**East Hartford Public Schools**

**Academic Program for Grades 9-12**


# Academic Guide for Families 2023-2024

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***East Hartford Public Schools***

*Schools that are the Pride of our Community*

## PREFACE

A critical component of a student's success in school is dependent on developing authentic partnerships with parents/guardians. This document serves as a guide for families of East Hartford Public Schools' students who are enrolled in the eighth grade. It contains a collection of materials and resources that will help parents and guardians understand the district's academic program.

The guide contains an overview and a summary of the learning expectations for each content area—English Language Arts, Mathematics, Science, and Social Studies. Additionally, it includes hints for parents who are interested in supporting their child at home by including websites, apps, and questions to ask your child and your child's teachers.

All students enrolled in East Hartford Public Schools receive a comprehensive education that includes physical education and health, the fine and performing arts and career and technical education. For K-12 programs such as World Languages, Fine & Performing Arts, Physical Education & Health, and Career & Technical Education, the information about these subject areas are included in a separate guide.

## ACADEMIC PROGRAM OVERVIEW

The core mission of East Hartford Public Schools is to deliver a high-quality learning experience to every child, every day. To this end, the district offers extensive academic programming designed to provide students with the academic, workplace, and citizenship skills that will prepare them for success in college and/or a career. The district's core academic program focuses on building a rigorous academic foundation for students within a supportive learning environment.

East Hartford's curricula have been developed around both state and national standards. In 2010, Connecticut adopted the Common Core State Standards, a progression of learning expectations in mathematics and English/Language Arts. These standards are designed to prepare students for success in college and a career. East Hartford Public Schools has adjusted its curricula to incorporate the Common Core in both English and Mathematics in an effort to improve teaching and learning so that all children will graduate with the skills they need to be successful. The literacy skills articulated in the Common Core have also been incorporated into other academic programs such as the district's Science, Social Studies, World Languages, and Physical Education and Health curricula.

The Common Core State Standards are informed by the highest, most effective models from states across the country as well as from countries around the world and provide teachers with a common understanding of what students are expected to learn. In each content area, students are encouraged to explore, develop key academic skills, and make connections between the disciplines and the world around them. Teachers seek to actively engage students by encouraging them to analyze information, make judgments, and synthesize their knowledge to create innovative solutions to real-world problems.

We encourage parents and families to use this parent guide in conjunction with resources and information you receive from your child's school and teachers in an effort to enhance your understanding of East Hartford Public Schools' academic program.

# GRADUATION REQUIREMENTS

In order to satisfy the high school graduation requirements within East Hartford Public Schools, a student must have satisfactorily completed his or her prescribed courses of study, demonstrated proficiency in basic skills identified by the East Hartford Board of Education, and satisfied the legally mandated number and distribution of credits required to graduate from high school. Beginning with the Class 2027, all students will need to take a ½ credit in Financial Literacy, either as a Humanities or an Elective credit.

| **CT State Department of Education Requirement** | **EHHS HS Requirement** | **CIBA HS Requirement Distribution** |
|---|---|---|
| Humanities-<br>9 credits | English- 4 credits<br>Social Studies- 3 credits<br>(includes 1 credit in US History & 1 credit in Civics)<br>Fine & Performing Arts- 1 credit<br>Humanities Elective- 1 credit | English- 4 credits<br>Social Studies- 3 credits<br>(includes 1 credit in US History & 1 credit in Civics)<br>Fine & Performing Arts- 1 credit<br>Humanities Elective- 1 credit |
| STEM-<br>9 credits | Math- 3 credits<br>Science- 3 credits<br>STEM Electives- 3 credits | Math- 3 credits<br>Science- 3 credits<br>Technology- 1 credit<br>STEM Electives- 2 credits |
| Physical Education/Wellness-<br>1 credit<br><br>Health & Safety Education-<br>1 credit | Health & Physical Education-<br>2 credits | Health & Physical Education-<br>2 credits |
| World Language-<br>1 credit | World Language- 1 credit | World Language- 3 credits |
| Mastery Based Assessment-<br>1 credit | Community Service- 50 hours<br>Civic Action Project- .5 credits | Grades 9 & 10:<br>Successful completion of Service as Action (.25 credits) AND Personal Project (.25 credits)<br><br>Grades 11 & 12:<br>Successful completion of Community, Action & Service Project (.25 credits) & Extended Essay (.25 credits) |
| Electives | Electives - 3 credits | Electives - 1 credit |
| State Assessment (NGSS, SAT) | Meet State Benchmark or Equivalent | Meet State Benchmark or Equivalent |
| **Total Credits = 25.0** | | |

# ENGLISH LANGUAGE ARTS

## OVERVIEW

Strong reading and writing skills are the cornerstones to student success. All students should master the skills of critical thinking, analytical and technical writing, critical/close reading, and literary analysis prior to high school graduation. We encourage students to be lifelong learners. To that end, we aim to provide students with a curriculum that allows them to experience a broad range of fiction and non-fiction works, including contemporary and young adult literature, alongside great literary classics.

## THE HIGH SCHOOL ENGLISH LANGUAGE ARTS PROGRAM

The English Department provides a comprehensive four-year program designed to meet the rigorous demands of the Common Core State Standards. Courses are sequential, and skills build upon one another over the course of the four-year program. Success in the early years of the English program is crucial to student success in the upperclassmen courses. Students are required to earn credit in English I, II, III, and IV in order to graduate. During their senior year, students can choose among a variety of courses that may offer college credit.

### Core Course Descriptions

**English I** – In English I, students will closely read fiction and literary non-fiction to determine the themes/central ideas of the texts and analyze how themes/central ideas are shaped by details included by the author. Heavy emphasis is placed on students' ability to summarize texts and to cite relevant textual evidence to support claims. Students continue to develop their vocabularies and analyze text for the figurative and connotative meaning of words. Writing is emphasized in English I; students practice writing for a variety of purposes including argument, informational, narrative, and research-based writing styles. Students continue to refine their skills with a focus on developing more sophisticated writing using appropriate conventions. Students begin preparations for the SAT test in this course.

**English II** – In English II, students continue to read fiction and literary non-fiction with a focus on determining themes/central ideas and practice summarizing a text and citing textual evidence to support claims. Vocabulary development remains a focus, and students begin the analysis of how an author's word choices affect the meaning and tone of a passage. Students are required to analyze how an author's choice concerning the structure of a text affects the meaning of a text. Writing skill development includes more emphasis on argument and research-based writing styles, and students practice using more sophisticated language in their writing. Students continue to hone their SAT knowledge and skills during this course.

**English III** - In this course, students read rigorous texts closely and practice citing textual evidence to support inferences drawn from the text. Students begin to analyze texts for multiple themes/central ideas. Vocabulary development and acquisition continues to be a focus, with more emphasis on learning multiple meaning words and how those words affect the meaning of a text. Students write for a variety of purposes, including combining research with argument and informative writing. Students enrolled in English III develop the skills and strategies required for the SAT.

**English III Honors** – During the school year, students enrolled in English III Honors are exposed to advanced instruction in expository and argumentative writing, focusing specifically on themes in American Literature. In addition, students participate in an in-depth study of American fiction and non-fiction written after 1900. Writing in this course focuses on developing critical literary essays as well as a formal research paper. Students enrolled in English III develop the skills and strategies required for the SAT.

**Advanced Placement Language and Composition** - The course follows the College Board Advanced Placement Language and Composition curriculum and is equivalent to a first year-year college English course. The course is designed to help students become skilled readers of prose written in a variety of rhetorical contexts and to become skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer's purposes, audience expectations, and subjects, as well as the way generic conventions and the resources of language contribute to effectiveness in writing. Students are expected to take the AP exam in May. This course is open to juniors and selected seniors. Successful completion of a summer project is expected by the first day of class.

**English IV** - This course is aligned with English 093 (ENG 402) or English 066 (ENG 403) at Manchester Community College. This course involves reading selected poetry, drama, short fiction, novels, and nonfiction from around the world. Selections are studied as literary works and as reflections of their age and culture. Writing instruction concentrates on critical analysis, the essay, and research. In addition, a focus is placed on writing the college entrance essay.

**English IV Honors** - This course provides advanced study of classic and contemporary literature from the British Isles, Asia, Africa and Europe. Writing instruction concentrates on critical analysis, the essay, research, and cross-cultural study. In addition, a focus is placed on writing the college entrance essay. Students enrolled in English IV Honors are required to complete a summer reading assignment and project prior to the first day of class.

**Human Rights** - An English teacher and a social studies teacher share instruction during this course, which meets for two class periods each day. This course is an interdisciplinary, in-depth study of human rights. Sample units focus on the Universal Declaration of Human Rights, the Holocaust, the American Indian, apartheid, and slavery. Students examine the causes and effects of prejudice and study the roles of propaganda and censorship in modern and historical contexts. Literary and historical works complement each other, with an emphasis on developing students' critical thinking skills. Students are required to complete a research project and to write several short papers.

**Advanced Placement Literature and Composition/ECE** - This course follows the College Board Advanced Placement Literature and Composition curriculum and is equivalent to a first-year college English course. Students study works by American, British, African, Australian, Canadian, Indian, and West Indian authors. Writing instruction focuses on the critical analysis of literature and includes the composition of expository, analytical, and argumentative essays. Students who enroll are expected to take the Advanced Placement Examination in May. College credit for the University of Connecticut's English III may also be earned through successful completion of Advanced Placement English. Successful completion of a summer project is expected by the first day of class.

# MATHEMATICS

## OVERVIEW

Mathematics serves several important roles in your student's life, both in the present and in the future. First, students can use the mathematics they learn in each year of their K-12 education to analyze and critique ideas, solve problems, and make sense of their worlds. Students should also see the beauty and creativity in mathematics and use it to create, build, and construct new ideas. In addition, mathematics often serves as a gateway to future courses, competitive colleges, and successful careers. Finally, mathematics can help students to develop a growth mindset that promotes positive habits of mind and supports life-long learning

## THE HIGH SCHOOL MATHEMATICS PROGRAM

### Core Mathematics Courses

Below are three pathways through the core mathematics courses East Hartford High School offers. The purpose of these courses is to develop a strong base of knowledge and common experiences. Most students will take one course per year, and most students will follow the core pathway: Algebra I, Geometry & Statistics I, and Algebra II. Students can accelerate their coursework by taking two classes in the same row concurrently. Students may also take two courses concurrently if they fail a core mathematics course but wish to stay on track. The two possible pairings are Algebra I with Geometry & Statistics I, and Geometry & Statistics I with Algebra II.

| | Post-Secondary (Level 2) | College Prep (Level 1) | Honors |
|---|---|---|---|
| Entrance Criteria | 8th Grade Transition Math | 8th Grade Pre-Algebra | C or Better in 8th Honors**<br>Passing Final Exam**<br>Teacher Rec** |
| 9th Grade | Algebra I, Part A | Algebra I | Geometry & Statistics I |
| 10th Grade | Algebra I, Part B | Geometry & Statistics I* | Algebra II |
| 11th Grade | Geometry & Statistics I | Algebra II*<br>Optional Math Elective | Pre-Calculus<br>Optional Math Elective |
| 12th Grade | Math Elective | Math Elective | Math Elective |

* These courses may also be offered as Level 2 courses based on enrollment
** Two of the three requirements listed must be met to enroll in Geometry & Statistics I in ninth grade

### Elective Mathematics Courses

During 11th and 12th grade, students have the opportunity to take mathematics electives. Although graduation requirements stipulate three mathematics credits, we strongly encourage students to take a mathematics elective course senior year. Students should choose these courses based on their current and future college and career aspirations. These courses are roughly broken down into the following three groups:

- Pure Mathematics: Preparation for mathematics, engineering, physical science, life science, and other STEM careers.
- Applied Mathematics: Preparation for social science, arts, business, and technical careers.
- Integrated Mathematics: Preparation for any college level entrance math course.

| | No College-Level Connection | College-Level Connection |
|---|---|---|
| Pure Mathematics | Pre-Calculus (1 Credit, Level 1) | AP Calculus AB (1 Credit, AP)<br>AP Calculus BC (1 Credit, AP) |
| Applied Mathematics | Financial Algebra (1 Credit, Level 1)<br>Geometry II (1/2 Credit, Level 1)*<br>Statistics II (1/2 Credit, Level 1)* | AP Statistics (1 Credit, AP) |
| Integrated Mathematics | Topics in College Algebra<br>(1 Credit, Level 2)<br>Topics in College Algebra<br>(1 Credit, Level 1) | |

*Students who plan on attending a four-year college or a college with a mathematics placement test are strongly recommended to take an algebra-based course in addition to Geometry II or Statistics II. Algebra-based courses include Pre-Calculus, Topics in College Algebra, and Financial Algebra.

## Core Course Descriptions

**Algebra I -** Students in Algebra I formalize algebraic concepts first learned in middle school. Topics include patterns; linear functions, equations, and inequalities; function notation; systems of linear equations; scatter plots and trend lines; quadratic equations; and an introduction to exponential functions.

**Geometry and Statistics I -** This course gives students a strong foundation in both Geometry and Statistics. Geometry topics include coordinate geometry, transformations, congruence, similarity, trigonometry, circles, area, and volume. Statistics topics include data displays, one variable statistics, probability, and data collection.

**Algebra II -** Students further develop the skills mastered in Algebra I. Topics include function operations and inverse functions; quadratic functions; polynomial functions; rational expressions and equations; radical expressions and equations; exponential functions; and logarithmic functions.

**Pre-Calculus -** During the first half of the year, students study functions and their graphs. This includes linear, polynomial, rational, exponential, and logarithmic functions. In the second half of the year, students focus on trigonometry. Additional topics include matrices, sequences and series, conic sections, polar coordinates, and polar equations.

## Elective Course Descriptions

**AP Calculus (AB) & (BC) -** The students' preference, as well as mathematical competency and confidence will be extended to this college level course. Students will study the topics of calculus including: determining and applying limits; determining and applying derivatives and anti-derivatives; definite

integrals; three-dimensional modeling; and differential equations with applications. Students take the AP exam in May.

**AP Statistics -** Students in AP Statistics will explore the ways in which we collect, summarize and draw conclusions from data. Students will apply Statistics to a variety of "real world" contexts. This course differs from most math courses, in that it places equal emphasis on writing as it does on calculation. Students will study these concepts using four broad conceptual themes: the exploration of data; sampling and experimenting with data; anticipating patterns using probability and simulations; and statistical inference.

**Topics in College Algebra -** In this course, students combine algebra and problem-solving strategies to explore a range of mathematical concepts. This course utilizes a blended instruction model. This means that some lessons are taught by a teacher, while other lessons are supported by computer adapted instruction to meet the needs of each student.

**Financial Algebra** - Financial Algebra is a mathematical modeling course that is algebra-based, applications-oriented, and technology-dependent. The course addresses college preparatory mathematics topics from Algebra 2, Statistics, Probability, and Pre-calculus under eight financial umbrellas: Discretionary Expenses, Banking, Investing, Credit, Employment and Income Taxes, Automobile Ownership, Independent Living, Retirement Planning, and Household Budgeting.

**Geometry II** - Throughout this course students will discover connections between geometry, art, design, construction, and logic. Topics include non-Euclidean geometry, inductive vs deductive reasoning, ruler and compass constructions, geometric art, and geometric simulations.

**Statistics II** - This course is intended for students interested in exploring the connections between mathematics, political science, social studies, and health occupations. Each unit pairs a skill from statistics or discrete mathematics with a socially relevant topic. Pairings may include discrete mathematics and democratic representation; probability and health outcomes; the normal distribution and wealth inequality; and sampling techniques and stereotypes.

# SOCIAL STUDIES

## OVERVIEW

Social Studies is the integration of knowledge and human experience for the purpose of citizenship. Students gain knowledge of history, civics and government, geography, and economics; understand the interaction between and among history, the social sciences and humanities and apply that knowledge and understanding as responsible citizens. An effective program develops several important aspects of a child's education including the development of literacy and 21st century skills, as well as cultural responsiveness.

## THE HIGH SCHOOL SOCIAL STUDIES PROGRAM

East Hartford High School's Social Studies program is designed to help students acquire logical and critical thinking skills in order to face a future of rapidly increasing change. It is a social studies education, focusing most directly on the learning which young people need for participating in society, which the public welfare requires. All courses include instructional objectives that are theme-based and are aligned with the Connecticut Framework as well as Common Core State Standards. Students consistently practice close reading, writing arguments, ad citing evidence from the text. In an effort to better prepare students for the SAT (administered in grade 11), teachers develop reading and writing tasks that are similar to what students will see on this high-stakes assessment.

This content of all social studies courses is organized according to ten National Curriculum Standards for Social Studies. These themes represent a way of organizing knowledge about the human experience in the world.

- Culture
- Time, Continuity, and Change
- People, Places, and Environments
- Individual Development, and Identity
- Individuals, Groups, and Institutions
- Power, Authority, and Governance
- Production, Distribution, and Consumption
- Science, Technology, and Society
- Global Connections
- Civic Ideals and Practices

Ultimately, the goal of the social studies program for East Hartford Public Schools is to have its students become active participants in the community as critical readers and writers while developing an inquiry-based approach to learning.

### Core Course Descriptions

**African/Black Studies and Puerto Rican/ Latino Studies-**This is a one credit year long course in which students will consider the scope of African American/Black and Puerto Rican/Latino contributions to US history, society, economy, and culture. It utilizes Connecticut's Social Studies Frameworks themes and inquiry-based approach to deliver a content-rich and personalized learning experience.

**World History/Global Studies -** During the first semester, the World History course will focus on the contributions of civilizations to human history both in the past and present and how the geographic environment influenced the growth of economic, governmental, and religious systems. In the second semester, the World History course continues the study of the development of civilizations. A global study of the world and the emergence of modern nations in the Middle East, Asia, Africa and Europe will be focal points.

**United States History – (Post-Secondary) -** This course is designed for students intending to attend non-selective colleges after high school. Special emphasis is placed on topics necessary to understand present problems and the meaning of good citizenship. Teachers use a variety of instructional practices to engage students with different learning styles. Daily homework is assigned to provide students with practice in working with new concepts, review of previously learned material. Long-term assignments are frequently broken down into several components. Student progress is assessed frequently.

**United States History (College Prep) -** This course is designed for academically talented students intending to pursue further education in a four-year college or university. Students are challenged to higher level thinking in the application of course materials. Students are expected to do both independent and group projects along with long- term assignments.

**United States History (Honors) -** This course is designed to challenge students who have demonstrated a high level of academic aptitude and achievement. The pace of instruction is rapid and topics are explored in greater depth than in college prep. Students are expected to complete independent research, group work and long-term assignments. Assessments emphasize the development of critical thinking skills, originality and creativity and the ability to make connections within the subject area as well as with other academic disciplines.

**United States History (AP) –**The AP U. S. History course focuses on the development of historical thinking skills (chronological reasoning, comparing and contextualizing, crafting historical arguments using historical evidence and interpreting and synthesizing historical narrative) and an understanding of content learning objectives organized around seven themes, such as identity, peopling and America in the world.

**Civics** - This course examines the local, state and national governments of the United States. Particular emphasis is placed on the skills necessary to become a productive participatory United States citizen in the 21st century.

**United States Government and Politics (AP) –** Study constitutional underpinnings, civil liberties and civil rights, political culture and socialization, citizen participation and influence, political institutions and policy making that are the foundation of modern U. S. government and politics.

### Elective Course Descriptions

**Contemporary Issues & Current Affairs -** This course will examine such current domestic issues as crime, housing, taxation, the environment, and other current topics.

**Human Rights Seminar (Honors) ** -** This course will be an interdisciplinary in-depth study of human rights. Some of the units covered will include: The Universal Declaration of Human Rights, Africa,

genocide, plight of American Indian, Civil Rights, and Women's Rights. Students will look at the cause and results of prejudice, as well as the role of propaganda and censorship. Literature and historical works will complement each other. Students will be required to do a research project and several short papers. Emphasis will be placed on public speaking skills. **** Note**: Meets 2 periods every day. An English teacher and a social studies teacher will share the teaching. A passing grade gives ½ credit in English and ½ credit in social studies.

**Law & the Citizen -** This course is designed as a citizen course with a focus on practical law. It focuses on Federal, State and local government and their interaction with the legal system. Every day legal situations such as due process of law, individual rights, police procedures and procedures in small claims court are covered. The effects of landmark Supreme Court decisions are studied in the context of daily life.

**Advanced Placement European History -** This course is designed for the senior interested in taking an advanced course in European History. The course will prepare the student to take the Advanced Placement Exam in European History. In addition to providing a basic narrative of events and movements, the goals of this class are to develop: a) an understanding of some of the principal themes in modern European history, b) an ability to analyze historical evidence, and c) an ability to analyze and to express historical understanding in writing. The intellectual, cultural, political, diplomatic, and social-economic history of the period 1450 to the present will be studied.

**AP Psychology -** The purpose of the Advanced Placement course in Psychology is to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students will be exposed to psychological facts and principles of each of the subfields within psychology. They will also learn about the methods psychologists use in this science. The aim of the AP course is to provide the student with a learning experience equivalent to that obtained in most college introductory psychology courses. Admission to the course is for highly motivated students. All students will be expected to take the AP Psychology Exam in the spring semester.

**Psychology –** A survey course that develops contemporary psychological perspectives while using research methods in the following topics: learning, memory, social interactions and disorders-treatment.

**Introduction to Criminal Justice -** Introduction to Criminal Justice, a College Career Pathways course, is an examination of the history and philosophy of American justice concepts with the emphasis on present-day practical application through our four major topics: The Criminal Justice system, Law Enforcement, the Courts, and the Corrections system. This course is designed for students interested in pursuing a career in Criminal Justice.

# SCIENCE

## OVERVIEW

The State of Connecticut's adoption of the Next Generation Science Standards (NGSS) is reflected in all high school science courses. NGSS instruction promotes analysis and interpretation of data, critical thinking, problem solving and connection-making across science disciplines with a high set of expectations for achievement in grades 9-12. These science standards complement English/Language Arts and mathematics standards, enabling classroom instruction to reflect a clearer picture of the real world where solving problems often requires skills and knowledge from multiple disciplines. These standards are designed to benefit and engage all students and help them develop a deeper understanding of science beyond memorizing facts and to experience similar scientific and engineering practices as those used by professionals in the field.

The above information can be found in more detail at **http://tinyurl.com/NGSS9-12parentguide**

As a comprehensive high school, East Hartford High School offers a variety of science courses to meet the needs of our students. Not only do we offer the more traditional physical science, biology, chemistry and physics courses, we also offer elective courses which are designed to provide students with a background in a number of areas. These courses in anatomy and physiology, marine biology, and environmental science allow students to explore areas of interest outside the more traditional science pathways. In addition, we are able to offer a very broad selection of honors and Advanced Placement courses to meet the needs of students looking for an additional challenge and to potentially earn college credit. Advanced Placement Biology, Chemistry, Physics and Environmental Science are taught by well-qualified instructors and allow students to experience a true college course within the supportive high school environment. The pathways listed below represent traditional routes taken by students. These pathways are flexible depending on student performance, interest and teacher recommendation.

| Grade Level | Course Sequence Option #1 | Course Sequence Option #2 |
|---|---|---|
| 9 | General Science | Honors Biology |
| 10 | Biology | Honors Chemistry |
| 11 | Chemistry, Physics or Science Elective | Physics, AP Chemistry, AP Biology, AP Environmental Science or Science Elective |
| 12 | Chemistry, Physics or Science Elective | AP Physics, AP Chemistry, AP Environmental, AP Biology or other Science Elective |

When selecting science courses, students and parents need to work with guidance counselors to ensure plans for college and career are considered. Some four-year colleges require a minimum of two years of a laboratory science, but depending on the school, many are now requiring three years of lab science as an admission requirement. Students with an interest in a particular field of study in college also need to consider the best high school science courses to take. For example, students who want to pursue a career in nursing should consider having both chemistry and physics on their high school transcript.

All curriculum documents are aligned to the Next Generation Science Standards and the Common Core State Standards. The scientifically-literate high school student will be able to transfer knowledge of academic theories and principles of science to practical applications in the real world.

## Core Course Descriptions

**Biology (Honors) –** This course is aligned to the Next Generation Science Standards (NGSS) and offers freshmen the opportunity to use science and engineering practices, crosscutting concepts and disciplinary core ideas to learn how the natural world works. Focus areas of study include structures and processes of organisms, ecosystems, heredity and inheritance, biological evolution as well as related earth science standards addressing earth systems and earth and human activity. Laboratory investigations are an integral part of this course. Students in this course are expected to take sophomore chemistry in grade 10.

**General Science -** This course is aligned to the Next Generation Science Standards (NGSS) and offers freshmen opportunity to use science and engineering practices, crosscutting concepts and disciplinary core ideas to learn how physical science and earth science concepts can be used to explain Earth's place in the universe, Earth's systems, Earth and human activity, forces and interactions, energy and waves and

their applications. Students will also study engineering, technology and application of science in relation to the above concepts.

**Chemistry, Sophomore (Honors) –** This laboratory course follows the honors pathway into a college preparatory chemistry class designed to meet the needs of students who may wish to focus on the sciences in college. This course is aligned to the Next Generation Science Standards (NGSS) in chemistry with a three-dimensional focus on matter and its interactions, including structure and properties of matter, chemical reactions, nuclear processes and energy. This study connects science and engineering practices, crosscutting concepts and disciplinary core ideas in order to facilitate early preparation in chemistry. This early preparation in chemistry also provides an opportunity to take advanced courses in physics, biology and chemistry in high school.

**Biology Level 1 -** This course focuses on the Next Generation Science Standards related to biology. Students will explore concepts of structures and functions of organisms, ecosystems, heredity and inheritance, biological evolution. Students will engage in a three-dimensional learning model where they are asked to use science and engineering practices, crosscutting concepts and disciplinary core ideas to explain science concepts. This course includes extended laboratory experiences during which time students will be asked to work collaboratively to further develop their understanding of the foundational concepts of biology.

**Biology Level 2 -** This course focuses on the Next Generation Science Standards related to biology. Students will explore concepts of structures and processes of organisms, ecosystems, heredity and inheritance, biological evolution. Students will engage in a three-dimensional learning model where they are asked to use science and engineering practices, crosscutting concepts and disciplinary core ideas to explain science concepts. Laboratory investigations are embedded into regular class periods.

## Elective Course Descriptions

**Anatomy & Physiology-Level 1 -** This course concentrates on the structure and function of the human organism. It includes a comprehensive overview of each organ and how these systems work together. Students will study the organ systems through demonstrations, audiovisual presentations, laboratory exercises, dissections and discussion. The course is designed for the student who is interested in increasing his or her understanding of the human body. Students will also receive topical information and background on health-related fields and careers.

**Anatomy & Physiology (Honors) -** This course is structured to present the student with a thorough understanding of the human systems and their individual components. Care is taken to ensure the proper usage of terminology which is also unique in medicine. The course involves independent study, classroom lectures, laboratory practice, dissections and rational applications of good techniques in analyzing problems. The course is open to all qualified juniors and seniors.

**Advanced Placement Biology –** This course will follow the College Board Advanced Placement Biology curriculum. It is the equivalent of a first-year college introductory biology course. Students will develop advanced inquiry and reasoning skills, such as designing a plan for collecting data, analyzing data, applying mathematical routines, and connecting biology concepts that govern living organisms and biological systems. The result will be readiness for the study of advanced topics in future college courses. Students who take this course will be expected to take the Biology Advanced Placement examination in the spring.

**Chemistry-Honors -** This course gives students a challenging college preparatory experience in chemistry through the three-dimensional Next Generation Science lens. This course encompasses all the concepts in our regular college preparatory class and in addition, students use science and engineering practices and crosscutting concepts to go deeper into their study of the disciplinary core ideas. The content of the course focuses on concepts such as structure and properties of matter, chemical reactions, nuclear process and energy. This course also prepares students for more advanced courses in chemistry, physics and biology.

**Chemistry-Level 1 -** This introductory college preparatory course is designed to provide a strong background for students in the basic principles of chemistry. This course is aligned to the Next Generation Science Standards and allows students to engage in classwork and laboratories designed to help them understand concepts such as structure and properties of matter, chemical reactions, nuclear process and energy. Students will use science and engineering practices, crosscutting concepts and disciplinary core ideas in chemistry to develop a deep understanding of chemistry standards. Appropriate demonstrations and regular quantitative and qualitative laboratory investigations are an integral part of this course.

**Conceptual Chemistry-Level 2 -** This course is intended for the student interested in the study of the basic concepts of chemistry in a real world context. The three-dimensional Next Generation Science Standards related to chemistry are studied through practical application of chemistry concepts in relation to local, national or global problems. Students study chemistry connected to science and engineering practices, crosscutting concepts and disciplinary core ideas related to structure and properties of matter, chemical reactions, nuclear processes and energy. The goal of this course is to prepare students to make informed decisions and think critically about the world around them.

**Advanced Placement Chemistry -** This course follows the College Board Advanced Placement Chemistry curriculum. This course is the equivalent of a first-year college introductory chemistry course and includes laboratory experience. Students in this course will increase their understanding of chemistry fundamentals and be able to solve chemical problems. They will need to express their ideas orally and in writing around such topics as: structure of matter, states of matter, reactions and descriptive chemistry. Students who take this course will be expected to take the Chemistry Advanced Placement Examination in the spring.

**Environmental Science-Level 2 -** This course is designed to examine the interrelationship of humans and the environment. The first semester focuses on the economic and political impact on how environmental issues are handled and how populations of living things function in an undisturbed state and under present conditions. The second semester focuses on how Earth would function without human interference and how pollution has impacted our lives and the lives of other living things on Earth. The full year is recommended, but either semester may be taken on its own as well.

**Advanced Placement Environmental Science -** This course follows the College Board Advanced Placement Environmental Science curriculum. It is designed to be the equivalent of an introductory one semester college course in environmental science. The goal of the AP Environmental Science course is to help students understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human- made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. Students who take this course will be expected to take the Environmental Science Advanced Placement Examination in the spring.

**AP Research -** AP Research is the second course in the AP Capstone program. The prerequisite course is AP Seminar. In this course, students will work with an expert to explore a topic, problem or issue of their own choosing to produce an academic research paper. Part of the final assessment in this course is an oral defense of the project to a panel of evaluators. Qualifying scores (3 or better) in this course, AP Seminar and four additional AP exams of the student's choosing, will qualify them for the AP Capstone Diploma™.

**Marine Biology-Level 1 -** This course is an introductory course in the biological, physical, and ecological characteristics of the marine environment. Organisms that inhabit ocean ecosystems will be studied, including their structure, function and adaptations for survival. Different marine ecosystems will be explored with an emphasis on local marine environments supported by field trips to beaches, estuaries, and rocky shores. Human impact on these areas will also be examined. In addition, trips to Mystic Aquarium and/or the New England Aquarium are included as a part of the curriculum.

**Marine Biology (Honors) -** This course will incorporate a more detailed study of concepts and skills from Marine Biology with additional laboratory time to investigate certain topics in depth.

**General Science II-**This course combines the elements of life, earth and physical science and applies them to the themes of local and global sustainability. The topics in this course are centered around sustainable development and the use of environmental resources in a responsible way to ensure they will continue to be available for use by future generations. Students learn to analyze risks, assess trade-offs, make decisions using scientific data and apply concepts to real world situations. Hands-on experiments are an integral part of this course. Learning is cumulative and encourages student independence.

**Physics-Level 1 -** This course, along with biology and chemistry, is recommended for any student planning to attend college. The basic laws of classical and modern physics are presented in a practical manner through the use of textbooks, laboratory experiments, demonstrations, computer programs, and other media presentations. The course emphasizes the practical applications of physics providing the background that colleges assume high school students to have mastered. Some of the topics included are Motion, Newton's Laws, Heat, Wave Motion, Light, Sound, and Energy.

**Advanced Placement Physics -** This course follows the College Board Advanced Placement Physics 1 curriculum. The goal of AP Physics 1 is to provide students with an experience equivalent to a first semester college level physics course. The course will utilize guided inquiry and student-centered learning to help students develop critical thinking skills. Physics 1 asks students to explore the following content areas: Newtonian mechanics, work, energy and power; mechanical waves and sound and introductory simple circuits. An understanding of algebra is critical and students who take this course are expected to take the advanced Placement Physics 1 Examination in the spring.

# PARTNERING IN YOUR CHILD'S EDUCATION

You are an important part of your child's education. Research has consistently shown that parental involvement in children's education from an early age has a significant effect on educational achievement and continues to do so into adolescence and adulthood. East Hartford Public Schools encourages all parents and guardians to be active partners with the members of the school district.

**Ask the teacher questions like:**

- Is my child at the level where he/she should be at this point of the school year?
- Can I see a sample of my child's work?
- Where is my child excelling? How can I support this?
- What do you think is giving my child the most trouble? How can I help my child improve in this area?
- What can I do at home to make sure that my child is successful?
- What can I do to help my child with upcoming work?

**Ask your child questions like:**

- Did you talk about anything you read in class today? Did you use evidence when you talk about what you read?
- Did you learn any new words in class today? What do they mean? How do you spell them?
- What math problems did you do today? How did you get your answer?
- Tell me something you learned in your reading. How did you learn it?
- How did you use math today? Can you show me an example?

**What should you see in your child's backpack?**

- Real-world examples that makes what students learn in English and math make more sense
- Books that are both fiction and non-fiction
- Writing assignments that require students to use evidence instead of opinion
- Math homework that asks students to use different methods to solve the same problem
- Math homework that asks students to explain HOW they got their answer

# RESOURCES FOR PARENTS & STUDENTS

**English and Social Studies:**

- www.corestandards.org/ELA-Literacy - identifies the Common Core State Standards for students in grades K-12
- www.read.gov - A variety of teen reading resources to explore and enjoy
- www.readcentral.org- Over 10,000 free online books, quotes and poems
- www.memory.loc.gov/ammem/- An archive from the Library of Congress section on American Memory
- www.ourdocuments.gov/ - Images of original documents, from the Declaration of Independence to the patent for the cotton gin
- http://video.pbs.org/ - Award-winning documentaries, including episodes from educational programs like Nova and Nature, as well as archived videos
- www.history.com – View clips and full length shows on history topics from Ancient China to the Vikings to Watergate
- www.nationalgeographic.com – A wide range of educational digital texts
- www.khanacademy.org – features thousands of educational resources, including video tutorials for students

**Math and Science:**

- www.corestandards.org/Math - identifies the Common Core State Standards and the Mathematical Practices for students in grades K-12
- USGS Educational Resources for Teachers – The US Geological Survey's resource about our earth and its ecosystems
- www.nasa.gov/audience/forstudents - NASA developed website that includes information about the space program and aeronautics
- www.physicsclassroom.com – An online interactive tutorial of basic physics concepts
- www.scientificamerican.com – Latest news and features on science issues that matter, including earth, environment and space
- www.illustrativemathematics.org – sample tasks and activities for many math standards that illustrate what students are supposed to know and be able to do
- www.mathforum.org – Maintained by Drexel University, resources organized for students in all grade levels
- www.khanacademy.org – features thousands of educational resources, including video tutorials for students

**Preparing for College:**

- www.collegeboard.com – Official college planning and preparation tools for students and parents
- http://studentaid.gov – Information about federal student aid and college loans
- www.nacacnet.org/studentinfo/Pages/Default.aspx - College planning tools and resources from resources from the National Association for College Admission Counseling
- www.firstinthefamily.org – Practical advice and lessons learned by high school seniors and college students who have made it to college
- www.knowhow2go.org/ - A step-by-step guide to help middle and high school students start planning for college
- www.fastweb.com – A free scholarship matching service

# EAST HARTFORD PUBLIC SCHOOLS

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