2024-2025

Essex County Schools of Technology

ACADEMIC COURSE CATALOG

ENGLISH LANGUAGE ARTS

English Literary Survey Credits: 5 Credits
Prerequisite: Terranova Assessment Performance
English Literary Survey continues the study of the literary genres (novel, short story, poetry, etc.). The course includes exploring each genre's literary elements, determining theme and intent, and examining vocabulary, semantics, grammar, and usage. Reading, writing, and speaking assignments are required as an additional method to improve understanding and comprehension. Students entering the ninth grade will build a foundation in fiction, drama, poetry, mythology, and literary nonfiction. In addition, they will analyze literature from various angles to view it in a historical context and observe connections between literature and the arts. In their essays,
students will explore, compare and contrast, create arguments, and take a position on stated claims. Students will engage in structured discussions examining philosophical questions in particular works. By encouraging students to generate critical thinking inquiries and topics for discussion and written expression, they are prepared for a focused literary study: American Literature in grade 10, British Literature in grade 11, and World Language in grade 12.

Honors English Literary Survey Credits: 5 Credits
Prerequisite: Honors Criteria
Honors English Literary Survey includes the study of literature from various genres, cultures, and historical periods. Students will explore issues, ideas, and cultural aspects in short stories, novels, poetry, drama, music, and media. Students will individually and collaboratively create and present several written projects, including essays and presentations, integrating research, literature, art, film, music, and multimedia. Students will write in various writing styles, analyzing, explaining, and evaluating a variety of subjects, including identifying and analyzing recurring themes, comparing and contrasting writing styles, characterization, and points of view. Students will formulate thesis statements and major claims and back up these claims with evidence using both fiction and non-fiction texts. Grammar usage, mechanics, and vocabulary building through learning activities are designed to strengthen and build upon existing skills and knowledge. By encouraging students to generate critical thinking inquiries and topics for discussion and written expression, they are prepared for an advanced course of study: Honors American Literature in grade 10, Honors British Literature and AP Language & Composition in grade 11, Honors World Literature and AP Literature & Composition in grade 12.

Creative Writing| Credits: 5 Credits
Creative Writing allows students to develop and improve their technique and individual writing style in short stories, poetry, essays, and other prose forms. Although the emphasis of the course is on writing, students will read and analyze exemplary representations and authors to obtain a fuller appreciation of the form and craft, including, but not limited to, fiction, nonfiction, poetry, personal essays, etc.

American Literature Credits: 5 Credits
Prerequisite: English Literature Survey
American Literature focuses on American authors and their work. This course is devoted to studying American literature from the colonial to the modern period. Much of the literature is nonfiction (diaries, letters, sermons, almanacs, speeches, and foundational documents); there are many opportunities to analyze historical and informational texts and connect them with history, art, and other subjects. Students continue to build on their writing skills, integrating multiple sources and perspectives into their work, reading literary criticism, and writing longer and more complex essays. The course will include short texts, poetry, and other selections from non-fiction literary texts, as well as American-based novels and plays. Encouraging students to generate critical thinking inquiries and topics for discussion and written expression prepares them for a focused literary study: British Literature in grade 11 and World Language in grade 12.

Honors American Literature Credits: 5 Credits
Prerequisite: English Literary Survey; Honors English Literary Survey
Honors American Literature course develops students' understanding of our country's history and cultural progression through fiction and non-fiction literature. Students will explore selections by contemporary and traditional American authors from diverse cultural and ethnic origins. Students will engage in dialogue, reflection, and formal and informal writing, including analysis, narrative, compare-and-contrast, etc. A formal paper will reinforce research skills and focus on organization and source documentation. Grammar usage, mechanics, and vocabulary are designed to strengthen and build upon existing skills and knowledge through learning activities. By encouraging students to generate critical thinking inquiries and topics for discussion and written expression, they are prepared for an advanced course of study: Honors British Literature and AP Language & Composition in grade 11, Honors World Literature and AP Literature & Composition in grade 12.

British Literature Credits: 5 Credits
Prerequisite: American Literature; Honors American Literature
British Literature exposes the student to selected timeframes of England's literary and historical development, focusing on the literature reflective of the time (short stories, plays, poems, etc.) from Anglo-Saxon to Modern times. Using complex literary forms such as short stories, poetry, novels, and informative texts, students read and discuss in writing and orally how earlier works influence later works and how forms and ideas have evolved. Students improve their critical-thinking skills by determining the underlying assumptions and values in the literature and its reflection on the period. British Literature also focuses on language skills/writing, vocabulary, and oral discussions. Encouraging students to generate critical thinking inquiries and topics for discussion and written expression prepares them for a focused literary study: World Language in grade 12.

Honors British Literature Credits: 5 Credits
Prerequisite: Honors American Literature
Honors British Literature is a literature-based course of study focusing on the history of British literature. The chronologically based literature begins with the Anglo-Saxon Period. It consists of theme-oriented poetry, short stories, essays, non-fiction, and full-length works as it moves into Modern Times. Literary devices, content, style, and cultural diversity are studied in addition to vocabulary skills, library and research skills, public speaking, and various forms of essay/report writing. Students improve their grammar and usage skills through guided writing, emphasizing developing critical and analytical thinking skills through discussion, writing, and reading texts. By encouraging students to generate essential inquiries of thinking and topics for discussion and written expression, they are prepared for an advanced course of study: Honors World Literature and AP Literature & Composition in grade 12.

Journalism Credits: 1.25 Credits
Journalism will encompass all the introductory yet crucial elements of responsible reporting, including intellectualizing, editing, and media coverage. Students can appropriately address, discuss, and demonstrate both objective and subjective journalism by exploring professional, critical writing and coverage of ethical issues. The course will also differentiate between complex news reporting and opinion-based writing. Additionally, students will improve skills relating to grammar, composition, investigation, and interview techniques. The course will also integrate components of the British Literature curriculum and current events to allow students to build a journalistic foundation via literary and world sources. Furthermore, this course will further strengthen (as in all the English courses) general study skills, particularly analytical reading, expository writing, and oral communications, comparable to what students are expected to produce in a college-level course.

Writing Persuasively Credits: 1.25 Credits
This is a one-cycle course focused on the art of persuasion and persuasive writing. The goal is for students to become well-versed in persuasion, specifically about writing, so they are prepared to write the ultimate compelling piece—the college essay. Students will learn to write persuasively, which attempts to persuade a reader to adopt a particular point of view or take a specific action. Students will learn to use ethics, reasoning, and emotions to appeal to a specific reader/audience. Students will learn to support their argument with facts, logical and emotional reasoning, concrete examples, statistics, and expert opinions. Students will use all phases of the writing process to produce at least one polished persuasive essay, a college application essay, and a first draft of a cover letter.

AP Language & Composition Credits: 5 Credits
Prerequisite: Honors American Literature
The AP course in English Language and Composition engages students in becoming skilled readers of prose written in various rhetorical contexts and in becoming skilled writers who compose for multiple 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 genre conventions and the resources of language contribute to effectiveness in writing.

World Literature Credits: 5 Credits
Prerequisite: British Literature
World Literature allows students to study literature worldwide closely and analyze the historical and cultural context. Students continue to become critical thinkers, readers, and influential writers by focusing on the communication skills needed to succeed in the course and later in college and their careers. Students will write using standard written language through informal and formal papers and for various audiences and purposes. Students in this course will gain a global perspective through inquiry into various literary cultures and their distinctive perceptions of the political, economic, and religious forces sweeping the world. This course uses representative literature selections (poems, novels, informational texts, etc.) from ancient and modern countries worldwide. Students improve their critical thinking skills as they comprehend the diversity of literary traditions and the influences of those traditions. As are written compositions, oral discussion is integral to the course.

Honors World Literature Credits: 5 Credits
Prerequisite: British Literature; Honors British Literature
Honors World Literature offers students an intensive study of diverse literature, cultures, and ideas. Students explore key literary fictional and non-fictional texts to develop the skills of critical and curious thinkers, recognizing the global connections of our world. Using inference, analysis, evaluation, and synthesis, students will use logic and reasoning to discuss and write essays. Students will provide textual evidence to support their writing, claims, opinions, and interpretations of the works. Students will develop an appreciation and respect for world literature and its reflection on culture, history, society, economy, and politics of a point in time and how these influence our global interactions.

AP Literature & Composition Credits: 5 Credits
Prerequisite: Honors British Literature
Following the College Board's suggested curriculum designed to parallel college-level English courses, the AP English Literature and Composition course enables students to develop critical standards for evaluating literature. Students study the language, character, action, and theme in works of recognized literary merit; enrich their understanding of connotation, metaphor, irony, syntax, and tone; and write compositions of their own (including literary analysis, exposition, argument, narrative, and creative writing).

Public Speaking |Credits: 5 Credits Elective

Through practice, the Public Speaking courses will allow students to develop communication skills that can be used in academic and career speaking situations (such as small and large group discussions, delivery of lectures or speeches in front of audiences, etc.). Course topics include research and organization, writing for oral presentations, persuasive, argumentative, and informational choices, visual and oral presentation skills, analysis and critique, and development of confidence when presenting.

ENGLISH AS A SECOND LANGUAGE (ESL)

Beg ESL Literary Survey Credits: 10 Credits

Prerequisite: Terranova Assessment Performance & WIDA for EL Screener Performance

Beg ESL/Literary Survey is designed to provide non-native English speakers with various learning activities.

They are specifically geared toward developing students' English proficiency and content-specific language. It also includes an infusion of the Literary Survey course offered to native English speakers to expose EL students to the same intensive study as their peers and further develop students' skills in reading, writing, speaking, listening, viewing, and media literacy, introduction to literature, development of vocabulary and usage skills in effective writing. Emphasis is also placed on writing: grammatical correctness, sentence structure, paragraph formation, and organization of clear, concise essays. Students will not only build a foundation in acquiring a second language but will be exposed to fiction, drama, poetry, mythology, and literary nonfiction. This is achieved using the ESL curriculum and exposure to the same literary texts from the Literary Survey curriculum for Regular English Students. The student will, with differentiation, analyze literature from various angles in a historical context and observe connections between literature and the arts across the major genres (short story, novel, poetry, drama, epic poetry, and literary nonfiction). Students will discuss and write about works, memorize short poems and excerpts of speeches, and present oral presentations to assist them with pronunciation.

Intermediate ESL American Literature Credits: 10 Credits

Prerequisite: Beg ESL/Literary Survey & WIDA ACCESS for EL Performance

Intermediate ESL/American Literature is designed to provide non-native English speakers with various learning activities to develop students' English proficiency and content-specific language. It also includes an infusion of American Literature from the Puritan Period to Modern Literature. Students study primary historical documents, plays, and Shakespearean dramas, as those offered to native English speakers, to expose EL students to the same intensive study as their peers. Students develop writing, speaking, listening, viewing, and media literacy skills. Emphasis is also placed on writing: grammatical correctness, sentence structure, paragraph formation, and organization of clear, concise essays. ESL students entering the tenth grade will continue building on their English as a Second Language learning. Still, they will also continue analyzing fiction, drama, poetry, mythology, and literary nonfiction. This is achieved with continued exposure to the same literary texts listed in the American Literature curriculum for Regular English Students and the ELS curriculum using the textbook Edge. The students will, with differentiation, analyze literature from various angles in a historical context and observe connections between literature and the arts across the major genres (short story, novel, poetry, drama, epic poetry, and literary nonfiction). Students will discuss and write about works, memorize short poems and excerpts of speeches, and present oral presentations to assist them with pronunciation.

Advanced ESL British Literature Credits: 10 Credits

Prerequisite: Intermediate ESL/American Literature ACCESS for EL Performance

Advanced ESL/ British Literature is designed to provide non-native English speakers with various learning activities to develop students' English proficiency and content-specific language. It also

includes an infusion of British Literature from the Medieval Period through Postmodern/Contemporary. Another focus of study is on the historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to scholarly works in their historical and cultural contexts. Students will study historical periods of British literature such as the Medieval, Renaissance, 17th and 18th Century, Romantic, Victorian, Modern, and postmodern eras. All the literary texts (fiction, nonfiction, drama, poetry, informational texts, etc.) will focus on different types of genres and themes. Students also develop speaking, listening, viewing, and media literacy skills. Grammatical correctness, sentence structure, and paragraph formation are continuously being developed with the exposure and creation of writing tasks for different audiences and purposes.

Advanced ESL World Literature Credits: 10 Credits
Prerequisite: British Literature/WIDA ACCESS for ML Performance
The Advance ESL/World Literature has been aligned with the WIDA's Multilingual Language Development Standards (ELD) to meet El's cognitive and linguistic needs. As its name indicates, the Transitional ESL / World Literature course will give EL 12th-grade students a chance to have a deeper awareness and understanding of global civilizations by examining, discussing, and reflecting on various diverse and rich cultures. This course will focus on some ancient and modern world literary selections. Students will improve their critical thinking skills by evaluating global political, economic, religious, and social forces that shaped the world. They will continue to enhance their speaking, listening, reading, and writing skills by completing various creative and critical thinking activities.

WORLD LANGUAGE

Spanish 1A: Spanish Conversation & Culture Credits: 2.5
Prerequisite: None
This course is designed to offer novice World Language students the opportunity to begin developing communicative competence in Spanish and learn about the target culture. It will use the three modes of communication: interpersonal, interpretational, and presentational, which are emphasized nationally and in the New Jersey Students Learning Standards (NJSLS). Reviews of previous general grammar knowledge and vocabulary will accompany the practice of listening, pronunciation, conversation, and reading. On the other hand, culture will be incorporated into each thematic unit to provide students with a better understanding of the Spanish-speaking world's art, music, literature, and society to understand the meaning of cultural identity.

Spanish 1B: Composition │Credits: 2.5 Credits Prerequisite: Spanish 1A
This course is designed to help students improve reading and writing skills in Spanish by developing communicative skills and linguistics competence of the primary, grade-level appropriate language structures. In this manner, students can read and understand more complex passages and write coherent and logical responses developed from an accurate knowledge of grammar and vocabulary in context. There will be a thorough review of all the essential grammatical concepts covered in Spanish Conversation and Culture, and language learning, linguistic, and communicative competence will be reinforced with brief explanations of the linguistic concepts studied in exercises, stories, compositions, and situations. Videos, cultural presentations, film, literature, and music will also be used to improve the understanding of vocabulary and offer the possibility of expressing themselves in Spanish.

Spanish II Credits: 5.0 Credits Prerequisite: Spanish I-A and Spanish I-B
Spanish II curriculum has been designed to acquaint students with the four language skills (listening, speaking, reading, and writing) and the cultural background of Spanish-speaking countries throughout the development of meaningful thematic units. As the student advances in proficiency, linguistics, and communicative competence grade-level appropriate, the Spanish II program aims to involve the

student in the NJ Student Learning Standards, which are twenty-first century education-oriented as mandated by the state of New Jersey. This approach not only yields students who are proficient in basic grammar and vocabulary but will include experiences that promote the use of language as a communicative tool, task-oriented instruction, and learning, i.e., an ability to communicate about oneself and others, an ability to express the fundamentals of daily life, an ability to interact with others in the target language.

Advanced Spanish II Credits: 2.5 Credits
Prerequisite: None
Advanced Spanish II builds upon skills developed in previous Spanish courses, extending students' ability to understand and express themselves in Spanish and increasing their vocabulary. Typically, students learn to engage in discourse for informative or social purposes, write expressions or passages that show an understanding of sentence construction and **grammar rules, and comprehend the** language when spoken slowly. This course will allow students to focus uniquely on the history and literature of Spanish-speaking people to deepen their understanding of the target culture. Furthermore, the emphasis is on all four language skills development simultaneously: listening, speaking, reading, and writing. Written and oral communicative skills include a variety of topics and thematic units: family life, community, physical environment, meal taking, health and welfare, education, earning a living, leisure, public and private services, shopping, travel, and **current events.**

AP Spanish Language & Culture Credits: 5
Prerequisite: Spanish I-A, Spanish I-B, Spanish II, Spanish for Heritage Speakers, or Advanced Spanish II
AP Spanish Language and Culture course has been designed to provide advanced high school students with a rich and rigorous opportunity to study the language and culture of the Spanish-speaking world that is approximately equivalent to an upper-intermediate college or university Spanish course, as per the College Board's suggested curriculum. The course engages students in exploring culture in both contemporary and historical contexts. It also develops students' awareness and appreciation of products, both tangible (e.g., tools, books) and intangible (e.g., laws, conventions, institutions); practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions that underlie both practices and products). Students can demonstrate their proficiency in each of the three modes in the Intermediate to Pre-Advanced range as described in the ACTFL Performance Guidelines for K–12 Learners. The course is entirely in Spanish, takes a holistic approach to language proficiency, and recognizes the complex interrelatedness of comprehension and comprehensibility, vocabulary usage, language control, communication strategies, and cultural awareness.

MATHEMATICS

Conceptual Pre-Algebra Credits: 5 Credits
Prerequisite: Terranova Assessment Performance
Pre-Algebra courses increase students' foundational math skills and prepare them for Algebra I by covering a variety of topics, such as properties of rational numbers (i.e., number theory), ratio, proportion, estimation, exponents and radicals, the rectangular coordinate system, sets and logic, formulas, and solving first-degree equations and inequalities.

Conceptual Algebra I Credits: 5 Credits
Prerequisite: Terranova Assessment Performance
This course offers students a conceptual understanding of the study of properties and operations of the actual number system, evaluating rational algebraic expressions, solving and graphing first-degree equations and inequalities, translating word problems into equations, operations with and factoring of polynomials, and solving simple quadratic equations. Emphasis is on conceptual

understanding of algebraic concepts and problem-solving in context.

Algebra I Credits: 5-10 Credits
Prerequisite: Terranova Assessment Performance
Algebra I includes studying properties and operations of the actual number system, evaluating rational algebraic expressions, solving and graphing first-degree equations and inequalities, translating word problems into equations, operations with and factoring polynomials, and solving simple quadratic equations. Algebra 1 is a course that will focus on studying Relationships Between Quantities and Reasoning with Equations, Linear Relationships, Expressions and Equations, Quadratic Functions and Modeling, and Functions and Descriptive Statistics. In this Algebra 1 course, effective communication using the language of mathematics is essential. Correct use of mathematical definitions, notation, terminology, syntax, and logic should be required throughout the course. Real-world applications are presented within the course content, and a function's approach is emphasized.

Honors Algebra I Credits: 5 Credits
Prerequisite: Terranova Assessment Performance & Honors Criteria
Honors Algebra I includes studying properties and operations of the actual number system, evaluating rational algebraic expressions, solving and graphing first-degree equations and inequalities, translating word problems into Equations, operations with and factoring of polynomials, and solving simple quadratic equations. This honors course is designed to provide students with an in-depth level of instruction at an accelerated pace and to extend the instruction by including reasoning, application, and modeling problems. Honors Algebra is designed for students in an accelerated program and will focus on studying Linear Equations and Functions, Quadratics Equations and Functions, and an introduction to Exponential Functions. This course extends and deepens the topics of the regular course. In this Honors Algebra 1 course, effective communication using the language of mathematics is essential. The correct use of mathematical definitions, notation, terminology, syntax, and logic should be required throughout the course. The course content presents real-world applications and emphasizes a function's approach.

Conceptual Geometry Credits: 5 Credits
Prerequisite: Conceptual Algebra 1
Conceptual Geometry courses emphasize a practical approach to geometry and deemphasize an abstract, formal approach. Topics typically include properties of and work with plane and solid figures; inductive methods of reasoning and use of logic; concepts of congruence, similarity, parallelism, perpendicularity, and proportion; and rules of angle measurement in triangles.

Geometry Credits: 5 Credits
Prerequisite: Algebra 1
This Geometry course emphasizes an abstract, formal approach to studying geometry. Topics include properties of plane and solid figures, deductive reasoning methods, and logic use; geometry as an axiomatic system, including the study of postulates, theorems, and formal proofs; concepts of congruence, similarity, parallelism, perpendicularity, and proportion; and rules of angle measurement in triangles. By the end of this course, students will have enough knowledge to move on to an Algebra II class and be successful.

Honors Geometry Credits: 5 Credits
Prerequisite: Honors Algebra 1 or Algebra 1
This Honors Geometry course, emphasizing an abstract, formal approach to the study of geometry, includes topics such as properties of plane and solid figures; deductive methods of reasoning and use of logic; geometry as an axiomatic system including the study of postulates, theorems, and formal proofs; concepts of congruence, similarity, parallelism, perpendicularity, and proportion; and rules of angle measurement in triangles. This honors course is designed to provide students with an in-depth

level of instruction at an accelerated pace and to extend the instruction by including reasoning, application, and modeling problems. Honors Geometry is designed to introduce students to the fundamental concepts of Geometry but with high-performance expectations. Honors Geometry includes all the subject content of the regular geometry course. Still, more emphasis is given to algebra, logic, third dimension, transformational geometry, and technology to prepare students for other classes in the enriched high school mathematics sequence. To appreciate the power of logic as a tool for understanding the world around you, the concept of proof is a substantial course focus. Because the development of precise mathematical language is stressed, reading and problem-solving are emphasized throughout.

Algebra II Credits: 5-10 Credits
Prerequisite: Geometry
Algebra 2-course topics typically include field properties and theorems; set theory; operations with rational and irrational expressions; factoring of rational expressions; in-depth study of linear equations and inequalities; quadratic equations; solving systems of linear and quadratic equations; graphing of constant, linear, and quadratic equations; properties of higher degree equations; and operations with rational and irrational exponents. This Algebra 2 course is designed to build upon the previous algebraic and geometric topics covered. It should reinforce previous essential issues such as solving linear equations, graphing linear functions (using slope intercept form, intercepts, and tables), and simplifying expressions. Emphasis should be placed on representing elementary functions in numerous ways, such as graphically, algebraically, numerically, and verbally. These elementary functions should include linear, quadratic, higher-order polynomial, exponential, logarithmic, and rational functions. Problem-solving involving all types of elementary functions will be the main focus of this course. This course will also include an extension of the number system into the complex field (e.g.…imaginary unit and complex numbers), solving linear systems, use of
Matrices to solve real-world situations, probability involving counting principles, and summarization and comparison of data sets. By the end of this course, students will have enough knowledge to move on to a Pre-Calculus class and be successful.

Honors Algebra Accredits: 5-10 Credits
Prerequisite: Honors Geometry or Geometry
Algebra 2-course topics typically include field properties and theorems; set theory; operations with rational and irrational expressions; factoring of rational expressions; in-depth study of linear equations and inequalities; quadratic equations; solving systems of linear and quadratic equations; graphing of constant, linear, and quadratic equations; properties of higher degree equations; and operations with rational and irrational exponents. This honors course is designed to provide students with an in-depth level of instruction at an accelerated pace and to extend the instruction by including reasoning, application, and modeling problems. This Honors Algebra 2 course is designed to build upon the previous algebraic and geometric topics covered. It should reinforce previous essential issues such as solving linear equations, graphing linear functions (using slope intercept form, intercepts, and tables), and simplifying expressions. Emphasis should be placed on representing elementary functions in numerous ways, such as graphically, algebraically, numerically, and verbally. These elementary functions should include linear, quadratic, higher-order polynomial, exponential, logarithmic, and rational functions. Problem-solving involving all types of elementary functions will be the main focus of this course. This course will also include extending the number system into the complex field (e.g.....…imaginary units and complex numbers), solving linear systems, using matrices to solve real-world situations, probability-involving counting principles, and summarizing and comparing data sets. By the end of this course, students will have enough knowledge to move on to a Pre-Calculus class and be successful.

Pre-Calculus/Honors Pre-Calculus Credits: 5 Credits
Prerequisite: Algebra 2 or Honors Algebra 2
Pre-Calculus combines the study of trigonometry, elementary functions, analytical geometry, and math analysis topics in preparation for calculus. Topics typically include the study of complex numbers; polynomial, logarithmic, exponential, rational, right trigonometric, and circular functions and their relations, inverses, and graphs; trigonometric identities and equations; solutions of right and oblique triangles; vectors; the polar coordinate system; conic sections; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity. Pre-Calculus is the fourth in a series of courses designed to not only enable our most vital students in the study of mathematics to undertake a course in Calculus upon the completion of the series but also to prepare them to pursue mathematics education in college. The selected topics are part of this preparation while working within the Common Core Curriculum Standards. Pre-calculus typically includes a review of algebra and an introduction to exponential logarithmic and trigonometric functions. Honors Pre-Calculus will offer a more in-depth study of the Pre-Calculus topics. The scope of work transcends everyday work in Trigonometry. Emphasis is placed on trigonometric functions, graphs, inverse trigonometric functions, trigonometric identities and equations, polar coordinates, complex numbers, sequences, and series, the nature of graphs, limit theorems, and parametric equations. The approach to teaching this subject matter incorporates technology (graphing calculators, computers, and when appropriate), attention to real-life applications, cooperative learning, alternative assessment strategies, and traditional deductive and inductive reasoning. Students enrolled in this course should have a command of the fundamentals of Algebra and be experienced in handling selected advanced Algebra topics.

Introduction to College Algebra Credits: 5 Credits
Prerequisite: Algebra II
This course is designed to take students from concrete arithmetic ideas to the more abstract algebraic forms of these ideas. Throughout the course, the emphasis is on showing students the practical use of concepts and developing understanding by translating English phrases and sentences into algebraic expressions. Topics include simplifying arithmetic and algebraic expressions, signed numbers, fractions, decimals, percents, estimations, geometric applications, linear equations, graphing, exponents, systems of linear equations, quadratic equations, and applications. Students who receive a “C” or better on the Essex County College (ECC) midterm and final exams will fulfill the ECC core proficiency requirements for mathematics.

Calculus Credits: 5 Credits Prerequisite: Pre-Calculus
Calculus includes the study of derivatives, differentiation, integration, the definite and indefinite integral, and calculus applications. Typically, students have previously attained knowledge of pre-calculus topics (some combination of trigonometry, elementary functions, analytic geometry, and math analysis). Topics include elementary functions, properties of functions and their graphs, limits and continuity, differential calculus, and integral calculus.

AP Calculus AB Credits: 5 Credits
Prerequisite: Pre-Calculus
Following the College Board's suggested curriculum designed to parallel college-level calculus courses, AP Calculus AB provides students with an intuitive understanding of calculus concepts and experience with its methods and applications. This course introduces calculus and includes the following topics: elementary functions; properties of functions and their graphs; limits and continuity; differential calculus (including the definition of the derivative, derivative formulas, theorems about derivatives, geometric applications, optimization problems, and rate-of-change problems); and integral calculus (including antiderivatives and the definite integral). This course should prepare students to take the Advanced Placement Calculus AB exam. By the end of this course, students will have enough knowledge to move on to a College-Level Calculus course and be successful.

VISUAL & PERFORMING ARTS

Visual & Performing Arts: Music Credits: 5.0 Credits Prerequisite: None
ECST's Performing Arts Music program is designed to provide 12th-grade students with a more in-depth study of music. This course identifies core content skills to be acquired. It moves students along the competency-based continuum of skills through multilevel performance-based projects, which are introduced to the class continually, enabling the teacher to meet the individual needs of each student. This course introduces students to the production of performing arts through music. All students will receive training in music fundamentals, appreciation, and literacy skills to broaden their appreciation and understanding of music as an art form. Students will create, perform, and respond to multiple forms of music education. Students develop familiarity with music theory, piano keyboarding and voice training basics, and the creative process of basic writing and composing. Students will learn to create digital music and record their performances using Mac Book Pro technologies.

Visual & Performing Arts: Theatre Credits: 5.0
Prerequisite: None
ECST's Performing Arts Theatre program is designed to provide 12th-grade students with a more in-depth study of theatre. This course identifies core content skills to be acquired. It moves students along the competency-based continuum of skills through multilevel performance-based projects, which are introduced to the class continually, enabling the teacher to meet the individual needs of each student. This course introduces students to the production of performing arts through theatre. All students will receive training in theatre fundamentals, appreciation, and theatrical literacy skills to broaden their appreciation and understanding of theatre as an art form.
Students will create, perform, and respond to multiple forms of theatre education. They will develop familiarity with theatre through public speaking, poetry, monologues, and scene selections. They will also be introduced to the creative process through original scripts and monologue creations. Students will learn to use their bodies and voices to communicate emotions creatively. Students will use technology to view relevant theatrical performances and create scripts.

Visual & Performing Arts: Dance Credits: 5.0
Prerequisite: None
ECST Schools Performing Arts Dance program is designed to provide 12th-grade students with a more in-depth study of the dance. This course identifies core content skills to be acquired. It moves students along the competency-based continuum of skills through multilevel performance-based projects, which are introduced to the class continually, enabling the teacher to meet the individual needs of each student. This course introduces student content, including modern dance techniques, introducing Horton, Graham, and Limon philosophies. Ballet vocabulary will also enhance the student's knowledge while exploring movement as a creative art form. Through their experiences, students will develop kinesthetic awareness, proper body alignment, physical strength, flexibility, endurance, and general care of the dance instrument. Dance history, introduction to human anatomy, and ballroom dancing will also be explored. Improvisational skills and basic principles of dance composition will be introduced.
Students will combine technique, improvisation, and choreographic principles to explore the choreographic process.

Visual & Performing Arts: Visual Arts Credits: 5.0
Prerequisite: None
Visual Arts introduces students to many art forms and helps them form an aesthetic framework to judge and critique art of various ages and cultures. This course also explores the place and significance of art in our society. Through this course, students learn design elements and principles in the purposeful arrangement of images and text to communicate a message. They focus on creating art products such as advertisements, product designs, and identity symbols.

SCIENCE

Conceptual Physics Credits: 5 Credits
Prerequisite: None
The Conceptual Physics course introduces students to using chemicals, the characteristic properties of materials, and simple mechanics to describe the world and nonliving matter better. The course emphasizes precise measurements and descriptive analysis of experimental results. Topics covered may include energy and motion, electricity, magnetism, heat, the structure of matter, and how matter reacts to materials and forces. Conceptual Physics is a laboratory-based science course that will allow students to explore and discover the physical world through hands-on activities actively. Emphasis is placed on developing predictive and inferential skills using scientific logic and analytical methodology. Through justification practice and validity analysis, students will discuss current issues. As a science with deep roots in mathematics, this course also highlights the ability to solve real problems using real numbers and real situations. Creative problem-solving and accurate computational skills will prepare our students for 21st-century jobs, particularly in STEM. This course will uncover four significant topics: Mechanics, Energy, Electricity & Magnetism, and Vibrations & Light. As a foundational science, physics gives students advanced content knowledge of the physical principles that govern our Universe and answers some of the most timeless questions humanity has dared to ask.

Physics Credits: 5 Credits
Prerequisite: None
Physics courses involve the study of the forces and laws of nature affecting matter, such as equilibrium, motion, momentum, and the relationships between matter and energy. The study of physics includes an examination of sound, light, and magnetic and electric phenomena. Physics is a laboratory-based science course that will allow students to explore and discover the physical world through hands-on activities actively. Emphasis is placed on developing predictive and inferential skills using scientific logic and analytical methodology. Through justification practice and validity analysis, students will discuss current issues. As a science with deep roots in mathematics, this course also highlights the ability to solve real problems using real numbers and real situations. Creative problem-solving and accurate computational skills will prepare our students for 21st-century jobs, particularly in STEM. This course will uncover four significant topics: Mechanics, Energy, Electricity & Magnetism, and Vibrations & Light. As a foundational science, physics gives students advanced content knowledge of the physical principles that govern our Universe and answers some of the most timeless questions humanity has dared to ask.

Prerequisite: Environmental Science or Physics
Biology courses are designed to provide information regarding the fundamental concepts of life and life processes. These courses include (but are not restricted to) cell structure and function, general plant and animal physiology, genetics, and taxonomy. Biology is a second-year course emphasizing Organization and Development, Matter and Energy Transformation, Interdependence, Heredity and Reproduction, and Evolution and Diversity. The course will provide cross-disciplinary concepts from all fields, including Math, English, and Technology. Learning will occur through laboratory experiments, active participation, inquiry-based lessons, and hands-on activities. The objective of the biology course is to provide each student with the knowledge that will serve them for their lifetime and aid each child in whichever profession they choose.

Honors Biology Credits: 5 Credits
Prerequisite: Honors Criteria
Biology courses are designed to provide information regarding the fundamental concepts of life and life processes. These courses include (but are not restricted to) cell structure and function, general

plant and animal physiology, genetics, and taxonomy. This honors course is designed to provide students with in-depth instruction at an accelerated pace and extend the instruction by including application problems. Honors Biology is designed to introduce students to the fundamental concepts of modern biology, with high-performance expectations. The material presented in the honors course may be offered at an accelerated pace. It will go in greater depth than the standard course, with the honors student having access to more significant learning opportunities and being expected to do more reading and independent written work.

Conceptual Chemistry Credits: 5 Credits
Prerequisite: Conceptual Physical
A conceptual chemistry course is a practical, non-quantitative chemistry course designed for students who want to understand chemical concepts and applications. Chemistry courses involve studying the composition, properties, and reactions of substances. These courses typically explore concepts such as the behaviors of solids, liquids, and gases, acid/base and oxidation/reduction reactions, and atomic structure. Chemical formulas and equations and nuclear reactions are also studied. Conceptual Chemistry is a laboratory-based science course that allows students to participate actively through hands-on activities. Emphasis is placed on developing inferential skills, utilizing the scientific method to solve problems, and discovering various scientific phenomena. As a central science, chemistry links fundamental physical principles and our biological world.

Chemistry Credits: 5 Credits Prerequisite: Biology
Chemistry courses involve studying the composition, properties, and reactions of substances. These courses typically explore concepts such as the behaviors of solids, liquids, and gases, acid/base and oxidation/reduction reactions, and atomic structure. Chemical formulas and equations and nuclear reactions are also studied. Chemistry is a laboratory-based science course that allows students to participate actively through hands-on activities. Emphasis is placed on developing inferential skills, utilizing the scientific method to solve problems, and discovering various scientific phenomena. As a central science, chemistry links fundamental physical principles and our biological world. Core topics uncovered in this course include General Principles (Introduction to Science; Atoms and Elements), Thermochemistry (Matter and Energy), Electrochemistry (Chemical Bonding; Chemical Reactions), Reaction Chemistry (Chemical Reactions), Stoichiometry (The Mole). At the end of the course, students will be able to perform the following skills with precision: Problem-solving and Questioning (General Principles; The Mole), Analysis (Atoms and Elements; Matter and Energy), and Prediction (Chemical Bonding, Chemical Reactions).

Biology Credits: 5 Credits
Prerequisite: Environmental Science or Physics
Biology courses are designed to provide information regarding the fundamental concepts of life and life processes. These courses include (but are not restricted to) cell structure and function, general plant and animal physiology, genetics, and taxonomy. Biology is a second-year course emphasizing Organization and Development, Matter and Energy Transformation, Interdependence, Heredity and Reproduction, and Evolution and Diversity. The course will provide cross-disciplinary concepts from all fields, including Math, English, and Technology. Learning will occur through laboratory experiments, active participation, inquiry-based lessons, and hands-on activities. The biology course objective is to provide each student with the knowledge to serve them for their lifetime and aid each child in whichever profession they choose.

Honors Chemistry Credits: 5 Credits
Prerequisite: Honors Criteria
Chemistry courses involve studying the composition, properties, and reactions of substances. These courses typically explore concepts such as the behaviors of solids, liquids, and gases, acid/base and oxidation/reduction reactions, and atomic structures. Chemical formulas and equations and nuclear reactions are also studied. This honors course is designed to provide students with in-depth instruction

at an accelerated pace and extend the instruction by including application problems. The Honors Chemistry students will have access to more significant learning opportunities and be expected to do more reading and independent written work.

AP Environmental Science Credits: 5 Credits
Prerequisite: Honors Criteria
The College Board designs AP Environmental Science courses to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, identify and analyze environmental problems (both natural and human-made), evaluate the relative risks associated with the issues, and examine alternative solutions for resolving and preventing them. Topics covered include science as a process, ecological processes and energy conversions, earth as an interconnected system, the impact of humans on natural systems, cultural and societal contexts of environmental problems, and the development of practices that will ensure sustainable systems.

AP Biology │Credits: 5 Credits
Prerequisite: Honors Criteria
Adhering to the curricula recommended by the College Board and designed to parallel college-level introductory biology courses, AP Biology courses stress basic facts and their synthesis into major biological concepts and themes. These courses cover three general areas: molecules and cells (including biological chemistry and energy transformation), genetics and evolution, and organisms and populations (i.e., taxonomy, plants, animals, and ecology). AP Biology courses include college-level laboratory experiments.

AP Chemistry │Credits: 5 Credits
Prerequisite: Honors Criteria
Following the curricula recommended by the College Board, AP Chemistry courses usually follow high school chemistry and second-year algebra. Topics covered may include atomic theory and structure, chemical bonding, nuclear chemistry, states of matter, and reactions (stoichiometry, equilibrium, kinetics, and thermodynamics). AP Chemistry laboratories are equivalent to typical college courses.

Global Ecosystems and Biodiversity Credits: 5 Credits
Prerequisite: None
The Earth’s diversity of ecosystems is reflected in the diversity of species living within them. This course focuses on the properties of significant biomes and the adaptations of the biodiverse species living within these habitats. Causes, consequences, and potential solutions to ecological challenges (such as climate change, habitat loss, pollution, and species extinction) will be significant topics throughout this class. Understanding ecosystems and the importance of biodiversity is needed to address the environmental issues we face in the 21st century.

SOCIAL STUDIES

United States History I │Credits: 5 Credits
Prerequisite: None
The United States History I course examines the history of the United States from European Exploration to the Civil War era. It includes a historical overview of political, military, scientific, and social developments. Through the US History I course, students will examine events during the 18th century and their impact on the United States and the World. They will consider multiple perspectives to gain a comprehensive view of the social, political, economic cause and effect relationships that led to shaping America. Hence, students will explore and investigate life's development in the Americas to understand past events and how they relate to the present and future. The course has been enriched with literacy, interdisciplinary connections, infusion of technology, and 21st-century learning skills to

ensure that students will be afforded every resource and opportunity to become active, informed, critical thinkers. The United States History course has been designed to provide students with the skills, knowledge, and attitudes they need to become “civic-minded, globally aware, and socially responsible citizenry.”

Advanced United States History I Credits: 5 Credits
Prerequisite: None
The Advanced United States History I course examines the history of the United States from the British Colonization period to the Civil War and the Reconstruction era. It includes a historical overview of political, military, scientific, and social developments. In this course, students will examine various historical events during the 18th century and their impact on the US and World. As an honors course, students should expect a rigorous content level and pace. This course demands greater independence and responsibility as it concentrates on developing higher-level skills such as reading and analyzing text and engaging in comprehensive discussions. Students in the Advanced US History course will consider multiple perspectives to comprehensively understand the social, political, and economic cause-and-effect relationships that led to shaping America. This analysis of these relationships will allow students to understand better past events and how they relate to modern issues in our global society. The Advanced US History I course strongly emphasizes incorporating literacy skills to adequately prepare students for the demands of college and the workplace. There is a strong focus on making interdisciplinary connections, infusing technology, and developing 21st-century learning skills to ensure students are afforded every resource and opportunity to become active, informed, critical thinkers.
The Advanced United States History course has been designed to provide students with the skills, knowledge, and attitudes they need to become “civic-minded, globally aware, and socially responsible citizens.”

United States History II │Credits: 5 Credits
Prerequisite: United States History I
The U.S. History II course examines the history of the United States from the Civil War and Reconstruction era through the present time. It includes a historical review of political, military, scientific, and social developments. This course examines the growth and development of the United States from the post-Civil War era into the twenty-first century. Students will investigate the origins and development of various concepts, themes, and issues Americans faced, such as political reforms and social movements. They will acquire a basic understanding and appreciation for American traditions and values developed from global interactions. Using this knowledge of history as a context, students will be able to identify what it means to be an American, both past and present. Analysis of the evolution of the nation's cultural, political, and economic institutions and attitudes will be achieved by exploring the Harlem Renaissance, Amendments, Civil Rights movements, the arts, and more. There will be an emphasis on the social developments and interactions of the ever-growing population of American society.

Global Studies Credits: 5 Credits
Prerequisite: United States History I & II
The Global Studies course allows students to understand their world and build civics, economics, and geography literacy skills. In this course, students will cover the following topics: The Emergence of the First Global Age (1350-1770); The Renaissance, Reformation, Scientific Revolution, and Enlightenment (1350-1700); The Age of Revolutions (1750-1914); The Era of the Great Wars (1900-1945); and The 20th Century Since 1945 (1945- Today). This course is enriched with literacy, interdisciplinary connections, technology applications, and 21st-century learning skills to ensure that all students are afforded every resource and opportunity possible to become active and informed critical thinkers.

Civics Credits: 5 Credits
Prerequisite: None
From the Civic Action Project (CAP) curriculum, students will learn about government, civics, and policy. More specifically, students will examine the general structure and functions of American government systems, the roles and responsibilities of citizens to participate in the political process, and the individual's relationship to the law and legal system.

Economics Credits: 5 Credits
Prerequisite: None
The Economics course provides students with an overview of economics, with primary emphasis on the principles of microeconomics and the U.S. economic system. These courses may also cover macroeconomics, international economics, and comparative economics. Economic principles may be presented in formal theoretical contexts, applied contexts, or both.

Advanced Placement World History (APWORLD) | Credits: 5 Credits
Prerequisite: United States History I and II
The Advanced Placement World History course investigates five course themes and 19 key concepts in six chronological periods, from approximately 8000 B.C.E. to the present. The AP World History course develops students' capacity and ability to think and reason more profoundly and systematically, better preparing them for subsequent college courses. The following course themes present areas of historical inquiry that students will investigate throughout the year: (1) Interaction Between Humans and the Environment, (2) Development and Interaction of Cultures, (3) State-Building, Expansion, and Conflict, (4) Creation, Expansion, and Interaction of Economic Systems, and (5) Development and Transformation of Social Structures. This course is enriched with literacy, interdisciplinary connections, technology applications, and 21st-century learning skills to ensure students can be active, informed, and contributing members of their global community.

Advanced Placement United States History (APUSH) | Credits: 5 Credits Prerequisite: United States History I & World History*
Advanced Placement United States History is a chronological survey course covering Colonial America (1607) to contemporary America (1990). The Essex County Vocational Technical School's Advance Placement program in United States History is designed to provide students with the analytical skills and factual knowledge to deal critically with the problems and issues in American history. The course prepares students for immediate and advanced college courses by making demands on the student equivalent to those produced by full-year introductory college courses. Students will learn to assess historical materials—their relevance to a given interpretive problem, their reliability, and their importance. Students will also be prepared to take the AP U.S. History exam offered by the College Board and earn college credit or placement at the college or university of their choice.

Advanced Placement United States Government and Politics (APUSGP) | Credits: 5 Credits Prerequisite: US History I and US History II
AP United States Government and Politics introduces students to key political ideas, institutions, policies, interactions, roles, and behaviors that characterize the political culture of the United States. The course examines politically significant concepts and themes, through which students learn to apply disciplinary reasoning, assess the causes and consequences of political events, and interpret data to develop evidence-based arguments. By the end of this course, students will be prepared to take the AP U.S. Government and Politics exam offered by the College Board and earn college credit or placement at the college or university of their choice.

TEALC|HST 101 World Civilization I
Credits: 3 College Credits through Essex County Community College
Prerequisites: Grade of "C" or better in ENG 096 and RDG 096 or placement; it is recommended that HST 101 be taken before HST 102
World Civilization I is a college-level course offered by Essex County Community College. It examines world civilization's significant social, political, economic, religious, and intellectual developments from the earliest to the seventh century. Emphasis is placed on the ideas and institutions that have shaped the culture of world civilization. As a result of this course, students will understand historical events and movements in World, Western, non-Western, or American societies and assess their subsequent significance.

COMPREHENSIVE HEALTH & PHYSICAL EDUCATION

Health I Credits: 2.5
Prerequisite: None
Character Education is embedded in the following units of study in the 9th-grade health curriculum. Students will explore the following topics for one semester. Describe how individuals in healthy relationships share thoughts and feelings, have fun together, develop mutual respect, share responsibilities and goals, and provide emotional security for one another. Effective prevention and intervention strategies address domestic or dating violence (e.g., rules of consent). Informed and educated decisions on when and if to become sexually active and how it affects one's physical, social, and emotional health. Responsible actions regarding sexual behavior impact the health of oneself and others. Discussion of topics regarding sexuality requires a safe, supportive environment where sensitivity and respect are shown toward all. Relate the use of alcohol and other drugs to decision-making and risk for sexual assault, pregnancy, and STIs. Early detection strategies and regular physical exams assist in preventing and treating illness or disease. Pregnancy, childbirth, and parenthood are significant events that will cause numerous changes in one's life and the lives of others.

Health Accredits: 2.5
Prerequisite: None
Character Education will be embedded in the 10th-grade curriculum in all units described below. Students will learn to identify unsafe situations and choose appropriate ways to reduce or eliminate the risks that contribute to their safety and that of others. Describe the causes of intentional and unintentional injuries in driving accidents in adolescents and young adults. Strategies will be implemented to prevent accidents from occurring. Summarize the components of the traffic safety system and explain how people contribute to making the system effective. Analyze the causes and consequences of noncompliance with the traffic safety system. Students will develop a rationale to persuade peers to comply with traffic and safety laws and avoid driving distracters. Students will understand the cause of conflicts and strategize ways to prevent conflicts from occurring. Negotiation and mediation are tools for resolving disputes. Teens must know the different types of violence and how to protect themselves. Students will identify the types of abuse: physical, mental, and emotional. Students will be able to describe the healthcare system, including how people receive and pay for medical care. Both outdoor and indoor air pollution can put people's health at risk. Outdoor air pollution also contributes to the greenhouse effect and global warming. Students will devise.
Strategies to become "green" at home, school, community, and globally.

Health III Credits: 2.5
Prerequisite: None
The Essex County Vocational Technical Schools Health III, a course based on New Jersey's Core Curriculum Standards for Comprehensive Health Education, is designed to provide 11th-grade students the fundamentals to assist in adopting and maintaining a healthy lifestyle. This course will

allow students to establish behaviors that enhance and promote good health and decrease or avoid health risks. Students develop practical health information from various instructional approaches, determine personal values that sustain healthy behaviors and lifestyles, and acquire the necessary skills to practice, enhance, and maintain healthy behaviors and lifestyles. This course includes administering essential topics in a sequential, comprehensive, designed approach to health education curriculum. Important issues include personal health and wellness, decision-making and goal setting, social and emotional health, tobacco- and alcohol-free lifestyle, legal and illegal drugs and drug-free lifestyle, diseases and health conditions, and proper nutrition. This course provides students with the knowledge and skills of health and wellness core concepts, personal growth and development, interpersonal communication, decision-making, goal setting, examining influences, accessing information, health-enhancing behaviors and lifestyles, and health and wellness promoting skills.

Health IV Length Credits: 2.5
Prerequisite: None
Character Education continues to be embedded throughout the units of the 12th-grade curriculum. Students will explore the following topics for one semester: 1. Deciding to act and the care provided may help save a life in an emergency. Ensuring your safety in an emergency is your top priority. 2. Protection from disease transmission and knowing how to move a person properly. 3. Basic legal information before giving care. 4. Discussing basic
anatomical terms and understanding the body's structures and how they work will allow more accurate communication with EMS personnel about a person's condition. 5. Recognizing an emergency and following the emergency action steps: CHECK – CALL – CARE can help make a difference and even save a life in an emergency.
6. Deciding to act can significantly impact the person's chance of survival. Life-threatening emergencies, including discussions and skill assessments: checking an unconscious and conscious person, CPR for an adult, child, and infant, using an AED for an adult, child, and infant, and conscious and unconscious choking for an adult, child, and infant. 7. Discuss cardiac and breathing emergencies, external and internal bleeding, and shock. 8. Discussions and skill assessments for injuries, including soft tissue injuries, musculoskeletal injuries, and splinting and injuries to the head, neck, spine, chest, abdomen, and pelvis. 9. Medical emergencies, including sudden illnesses, poisoning, bites and stings, substance misuse and abuse, heat-related illnesses, and cold-related emergencies. 10. Special situations, including water-related emergencies, pediatric, older adult, and special situations.

Physical Education I-IV | Credits: 1.25
Prerequisite: The course must be taken with one of the health courses
The physical education program is designed for students to develop the skills and attitudes necessary to achieve and maintain lifelong health and fitness. Students will be encouraged to actively appreciate the positive role of physical fitness in overall health and well-being and to develop socially helpful participation skills. The program seeks to provide equal participation for all students through various experiences that lead to the development of positive self-concept, creativity, and enthusiasm for participation. The physical education program is divided into five main activities: foundations of wellness, health-related fitness, individual physical activities, movement skills performance, and team physical activities.