



# ESSEX NORTH SHORE

## AGRICULTURAL & TECHNICAL SCHOOL

### Grade 11 Academic Courses School Year 2023-2024

#### English Options:

- **English 11 (CP, ACP, H)**
- **English 11 H & Agricultural Science**  
-A double block, integrated course available to students enrolled in the Plant Sciences Programs or Culinary Arts Program.
- **A.P. English Language and Composition**
- **Early College Program** in partnership with North Shore Community College: **Speech (FALL) & Composition 101 (Spring)**

#### Math Options:

- **Algebra II (CP, ACP, H)**
- **STEAM Integration I (H) - Algebra II & Physics**  
-A double block, integrated course available to students enrolled in the Construction Cluster Programs, Engineering & Automation Technology Program or Advanced Manufacturing Program.
- **Pre-Calculus (H)**

#### History Options:

- **United States History II (CP, ACP, H)**
- **United States History II and Agricultural Sciences (H)**  
-A double block, integrated course available to students enrolled in the Plant Sciences Programs or Culinary Arts Program.
- **A.P. United States History**

#### Lab-Based Science Options:

- **Chemistry (CP, ACP, H)**
- **Physics (CP, ACP, H)**
- **STEAM Integration (H) - Algebra II & Physics**  
-A double block, integrated course available to students enrolled in the Construction Cluster Programs, Engineering & Automation Technology Program or Advanced Manufacturing Program.

**Grade 11 Academic Week student schedules will be completed with a CTAE Theory course and a CTAE Pathway course.**



**BOLD denotes required content course.**

*\*Term length is semester based.*



## **English 11**

**Course #: 1302, 1301, 1300**

**Level: Honors, ACP, CP**

This course examines American literature through fiction, nonfiction, poetry and drama from multiple perspectives based on the learning standards of the *Massachusetts Curriculum Frameworks for English Language Arts and Literacy* (2017). Students will analyze texts through stylistic, social, economic, historical, and critical lenses. The emphasis of this course is evaluating the relationship between form and content in a literary work, and then analyzing how both the author's intent and reader's perspective illuminate the meaning of the text. Students will produce short narratives, dramatic scenes, oral presentations, and analytical essays. All students will participate in quarterly common assessments. **Credits: 4**

## **English Grade 11 and Agricultural Sciences**

**Course #: 1350**

**Level: Honors**

This full-year course is a double-block interdisciplinary course that combines the Grade 11 Pathways course for Agricultural Plant Sciences with English 11. This standards-based course is for students who are interested in learning about agricultural productivity through applied integration learning projects with embedded English content and skills. This course will deepen and extend the connections between the fundamental concepts of agricultural sciences, including food resources, sustainability, and the future of farming in America. Content standards from the *Massachusetts English Language Arts and Literacy Curriculum Framework* (2017), prescribe that students develop their reading, writing, listening, and speaking skills by using their ability to make sense of problem situations in an applied field. The focus will be on deeper learning through problem-solving strategies, questioning, investigating, analyzing critically, gathering and constructing evidence, and communicating rigorous arguments to justify their thinking. This is a co-taught, high engagement course where application leads to deeper theoretical understanding. Co-teachers will serve as coaches to student-designed integration projects. This course satisfies the requirements for an English course as stipulated in MassCore and the Grade 11 Agricultural Science pathway course. Prerequisite: Enrollment in the Plant Science Cluster: Arboriculture, Landscape & Turf Management, Sustainable Horticulture, Natural and Environmental Science, and Culinary Arts. **Credits: 8**

## **Advanced Placement English Language & Composition**

**Course #: 1303**

**Level: AP**

In the A.P. English Language and Composition course—the rhetoric course—students learn how to analyze, synthesize, and evaluate nonfiction texts, including essays, biographies and autobiographies, speeches, sermons, and passages from writings in the arts, history, social science, politics, science, and other areas of study. Students learn to evaluate and construct arguments drawn from articles in newspapers, magazines, and online “zines” and “blogs.” The course cannot help but be interdisciplinary, immersing students in a variety of sources. Students are expected to take the *CollegeBoard* A.P. English Language and Composition Exam in May. College credit may be applied with a score of three or higher on the *CollegeBoard* exam. **Credits: 4**



### **Early College Program in partnership with North Shore Community College (NSCC)**

#### **Speech**

**Course #: ec1304**

**Level: Early College**

This Semester 1 Early College course will focus on the nature and effects of verbal communication. Students will become familiar with the communication process, including some of the following: principles of organization, purpose, language structure, effective delivery, and audience analysis. Students individually will use these elements in informative and persuasive speaking in the traditional speaker-audience relationship. This course will be taught by a North Shore Community College faculty member who will teach the class online during the Essex North Shore Agricultural & Technical School day in an ENSATS classroom block along with other times, at least twice per month, when students will make NSCC campus\* visits. Successful completion of this Early College course will result in students earning both ENSATS high school credit along with NSCC college credit. This course is a Semester 1 class. ***NSCC Credits: 3 ENSATS Credits: 4***

#### **Composition 101**

**Course #: ec1305**

**Level: Early College**

Emphasis is on developing skills of writing, reading, analytical thinking, and research. Students are introduced to thought provoking ideas in readings from a variety of disciplines and learn to organize material, analyze ideas, and produce clear writing. This NSCC course will be taught by an NSCC instructor-of-record in collaboration with ENSATS faculty. Learning will take place on both the ENSATS and NSCC campuses and transportation will be provided\*. Successful completion of this Early College course will result in students earning both ENSATS' high school credit along with NSCC college credit. Prerequisite: ENASTS Early College Program enrollment.. This course is a Semester 2 class. ***NSCC Credits: 3 ENSATS Credits: 4***

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## **Algebra II**

**Course #: 2302, 2301, 2300**

**Level: Honors, ACP, CP**

This course is a continuation of algebraic concepts from Algebra I and continues the Algebra I-Geometry-Algebra II sequence as articulated in the *Massachusetts Mathematics Curriculum Framework* (2017). Topics include functions and graphs and more complex problem-solving, complex numbers, matrices to solve linear systems, vectors, analytic trigonometry, and relates the connections between the fundamental concepts of algebra, trigonometry and analytic geometry. Several standards in the Algebra II course were moved to the Enhanced Algebra I course which made it possible to add standards from the Pre-Calculus course to the Enhanced Algebra II course. In this way students will be prepared for Calculus after successful completion of Enhanced Algebra II. This is a course which covers material at a fast pace and in great depth, with the expectation of stronger student performance. A greater emphasis will be placed on algebraic approaches to problem-solving. All students will participate in quarterly common assessments. **Credits: 4**

## **STEAM Integration I H**

**Course #: 9300**

**Level: Honors**

STEAM (Science-Technology-Engineering-Arts-Mathematics) Integration is a full year, double-block course that offers an interdisciplinary, standard-based mathematics and lab-based physics pathway for students who are interested in learning Algebra II through applied integration learning projects with embedded mathematical and physics content and skills. The intention of this course is for students to do highly engaging projects that deepen and extend the connections between the fundamental concepts of algebra, trigonometry, and analytic geometry connected to physics concepts of motion, energy, and electromagnetism. Content learning standards from both the *Massachusetts Mathematics Curriculum Framework* (2017) and the *Massachusetts Science and Technology Engineering Curriculum Framework* (2016) provide a foundation for allowing students to experience these standards in real-world problem learning situations. Students will collaborate for two back-to-back blocks with two teachers, one a mathematics teacher and the other a physics teacher to build integration learning projects using problem-solving strategies, questioning, investigating, analyzing critically, gathering and constructing evidence, and communicating rigorous arguments to justify their thinking. Co-teachers will serve as coaches to student-designed integration projects. This course satisfies the requirements for an Algebra II and a lab-based Physics course as stipulated in MassCore. Prerequisites: Successful completion of Algebra I, Geometry and enrollment in the Construction Cluster Programs along with Manufacturing, Engineering & Automation Technology Program or Advanced Manufacturing Program. **Credits: 8**

## **Pre-Calculus**

**Course #: 2322**

**Level: Honors and ACP**

Continuing the progression for entering Grade 11 students who successfully completed Algebra II in Grade 10 and based on the *Massachusetts Mathematics Curriculum Framework* (2017) learning standards, this course combines the trigonometric, geometric, and algebraic techniques needed



to prepare students for the study of calculus, and strengthens students' conceptual understanding of problems and mathematical reasoning in solving problems. Facility with these topics is especially important for students intending to study calculus, physics, and other sciences, and/or engineering in college. Because the standards for this course are (+) standards, students selecting this Model Precalculus course should have met the college and career ready standards. Instructional time will focus on four critical areas: (1) extend work with complex numbers; (2) expand understanding of logarithms and exponential functions; (3) use characteristics of polynomial and rational functions to sketch graphs of those functions; and (4) perform operations with vectors. All students will participate in quarterly common assessments. **Credits: 4**

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### **United States History II**

**Course #: 4302, 4301, 4300**

**Levels: Honors, ACP, CP**

This course completes the second part of a sequence of United States history begun in Grade 10, by examining the major events in U.S. history from World War I to the 1960s and is based on the learning standards in the *Massachusetts History and Social Science Curriculum Framework* (2018). . Major units include the study of World War I, the Great Depression and the New Deal, the Rise of Dictators, World War II, the Cold War, Civil Rights, the Vietnam War and Social Changes in the 1960s. As in previous years, students will continue to refine their critical reading and analytical writing, source evaluation, use of primary source documents, ability to make claims, evidence, and interpretation, and research methods. Honors students will pursue an accelerated program adding document analysis, debate, and rigorous practice writing supported essays based on synthesizing multiple sources. Please note that the U.S. History II Honors program is a pre-Advanced Placement curriculum that will require regular and significant preparation by reading and writing outside of class. All students will participate in quarterly common assessments. **Credits: 4**

### **United States History II and Agricultural Sciences**

**Course #: 4350**

**Level: Honors**

This full-year, double-block course combines United States History II with the Agricultural Pathways course, specifically in this pilot year, for Culinary Arts students. Students will participate in an engaging, accessible and inclusive learning environment known as History Experiential Learning Mission, or the HELM Project, to put students *at the helm* of their own learning through a thematic approach to projects with skills-based assessments while they develop their critical historical thinking skills in daily lessons. Through this focus on deeper learning, students will be offered different avenues in which to access the content standards from the *Massachusetts History and Social Science Curriculum Framework* (2018). Analyzing artifacts and creating historical replicas will allow students to bring history to life in the classroom and in projects that extend to the North Shore and beyond. Students will collaborate for two back-to-back blocks with two teachers to build learning projects using problem-solving strategies, questioning, investigating, analyzing critically, gathering and constructing evidence, and communicating rigorous



arguments to justify their thinking. Co-teachers will serve as coaches to student-designed integration projects. This course satisfies the requirements for an English course as stipulated in MassCore and the Grade 11 Agricultural Science pathway course. Prerequisite: Enrollment in the Plant Science Cluster: Arboriculture, Landscape & Turf Management, Sustainable Horticulture, Natural and Environmental Science, and Culinary Arts. Prerequisite: Enrollment in Grade 10 Culinary Arts and United States History I. **Credits: 8**

### **Advanced Placement United States History**

**Course #: 4303**

**Level: AP**

A.P. United States History is designed to give grade 11 students a thorough understanding of United States History, requiring students to master historical interpretation, critical and analytical thinking, essay writing, and the integration of primary and secondary sources. The class prepares students to assess historical data and documents, evaluate relevance and reliability, and demonstrate historical knowledge of United States History. This course is equivalent to a full-year introductory college class and, therefore, all students enrolled in this course are expected to demonstrate their content mastery by taking the Advanced Placement exam in May. Please note that summer work is required. **Credits: 4**

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### **Chemistry**

**Course #: 3302, 3301, 3300**

**Level: Honors, ACP, CP**

This course is designed to teach students the concepts of composition, structure and properties of substances and the changes they will undergo based on the learning standards for Chemistry in the *Massachusetts Science and Technology Engineering Curriculum Framework* (2016). Topics will include the classification of matter, atomic structure, periodic table and chemical formulas, chemical reactions and gas laws. Students will utilize qualitative as well as quantitative approaches to predict outcomes and identify unknowns. Use of a scientific calculator is required. Strong math skills are recommended for the Honors Level. All students will participate in quarterly common assessments. **Credits: 4**

### **Physics**

**Course #: 3312, 3311, 3310**

**Level: Honors, ACP, CP**

This Physics course will introduce key concepts of the physical world including motion, energy, and electromagnetism based on the learning standards for Physics in the *Massachusetts Science and Technology Engineering Curriculum Framework* (2016). Hands on labs will reinforce these concepts. Measurement and problem solving including graphing and critical thinking will be introduced. Technology will be used to analyze data collected in lab activities. Use of a scientific calculator is required. Strong math skills are recommended for the Honors Level. All students will participate in quarterly common assessments. **Credits: 4**



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### **STEAM Integration I H**

**Course #: 9300**

**Level: Honors**

STEAM (Science-Technology-Engineering-Arts-Mathematics) Integration is a full year, double-block course that offers an interdisciplinary, standard-based mathematics and lab-based physics pathway for students who are interested in learning Algebra II through applied integration learning projects with embedded mathematical and physics content and skills. The intention of this course is for students to do highly engaging projects that deepen and extend the connections between the fundamental concepts of algebra, trigonometry, and analytic geometry connected to physics concepts of motion, energy, and electromagnetism. Content learning standards from both the *Massachusetts Mathematics Curriculum Framework* (2017) and the *Massachusetts Science and Technology Engineering Curriculum Framework* (2016) provide a foundation for allowing students to experience these standards in real-world problem learning situations. Students will collaborate for two back-to-back blocks with two teachers, one a mathematics teacher and the other a physics teacher to build integration learning projects using problem-solving strategies, questioning, investigating, analyzing critically, gathering and constructing evidence, and communicating rigorous arguments to justify their thinking. Co-teachers will serve as coaches to student-designed integration projects. This course satisfies the requirements for an Algebra II and a lab-based Physics course as stipulated in MassCore. Prerequisites: Successful completion of Algebra I, Geometry and enrollment in the Construction Cluster Programs along with Manufacturing, Engineering & Automation Technology Program or Advanced Manufacturing Program. **Credits: 8**

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### **Early College Program in partnership with North Shore Community College (NSCC)**

#### **Speech**

**ENSATS Course #: ec1350**

**Level: Early College**

**NSCC Course # SPE102**

This Early College course will focus on the nature and effects of verbal communication. Students will become familiar with the communication process, including some of the following: principles of organization, purpose, language structure, effective delivery, and audience analysis. Students individually will use these elements in informative and persuasive speaking in the traditional speaker-audience relationship. This course will be taught by a North Shore Community College faculty member who will teach the class synchronously during the Essex North Shore Agricultural & Technical School day in an ENSATS classroom block at least once per academic cycle and at least one additional block per academic cycle, students will engage in immersive, in-person learning on the NSCC Danvers campus. Successful completion of this Early College course will result in students earning both ENSATS' high school credit along with NSCC college credit. This course is a Semester 1 class. **ENSATS Credits: 4; NSCC Credits: 3**

#### **Composition 101**

**ENSATS Course #: ec1350**

**Level: Early College**





### **NSCC Course # CMP101**

This Early College course emphasizes developing skills of writing, reading, analytical thinking, and research. Students are introduced to thought provoking ideas in readings from a variety of disciplines and learn to organize material, analyze ideas, and produce clear writing. Fulfills open and liberal arts electives. This course will be taught by a North Shore Community College faculty member who will teach the class synchronously during the Essex North Shore Agricultural & Technical School day in an ENSATS classroom block at least once per academic cycle and at least one additional block per academic cycle, students will engage in immersive, in-person learning on the NSCC Danvers campus.. Transportation will be provided on visits to the NSCC campus\*. Successful completion of this Early College course will result in students earning both ENSATS' high school credit along with NSCC college credit. This course is a Semester 2 class. ***ENSATS Credits: 8; NSCC Credits: 3***