressions.

There is required reading and writing homework, including work on-line, and there are tests and quizzes in class to work on testing-taking strategies. The course is built on Focus on Grammar (FOG) Level 4 with My English Lab textbook (Pearson) and an on-line application, Membean, to address students' individual learning needs in mastering their vocabulary and NoRedInk to improve grammar use. It further prepares students for future TOEFL examination and may include various individual and group activities, original streaming news, authentic audio and video materials, and publications that relate to topics in the textbook and reflect everyday life and cultural events in the US and worldwide.

Writing & Research (Yearlong)

Prerequisites: Test results for ESL Level 5 using a secure placement test administered by CATS Academy Boston (new students only) or successful completion of ESL Level 4 course at CATS.

The English as a Second Language (ESL) Level 5 course is specifically designed for international students who are at an ADVANCED comprehension level of the English language and who plan in the future to continue with their education in a university or college where English is the medium of instruction. It helps students to build confidence in academic writing and master the command of academic English.

While the focus of the ESL Level 5 course is mastering academic writing using proper English grammar along with academic English vocabulary, the course is also aimed at developing and enhancing other skills in English for Academic Purposes (EAP): writing, reading, speaking, listening comprehension, researching skills, and applying those skills to students' own subjects. Students master their understanding of spoken and written English and the ability to speak and write clearly and effectively. Students enrich their academic vocabulary and presentation skills, increase critical thinking skills developed in English, and apply critical thinking and writing skills to a variety of academic assignments, including analyzing complex texts. In addition, the course prepares for the TOEFL examination including extended work on academic English and TOEFL vocabulary, pronunciation skills, conversational English, and the use of idiomatic expressions.

There is required reading and writing homework, including work on-line, and there are tests and quizzes in class to work on test-taking strategies. The course is built on the "Longman Academic Writing Series" Level 5 textbook (Pearson) and on-line applications, Membean to address students' individual learning needs in mastering their vocabulary and NoRedInk to improve grammar use. The course prepares students for future TOEFL examination and may include various individual and group activities, original streaming news, authentic audio and video materials, and publications that relate to topics in the textbook and reflect everyday life and cultural events in the US and worldwide. There is required reading and writing homework, including work on-line, and there are tests and quizzes in class to work on test-taking strategies.

Mathematics

Integrated Mathematics I (Yearlong)

No Pre-Requisite

In this course, students study the foundations of Algebra and Geometry. Students build an understanding of variables, expressions, and equations. They learn to write and solve linear equations and then apply equations to angles, triangles, and polygons in Geometry. Students learn to work with equations of lines and segments on the coordinate plane, as well as solve systems of equations using various methods. Students also explore basic statistics.

Integrated Mathematics II (Yearlong)

BN/MAT/IM2 - Pre-requisites: Integrated Math I or Placement Interview.

In this course, students continue their study of Algebra and Geometry, completing the second semester of each subject. Students study similarity, right triangles, trigonometry, area, and volume. They also study exponents, quadratic functions, and polynomials. Students continue their study of statistics, including probability, and explore patterns and sequences as well.

Algebra II (Yearlong)

BN/MAT/ALG2 - Pre-requisites: Successful completion of Integrated Math 1 and 2 or Placement Interview.

This course builds on what students have learned in Integrated Math. Students in the course develop advanced algebra skills such as solving systems of equations, factoring advanced polynomials, and understanding imaginary and complex numbers. Students also study rational functions and conic sections. The focus for all the topics is on problem-solving and developing formal mathematical language in English. The mathematical training in this course is important as preparation for the ACT and SAT, as well as future courses in Precalculus and Calculus. The text for the course is Big Ideas Math: Algebra II, and the course makes use of the TI-84 graphing calculator.

Algebra II Honors (Yearlong)

BN/MAT/ALG2/H - Pre-requisite: Returning students: Recommendation of current math teacher; New students: Placement Interview.

The Honors Algebra II course covers the same material as Algebra II class but moves at a faster pace and covers additional topics. The Honors class will cover the additional unit about matrices and applications of matrices. Honors students also receive more challenging assignments and projects with the goal of developing their critical thinking skills and formal mathematical thought processes.

Pre-Calculus (Yearlong)

BN/MAT/PCAL - Pre-requisite: Successful completion of Algebra II.

This course provides students with the skills they need to study calculus. It highlights the key methods from algebra, trigonometry, and geometry that are needed for further study. The central unifying concept is the mathematical function. The course focuses on both conceptual understanding and problem-solving ability and provides students with a deep understanding of exponential, logarithmic, polynomial, rational, and inverse functions. It also offers an introduction to sequences and series. The textbook for the course is Functions Modeling Change: A Preparation for Calculus 5th ed. by Connally et. al., and the course makes extensive use of the TI-84 graphing calculator.

Pre-Calculus Honors (Yearlong)

BN/MAT/PCAL/H - Pre-requisites: Returning students: A- or higher in Algebra II College Prep; B or higher in Algebra II Honors; ESL Level 3 or higher; recommendation of previous instructor. New students: ESL Level 3; successful completion of Algebra II; placement interview.

The Honors Pre-Calculus class covers the same material as the College Prep class but moves at a faster pace and covers additional material as a preview of calculus. Some additional topics include polar functions, sequences and series, and an introduction to limits and derivatives. Honors students also receive more challenging assignments and projects with the goal of further developing their critical thinking and logic skills and keeping them fully engaged.

Calculus Honors (Yearlong)

BN/MAT/CAL/H - Pre-requisites: Returning students: Recommendation of previous instructor. New students: ESL Level 3; placement interview.

Calculus Honors is an introduction to differential and integral calculus with a single variable. Students are introduced to limits, derivatives, integrals, the fundamental theorem of calculus, the mean value theorem, differential equations, optimization problems, and a variety of other topics and their applications to real- world problems. The course includes most of the material in AP Calculus but at a more relaxed pace, and the AP exam is not a component of this course.

AP Calculus AB (Yearlong)

BN/MAT/CAL/AP - Pre-requisites: Returning students: ESL Level 4 or higher; A- or higher in previous course; recommendation of previous instructor. New students: ESL Level 4; placement test results.

Students prepare for the Advanced Placement Test in order to gain college credit while learning topics in Single Variable Calculus. Students are introduced to limits, differential equations, the derivative, points of tangency, slope fields, optimization problems, the

fundamental theorem of calculus, mean value theorem, integration, application of calculus, and a variety of other topics that will provide real world examples as to the importance of calculus. The textbook for the course is Rogawski's Calculus for AP. Taking the Advanced Placement test is a mandatory component of this course. Upon completing this course, students are eligible to take Multivariable Calculus or an independent study in mathematics.

Multivariable Calculus Honors (Yearlong)

BN/MAT/MCAL/H - Prerequisite: Successful Completion of AP Calculus AB and recommendation of Calculus Instructor.

Students in this course continue their study of calculus begun in AP Calculus AB and complete their preparation for the BC level of the Advanced Placement examination in calculus to be taken in the spring. Coverage includes integration by parts and by partial fractions, improper integrals, first order separable differential equations, infinite series and power series, and parametric and polar coordinates. Students continue their study of mathematics by extending their knowledge to the calculus of three-dimensional space. Partial differentiation and multiple integration are the main areas of study. Students must have a TI-84 Plus graphing calculator and must take the College Board BC Calculus exam at the end of the year.

Statistics (Yearlong)

BN/MAT/STAT - Prerequisites: Successful completion of Algebra II.

This course provides a basic introduction to statistics. It is recommended for students who are interested in business, social science, human resources, and criminal justice, and it provides an excellent preparation for any career. Topics include descriptive statistics, probability, probability distribution, normal distribution, hypothesis testing, estimates and sample sizes, the chi square distribution, correlation, and regression. The course is a critical thinking course as well as an analytical one, where students do many projects. This course also provides an overview on how to collect, analyze, interpret, and display data from various real-life sources and topics.

Differential Equations (Honors)

BN/MAT/DE/H - Pre-requisites: A 4 or higher on the Calculus BC exam or permission from instructor.

This is a course for students who have already completed Calculus BC and would like to study more calculus. This course is equivalent to a college-level semester of Differential Equations. Topics covered are first order differential equations, second order linear equations, higher order linear equations and series solutions of second order linear equations. This independent study course will focus on problem-solving and project-based applications of differential equations.

Science

Integrated Science (Yearlong)

Requirement: Enrollment in ESL Level 2.

This course provides a broad overview of major scientific disciplines allowing for students to discover their strengths in either chemistry, physics, and or biology. Through the study of foundational concepts students build and apply scientific vocabulary with clarity, purpose, and confidence.

Guided by our core values of community, accountability, togetherness, and support, the course fosters a respectful and collaborative learning environment. Students take ownership of their learning, work responsibly both independently and in teams, and contribute positively to a supportive classroom culture.

By emphasizing both skill development and meaningful application, the course challenges students to embrace academic growth and develop the confidence needed for a future in scientific disciplines.

Biology (Yearlong)

Pre-requisites: Returning students: recommendation of previous instructor. New students: placement test.

This course is designed to be a rigorous, inquiry-based exploration of the living world. By engaging in CP-level coursework, students develop the academic stamina and self-advocacy skills essential for success in higher education. This course requires high motivation; students are expected to take ownership of their learning, completing individual assignments with precision and contributing equitably to collaborative laboratory investigations. Due to the depth of the curriculum and preparation for the Spring assessment, students should dedicate 1-2 hours of independent study and application outside of class daily.

Biology Honors (Yearlong)

Pre-requisites: ESL level 3 or higher. Returning students: recommendation of previous teacher. New students: placement test.

Honors Biology examines life from molecules to ecosystems, focusing on mechanisms of homeostasis and evolution at an accelerated pace. The course aligns with NGSS and covers major themes such as biomolecules, cell biology and energy, heredity, evolution, and ecology. Students engage in laboratory-based learning using microscopy, data analysis, and biotechnology tools. Emphasis is placed on applying an "Honors mindset," collaboration, critical thinking, and independent study as students shift from consumers of science to practitioners of scientific inquiry. Skills developed include designing controlled

experiments conducting statistical analysis, evaluating ethical and social aspects of biotechnology, and crafting strong science essays.

AP Biology (Yearlong)

Pre-requisites: ESL Level 3 or higher; A- or higher in CP Biology or Honors Biology at CATS or another American school. Returning students: recommendation of current or previous instructor. New Students: placement test.

AP Biology provides students with an introductory, college-level foundation in biology, emphasizing inquiry-based learning and critical and creative thinking. Students apply the scientific method—observation, hypothesis, experimentation, and analysis—to explore major biological concepts and modern global issues such as climate change, healthcare, sustainable energy, and biotechnology. Approximately 20% of the course consists of hands-on laboratory investigations covering topics like diffusion and osmosis, microscopy, mitosis and meiosis, bacterial transformation, and DNA gel electrophoresis. The course is selective and all students take the AP Biology Exam in May. Key skills include interpreting biological pathways, applying statistical models such as chi-square, synthesizing information, and writing AP-style.

Chemistry (Yearlong)

Pre-requisites: ESL Level 3 or higher. Returning students: recommendation of previous instructor. New Students: placement test.

This course introduces students to the principles of modern chemistry with an emphasis on analytical problem solving and quantitative reasoning. Students develop a strong conceptual foundation while learning to apply their understanding to real-world situations. Through engaging inquiry, data analysis, and collaborative work, students are encouraged to discover their strengths and embrace academic challenges.

Guided by our core values of community, accountability, togetherness, and support, the course fosters a respectful and collaborative learning environment. Students take ownership of their learning, work responsibly both independently and in teams, and contribute positively to a supportive classroom culture.

Topics include states of matter, atomic theory, periodic trends, chemical bonding, stoichiometry, intermolecular forces, gas laws, thermodynamics, kinetics and equilibrium, acids and bases, and oxidation-reduction reactions.

Chemistry Honors (Yearlong)

Pre-requisites: ESL Level 3 or higher; previous Algebra experience. Returning students: recommendation of previous instructor. New Students: placement test.

Chemistry is defined as the science that studies matter and the changes that matter undergoes. This science known as Chemistry is based on observation and experimentation and follows the scientific method for a greater understanding of the

nature of matter and everything around us. Chemistry is present not only in an academic setting, but everything that surrounds us. Our materials, objects, food and the environment are filled with matter and a greater understanding for chemistry. A greater understanding of life.

Honors Chemistry will not only examine basic principles of chemistry and how it affects everything around us, but how different materials interact with one another. Students will understand the fundamental concepts of matter and its changes while also developing problem solving skills and Laboratory skills to prepare them for their future. Students will learn concepts that apply to their everyday life around them.

AP Chemistry (Yearlong)

Pre-requisites: ESL Level 3 or higher; A- or above in CP Chemistry or B+ or higher in Honors Chemistry; concurrent enrollment in Pre-Calculus or above. Returning students: recommendation of previous instructor. New students: placement test.

Students in AP Chemistry develop a strong understanding of the fundamental concepts of matter and its changes while strengthening problem-solving and laboratory skills that prepare them for future academic and career pursuits. Designed to mirror a first-year college chemistry course, this class empowers students to discover their strengths, embrace academic challenges, and build clarity, purpose, and confidence as they prepare for the AP Chemistry Exam.

Students connect scientific concepts to real-world applications, recognizing chemistry's relevance in everyday life. Structured around the nine AP units taught over two semesters, the course follows the AP Course and Exam Description and utilizes college-level textbooks and reference materials.

Grounded in our core values of community, accountability, togetherness, and support, students collaborate, take ownership of their learning, and contribute to a focused academic environment that promotes both individual growth and shared success.

Physics (Yearlong)

Pre-requisites: ESL Level 3 or higher and current enrollment in Algebra II or higher. Returning students: recommendation of previous instructor. New students: placement test.

College Preparatory Physics is a course designed to be as rewarding as it is rigorous. By committing to CP-level coursework, you are developing the mathematical modeling and critical thinking skills essential for the demands of higher education. Physics is the study of how the universe works—from the smallest subatomic particles to the motion of galaxies. Because we move at a collegiate pace, success requires a high level of personal motivation and proactive responsibility.

Physics Honors (Yearlong)

Pre-requisites: ESL Level 3 or higher; current enrollment in Pre-calculus or higher
Returning students: recommendation of previous instructor. New students: placement test.

Honors Physics has two primary objectives that guide its curriculum. Firstly, it seeks to cultivate a deep understanding of the scientific principles that govern the physical universe, fostering curiosity and wonder about the natural world. Students will explore fundamental concepts such as motion, energy, and forces, delving into how these elements interact in various contexts.

Secondly, the course aims to equip students with the mathematical tools necessary to analyze and quantify these physical properties. By mastering relevant equations and formulas, students will learn to apply mathematical reasoning to solve problems and make predictions about real-world scenarios. This dual focus on conceptual knowledge and practical application prepares students to appreciate the intricacies of physics and engage with its mathematical foundations.

AP Physics C Mechanics (Yearlong)

Pre-requisites: ESL Level 3 or higher; A- or higher in CP Physics or B+ in Honors Physics at CATS or another American school; previously completed or currently enrolled in Calculus.
Returning students: recommendation of previous instructor. New students: placement test.

AP Physics C is an Advanced Placement course that offers a calculus-based approach to physics, designed for 11th and 12th-grade students who have prior experience in physics. This course is structured to emulate a first-year college physics curriculum, providing students with a solid foundation in mechanical physics, which is essential for those pursuing careers in engineering and the sciences.

Throughout the year, students will engage deeply with core concepts, utilizing calculus to analyze physical systems and solve complex problems. A significant aspect of the course is the preparation for the AP Physics C exam, equipping students with the necessary skills and knowledge to excel.

In addition to theoretical learning, hands-on laboratory experiences play a crucial role in reinforcing concepts. The labs are thoughtfully designed to encourage experimentation and critical thinking, allowing students to observe and analyze real-world applications of the principles taught in class. Overall, AP Physics C aims to cultivate both a rigorous understanding of physics and a practical skill set that students will carry into their future academic endeavors.

Anatomy & Physiology Honors (Semester course)

This Honors-level elective course explores the structure and function of the human body while examining major modern diseases that impact quality of life and longevity. Students investigate the biological foundations of cardiovascular disease, neurological disorders, cancer, metabolic disease, and obesity through the lens of contemporary medicine, biotechnology, and artificial intelligence.

The course emphasizes the distinction between lifespan (living longer) and health span (living healthier for longer). Students analyze how AI, precision medicine, wearable technologies, genomics, and emerging therapeutics such as GLP-1 receptor agonists are transforming healthcare, disease prevention, diagnostics, and personalized treatment. Students will engage in case studies, scientific literature, medical imaging, bioethical debates, and current health technologies while developing critical thinking, research, and scientific communication skills.

Social Science

American Studies (Yearlong)

Pre-requisites: ESL Level 2; placement test results.

American Studies is a one-year course in American history for students who test at ESL Level 2. After passing two semesters of American Studies, students are required to take US History and fulfill any additional social science requirements to graduate. American Studies has a more basic text than the College Prep courses, and its reading and writing assignments are not as advanced. Like the US History Survey courses, American Studies focuses on themes and relevance.

World History I (Yearlong)

Pre-requisites: ESL Level 3 or higher; placement test results.

World History is a one-year Social Science course. This course examines cultural and historical issues that are relevant in the world today. This course emphasizes academic skills, especially reading, writing, and note-taking. Students use statistics, maps, primary sources, images, and reference materials. Students develop the skills necessary to analyze historical cultures and how the impact of these cultures has reverberated throughout the ages.

World History I Honors (Yearlong)

Pre-requisites: ESL Level 4 or higher; placement test results; A- or higher in CP or B+ in Honors level history course at CATS or another American school; recommendation of instructor and Social Science department chair.

World History Honors is a one-year social science course. This course examines cultural and historical issues that are relevant in the world today. This course emphasizes academic skills, especially reading, writing, and note-taking. Students explore the relationship between themes and details, relevance, sequence, and investigation. They use statistics, maps, primary sources, images, and reference materials. In addition, World History Honors students do more advanced reading and writing assignments. Students will develop the skills necessary to analyze historical cultures and how the impact of these cultures has reverberated throughout the ages. Due to the advanced nature of this course, students will be expected to increase their ownership over their educational journey.

United States History (Yearlong)

Pre-requisites: ESL Level 3 or higher.

United States History is a one-year social science course. This course fulfills the US History requirement for all CATS Academy Boston students as part of their three-year social science requirement for graduation. It helps students be successful in college-level social science courses or AP United States History. US History takes a thematic approach-

surveying topics like international conflicts, civil rights, national government, Industrialization, immigration, reform, race, and gender in United States history. Events are studied for relevance to today's issues. Maps, data, excerpts from films, books, and primary sources provide evidence and include different perspectives on the past which students evaluate and analyze. United States History students also develop skills of note taking, analytical reading, writing, and research. Students will complete a substantial research project on a chosen topic from US History.

United States History Honors (Yearlong)

Pre-requisites: ESL Level 4 or higher; placement test results; A- or higher in CP or B+ in Honors level history course at CATS or another American school; recommendation of instructor and Social Science department chair.

United States History Honors is a one-year social science course. This course fulfills the US History requirement for CATS Academy Boston students as part of their three-year social science requirement for graduation. This course helps students be successful in college-level social science courses or AP United States History. United States History Honors takes a thematic approach to US history, examining topics like immigration, race, gender, reform, civil rights, national government, imperialism, and overseas commitments in US history. Events are studied for relevance to today's issues. Excerpts from films, books, and primary sources present different perspectives on the past. Students develop skills in notetaking, analytical reading, writing, and research. Students are required to complete a substantial research project as part of this course.

World History II: Global Conflicts (Yearlong)

Pre-requisites: ESL Level 3 or higher.

Events throughout the history of humanity have shown us that there lies a dark side to human nature. This course examines specific case studies of events in Asia, Africa, Europe, and the Middle East during the 20th Century. An examination of social and political history and geography provides students with a comprehensive understanding of the events that occurred in the regions of Asia, Africa, Europe, and the Middle East. Students view events through a multicultural lens in an attempt to understand the unfolding of events through a multiplicity of cultural identities involved in those events. The skills of interpreting geographic visuals, charts, primary sources and other historical documents are also developed.

World History II: Global Conflicts Honors (Yearlong)

Pre-requisites: ESL Level 4 or higher; placement test results; A- or higher in CP or B+ in Honors level history course at CATS or another American school; recommendation of instructor and Social Science department chair.

Events throughout the history of humanity have shown us that there lies a dark side to human nature. This course examines specific case studies of events in Asia, Africa, Europe, and the Middle East during the 20th Century. An examination of social and political history

and geography provides students with a comprehensive understanding of the events that occurred in the regions of Asia, Africa, Europe, and the Middle East. Students view events through a multicultural lens in an attempt to understand the unfolding of events through a multiplicity of cultural identities involved in those events. Students will develop the skills to analyze historical events, identify their causes and consequences, and apply that learning to understanding current events. The skills of interpreting geographic visuals, charts, primary sources, editorial cartoons, and other historical documents are also developed. In addition to more rigorous assignments and academic readings, students will complete a research paper as part of their course requirements.

AP United States History (Yearlong)

Pre-requisites: ESL Level 4 (ESL Level 5 preferred); placement test results; A- or higher in Honors level history course at CATS or another American school; recommendation of instructor and Social Science department chair.

AP US History (APUSH) is a rigorous, full-year college-level survey of American history from 1491 to the present. Students develop a deep understanding of the political, economic, social, and cultural forces that have shaped the United States over time. The course focuses on historical thinking skills such as analyzing primary and secondary sources, evaluating competing interpretations, identifying patterns of continuity and change, and constructing evidence-based arguments. Students engage with historical documents, data, and scholarship to understand how historical narratives are constructed and contested. This course prepares students to take the AP US History examination in May. Successful completion of the course builds advanced reading, writing, and analytical skills essential for college-level humanities and social science study. This course fulfills the US History requirement for CATS Academy Boston students as part of their three-year social science requirement for graduation.

AP Macroeconomics & AP Microeconomics (Yearlong - offered alternative years)

Pre-requisites: ESL Level 4 (ESL Level 5 preferred); placement test results; A- or higher in Honors level history course at CATS or another American school; recommendation of instructor and Social Science department chair.

AP Macroeconomics is an introductory college-level macroeconomics course. Students cultivate their understanding of the principles that apply to an economic system as a whole by using principles and models to describe economic situations and predict and explain outcomes with graphs, charts, and data as they explore concepts like economic measurements, markets, macroeconomic models, and macroeconomic policies.

AP Microeconomics is an introductory college-level microeconomics course. Students cultivate their understanding of the principles that apply to the functions of individual economic decision-makers by using principles and models to describe economic situations and predict and explain outcomes with graphs, charts, and data as they explore concepts like scarcity and markets; costs, benefits, and marginal analysis; production choices and behavior; and market inefficiency and public policy.

AP World History (Yearlong)

Pre-requisites: ESL Level 4 (ESL Level 5 preferred); placement test results; A- or higher in Honors level history course at CATS or another American school; recommendation of instructor and Social Science department chair.

This is a one-year social science college-level elective with the potential for college credit that prepares students for the AP World History Modern exam in May. Students study civilizations from 1200 CE to the present in world regions across four historical time periods. Themes of focus include world religions, cultural heritage, governments, economics, social structures, the environment and technology. World events such as the rise and fall of empires, the Middle Ages, the Renaissance, the Age of Exploration, the Industrial Revolution, global imperialism, and world conflicts are studied and evaluated. Students develop the ability to make historically defensible arguments using documents and historical evidence to make their case. This course builds strong reading, writing, and analytical skills necessary for college.

Legal Concepts and Practice Honors (Semester course offered fall and spring)

Prerequisites: ESL Level 4 or higher; placement test results; A- or higher in CP or B+ in Honors level history course at CATS or another American school; recommendation of instructor and Social Science department chair.

The legal profession is practiced worldwide and attorneys are valued for their ability to analyze and solve complex problems. This course is designed to provide students with the opportunity to learn and practice problem solving skills and legal analysis. Students utilize case studies, engage in a mock trial, complete projects, and participate in activities to gain an understanding of the legal process. Further, students gain insights into how attorneys analyze and litigate cases as well as how courts determine outcomes. Students practice what they learn by working with a team to present a legal case in a mock trial. In this course, students sharpen their critical thinking and oral presentation skills as well as gain an understanding about what it is like to practice law or work with lawyers in a corporate setting or law firm.

Introduction to Philosophy (Semester course offered fall and spring)

Pre-requisite: ESL Level 3 or higher.

Introduction to Philosophy invites students to explore life's biggest questions: What is truth? What makes something right or wrong? How do we know what we know? Through discussion, thought experiments, and classic philosophical ideas, students will learn how to think critically, question assumptions, and develop their own well-reasoned views about the world.

Macroeconomics (Semester course offered fall)

Pre-requisite: ESL Level 3 or higher.

This one-semester social science elective (fall only) is paired with one semester of Microeconomics to make a one-year college prep course in Economics. In

Macroeconomics, students learn how economic decisions are made at the national and international level. They examine economic systems around the world and economic policymaking in the United States. Students learn about markets, industries, trade, banking, finance, economic indicators, economic policy, and the Federal Reserve. Students also learn about the new economy, management, and entrepreneurship.

Microeconomics (Semester course offered spring)

Pre-requisite: ESL Level 3 or higher.

This one-semester social science elective (spring only) is paired with one semester of Macroeconomics to make a one-year college prep course in Economics. Microeconomics focuses on industries and companies at the local and regional level. Students learn about start-ups and Boston's high-tech and R-and-D (research and development) fields. Each student presents a term project about a company from these or traditional New England industries like defense, paper and logging, fishing, food processing, farming, retail sales, wholesale distribution, transportation, tourism, education, and telecommunications. Students may also choose a company from the financial sector: banking, real estate, venture capital, investment banking, consulting, insurance, securities, and mutual funds. As part of Microeconomics CP, students visit companies and meet professionals from business and government.

Psychology (Semester course offered fall and spring)

Pre-requisite: ESL Level 3 or higher.

This one-semester course is an introduction to psychology that challenges students to examine how human behavior, beliefs, emotions, and decision-making shape everyday life. The course explores topics such as the psychology of advertising, negotiation, sports psychology, conspiracy theories, and indoctrination. Students will analyze how individuals and groups are influenced by media, social pressure, competition, and persuasion. This course also encourages students to reflect on their own thinking, behavior, and interactions with others. Through discussion, analysis, presentations, and project-based learning, students develop their skills in critical thinking, communication, reading, writing, and public speaking.

Entrepreneurship (Semester course offered fall and spring)

Pre-requisite: ESL Level 3 or higher.

Entrepreneurship is a one-semester course on leadership and the basics of starting and running a business. Real-life stories from curated sources show the importance of dedication, innovation, and teamwork. Of special importance is the quality of seeing the needs of a group or organization. This class aims for a deeper understanding of business and the challenges of leaders. In the last month of the course, students prepare a project analyzing the situation of a real company and its leaders. In the last month of the course, students prepare a project on a real company and its leaders.

Foundations of Business (Semester course)

Pre-requisite: ESL Level 3 or higher.

An intensive project-based exploration designed to equip students with essential business competencies, entrepreneurial mindsets, and strategic leadership skills.

Emphasizing real-world applications, case-study analysis, and hands-on design challenges, students examine business operations, employment standards, critical thinking, market analysis, and financial literacy. Throughout the course, students iteratively build an original business model, culminating in a comprehensive business plan and a formal capstone pitch.

Business Communication (Semester course)

Pre-requisite: ESL Level 3 or higher.

This course introduces students to foundational communication skills essential for any workplace. Students will develop proficiency in verbal, non-verbal, written, and digital communication, while also practicing professionalism, presentation skills, and business etiquette. The course is designed to build confidence and effectiveness in workplace interactions through hands-on projects and technology tools.

Business Writing: Navigating Professional Waters Through Marketing (Semester course)

Pre-requisite: ESL Level 3 or higher.

Nourishing networks, making connections, extending reach, and maximizing resources. All of these things are integral to a successful business and all of these things require specific knowledge and communication skills. Expectations can be severe and minor errors can lead to major disasters. This course will break down what is necessary to make ourselves understood in today's professional settings. Being able to communicate ideas to others is vital in expanding businesses in both public and private-facing interactions. This course will examine what makes for successful communication in public and private sectors and build on skills that will be used in their academic and professional careers through thoughtful analysis, extensive research, and thorough synthesis. There will be a strong focus on rhetoric, such as ethos, pathos, logos, fallacy, and other strategies regarding interaction on a professional level.

Business Ethics: Staying Human (Semester course)

Pre-requisite: ESL Level 3 or higher.

In modern society, business moves at frightening speed. It can become too easy for a person to lose sight of what is important and what is at the core of all business: people. This course will explore how businesses evolve over time and what is required to remain in business while retaining the core values of society. By looking at real-world examples and extrapolating from data, students will build upon skills such as research, analysis,

debate/discussion/communication, and other skills that will aid them in their academic careers and propel them beyond.

Technology

AP Computer Science A (Yearlong)

Pre-requisites: ESL Level 4 and completion of Algebra II or instructor approval.

The Advanced Placement Computer Science A course is taught using the Java programming language. The course objectives are to understand object-oriented software design, to gain fluency in Java, to improve proficiency in selecting appropriate algorithms and data structures, to understand algorithm efficiency especially regarding sorting, and perhaps most importantly to prepare for the AP Computer Science A exam. There are a variety of exercises, labs, and case studies in this course.

Introduction to Programming (Yearlong)

Pre-requisites: Completed Algebra 1. ESL 3 or above.

Introduction to Programming is an exciting course where students will learn the basics of Web Design, and Java. The course will give students the chance to do hands on work to learn through experience. They will be given the chance to explore the amazing world of website creation in ways that focus on both functionality and aesthetics. In the fall the students will learn HTML, CSS, and JavaScript then we will switch to Object Orientated Programming while using Java. By the end of the year each student will have a diverse portfolio of completed projects.

3D Printing and Laser Cutting Design (Semester course offered fall and spring)

No-Prerequisite

Step into a class where your ideas don't just stay in your head, they become real. You'll learn how to design and model your own creations in both 2D and 3D using powerful software tools. Then you'll bring those designs to life with high-tech gear like 3D printers and laser cutters. Whether you're into art, engineering, gaming, fashion, or just love making cool stuff, this class gives you the skills to prototype, experiment, and build things you're genuinely proud of.

Fundamentals of Electronics (Semester course offered in fall and spring)

No-Prerequisite

Electronics Design and Engineering is a hands-on class where you get to explore how the tech you use every day actually works, by building it yourself. You'll learn the core ideas behind circuits while designing, wiring, and coding your own creations. Along the way, you'll measure voltage, make a battery, use breadboards, solder components, build switches and sensors, and program microcontrollers to bring your projects to life. The class wraps up with a final project you design yourself, giving you the freedom to create something that matches your interests and shows off everything you've learned.

Robotics Engineering (Semester course offered fall and spring)

Pre-requisites: ESL Level 3

Robotics Engineering is a hands-on class where you and a partner team up to build a robot and bring it to life through coding. You'll learn how to plan, create, and debug programs that control motors and sensors as you tackle a series of fun, fast-paced challenges. Along with projects and participation, you'll also be graded on important 21st-century skills, such as collaboration, problem-solving, and perseverance – the same habits of mind that fuel success in school, careers, and whatever big ideas you chase next.

Data Discoveries (Semester course offered fall and spring)

Pre-requisites: ESL Level 3

Data Discoveries is a hands-on, challenge-driven computer science class where you'll learn how to use problem-solving, data, and machine learning to tackle real-world issues. You'll start by working through puzzles and scenarios that teach you how computers input, store, and process information, then move into exploring how data is represented, collected, and used to automate solutions. As the course progresses, you'll dive into machine learning, discovering how computers learn from patterns in data to make decisions.

Throughout the semester, you'll build apps and tools that solve problems you care about, ending with a final machine-learning-powered project that's entirely your own.

AI Foundations (Semester course offered fall and spring)

Pre-requisites: ESL Level 3

AI Foundations introduces students to the core principles of computer science and the growing role of artificial intelligence in everyday life. Through hands-on programming, visual problem solving, and critical analysis, students explore how computing systems work, how data powers AI, and how intelligent tools make decisions. They learn to write Python programs, analyze the structure of the Internet, investigate cybersecurity risks, and interpret data through visualizations and models. Throughout the course, students examine how AI systems impact individuals and communities, and build the skills to use computing and AI to solve meaningful problems in their world.

World Languages

French Level I (Yearlong)

Pre-requisite: ESL Level 3; instructor approval.

French I is a year-long general introduction to the French language for beginning students and follows the rigor as well as the scope and sequence of a regular ACTFL-based high school language course. Students communicate across the four skills of reading, writing, speaking, and listening using basic French vocabulary and simple grammatical structures within the cultural norms of French-speaking societies. Some vocabulary themes are numbers, school, shopping, food, family, and the home. The major grammatical concepts are present tense verbs and gender. Activities and assignments utilize interpersonal, presentational, and interpretive modes of communication. Assessments include, but are not limited to, class participation, homework, comprehensive unit tests, short compositions, a variety of projects, and final exams. Students are frequently given assignments to be completed outside of class, as well as nightly homework. By the end of French I, students achieve a proficiency level of Novice High in all four communicative skills (reading, writing, speaking, listening) as described by the American Council of Teachers of Foreign Languages (ACTFL).

French Level II (Yearlong)

Pre-requisites: ESL Level 3; successful completion of French I or instructor approval.

French II, a year-long course, is a continuation of French I. Students communicate across the four skills of reading, writing, speaking, and listening in the interpersonal, interpretive, and presentational communicative modes within the cultural context of French-speaking societies. This course is based on the American Council of Teachers of Foreign Language (ACTFL) standards and requires nightly homework.

French Level III (Yearlong)

Pre-requisites: ESL Level 3; successful completion of French II or instructor approval.

French III, a year-long course, is a continuation of French II. Students communicate across the four skills of reading, writing, speaking, and listening in the interpersonal, interpretive, and presentational communicative modes within the cultural contexts of France and the other Francophone countries. This course is based on the ACTFL standards and requires nightly homework and assignments to be completed outside of class. Topics studied include vocabulary related to health, technology, art and culture, and the environment, as well as the imperative and subjunctive modes. Assessments include class participation, homework, projects, compositions, and final exams. By the end of French III, students are expected to demonstrate an ACTFL Mid-Intermediate level of proficiency in all four skills.

French Level IV (Yearlong)

Pre-requisites: ESL Level 3; successful completion of French III or instructor approval.

French IV, a year-long course, is a continuation of French III. Students communicate across the four skills of reading, writing, speaking, and listening in the interpersonal, interpretive, and presentational communicative modes within the cultural contexts of France and the other Francophone countries. This course is based on the ACTFL standards and requires nightly homework and assignments to be completed outside of class. Topics studied include vocabulary related to relationships, social issues, politics, government, history, and work, as well as the past subjunctive and conditional modes. This course also explores authentic literature, film, and the histories of French-speaking countries. Assessments include class participation, homework, projects, compositions, and final exams. By the end of French IV, students achieve an ACTFL Intermediate-High level of proficiency in all four skills.

Spanish Level I (Yearlong)

Pre-requisite: ESL Level 3; instructor approval.

Spanish I is a year-long general introduction to the Spanish language for beginning students and follows the rigor as well as the scope and sequence of a regular ACTFL-based high school language course. Students communicate across the four skills of reading, writing, speaking, and listening using basic Spanish.

Spanish Level II (Yearlong)

Pre-requisites: ESL Level 3; successful completion of Spanish I or instructor approval.

Spanish II, a year-long course, is a continuation of Spanish I. Students communicate across the four skills of reading, writing, speaking, and listening in the interpersonal, interpretive, and presentational communicative modes within the cultural context of Latin America or Spain. This course is based on the ACTFL standards and requires nightly homework and assignments to be completed outside of class. Topics to be studied include vocabulary related to health, hobbies, and travel and the past tenses. Assessments include class participation, homework, projects, compositions, and final exams. By the end of Spanish II, students are expected to demonstrate a Low-Intermediate level of proficiency in all four skills as characterized by the American Council of Foreign Language.

Spanish Level III (Yearlong)

Pre-requisites: ESL Level 3; Spanish II or instructor approval.

Spanish III is designed for students who have successfully completed Spanish II or who can demonstrate that they have achieved the Intermediate-Low level of proficiency in all four skills (reading, writing, speaking, listening) according to the American Council on the Teaching of Foreign Languages (ACTFL). Students communicate about topics that are meaningful to them such as friendship, relationships, life goals, jobs, finances, politics, social issues, and entertainment, as well as popular culture and the fine arts. These topics, as well as Latin American and Spanish history and culture, are the contexts for analysis,

comparison, conversation, interpretation, and much of the vocabulary at this level. Students use a textbook and online video to participate in listening and practice activities. They begin to read literary fragments and watch and listen to native speakers from recordings and films. Students also research and present about the arts and social issues. Any major gaps in knowledge of thematic vocabulary and grammar study are addressed. Students are assessed through exams, tests, projects, compositions, homework, and skits.

CATS Extra Academic Program

CATS Extra is a specialized academic program designed for international students who have not yet met the English language requirements to join regular classes but are aspiring to earn their High School Diploma. The program offers students entering Grades 9 and 10 a tailored academic curriculum delivered by dedicated teachers with extensive experience in English as a Second Language (ESL) instruction.

All four courses in the CATS Extra curriculum have been specifically designed for international students at beginning comprehension levels of English and language acquisition.

CATS Extra Curriculum

CATS Extra English for Academic Purposes (EAP)

Students develop language skills in reading comprehension and reading strategies, spelling ability, vocabulary expansion, the writing of various sentence types, and the use of appropriate grammar in real life contexts. Additionally, students become familiar with the writing process. Students develop language skills, critical thinking, and learning strategies required for academic success. Using authentic and relevant content, the class prepares students to work effectively and confidently in an academic environment.

CATS Extra Conversation

Focusing on communication, students build language, critical thinking, and writing skills by developing their English language ability in the areas of speaking, pronunciation, listening, note-taking, reading, writing, and grammar. Course content includes a range of activities that help students feel comfortable communicating in academic and social situations. Activities include presentations and speeches, persuasive speaking and writing, storytelling, role-plays, and the study of history and culture.

CATS Extra Literature

An introductory literature course that utilizes ESL skills and strategies such as predicting, skimming, making inferences, and understanding text references in order to aid students in their English language acquisition. Student-centered activities incorporate speaking, listening, reading, writing, and grammar exercises throughout the course. It helps students expand both their passive and active vocabulary knowledge. In this class, students are introduced to literary terminology and literature. Often working in pairs and groups, students also demonstrate understanding of the course material by doing research, writing reports, making posters, and giving presentations. Course materials include adapted literature resources.

CATS Extra Social Science

The course helps students develop language skills, critical thinking, and learning strategies required for academic success. With an emphasis on American culture and American history, students study civics and community, politics, and geography, learn about communities in the world. Instruction includes material on reading strategies, interpreting maps, timelines, charts, and graphs, as well as vocabulary-building activities and glossaries. Students are expected to undertake research, write reports, and give oral presentations.