Tyngsborough High School

36 Norris Road
Tyngsborough, Massachusetts 01879
http://ths.tyngsboroughps.org

Program of Studies
2025-2026

PREPARING STUDENTS FOR THEIR GLOBAL FUTURE

Tyngsborough Public Schools

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SCHOOL ADMINISTRATION

Jeffrey Ogden, Principal
Kate Trainor, Assistant Principal
Ann Palumbo, Dean of Students/Athletic Director
Joshua Evans, Special Education Facilitator

SCHOOL COUNSELING DEPARTMENT

Jamie Gustafson, School Counselor
Lisa Ward, School Counselor

TYNGSBOROUGH HIGH SCHOOL

Tyngsborough High School, located in Tyngsborough, Massachusetts, is a small public high school located in the northwest section of Middlesex County, Massachusetts. Enrolling approximately 500 students, Tyngsborough High School is fully accredited by the New England Association of Schools and Colleges (NEASC).

The curriculum at Tyngsborough High School is diverse and offers a variety of programs for its student body, ninety percent of whom go on to two- or four-year colleges. The school has departments of instruction in English, Mathematics, Science, Social Studies, World Language, Business, Computer Science, Visual & Performing Arts, Wellness, Special Education, Capstone Experience, and Specialized Programs. Honors courses are available in most areas of instruction. Advanced Placement courses are available in the departments of English, Mathematics, Science, Social Studies, and World Language.

INTRODUCTION

The Program of Studies is designed to help you choose your courses for next year. It includes a summary of graduation requirements and descriptions of available courses. In making choices, it is important to remember the following:

- You must take at least 37.5 credits per year.
- Your planning should consider all four years of high school. Please use the *Four Year Plan* to assist you.
- School counselors, teachers, and administrators are available to help you.
- The best planning will result from a careful reading of all course information.
- Scheduling constraints may make it impossible for you to get all your requests.
- Priority will also be given to core courses over electives when building schedules.
- Students requesting to take a course in which they were not recommended for will be required to complete a *Course Level Request Change* form before the listed deadline.
- You may select courses with parental consent, but the school reserves the right to assign courses according to your previous achievement and the leveling criteria outlined in this Program of Studies.
- Please note that all courses listed in the Program of Studies require a significant number of requests to run in a given year.

NON-DISCRIMINATION POLICIES

School Committee Policy AC - Non-discrimination policy including harassment and retaliation
School Committee Policy AC-R - Non-discrimination policy including harassment and retaliation
School Committee Policy ACA - Non-discrimination on the basis of sex
School Committee Policy ACE - Non-discrimination on the basis of disability

CORE VALUES AND BELIEFS

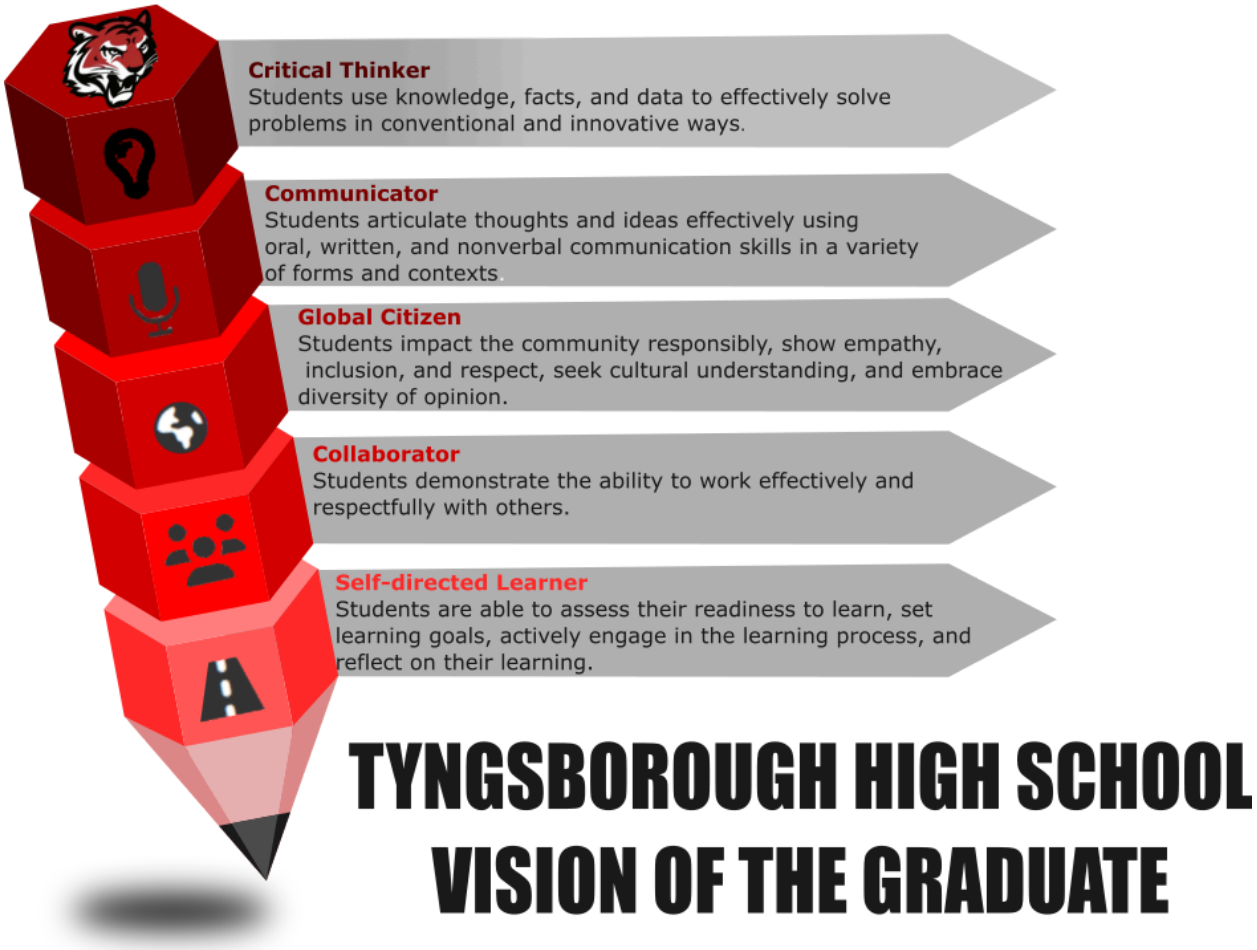
Core Values

Collaboration Engagement Integrity Perseverance Respect

Beliefs About Learning

- All students can succeed when barriers to learning are removed and supports are in place.
- A safe and supportive environment is essential for learning.
- Learning is maximized when students are actively engaged.
- All students deserve an education that prepares them for success in college, career, and citizenship.
- All students thrive when classrooms embrace flexibility and support individual learning needs.

VISION OF THE GRADUATE



COURSE SELECTION AND SCHEDULE CHANGES

The course selection process should be a collaborative effort between the student, parent/guardian, teacher, and school counselor. Students should choose their classes carefully while keeping in mind their areas of interest and the appropriate academic levels to meet success. It is extremely important to carefully consider teacher recommendations prior to filling out course selections. Course recommendations are based upon a student's demonstrated ability, potential, and experience. It is our goal to see that all students are placed in courses in which they will be challenged and successful. Students requesting to take a course in which they were not recommended for will be required to complete a *Course Level Request Change* form before the listed deadline.

If it is necessary for a student to make a course or level change, there will be an add/drop timeline established at the start of each trimester (first three days of each trimester). It is important to keep in mind that any change requests other than level changes or changes necessitated by special circumstances (which will be determined by an administrator) in a trimester(s) or yearlong course will be strongly discouraged. Scheduling conflicts, class enrollments, and many other factors may make schedule changes unavailable. In the event a student is given permission to drop a course, the student will receive a withdrawal with no credit earned for the trimester and final grade on the transcript. The student must see their school counselor for the necessary paperwork.

HONOR ROLL

High Honors - Students who receive an average of 90% or higher in all courses.

Honors - Students who receive an average of 80% or higher in all courses.

Honor Roll Guidelines:

- A student that receives a grade of incomplete will be deemed ineligible for consideration until the necessary coursework is completed.
- A student who withdraws from a course after the scheduled add/drop period will be ineligible for recognition.
- All courses and levels apply equally to the above stated indicator.

INSTRUCTIONAL LEVELS

All instructional levels at Tyngsborough High School are designed to provide students with the knowledge and skills needed to prepare for post-secondary education at two-year and four-year colleges and universities, technical training, or employment as well as to perform successfully on the MCAS. Students may select courses in the different instructional levels according to their goals, interests, and abilities. The following are the instructional levels at Tyngsborough High School:

Advanced Placement: Advanced Placement students will be offered the opportunity to participate in a college-level learning environment surpassing what is traditionally offered in honors courses. It should be understood that Advanced Placement courses are challenging. The Advanced Placement courses require that students are independent learners practicing effective time management, directed inquiry, strong study skills, applied analysis, and critical thinking. The objectives of the course are to excel in the Advanced Placement examination and to promote a successful transition to college.

Honors: These courses prepare students for highly selective four-year colleges and universities. With intense, accelerated instruction, these courses are designed for students with a strong fundamental knowledge of the subject, outstanding critical thinking ability, and independent study skills.

College Preparatory: These courses prepare students for two- or four-year colleges and universities. The curriculum contains much of the core content of honors courses. They are suitable for students who are capable of responsible, independent study of advanced topics.

Elective: These courses challenge students in more specific content areas than most core courses, and prepare students for two- or four-year colleges and universities, often in areas they are considering as a major. The curriculum provides in-depth core content designed to increase students' knowledge in the selected area. Elective courses are selected by students based on personal and academic interests. Students are expected to participate in all facets of the course. Course work is challenging and moves at a pace that reflects student interest and enthusiasm.

GRADE POINT AVERAGE (GPA) SCALE

The GPA is calculated for all students based on the cumulative average of the final numerical grades in all courses reflected on the transcript. The use of a 4.0 to calculate the weighted GPA is as follows:

Grade		AP	H	E	CP
98-100	A+	4.25	4.0	3.9	3.8
93-97	A	4.0	3.8	3.7	3.6
90-92	A-	3.8	3.6	3.5	3.4
87-89	B+	3.6	3.4	3.3	3.2
83-86	B	3.4	3.2	3.1	3.0
80-82	B-	3.2	3.0	2.9	2.8
77-79	C+	3.0	2.8	2.7	2.6
73-76	C	2.8	2.6	2.5	2.4
70-72	C-	2.6	2.4	2.3	2.2
67-69	D+	2.4	2.2	2.1	2.0
63-66	D	2.2	2.0	1.9	1.8
60-62	D-	2.0	1.8	1.7	1.6

AP - Advanced Placement
H - Honors
E - Elective
CP - College Preparatory

The Grade Point Average (GPA) is a numerical representation of a student's academic performance. A student's GPA is calculated each trimester and students are encouraged to meet with their school counselor to discuss their individual performance and the GPA requirements at particular colleges and universities.

GRADUATION & COMPETENCY DETERMINATION REQUIREMENTS

Tyngsborough High School follows the Massachusetts Core Curriculum as part of its graduation requirements for all students. To graduate, students must successfully meet the credit requirements outlined below and earn Competency Determination (CD).

To achieve Competency Determination, students must demonstrate proficiency in the minimum 10th-grade Massachusetts Framework Standards in English Language Arts, Mathematics, and Science by successfully completing the following courses or an equivalent or more advanced course, as determined by the administration.

- English 9 & English 10
- Algebra I & Geometry
- One of the following - Biology, Chemistry, Physics, or Technology/Engineering
- U.S. History I or II (Class of 2027 and beyond)

Credit Requirements (130 credits) for Graduation

20 Credits – English (World Literature, American Literature, two core courses)
25 Credits – Mathematics (Algebra & Algebra II, Geometry, and two core courses)
15 Credits – Science (at least one course in Biology, Chemistry, Physics, or Technology/Engineering)
15 Credits – Social Studies (United States History, United States History II, World History)
10 Credits – World Language (in a single language)
10 Credits – Wellness (9 and 10) and Physical Education (11 and 12)
5 Credits – Visual & Performing Arts
1 Course – Capstone Experience (to be fulfilled in Junior or Senior year)
30 Credits – Elected Courses (including 1 Capstone Experience)

In planning the Program of Studies for high school, a student must annually enroll in 37.5 credits. Exceptions to this requirement will necessitate approval from the principal.

DUAL ENROLLMENT

DUAL ENROLLMENT COURSES (ON COLLEGE CAMPUS)

Qualified students who are in good academic standing will be eligible for consideration to take courses at a public or private college/university. Students would be required to meet the college/universities requirements for enrollment. Students participating may earn credit to meet their high school graduation requirements and college credit. Dual Enrollment courses are not an alternative to high school; students must demonstrate the ability to benefit from college-level course work. The course name, final grade, level, and the institution where the course was taken will be recorded on the student's high school transcript. The student must assume all costs and transportation associated with Dual Enrollment. Dual enrollment courses will only be approved for qualified students during Trimester 1 or for the full school year (fall or fall AND spring college courses). Students must meet with their school counselor prior to the close of the school year for registration information. Registration must be completed before the start of the school year.

CONCURRENT DUAL ENROLLMENT (AT THS)

Grades 10, 11 & 12

In partnership with the Middlesex Dual Enrollment Academy, a division of Middlesex Community College (MCC), we are able to offer qualified high school students (grades 10, 11, and 12) the opportunity to earn college credit while satisfying their high school graduation requirements. This exciting program will give students an opportunity to get a head start on completing general education courses required by most colleges and universities at a fraction of the cost. All courses are taught by THS staff who are considered MCC adjunct instructors and offered in our own classrooms here at THS. Credits earned in these classes are transferable college credits, acceptable at many colleges and universities. Notably, after successfully completing a course with a 2.0 or better, students are guaranteed a transfer of credits at a Massachusetts state university or University of Massachusetts campus as part of the Mass Transfer A2B program. For eligibility, MCC has students complete a form referred to as Multiple Measures and requires a minimum of a 2.0 GPA.

Program Highlights

➢ All courses come complete with access to Blackboard, a digital learning interface used by colleges and universities worldwide
➢ Course credit is directly transferable to most private and all public universities in Massachusetts.
➢ Students can participate in all MCC activities and events.
➢ Students can use all MCC facilities including the gymnasiums and libraries at both the Bedford and the Lowell campuses.

Cost

Students are responsible for the cost of tuition. Tuition prices are set by Middlesex Community College.

Additional Requirements

1. Completion of the Middlesex Dual Enrollment Academy Application and Registration Form and the required approvals and certifications from a parent or guardian and either a high school school counselor.

2. Submission of an official high school transcript, documenting a minimum of a C grade point average. Continued enrollment in the program requires a minimum of a 2.0 grade point average at MCC.

3. Complete required Multiple Measures Form which will determine your eligibility for courses.

ENGLISH LANGUAGE ARTS

Students entering any Tyngsborough High School English Language Arts classroom can expect to read, comprehend, and interpret poetry, short stories, drama, epics, novels, research papers, and journalistic pieces. They articulate their thoughts and ideas effectively using group discussion, presentations, journal entries, paragraph-length responses, in-class essays and multi-page essays, collages, google classroom, and video creations. They utilize cloud computing resources to preserve their work. Students primarily use their own devices (laptop, chromebook), but have access to laptop carts and computer laboratories as needed, to then take advantage of teacher websites and online posts.

Students gather information through databases, print sources, textbooks, and websites. At every grade level, they are given a level of independence to select research topics, and the classroom teacher guides them through the process of managing their time so rough drafts, peer edits, and final products are effectively written or presented. Through the material they read – from ancient Greece to Shakespeare's England to 20th century Vietnam, from American classics (Mark Twain, F. Scott Fitzgerald, John Steinbeck) to 21st-century bestsellers (Life of Pi, Extremely Loud and Incredibly Close), students learn about and begin to understand the importance of diverse cultures and lifestyles. Through team assignments and peer editing with classmates, and in writing conferences with their teachers, they work collaboratively to achieve their goals. Through thematic discussions of good and evil, protagonist and antagonist, and how central conflicts in literature are resolved, students assimilate ideas to determine their role and responsibility as a citizen and a member of a community, from Tyngsborough to the United States to the human race.

World Literature (9102A2 & 9102B2)
College Preparatory; Grade 9; 2 Trimesters (5 credits)
Taught thematically within genre: short story, non-fiction, poetry, Shakespeare, the epic, the novel. The first trimester focuses on the skills needed to read and understand fiction and non-fiction prose. The second trimester focuses on the skills needed to read and understand poetry and drama. Students practice analyzing and responding to open-ended writing prompts in preparation for the MCAS test administered in grade 10. Students utilize cloud computing resources for papers, research, and presentations.

World Literature (9100A4 & 9100B4)
Honors; Grade 9; 2 Trimesters (5 credits)
Taught thematically within genre: short story, non-fiction, poetry, Shakespeare, the epic, the novel. The first trimester focuses on the development of the analytic skills needed for in-depth, close reading of fiction and non-fiction prose. The second trimester focuses on the development of the analytic skills needed for in-depth, close reading of poetry and drama. Readings will be frequent, regularly requiring in-depth, written, stylistic and thematic analysis; students are expected to read frequently and extensively outside of class to maintain pace with the Honors-level course. Students practice analyzing and responding to open-ended writing prompts in preparation for the MCAS test. Students utilize cloud computing resources for papers, research, and presentations.

American Literature (9106A2 & 9106B2)
College Preparatory; Grade 10; 2 Trimesters (5 credits)
The first trimester allows students to develop skills by selecting reading material from several historical eras of American Literature, utilizing non-fiction, poetry, short stories, and the novel. The second trimester continues through poetry, the novel, and a research paper of 4-5 pages. Students are expected to read independently outside of class to maintain pace with the course. Students practice analyzing and responding to open-ended writing prompts in preparation for the MCAS test administered in March. Students utilize cloud computing resources for papers, research, and presentations.

American Literature (9104A4 & 9104B4)
Honors; Grade 10; 2 Trimesters (5 credits)
The first trimester allows students to develop skills by selecting reading material from several historical eras of American Literature, utilizing non-fiction, poetry, short stories, and the novel. The second trimester continues through poetry, the novel, and a research paper of 4-5 pages. Students are expected to read frequently and extensively outside of class to maintain pace with the course. Students practice analyzing and responding to open-ended writing prompts in preparation for the MCAS test administered in March. Students utilize cloud computing resources for papers, research, and presentations.

Literature Seminar 11 (9123A2 & 9123B2)
College Preparatory; Grade 11; 2 Trimesters (5 credits)
This course will focus on short written works, challenging students to improve their reading comprehension and writing skills through selected state literature frameworks and the study of short works of fiction and non-fiction. Students will explore modern themes and current affairs through reading short stories, magazine articles, newspaper articles, and possibly plays or short novels. Frequent short writing assignments and longer term projects will help students see the connections shared from the past through the present day. While the reading list will focus on modern writers, some older works will be studied. The course will also cover research concepts: database navigation, identifying and evaluating credible sources, taking effective notes, practicing and mastering proper APA or MLA style (alternating years), generating a works cited page, and submitting a final paper of 3-5 pages.

Literature Seminar 11 (9121A4 & 9121B4)
Honors; Grade 11; 2 Trimesters (5 credits)
This course will start with a trimester curriculum including a directed study of state literature frameworks, followed by the completion of a research paper assignment covering database navigation, identifying and evaluating credible sources, taking effective notes, practicing and mastering proper APA or MLA style (alternating years), generating a works cited page, and submitting a final paper of 5-7 pages. The second trimester will allow students to select reading material on their own while using the Hero's Journey concept to frame their work. Students will identify and plan longer works to read, while weekly in-class selections will draw upon short stories, poetry, non-fiction, and/or drama. Written work, journals, projects, and small-group discussions will focus on specific standards for reading literature, culminating with a literary analysis of their readings (a non-research paper of 5-7 pages).

Literature Seminar 12 (9134A2 &9134B2)
College Preparatory; Grade 12; 2 Trimesters (5 credits)
This course will focus on short written works, challenging students to improve their reading comprehension and writing skills through selected literary lenses and the study of short works of fiction and non-fiction. Students will explore modern themes and current affairs through reading short stories, magazine articles, newspaper articles, and possibly plays or short novels. Frequent short writing assignments and longer term projects will help students see the connections shared from the past through the present day. While the reading list will focus on modern writers, some older works will be studied. The course will also cover research concepts: database navigation, identifying and evaluating credible sources, taking effective notes, practicing and mastering proper APA or MLA style (alternating years), generating a references page, and submitting a final paper of 3-5 pages.

Literature Seminar 12 (9135A4 & 9135B4)

Honors; Grade 12; 2 Trimesters (5 credits)

This course will start with a trimester curriculum including literary analysis based on a range of literary lenses (historical, psychological, formalism), followed by the completion of a research paper assignment covering database navigation, identifying and evaluating credible sources, taking effective notes, practicing and mastering proper APA or MLA style (alternating years), generating a references page, and submitting a final paper of 5-7 pages. The second trimester will allow students to select reading material on their own. Students will identify and plan longer works to read AND the lenses they prefer to focus on for those readings, while weekly in-class selections will draw upon short stories, poetry, non-fiction, and/or drama. Written work, journals, projects, and small-group discussions will focus on student-selected lenses for reading literature, culminating with a literary analysis of their readings (a non-research paper of 5-7 pages).

Writing Research (9148A4 & 9148B4) (Capstone Experience)

Honors (heterogeneously grouped); Grades 11 and 12; 2 Trimesters (5 credits)

This course allows the student to select a topic and thesis, and develop them to create in-depth, informative, well-written, and technically sound research papers. Working with the teacher and classmates, the student will develop questions, locate sources, evaluate credibility of sources, and outline, organize, draft, revise, and finalize their work, first in an MLA-related paper of 10-12 pages in the first trimester of the course. In the second half of the course, students will follow the same steps as before, this time identifying an APA-related aspect of their original topic, resulting in a research paper of 5-6 pages. Students will follow up their research paper with a technology-based presentation. Students will demonstrate the ability to effectively utilize technology at each stage of the research process, from locating sources to keeping drafts of paper portable and available. Students taking this course should be proficient in use of parenthetical citation and creating a works cited page. Assessments will include reading and grammar exercises, MLA and APA style assessments, peer edits, conferences with the instructor, and timeline assessments to help students stay on track. Students taking this course must have reliable internet access outside of school.

Advanced Placement Language and Composition (913335)

Advanced Placement; Grades 11 and 12; 3 Trimesters (7.5 credits)

The focus of this primarily non-fiction based course is analyzing and writing from biographies, autobiographies, speeches, and essays from the 16th through 20th centuries. Students will hone their analytic skills and learn the rhetorical concepts of ethos, logos, and pathos in order to analyze and create persuasive argument. Students will learn effective Advanced Placement test-taking strategies and practices by taking, scoring, and discussing responses from past AP exams. This is a course for students who are already accomplished writers, students who do well writing essays, students who feel especially comfortable in debating issues, and students who can see themselves as historians, lawyers, legislators, or advocates for a cause, position or belief. Expectations include commitment to summer preparatory assignments, and consistent, thoughtful participation, both in and out of the classroom. *Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

Advanced Placement Literature and Composition (913235)

Advanced Placement; Grades 11 and 12; 3 Trimesters (7.5 credits)

This intensive course is for students who are avid readers and writers, who enjoy delving into the many levels of meaning in a piece of fiction literature or who may even be entertaining English or education as a university major or minor. Students will read, analyze, and discuss representative selections from a number of genres, eras, and parts of the world. College-level writing and research are incorporated into the course, with a goal of in-depth understanding above and beyond Honors-level high school courses, and may also include a presentation to the class based on their findings. Students will also learn effective Advanced Placement test-taking strategies and practices by taking, scoring, and discussing responses from past Advanced Placement exams. Expectations include commitment to summer preparatory assignments, and consistent, thoughtful participation, both in and out of the classroom. *Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

ELECTIVES

Introduction to Public Speaking (914613)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
This course will develop students' confidence and skills in numerous aspects of public speaking: body language, information/content, and technology. Students will prepare presentations on a variety of subject matter: personal, research, and argument/debate. Presentation skills will require effectively incorporating technology into all presentations. Classes will offer feedback and critiques of each other's work. Students should expect four to five presentations over the course of the trimester.

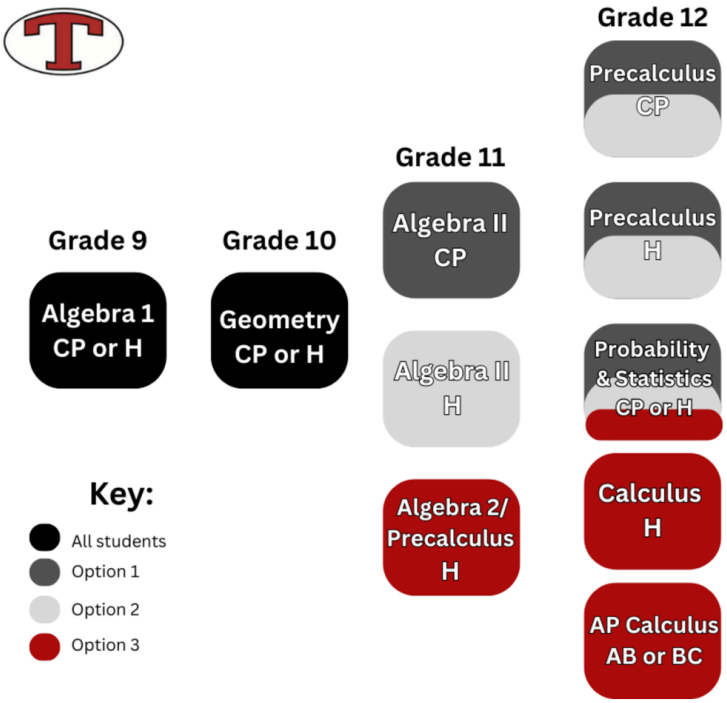
Journalism (913513)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Students in this class will learn the basics of print and online journalism, including freedom of the press laws, ethics, interviewing, photojournalism, and basic news, editorial, sports, and feature writing. Students will brainstorm story ideas and craft articles during the trimester and work with classmates on revisions of these articles. Articles that meet the criteria for publication will be posted to an online school newspaper. In addition to the writing, students will read and discuss various news articles from professional, collegiate, and high school newspapers. Successful students will possess a strong foundation in writing and a willingness to pursue story ideas in and out of the classroom.

Writing Workshop (912213)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Students in this course will have the opportunity to write in class each day, share ideas, receive feedback, and develop several original pieces of writing throughout the trimester. Students will have the opportunity to design their own portfolio of work, ranging from poetry to creative nonfiction to fiction. The revision process will be emphasized for select works with the goal to "publish" a piece from each student in an in-school literary magazine. Students will share in the creative process with a community of writers, establish their own unique literary voice, and learn effective ways to write for a specific audience.

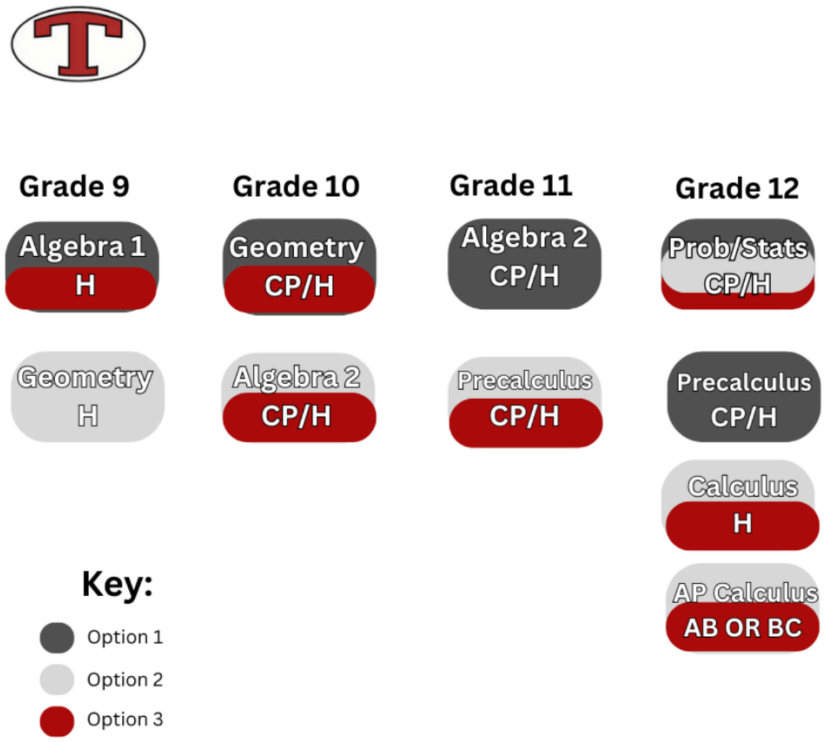
MATHEMATICS

The goal of the Tyngsborough High School Mathematics Department is to provide every student with a unique experience that allows them an opportunity to realize his or her potential and to be successful in the environment of the 21st Century. The mathematics department dedicates itself toward developing in students an ability to communicate and reason mathematically, as well as apply mathematical concepts to real-world situations. Technology is an essential tool for effective math education and is integrated throughout the curriculum with the use of devices, computer labs, teacher websites, online textbooks, and calculators. Collaboration in groups and teams enhances student's mathematical learning and develops social and mathematical skills. Students will be challenged in an invigorating environment that will provide the opportunity to explore global issues and consider solutions to contemporary problems. *A calculator is required for all courses. Texas Instrument's T1-84 Plus is the recommended graphing calculator for Honors and AP level courses. Texas Instrument's TI-30XS Multiview scientific calculator is recommended for all College Preparatory level courses.*

Mathematics Pathway Class of 2027 and Class of 2028



Mathematics Pathway - Class of 2029



Algebra I (930234)
Honors(heterogeneously grouped); Grade 9; 3 Trimesters (7.5 Credits)
The fundamental purpose of this course is to formalize and extend the mathematics that students learned in the middle school grades. In this course, students will develop a deeper and more intuitive understanding of linear and exponential relationships; apply linear models to data that exhibits a linear trend; engage in methods to analyze, solve, and use quadratic and polynomial functions; compare and contrast linear equalities and inequalities; interpret categorical and quantitative data; and apply ratios, proportions, and the rectangular coordinate system to problem solving. Other topics include properties of numbers, estimation, exponents, and solving first-degree equations and inequalities.

Geometry (930732)
College Preparatory; Grade 10; 3 Trimesters (*7.5 credits*)
The fundamental purpose of this course is to formalize and extend students' geometric experiences. Instructional time will focus on establishing criteria for congruence and similarity of triangles, applying properties of angles and lines, building on their work with polygons and circles, experimenting with real world and mathematical problems involving area, surface area, and volume, and developing reasoning and problem solving skills. The end of this course will focus on applying skills to the MCAS test.

Geometry (931034)
Honors; Grade 9 and 10; 3 Trimesters (*7.5 credits*)
The fundamental purpose of this course is to formalize and extend students' geometric experiences. In this course students will develop a deeper and more intuitive understanding of congruence and similarity of triangles, the application of properties of angles and lines, increased immersion working with polygons and circles, experimentation with real world and mathematical problems involving area, surface area, and volume, and the further development of reasoning and problem solving skills. Throughout this course, students will also strengthen and build upon their algebra skills.

Algebra II (9316A2 & 9316B2)
College Preparatory; Grade 11; 2 Trimesters (5 credits)
Building on their work from Algebra I, students will extend their repertoire of linear, quadratic, and exponential functions, to include logarithmic, polynomial, rational, and radical functions. Instructional time will focus on:

relating arithmetic of rational expressions to arithmetic of rational numbers; expanding students' understanding of functions and graphing; synthesizing and generalizing functions, and extending students' understanding of exponential functions to logarithmic functions.

Algebra II (9317A4 & 9317B4)
Honors; Grade 11; 2 Trimesters (5 credits)
Building on their work with linear, quadratic, and exponential functions, students extend their repertoire of functions to include radical, polynomial, rational, and logarithmic functions. Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations. Students will be expected to describe and translate among algebraic, graphical, and verbal representations of relations and use those representations to solve a variety of problems.

Algebra II (931624)
Honors; Grade 11; 3 Trimesters (7.5 credits)
Building on their work with linear, quadratic, and exponential functions, students extend their repertoire of functions to include radical, polynomial, rational, and logarithmic functions. Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations. Other topics include matrices, probability, and an introduction to trigonometry, time permitting. Students will be expected to describe and translate among algebraic, graphical, and verbal representations of relations and use those representations to solve a variety of problems.

Algebra II/Pre-Calculus (937034)
Honors; Grade 11; 3 Trimesters (7.5 credits)

This full-year honors course integrates Algebra II and Pre-Calculus, offering a rigorous and comprehensive curriculum to prepare students for advanced studies in mathematics, including AP Calculus. In the first half of the course, students deepen their understanding of functions, including polynomial, rational, exponential, logarithmic, radical functions, and systems of equations. Emphasis is placed on solving equations and translating between algebraic, graphical, and verbal representations of mathematical relationships. In the second half, the focus shifts to Pre-Calculus, where students study classical and analytic trigonometry, oblique triangles, polar coordinates, and analytic geometry. Throughout the year, students will refine their problem-solving and mathematical reasoning skills, applying these concepts to model real-world situations and prepare for higher-level math.
Recommendation: Successful completion of Geometry Honors.

Pre-Calculus (9318A2 & 9318B2)
College Preparatory; Grade 12; 2 Trimesters (5 credits)
This contemporary course prepares students for more advanced studies in mathematics. The course includes a review of functions; quadratic, polynomial and rational equations; and properties of logarithmic and exponential functions and their graphs. More advanced topics include trigonometry, linear equations and matrices, the complex number system, topics from discrete mathematics, and an introduction to calculus concepts.

Pre-Calculus (9320A4 & 9320B4)
Honors; Grade 12; 2 Trimesters (5 credits)
This is a prerequisite course for Calculus and AP Calculus. This course prepares students for more advanced studies in mathematics. Review topics include the study of functions including polynomial, rational, exponential and logarithmic functions. More advanced topics include classical trigonometry, analytic trigonometry, oblique triangles, polar coordinates, and analytic geometry. The class concludes with limits and derivatives, time permitting.

Calculus (9322A4 & 9322B4)
Honors; *Grade 12; 2 Trimesters* (*5 credits*)
This demanding course is designed for highly motivated students who have successfully completed Pre-Calculus and wish to pursue introductory college-level calculus in high school. Instructional time will focus on a review of elementary functions, the exploration of limits and continuity, an introduction to differentiation and integration, and the application of derivatives and anti-derivatives. The material will be presented in a more intuitive, less theoretical, approach than a typical college level course.

Probability and Statistics (9366A2 & 9366B2)

College Preparatory; Grade 12; 2 Trimesters (5 credits)
This course is designed for students to continue their algebra foundations while connecting them to statistical ideas and reasoning. Emphasis will be placed on solving real-world problems that occur in fields such as sports, business, psychology, and entertainment. Successful completion of this course will help the student understand statistical techniques and gain the tools for collecting, analyzing, and drawing conclusions from real world data. Topics will include a brief look into the design of experiments and sampling techniques, data analysis and displays, normal probability distributions, confidence intervals, and probability and counting principles.
Recommendation: Successful completion of Algebra 2.

Probability and Statistics (9366A4 & 9366B4)
Honors; Grade 12; 2 Trimesters (5 credits)
This course will take a look at statistical ideas and reasoning and their relevance in fields such as but not limited to sports, business, psychology, medicine, and entertainment. The graphing calculator will be used regularly with activities and applications to explore methods and relationships. Successful completion of this course will help the student understand statistical techniques and gain the tools for collecting, analyzing, and drawing conclusions from real world data. In this course students will develop a deeper and more intuitive understanding of designing experiments and sampling techniques, data analysis and displays, normal probability distributions, confidence intervals, and probability and counting principles.
Recommendation: Successful completion of Algebra 2.

Advanced Placement Calculus AB (932535)
Advanced Placement; Grade 12; 3 Trimesters (7.5 *credits*)
**Dual Enrollment option - see page 7*
This demanding course is designed for highly motivated students who wish to pursue college-level study of mathematics in high school. It is equivalent to one-college semester of calculus. Instructional time will focus briefly on a review of elementary functions and then focus on the exploration of limits and continuity, an introduction to differential and integral calculus, and the application of derivatives and anti-derivatives. Each topic will be studied from a numerical, graphical, and analytical perspective. Students are encouraged to take the Advancement Placement Calculus AB exam in May. *Recommendation: Successful completion of honors Pre-Calculus and department recommendation. Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

Advanced Placement Calculus BC (932635)
Advanced Placement; Grade 12; 3 Trimesters (7.5 credits)
**Dual Enrollment option - see page 7*
This demanding course is designed for highly motivated students who wish to pursue college-level study of mathematics in high school. It is equivalent to two-college semesters of calculus. This course will briefly review analytic geometry and trigonometry, then will focus on limits, continuity, differentiation, integration and their applications; sequences, series, power series, approximations of functions, polar coordinates, and vector valued functions. Students are strongly encouraged to take the Advanced Placement Calculus BC exam in May. *Recommendation: Successful completion of honors Pre-Calculus and department recommendation. Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

ELECTIVES

Personal Finance (939113)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
In this one trimester elective course, students will increase their understanding of personal finance concepts. They will think critically about real world mathematical topics such as income, taxes, money management, credit scores, saving and investing, car loans, and buying vs. renting a home. Students will learn best practices for managing their own finances as well as debt and the importance of using credit wisely. *Recommendation: Successful completion of Algebra II.*

Sports Analytics (936613)

Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This one trimester elective course has a focus on athletics and the analytic techniques that are utilized in today's data-driven world. This course will focus on probability theory, statistics, applied mathematics, modeling, and decision making for one of the fastest growing industries today. These techniques will be used to evaluate player and team performance in team and individual sports with focuses on professional, collegiate, and high school sports including sports offered here at Tyngsborough High School. The goal of this course will be to have an introductory understanding of sports analytics in preparation for many of the different career paths associated with mathematics in sports.

SCIENCE

The Science Department is committed to assisting students with meaningful learning experiences in order to learn and be able to articulate thoughts and ideas effectively using oral, written, and non-verbal communication skills in a variety of forms and contexts. Students will learn content knowledge through the use of technology in order to gather, organize, and communicate information. Students will use a variety of strategies to solve problems in both conventional and innovative ways. Students will become scientifically literate citizens who can make sound decisions in their lives based on scientific knowledge. Students will work collaboratively to demonstrate the achievement of these goals.

Biology (960932)
College Preparatory; Grade 9; 3 Trimesters (7.5 credits)
This is a mandatory course for all grade 9 students in preparation for the required Biology MCAS exam. This course is designed to provide students with an introduction to biological concepts including science skills, the chemistry of life, structure and function of cells, genetics, human anatomy and physiology, evolution and biodiversity, and ecology. Considerable use is made of laboratory activities with an emphasis on conceptual understanding.

Biology (961034)
Honors; Grade 9; 3 Trimesters (7.5 credits)
This is a mandatory course for all grade 9 students in preparation for the required Biology MCAS exam. This course is designed to provide students with an introduction to biological concepts including science skills, the chemistry of life, structure and function of cells, genetics, human anatomy and physiology, evolution and biodiversity, and ecology. Considerable use is made of laboratory activities with an emphasis on conceptual understanding. Students will be required to complete extra assessments on topics covered in this course. A more in-depth knowledge will be required, as well as independent work.

Advanced Placement Biology (960035)
Advanced Placement; Grades 10, 11, and 12; 3 Trimesters (7.5 credits)
Advanced Placement Biology is a freshman college course for science majors. This course is based on the curriculum of the College Board to prepare students for the Advanced Placement Exam in May. Course content will require extra time and effort on the part of the students. Advanced topics include cellular and molecular biology, genetics and heredity, botany, anatomy and physiology, ecology, evolution and taxonomy. Students should have a mastery of honors Biology and a recommendation from their science teacher prior to selection of this course. Students are encouraged to take the Advanced Placement Biology exam in May. *Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

Chemistry (9602A2 & 9602B2)
College Preparatory; Grades 10 and 11; 2 Trimesters (5 credits)
Chemistry is designed to provide an in-depth study of matter, its structure properties and composition and the changes that it undergoes. This course is designed to challenge students with an emphasis on problem solving and critical thinking. Topics are based on Massachusetts Curriculum Frameworks, which include the history, development, and process of chemistry. Lab work will be carried out in order to gather and analyze data. Additionally, students are expected to be able to memorize certain foundational information. This course requires less intensive problem solving skills and less formal assessments. *A scientific calculator is required.*

Chemistry (9600A4 & 9600B4)

Honors; Grades 10 and 11; 2 Trimesters (5 credits)

Chemistry is designed to provide an in-depth study of matter, its structure, properties and composition, and the changes that it undergoes. This course is designed to challenge students with an emphasis on problem solving and critical thinking. Topics are based on Massachusetts Curriculum Frameworks, which include the history, development, and process of chemistry. Lab work will be carried out in order to gather and analyze data. Additionally, students are expected to be able to memorize certain foundational information. *A scientific calculator is required.*

Advanced Placement Chemistry (960435)

Advanced Placement; Grades 11 and 12; 3 Trimesters (7.5 credits)

Advanced Placement Chemistry is the equivalent of a freshman college chemistry course; therefore, this class will be taught on the college level. This course is based on the curriculum of the College Board to prepare students for the Advanced Placement exam in May. Course content will require a great deal of extra time and effort on the part of students. This is a rigorous course that will prepare students for further study in science. Advanced topics include kinetics, equilibria, complex ions, oxidation – reactions, electrochemistry, acids and bases, buffers, thermodynamics, and organic chemistry. Students receive extra points in the weighted computation of their grade. Students are encouraged to take the Advanced Placement Chemistry exam in May. *A graphing calculator is required. Recommendation: Physics and honors Chemistry. Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

Anatomy and Physiology – Control and Movement (961712)

College Preparatory; Grades 10, 11, and 12; 1 Trimester (2.5 credits)

In this course, students will study control and movement through the human body. This course is designed to provide students with an introduction to anatomical and physiological concepts, as well as the nervous, skeletal, muscular, and endocrine systems. This course includes dissections in a laboratory setting with alternative assignments if the dissections cannot be completed.

Anatomy and Physiology – Control and Movement (961514)

Honors; Grades 10, 11, and 12; 1 Trimester (2.5 credits)

This is a rigorous course designed for students interested in science and continuing their education in the field of science. This course will provide students with an advanced description of anatomical and physiological concepts, as well as the nervous, skeletal, muscular, and endocrine systems. This course serves as a precursor for Advanced Placement Biology. This course includes dissections in a laboratory setting with alternative assignments if the dissections cannot be completed.

Anatomy and Physiology – Nutrient Systems (961612)

College Preparatory; Grades 10, 11, and 12; 1 Trimester (2.5 credits)

In this course, students will study the movement of nutrients through the human body. This course is designed to provide students with an introduction to anatomical and physiological concepts, as well as the circulatory, digestive, and urinary systems. This course includes dissections in a laboratory setting with alternative assessments if the dissections cannot be completed.

Anatomy and Physiology – Nutrient Systems (961414)

Honors; Grades 10, 11, and 12; 1 Trimester (2.5 credits)

This is a rigorous course designed for students interested in science and continuing their education in the field of science. This course will provide students with an advanced description of anatomical and physiological concepts, as well as the circulatory, digestive, and urinary systems. This course serves as a precursor for Advanced Placement Biology. This course includes dissections in a laboratory setting with alternative assignments if the dissections cannot be completed.

Anatomy II (960914)

Honors; Grades 10, 11, and 12; 1 Trimester (2.5 credits)

This is a rigorous course designed for the students interested in anatomy and physiology and looking for a career in

the medical field. The course is designed to provide students with a continuation of anatomical and physiological concepts and case study analysis. This course includes dissection in a laboratory setting with alternative assignments, if the dissection cannot be completed.

Conceptual Physics (9622A2 & 9622B2)
College Preparatory; Grades 11 and 12; 2 Trimesters (5 credits)
This introductory physics course will help students understand what happens in the physical world around them. In the first trimester of this course, students will explore forces, motion, and energy. You will learn about and apply Newton's Laws, falling and rotating objects, how energy and momentum is conserved in real situations, and how to solve related problems. During the second trimester of this course, students will explore a variety of other introductory topics in physics, which may include waves, light, electricity, heat and thermodynamics, and nuclear physics. This course is perfect for students who are interested in science or engineering, but don't plan on making it their career. Students will apply their Algebra I skills in this course and will have readings and lab experiments to help demonstrate the concepts.

Classical Physics (9624A4 & 9624B4)
Honors; Grades 11 and 12; 2 Trimesters (5 credits)
Classical physics is an algebra based physics course that gives students an in-depth discovery of topics involving kinematics, mechanics, momentum, work, energy, power, and torque. An inquiry approach is taken with all laboratory work and the labs will be done using both traditional techniques and more advanced techniques using our vernier lab equipment. Any student interested in pursuing careers in life sciences, physical sciences, mathematics, computer science, or engineering would find this course extremely helpful.

Advanced Placement Physics 1 (960135)
Advanced Placement; Grades 11 and 12; 3 Trimesters (7.5 Credits)
Advanced Placement Physics 1 is an algebra-based, introductory college-level physics course. The course covers the following topics, kinematics, dynamics, circular motion, gravitation, energy, momentum, rotational motion, torque, sound, electricity, and mechanical waves. Please visit http://apcentral.collegeboard.com for more information on the curriculum. Students will need to be proficient with algebra and trigonometry in order to take this course. Students will be involved in inquiry-based learning, where they will develop scientific critical thinking and reasoning skills. This course requires that about twenty-five percent of the instructional time will be spent in hands-on laboratory work, with an emphasis on inquiry-based investigations that provide students with opportunities to apply the science practices. Students are encouraged to take the AP Physics 1 exam in May. *Advanced Placement students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

ELECTIVES

Advanced Biology: Immunology (960713)
Elective (heterogeneously grouped); Grades 10, 11 and 12; 1 Trimester (2.5 credits)
Advanced Biology: Immunology is an upper level science course. Course contents will include the immune system, viruses, bacterial disease, worm diseases, and other parasites. The drugs and vaccines, which are used to treat or prevent these diseases, will be discussed. Students will learn how these diseases affect the human body at the biochemical level. We will also be investigating protozoans in the lab. *Successful completion of honors Biology is strongly recommended*.

Advanced Biology: Neurology (960813)
Elective (heterogeneously grouped); Grade 10, 11 and 12; 1 Trimester (2.5 credits)
Advanced Biology: Neurology is an upper level science course. Course content will include study of the brain and nervous system. All of the mood diseases and brain diseases will be discussed on the biochemical level as well as the medications used to treat them. The second part of this course will discuss cancer on the biochemical level as well as treatments. *Successful completion of honors Biology is strongly recommended.*

Anatomy and Physiology: Case Studies (961914) (Capstone Experience)

Honors (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
Course content includes case studies in which students will diagnose and treat patients based on evidence from diagnostic tools, medical histories, symptoms, and vitals. Students will use prior knowledge of anatomy and physiology as well as outside research to support their diagnosis and treatment. As a final project, students will design and present their own case study. *Successful completion of Nutrient Systems and Control and Movement is required.*

Biology of Cancer (960913)
Elective (heterogeneously grouped): Grades 10, 11, and 12; 1 Trimester (2.5 credits)
Tumorigenesis is a multistep process driven by genetic and epigenetic changes that occur over time. Although cancer is a heterogeneous disease, many human tumors exhibit similar acquired physiological features. This course will cover the underlying molecular and cellular biology involved in carcinogenesis, tumor growth, and metastasis. The implications of the biological findings on cancer prevention, diagnosis, and treatment will be covered. This course will provide students with a solid background in general cancer biology. Upon completion of the class, students will have a basic understanding of the mechanisms by which tumors gain and maintain a growth advantage, and of potential therapeutic targets.

Forensic Science (962213)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
This is a lab-based course for students interested in the science of forensic investigations. Students will be introduced to topics including fingerprinting, DNA analysis, blood typing and spattering, ballistics forensic pathology, and chemical analysis of drugs and trace evidence. Students will also be introduced to career possibilities and will learn the tools and techniques used to interpret data related to physical, chemical and biological analysis of evidence. This course will conduct one long-term dissection, a variety of daily lab investigations, and will culminate in a crime scene final project.

Introduction to Engineering (933913)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Students in this course will learn how to use creative problem solving skills to design and build bridges, robots, rockets and other hands-on projects in the same way mathematicians, scientists and engineers do.

Introduction to Environmental Science (963113)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
This is a hands-on science elective course for students interested in learning basic concepts and ideas about ecology and environmental issues. Students will create food webs and study case studies related to environmental issues past and present. Students will also explore careers in the environmental field of study

Introduction to Robotics (963813)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
In this course, students will be introduced to basic programming languages necessary to operate robots. Students will build and program a number of simple robots to achieve numerous tasks and participate in class competitions. Students will work together with classmates to collaborate and problem solve using the engineering design process. Students will also be introduced to the robotics competition of Botball and learn about how to program IROBOTS Create (Rumba).

Marine Biology (961913)
Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
This is a lab-based course for students interested in marine organisms and ecosystems. This course will explain how oceans operate and affect life on land. This one trimester science elective will focus on water chemistry and all of the chemical and physical features that impact the biological features of oceans. Students will explore the various forms of life found in oceans from microbes and seaweed to the marine invertebrates and vertebrates. Throughout the trimester, students will participate in ongoing independent research about environmental impacts on ocean ecosystems that will culminate in a 10-minute final project. This course will conduct several dissections and related

lab investigations.

Medical Research (963814) (Capstone Experience)
Honors; Grades 11 & 12; 1 Trimester (2.5 credits)
Students will select, critically evaluate, and apply relevant information to produce an original analysis, project, or other scholarly work that reflects a body of knowledge relevant to medicine and healthcare. Students will identify, research, and communicate with others the current issues related to healthcare and medicine. This will be original research on new areas in the medical field. Students will compose a written assignment using the process of draft, revision, and editing. Appropriate evidence will be used from multiple sources to illustrate how the chosen topic is relevant in medicine and healthcare. Students will employ different resources such as graphs, charts, or illustrations to articulate findings or ideas. Students will convey ideas clearly, coherently, and effectively in a written report and an oral presentation. They will work collaboratively with others including peers, healthcare practitioners, and faculty to analyze this healthcare issue or challenge.
Recommended: Successful completion of Advanced Biology: Neurology, Advanced Biology: Immunology or Advanced Placement Biology

Meteorology (963713)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
In this introductory course, students will explore the elements of weather forecasting, which include the use of weather computer models to forecast fronts, thunderstorms, tornadoes, hurricanes, and Nor'easters. Students will also gain an understanding of Nor'easters including how they form, and the environmental impacts they have on our region. During this course, students will also forecast the weather for a specific city in the United States. In addition, students will take daily weather observations from the Norris Road campus using our weather station.

Projects in Engineering (963914) (Capstone Experience)
Honors; Grades 11 & 12; 1 Trimester (2.5 credits)
Students in this capstone course will gain a deeper understanding and apply the engineering design process to solve a variety of real world problems. The projects cover the major fields in engineering and computer science (mechanical, materials, structural, electrical engineering and computer science/engineering). This course is intended for students who enjoy creative, hands-on activities and will use your math skills whether you are in college preparatory or honors math courses. Typical projects include designing and building a full size trebuchet that will throw a watermelon the length of a football field. Students will also have the opportunity to use 3D computer-aided design (CAD) software to create prototypes for mechanical parts using our 3D printer. This course is recommended for students interested in careers in engineering, physics, biomechanics, "physical art", stagecraft, and the trades.

Robotics (963714) (Capstone Experience)
Honors; Grades 11 & 12; 1 Trimester (2.5 credits)
During this capstone, students research the Botball competition and compete against classmates in a competition based on the national competition. Students will build the competition table, formulate strategies based on the competition rules, build arms and other extensions of the existing robot, and program their robots to perform the necessary tasks. Students will work hands-on in teams to design, build, program, and document their progress based on the engineering design process. This capstone will incorporate computer science, electrical engineering, mechanical engineering, and project management. As a final project, students will be expected to write a final report and present on the engineering design process as well as improvements made to their robot throughout the course.

SOCIAL STUDIES

The Tyngsborough High School social studies curriculum is designed to foster a desire to understand United States history, world cultures and history, as well as many social sciences such as economics, sociology, and psychology. Our goal is for the students at Tyngsborough High School to have an understanding of their relationship with the

global economy and an understanding and tolerance of people throughout the world. Students will read and comprehend varied materials including historical documents, speeches, paintings, maps, charts and photographs. Students will be able to interpret and apply what they have read with purpose, relevance, and organization through oral and written expression. The social studies discipline allows for the analysis of diverse cultures and faiths, and a global perspective of lifestyles. The students will be engaged in collaborative projects that demonstrate evidence of knowledge and organizational skills while articulating major historical themes by producing multimedia presentations effectively. Students will explore the decision-making processes throughout history and attempt to find creative alternatives or innovative solutions to recurring problems.

United States History I (9701A4 & 9701B4)
Honors (heterogeneously grouped); Grade 9; 2 Trimesters (5 credits)
Students will analyze the political, economic & intellectual origins of the American Revolution, the Constitution, Civil War, Reconstruction, Industrial Revolution and America's growing role in international relations. They will study the goals and consequences of the Progressive Movement and U.S. involvement in World War I. Extensive writing and reading, as well as discussion and group work centered on major themes will be expected in this course. The social studies department recognizes and appreciates the value of media resources in today's tech-friendly world and utilizes many interactive online resources.

United States History II (9707A2 & 9707B2)
College Preparatory; Grade 10; 2 Trimesters (5 credits)
Students will study the Great Depression, the New Deal, World War II, Korean Conflict and the beginnings of the Cold War, as well as American political ideology and its effects on global decision-making and international policy. Course work will include study of post war conferences, the development of the United Nations. Student study will continue with Cold War themes by analyzing entry in the Vietnam Conflict and the Kennedy and Johnson administrations. Students will study further the Civil Rights movement and events in America up to current day. Group work and class discussion will focus on the major themes of the course. The students will expand and create a deeper understanding, and the applicability of the civic requirements of all citizens, for the benefit of the community and the world at large.

United States History II (9705A4 & 9705B4)
Honors; Grade 10; 2 Trimesters (5 credits)
Students will study the Great Depression, the New Deal, World War II, Korean Conflict and the beginnings of the Cold War, as well as American political ideology and its effects on global decision-making and international policy. Course work will include study of post war conferences, the development of the United Nations. Student study will continue with Cold War themes by analyzing entry in the Vietnam Conflict and the Kennedy and Johnson administrations. Students will study further the Civil Rights movement and events in America up to current day. Group work and class discussion will focus on the major themes of the course. The students will expand and create a deeper understanding, and the applicability of the civic requirements of all citizens, for the benefit of the community and the world at large.

Advanced Placement United States History (970935)
Advanced Placement; Grades 10, 11, and 12; 3 Trimesters (7.5 credits)
**Dual Enrollment option - see page 7*
This course is designed to provide students with the analytical skills and enduring understandings necessary to deal critically with the problems and materials in United States history. The program prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made 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 – and to weigh the evidence and interpretations presented in historical scholarship. An Advanced Placement United States History course should thus develop the skills necessary to arrive at conclusions on the basis of an informed judgment and to present reasons and evidence clearly and persuasively in an essay format. The social studies curriculum encourages students to work independently on self directed study projects, research a variety of social, economic, and political topics. The students are expected to persevere on

long-term projects effectively managing limited time, as well as demonstrate their thorough understanding of historical and social evidence. The ultimate goal of this course is to prepare students for the Advanced Placement exam, which is administered in the spring. *Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*
This course will be offered during the 2026-2027 school year, alternating years with the "Advanced Placement United States Government and Politics" course.

World History (9723A2 & 9723B2)
College Preparatory; Grade 11; 2 Trimesters (5 credits)
This course begins following the fall of the Roman Empire, continues through the development of Islam, the history and challenges and changes to Christianity, Renaissance, Reformation, to the Age of Discovery and Enlightenment. Focus will be on the events, societies, and conflicts that have influenced the course of human existence through the centuries. Students will continue to study the diffusion of religions, global exploration, conquest and colonization. Focus will continue on philosophy of governments, interactions among regions of the world, as well as the philosophy of arts, science, and technology. The students at THS will have an understanding of their relationship with the global economy and a historical interconnectedness of people throughout the world.

World History (9724A4 & 9724B4)
Honors; Grade 11; 2 Trimesters (5 credits)
This course begins following the fall of the Roman Empire, continues through the development of Islam, the history and challenges and changes to Christianity, Renaissance, Reformation, to the Age of Discovery and Enlightenment. Focus will be on the events, societies, and conflicts that have influenced the course of human existence through the centuries. Students will continue to study the diffusion of religions, global exploration, conquest and colonization. Focus will continue on philosophy of governments, interactions among regions of the world, as well as the philosophy of arts, science, and technology. The students at THS will have an understanding of their relationship with the global economy and a historical interconnectedness of people throughout the world.

Advanced Placement World History (971235)
Advanced Placement; Grades 10, 11, and 12; 3 Trimesters (7.5 credits)
The purpose of the Advanced Placement World History course is to develop greater understanding of the evolution of global processes and contacts, in interaction with different types of human societies. This understanding is advanced through a combination of selective factual knowledge and appropriate analytical skills. The course highlights the nature of change in international frameworks and their causes and consequences, as well as comparisons among major societies. The course emphasizes relevant factual knowledge deployed in conjunction with leading interpretive issues and types of historical evidence. The course builds on an understanding of cultural, institutional, and technological precedents that, along with geography, set the human stage. Periodization, explicitly discussed, forms an organizing principle for dealing with change and continuity throughout the course. This course requires independent study and includes extensive weekly writing assignments as well as summer preparatory assignments. The students will explore the decision-making processes throughout history and attempt to find creative alternatives or innovative solutions to recurring problems. The ultimate goal of this course is to prepare students for the Advanced Placement exam, which is administered in the spring. *Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*
This course will be offered during the 2025-26 school year, alternating years with the "Advanced Placement European History" course.

Advanced Placement European History (971435)
Advanced Placement; Grades 10, 11, and 12; 3 Trimesters (7.5 credits)
In Advanced Placement European History, students investigate significant events, individuals, developments, and processes from approximately 1450 to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation, and continuity and change over time. The course also provides seven themes that students explore throughout the course in order to make connections

among historical developments in different times and places: interaction of Europe and the world, economic and commercial development, cultural and intellectual development, states and other institutions of power, social organization and development, national and European identity, and technological and scientific innovations.
Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.
This course will be offered during the 2026-27 school year, alternating years with the "Advanced Placement World History" course.

Advanced Placement United States Government and Politics (971335)
Advanced Placement; Grades 10, 11, and 12; 3 Trimesters (7.5 credits)
This course is concerned with the nature of the American political system, its development over the past two hundred years, and how it works today. We will examine in detail the principal processes and institutions through which the political system functions, as well as some of the political policies which some of these institutions have established and how policies are implemented. The students will respect the importance of their civic responsibilities, and relish being an active member of the local and global community. The ultimate goal of this course is to prepare students for the Advanced Placement exam, which is administered in the spring. *Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*
This course will be offered during the 2025-2026 school year, alternating years with the "Advanced Placement United States History" course.

ELECTIVES

American Conflict (971513)
Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
This course is designed to provide students with a global perspective on recent events that have lead the United States to engage in military conflict. The course will begin with an in-depth analysis of Operation Desert Storm, the origins of the tragic events of September 11, 2001, and continue by examining the causes and effects of the conflicts in Iraq and Afghanistan.

Contemporary Issues (972013)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
The focus of this course will be on current issues, both global and domestic, which impacts the world, socially, politically and economically. International news sources will be used with a focus on critical reading skills and analysis. Writing and research based projects on international political issues, global human rights, and currently occurring "civil wars" will be an integral part of this course. Social Studies students at Tyngsborough High School collaborate together to debate and attempt to understand social issues affecting their lives today.

Echoes and Reflections: The Holocaust (970713)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This course will examine the history of the Holocaust. Using 21st Century Learning Expectations, students will explore the roots of anti-Semitism in Europe and the Nazi movement in Germany leading up to World War II. Students will learn about the Jewish Ghettos and the effect of the Final Solution on select populations of Europeans. They will discover resistance movements and discuss the effects of bystanders and collaborators as well as survivors and liberators and the toll taken on children and families. The course will conclude with a research project where students will learn about and report on other global genocides that have occurred in the last 150 years. Throughout the course, students will use primary sources, literature, video clips and films to further their understanding. Though the topic is solemn, the insight gained will be timeless and sobering.

Introduction to Debate (989813)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
In this one trimester history elective, students will choose a controversial topic each week to discuss and debate with their peers. Students will first learn how to properly debate by analyzing Robert's Rule of Order, which will guide all class discussions throughout the course. With each week and with each new topic students can expect to first assess their own background knowledge and initial opinion, and progress in their knowledge and understanding

of each topic through multiple mediums and from multiple sides, which will eventually prepare them for a proper debate at the end of each week.

Introduction to Psychology (971813)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This course is concerned with understanding human behavior and development. Units in this course will focus on social, abnormal and applied psychology. Students will read classic and 21st century research articles that will introduce them to academic writing and experimental design. Over the course of the trimester, students will begin learning how to design and run a study of their own.

Introduction to Sociology (970313)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
**Dual Enrollment option - see page 7*
Introduction to Sociology is an elective course that studies human society and social behavior. We will cover topics such as culture, violence, social control, socialization and personality, group behavior, and social class. We will investigate the role social institutions such as the government, education, family, economy, and religion play in society. The key component of this course is to study ourselves and the society that influences our behavior, both as individuals and groups. Students will analyze the beliefs, values, and rules of society and how they affect one another. Students will have the opportunity to experiment and apply the main concepts of the field of sociology through comprehensive course work, discussion, research and class assignments.

Street Law (971913)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
This course will serve as an introduction to the legal system in the United States. Citizen rights and responsibilities will be examined as well as the processes inherent in the criminal justice system. Case studies will play an integral role in this course.

World Travel (970613)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
In this lively and enriching elective we will travel the world … without leaving the classroom! Every two weeks we will choose a new country to "travel" to, based on student interest. Throughout the two weeks of "touring" each country as we map out destinations to visit, we will study the history of the land and its people by learning their language, reading their folktales, listening to their music, and even cooking their food. No prerequisite nor passport required.

WORLD LANGUAGE

The World Language Department is strongly committed to education with a global perspective in accordance with the Tyngsborough High School 21st Century Learning Expectations. Our curriculum is designed to teach students the language skills and cultural knowledge necessary for success in today's multi-lingual world of cultural diversity, political interdependence, worldwide markets, and international scientific and cultural collaboration. The department seeks to graduate students with a command of the spoken and written language coupled with the general analytical, critical, and communicative skills essential to achieve success in today's society. The beginning years of study will focus on the acquisition of useful language skills and the cultures of the countries involved. With progression to the more advanced levels, opportunities are provided for students to further develop and refine their communicative language skills while enhancing their appreciation of culture diversity as expressed in literature, history, ideas, values, oral and written expressions, and behavior. They gain a critical awareness of self and others in order to participate as informed, responsible, and effective citizens ready to interact in an increasingly complex, multilingual global society.

Spanish I (9200A2 & 9200B2)
College Preparatory (heterogeneously grouped); Grades 9 and 10; 2 Trimesters (5 credits)
The goal of this course is to help students develop proficiencies in the basic skills of language acquisition: listening, speaking, reading, and writing. Students begin to comprehend and produce simple, short sentences, and ideas that contain memorized words and phrases. Exercises and activities are communication oriented allowing for a

progression that guides students through structured practice to creative, personalized expression. Pair and group work are used to accomplish this goal. Students learn to recognize people, products, and viewpoints of the Hispanic cultures, and begin to compare native and target cultures, thereby developing an appreciation, and understanding of the cultures of Spanish-speaking countries. Ways in which the target language is connected to the native language, to other disciplines, and to resources beyond the classroom are introduced to the students.

Spanish II (9204A2 & 9204B2)
College Preparatory; Grade 9, 10, and 11; 2 Trimesters (5 credits)
In this course, students are presented with new material while reviewing, reinforcing, and gradually expanding upon previously learned concepts and vocabulary. Exercises and activities are communication oriented allowing for a progression that guides students through structured practice to creative, personalized expression. This progression is accompanied by consistent re-entry of grammar functions, vocabulary, and structures. Pair and group work are used to accomplish this goal. Students continue to develop their awareness and understanding of the people, products, and viewpoints of the Hispanic cultures. Connections and comparisons continue to be made between the native and target cultures thereby encouraging students to use critical thinking skills.

Spanish II (9222A4 & 9222B4)
Honors; Grades 9, 10, and 11; 2 Trimesters (5 credits)
In this course, students will be introduced to interesting, new material while expanding upon previously studied concepts and vocabulary. Exercises and activities are communication oriented allowing for a progression that guides students through structured practice to creative, personalized expression. This progression is accompanied by consistent re-entry of grammar functions, vocabulary, and structures. Pair and group work are used to accomplish this goal. Students continue to develop their awareness and understanding of the people, products, and viewpoints of the Hispanic cultures. Connections and comparisons continue to be made between the native and target cultures thereby encouraging students to use critical thinking skills.

Spanish III (9208A2 & 9208B2)
College Preparatory; Grades 10, 11, and 12; 2 Trimesters (5 credits)
In this course, students will seek to continue the development of communicative competence. Structured opportunities are provided for students to practice new language patterns in order to describe their own experiences and those of others. Through a systematic review of grammar, students will learn to apply grammatical structures in the form of guided composition. Students develop a deeper understanding of the similarities and differences between cultures and languages as they examine the influence of the beliefs and values on the target cultures. Students expand their knowledge of cultural meanings in a way that will enhance their contribution to the global community.

Spanish III (9206A4 & 9206B4)
Honors; Grades 10, 11, and 12; 2 Trimesters (5 credits)
This course provides students with additional opportunities to expand listening, speaking, reading and writing skills. The creative use of the language is emphasized to help students continue to develop communicative competence as well as to increase the application of grammatical structures in the form of composition. Students satisfy limited communication and social interaction demands as they use language patterns and functions to describe their own experiences and those of others. Students develop a deeper understanding of the similarities and differences between cultures and languages as they examine the influence of the beliefs and values on the target cultures. Students expand their knowledge of cultural meanings in a way that will enhance their contribution to the global community.

Spanish IV (9210A2 & 9210B2)
College Preparatory; Grades 11 and 12; 2 Trimesters (5 credits)
A major focus of this course is to provide students structured opportunities to increase their ability to communicate both orally and in writing regarding a variety of topics. Students continue to initiate and maintain face-to-face communication as they convey their ideas and opinions in speaking and writing while reviewing the basic grammar of the target language. Through structured group activities, students narrate and describe in sentences and short paragraphs in present, past, and future time, as well as compose messages, announcements, personal notes, and advertisements. They are able to identify main ideas and significant details in discussions, presentations, and written text within a cultural context. Students continue to refine their understanding of the target language and their own

culture by examining the inter-relationship of other cultures to their own and by demonstrating knowledge of behaviors appropriate in target cultures.

Spanish IV (9210A4 & 9210B4)
Honors; Grades 11 and 12; 2 Trimesters (5 credits)
A major focus of this course is to enable students to communicate both orally and in writing regarding a variety of topics. Students increase their ability to initiate and maintain face-to-face communication with greater control of basic grammatical functions. They narrate and describe in sentences, groups of sentences, short cohesive paragraphs in present, past, and future time, as well as compose messages, announcements, personal notes, and advertisements. They participate in groups in order to identify significant details in discussions, presentation, and written texts within a cultural context. Students continue to refine their understanding of the target language, as well as their own by demonstrating knowledge of appropriate behaviors in the target cultures.

Spanish V (9214A4 & 9214B4)
Honors; Grade 12; 2 Trimesters (5 credits)
The goal of this course is to help students successfully negotiate their needs in real or simulated situations taking place in a Spanish-speaking environment. Expanded opportunities are provided for students to initiate, sustain, and bring to closure a wide variety of communicative tasks as they convey their ideas and opinions in speaking and writing with increasing control of basic grammar. Through the selection of authentic literary readings, students increase vocabulary, create more complex written work, as well as improve their listening and speaking skills. Students participate in group discussions and presentations and prepare oral and written summaries about the cultural perspectives, attitudes and beliefs of their own and the cultures of the Hispanic world. Multimedia presentations will be used throughout the course.

Advanced Placement Spanish Language (921635)
Advanced Placement; Grade 12; 3 Trimesters (7.5 credits)
This course prepares students for the Advanced Placement Spanish Language Examination. Emphasis is placed on advanced acquisition and proficiency in the four language skills: listening comprehension, speaking, reading and writing. Grammar is covered in detail and exclusive use of the target language is stressed and expected. At the end of this course, students will be able to read accurately and understand newspaper and magazine articles, as well as analyze Spanish and Latin American literature. Students will be able to use the language orally to deal with daily situations, as well as produce well-planned and coherent written work. *Students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

ELECTIVES

Exploring a World Language and Culture (922114) (Capstone Experience)
Honors (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This emphasis on this course is on immersing oneself in a language and culture that the student has always wanted to learn. This course is a student-centered educational experience where students will choose a target language and culture to explore. Students will correspond with individuals from the target culture to learn more about the language and culture. Students will share some of their experiences with the class. This course is designed as an opportunity for students to demonstrate the skills of academic, independence, time management, cultural competency, and responsibility.

Exploring French (922213)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
This course is designed for students who would like to learn conversational French. Students will learn introductory vocabulary in order to participate in simple conversations in French in small groups or in pairs. Students will study the numerous francophone countries in Europe, North America, and Africa with a focus on France and French Canada through a variety of projects. Multimedia will be used throughout the course.

Exploring Portuguese (921113)
Elective (heterogeneously grouped); Grades 9, 10, 11 and 12; 1 Trimester (2.5 credits)
This course is designed for students who would like to learn conversational Portuguese. Students will learn introductory vocabulary in order to participate in simple conversations in Portuguese. Students will also study

Luso-cultures with a focus on the differences between European and Brazilian Portuguese through a variety of projects.

Spanish for Everyday Conversation (921213)
Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
This is a communicative Spanish course designed for students who want to practice and improve their conversation skills for real world settings. Throughout the course, students will increase their ability to initiate and maintain face-to-face communication. Students will be able to convey their ideas and opinions in a culturally appropriate context on various topics such as shopping, dining, leisure activities, and travel. Authentic short films and readings will be explored to provide a basis for classroom conversations. *Recommended: Successful completion of Spanish II*

BUSINESS

Business courses are designed to expose students to the various aspects of the market system. Business courses will provide a student with an understanding of fundamental business principles and develop skills in communication, problem solving, decision-making, financial literacy, and career information and experience real-world applications. In advanced courses, students will be tasked with larger-scaled projects and will need the ability to work independently as well as collaboratively to achieve goals. Courses within this department are highly recommended for any students who may wish to further their education in any field of business.

Accounting (981413)
Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
This course is an introduction to the language of accounting. The focus is on the basic accounting cycle and the ways it measures, classifies, and presents financial transactions typically undertaken by small businesses. At the end of this course, a student will understand the basic terminology and principles of accounting, apply this knowledge in recording accounting data, prepare financial statements, and be able to communicate this information to others (ie: management, financial institutions, and investors).

Business Essentials (989713)
Elective (heterogeneously grouped); Grades 10, 11 and 12; 1 Trimester (2.5 credits)
Business Essentials will take an in depth look at the next stages of business following the Introduction to Business and Introduction to Marketing. Students will be using previous knowledge and curriculum in the Introduction classes and apply this to the new concepts of communications, economics and personal finance, information technology and sports, hotel and entertainment management. Students will be focusing on standards such as creative thinking and 21st century problem solving skills. Students should have a background knowledge based from previous business courses.

Introduction to Business (983813)
Elective (heterogeneously grouped); Grades 9 and 10; 1 Trimester (2.5 credits)
This is an introductory course wherein the students examine and gain understanding of concepts related to the various fields of business. These concepts will emphasize business ethics, management, marketing, and financial planning. At the end of this course a student will apply this knowledge to real life by creating his or her own business. Each student will present his or her business to the class as if he or she is presenting to investors.

Introduction to Marketing (989613)
Elective (heterogeneously grouped); Grades 9, 10, 11 and 12; 1 Trimester (2.5 credits)
This project-based course reinforces concepts essential to the business world. This course will provide students with an understanding of the very latest trends in marketing. Due to the variety of goods and services offered, every business enterprise practices some form of marketing. Course content includes green marketing, marketing uses of social media, e-marketing and global marketing. Introduction to Marketing will enable a student to understand this vital area of business by gaining knowledge and strategies needed to sell products worldwide. *Recommendation: Successful completion of Introduction to Business.*

Sports and Entertainment Marketing (981813)

Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
Sports and Entertainment Marketing will develop a fundamental knowledge of marketing that relates to sports and entertainment industries, and career possibilities available in the industries. Sports and Entertainment Marketing will explain marketing concepts through the sports and entertainment industry. Students will explore how successful professional sports leagues, as well as the music and movie industry, use the science of marketing to create successful products. The basic functions of marketing, as well as distribution, selling, marketing information management, financing, pricing, and promotion will be covered. Students will create their own sports team, band, stadium, movie, hotel or other entertainment foundation throughout the trimester and the presentation to their peers will be their final.

COMPUTER SCIENCE

Computer science courses are designed to expose students to a foundation of basic computer programming and application skills. Computer Science courses will ask students to regularly challenge themselves to demonstrate a high skill level in the programming of computers and in the use of technology in general. In advanced courses, students will be tasked with larger-scaled projects and will need the ability to work independently as well as collaboratively to achieve goals. Courses within this department are highly recommended for any student who may wish to further their education in computer related industries.

Computer Graphics and Animation (986313)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Computer Graphics and Animation is a course designed to expose students to creating graphic images, different animation methods and image editing. In this class, students will use design as a creative process in communication. Students will also explore various methods used to create vector, GIF, and other image formats. In animation, students will be exposed to animation methods including frame-by-frame and motion tweening. No previous computer graphics experience is required.

Computer Science Principles 1 (997013)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Computer Science Principles 1 is a first year computer science course introducing the basics of programming, and how information is represented digitally and sent over the Internet. Students will learn to code using blocks to drag and drop, but they can switch between blocks and text as desired. With a unique focus on creativity, problem solving and project based learning. This course gives students the opportunity to explore several important topics of computing using their own ideas and creativity to develop an interest in computer science that will foster further endeavors in the field.

Advanced Placement Computer Science Principles (997033)
Advanced Placement; Grades 10, 11, and 12; 3 Trimesters (7.5 credits)
AP Computer Science Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. More than a traditional introduction to programming, it is a rigorous, engaging, and approachable course that explores many of the foundational ideas of computing so all students understand how these concepts are transforming the world we live in. Students are encouraged to take the AP Computer Science Principles exam in May. *Advanced Placement students will be required to complete mandatory summer assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.*

AP Computer Science A (987035)
Advanced Placement; Grades 11 and 12; 3 Trimesters (7.5 credits)
AP Computer Science A (APCSA) introduces students to computer science through programming. Fundamental topics in this course include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language. *Recommendation: Successful completion of APCSP and teacher recommendation. Students will be required to complete mandatory summer*

assignments. Students who do not complete the summer assignments by the first day of class will be unenrolled and be placed in an alternative course.

Emerging Technologies (987113)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Emerging Technologies is a course designed to explore a variety of online technologies that are rapidly growing. The course will cover a variety of topics including Augmented Reality, Virtual Reality, Google Applications and Extensions, Internet Applications, and other online tools. The course will provide students with the knowledge and ability to use a wide range of technology tools that can be applied to academic projects as well as personal gain.

Game Making and Multimedia (985513)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Game Making and Multimedia is an introductory course focusing on the fundamentals of creating games including game layout, game graphics, and programming. Students will learn to design top down, platform, 3D games as well as front end structures for games. Students will also learn how to create sprites which are graphics used in various game formats. No previous programming experience is required.

Programming (985013)
Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
This course is an introduction to obtaining a solid foundation of computer programming concepts in an object oriented computer programming environment. Students will design algorithms, learn syntax, style, and write programs using Javascript in Processing and Code.org. Processing is software created to provide visualization to programming concepts. The skills learned in Processing can easily be applied to more formal computer languages. Core concepts for the course include algorithms, loops and lists. Students will apply programming skills to build functioning apps by the end of the course.

Web Page Design I (984713)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
In this course, students will explore and analyze web pages and the construction of the different parts of web pages using HTML 5 and CSS. Students will learn the basic structure of a web page, creating lists, forms, and images.This course emphasizes the creation and uses of graphics elements of a web page as well. Students will learn how to use a graphics program to create different graphics, logos, GIF animations, and buttons that can all be used on a web page. Students will gain the skills necessary to be able to develop their own websites.

VISUAL & PERFORMING ARTS

The Visual and Performing Arts Program at Tyngsborough High School will allow students to express themselves through various means. Not only will students be challenged to expand their horizons artistically, but they will also learn how to work collaboratively and innovatively to accomplish tasks and solve problems. The Visual and Performing Arts courses will allow students to experience different perspectives on life than may have been afforded in other traditional classes and will broaden and diversify their cultural perspective. Students interested in media courses will utilize digital cameras and state-of-the-art editing equipment to develop video productions for classroom, school, and campus-wide broadcasts. Theater courses will teach the fundamentals of performance skills and backstage design and will provide a tremendous base for those students who wish to continue in the field following high school. Classes within the art department are project-based and designed to appeal to students with a wide variety of abilities and interests. In addition to learning basic skills and new ways to express themselves, students are encouraged to think creatively, invent and explore multiple solutions to a problem, make responsible choices, and form artistic judgments. Students interested in Concert Band will have the opportunity to learn the universal language of music. While studying music and performing musical literature of multiple genres, students will explore the history of diverse cultures and learn the values of working within a team.

ART

Ceramics (980813)

Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
**Dual Enrollment option - see page 7*
This introductory level and hands-on class will introduce students to clay as an art medium. Students will learn basic hand building and wheel throwing techniques including coil, slab, additive & subtractive methods while creating functional and non-functional ceramic pieces. Understanding of the characteristics of the raw material, its transformation under extreme heat, and various methods to finish art pieces will be necessary for future ceramics courses. The ability to manage time and meet deadlines will be critical to complete assignments. Open-ended assignments will allow for individual student input. Participation in class discussions, group critiques, and self-assessments will also be required.

Ceramics II (980913)
Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
This advanced class will be a continuation of the ceramic skills and knowledge acquired in Ceramics. Students will be challenged to push the limits of the material as they build larger, more complex ceramic forms using both hand building and wheel throwing techniques. Assignments will include the construction of functional as well as merely sculptural pieces. The ability to manage time and meet deadlines will be critical to complete assignments. Additionally, students will take a more active role in the recycling of clay and kiln firing so that they may gain additional knowledge of the materials properties. Participation in class discussions, group critiques, and self-assessments will also be required. *Recommendation: Successful completion of Ceramics*.

Drawing (980413)
Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
**Dual Enrollment option - see page 7*
This advanced course will be a continuation of the drawing skills begun in Foundations of Art. Students will create a series of representational drawings while experimenting with a variety of drawing media and techniques including charcoal, ink, pastels, and pencil. After, students will develop a series of drawings depicting their past, present, and future while exploring a single media in depth. Participation in class discussions, group critiques, and self-assessments will also be required.

Foundations of Art: 2D Design (988713)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
**Dual Enrollment option for students in grades 10, 11 & 12 - see page 7*
This introductory course will focus on the Elements of Design: line, shape, space, and color. Students will create two-dimensional artworks inspired by inorganic subjects while exploring a variety of styles and media. As a culminating project, students will collaborate to develop a proposal for an artwork or space design and create an art piece to support that proposal.

Foundations of Art: Form Studies (989513)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
This introductory course will focus on the Elements of Design: value, form, texture, and color. Students will create two-dimensional artworks inspired by organic subjects while exploring a variety of styles and media. As a culminating project, students will collaborate to develop a proposal for an installation, artwork or space design and create an art piece to support that proposal.

Painting (980513)
Elective (heterogeneously grouped); Grades 10, 11, and 12; 1 Trimester (2.5 credits)
**Dual Enrollment option - see page 7*
This advanced course will continue to develop two-dimensional art skills first introduced in Foundations of Art. Students will explore a variety of painting media including watercolor, tempera, gouache, acrylic, and oil. Subject

matter will be student-driven and explore a range of art styles including abstraction and expressionism. Participation in class discussions, group critiques, and self-assessments will also be required.

Projects in Art (993814) (Capstone Experience)
Honors (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This student-centered course will allow students to combine their artistic knowledge with 21st century skills to create their own long-term project. Students will develop their own topic and choose their assessment criteria in content, Elements and Principles of Design, and media for each artwork. Possible projects may include, but are not limited to, a college portfolio, solo art exhibit, or community art outreach project. Each week students will be required to submit at least one component of their project. Additional course requirements include a weekly work log, a final presentation, and a reflective essay. This course is designed as an opportunity for students to demonstrate the skills of: artistic, independence, time management, and responsibility.

Sculpture (981113)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
**Dual Enrollment option for students in grades 10, 11 & 12 - see page 7*
This introductory course will introduce students to 3D materials used in art making. Using a series of paired assignments, students will explore the differences and similarities between realism, abstraction, and surrealism. Students will also learn how to work from a conceptual perspective and from a materials driven perspective. Materials will include but not be limited to plaster, wire, cardboard, papier-mâché, and found objects. Open-ended assignments will allow for individual student input into many assignments. Participation in class discussions, group critiques, and self-assessments will also be required.

MEDIA

Advanced Digital Video Production (984413)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
In this advanced video production class, you'll transcend mere creation and become a peer mentor, crafting polished projects while fostering new talent. Beyond honing your cinematography and editing skills, you'll delve into advanced techniques like multi-camera shoots and color grading. But your journey doesn't end there; you'll also share your newfound expertise, guiding your classmates through the fundamentals, fostering a collaborative hub where everyone learns and grows alongside your own creative evolution.

Digital Video Production (982013)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Dive headfirst into the world of video creation in this hands-on class! Learn the essential building blocks from scriptwriting to editing, as you capture compelling stories on camera. Master camera settings, lighting techniques, and sound recording, then transform your footage into polished videos using industry-standard editing software. Explore storytelling through dynamic visuals and captivating audio, crafting messages that resonate. Get ready to unleash your creativity, collaborate with fellow filmmakers, and share your unique vision with the world through the magic of video production!

Film Analysis (982213)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
Film analysis class, where movies become workshops! Each week, explore a different facet of filmmaking, be it cinematography, editing, or symbolism. Then, unleash your newfound knowledge by crafting slideshow presentations that dissect your chosen film – think color analysis, shot breakdown diagrams, even sound design deconstructions. Get ready to see movies with fresh eyes, learn from insightful critiques, and share your unique observations as you transform from passive viewer to active analyst. Buckle up, cinephiles – this class is your ticket to a deeper understanding of film's magic!

Film Analysis II (982813)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)

Weekly movies fuel your analytical muscles. Every screening unlocks a new lens – exploring narrative structures, manipulating time and space, and dissecting the power of sound. Armed with these insights, you'll craft compelling slideshow presentations, not just summarizing plots, but revealing the hidden layers of filmmaking magic that make movies tick. Prepare to become fluent in the language of cinema, impressing your peers with your newfound ability to deconstruct and appreciate the art form on a whole new level.

MUSIC & PERFORMING ARTS

Concert Band (2 Trimesters 9824A4 & 9824B4) (3 Trimesters 982434) (Capstone Experience in Grades 11 and 12)
Honors (heterogeneously grouped); Grades 9, 10, 11, and 12; Trimesters II and III (5.0 credits)
Honors (heterogeneously grouped); Grades 9, 10, 11, and 12; 3 Trimesters (7.5 credits)
The emphasis of this course is on developing musicianship in an ensemble setting through the study of band literature. Students in all grade levels have the option of taking full-year Concert Band for Honors-level credit, or two trimesters (II & III) for Honors-level credit. Students who select the two-trimester option will be required to participate in events and performances during the first trimester. *Participation in the school lesson program is highly recommended.*

Chorus (988213)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 Credits)
The chorus is a performing vocal ensemble open to all students in grades 9-12. This is an inclusive class with no prerequisite or audition required. Chorus is a performance-based class, whether that performance takes place in small groups, daily rehearsals, or large concert rehearsals. Students will learn how to analyze creators' context and manipulation of music to provide insight and inform performance, develop critical listening skills for proper vocal execution, and synthesize various vocal pedagogy to create a high-quality performance. Students from all levels of vocal experience are encouraged to sign up for this course. The chorus performs at concerts and other events showcasing a variety of classical and contemporary music.

Guitar, Electric Bass, Drum Set Lab (987513)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 Credits)
Open to all levels, from beginners to students who have taken many years of lessons. Students without performance ability on guitar or drum set will start at a basic level. Those students who already have performance ability on one of these instruments will start at their current level, develop performance goals, and work to meet those goals during the trimester. Each student will be provided with drumsticks and an acoustic guitar; drum sets will be available for use in school. *This class may be repeated.*

Piano/Electronic Keyboard Lab (988513)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 Credits)
Open to all levels, from beginners to students who have taken many years of lessons. Students without piano performance ability will start at a basic level. Those students who already have piano performance ability will start at their current level, develop performance goals, and work to meet those goals during the trimester. *This class may be repeated.*

Theater Arts (998013)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 Credits)
This course will provide students with a differentiated theater experience that will explore a variety of genres and styles, including musical theater, technical theater and acting. Musical Theater - Students will focus on the art of performing in the annual "Fall Revue" with their chosen song or scene. Students will sing group songs as well as duets and trios. They learn to break down a scene from a character's point of view, and also learn to sustain a character through expressive singing. Students will also learn how to refine their singing technique as well as the difference between musical theater and other styles of singing. Students develop assessment and problem-solving skills and the ability to connect other content areas. Technical Theater - Design & Production: Students focus on the design and safe application of tools and procedures to create elements of technical theater, including costumes, lighting, makeup, properties (props), publicity, scenery, and sound. Students develop assessment and

problem-solving skills, the ability to connect selected literature to a variety of cultures, history, and other content areas. Acting: Students examine the various dimensions of characters and develop their acting skills through analysis, discussion, and classroom performance, while working with a broad range of monologues, scenes, scripts, and exercises from a variety of time periods and cultures. They learn to break down a scene from a character's point of view, and also learn to sustain a character and build the relationship between actor and audience.

Ukulele 1 (998713)
Elective (heterogeneously grouped); Grades 9, 10, 11, 12; 1 Trimester (2.5 credits)
Students will learn how to play melodies, chords, and strum patterns on this popular, four-string Hawaiian instrument. This course is for both beginners as well as for those students who enjoyed playing ukulele in middle school Music Exploration. Each student will be provided with a ukulele to use during the class.

WELLNESS

The Tyngsborough High Wellness Department will provide a program that utilizes the Massachusetts Curriculum Frameworks for Health and Physical Education to promote healthy choices and increased physical activity as well as encourage the development of positive lifelong habits in order to lead more fulfilling lives. Our goal is to develop in each student a degree of appreciation that allows each to share in the richness of a healthy and active life and thus become a more productive citizen. Our Wellness department is a program that combines health and physical education to educate the whole student in spirit, mind, and body. Our curriculum focuses on physical health, social and emotional health, safety and prevention, and personal and community health. The Wellness Department believes that all students can develop the skills necessary to make healthy choices. Additionally, we strive to develop in each student an appreciation of the lifelong benefits of eating healthy foods and participating in daily physical exercise. Each course in Wellness will emphasize the importance of respecting the well being of every individual and strive to assist students in leading a healthy, full and productive life.

Physical Education (940213)
Required Course (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education program. Students will be empowered to make choices, meet challenges and develop positive behaviors in fitness, wellness, and movement activity for a lifetime. Emphasis is placed on students analyzing skills for effective movement.

Wellness (940013)
Required Course (heterogeneously grouped); Grades 9 and 10; 1 Trimester (2.5 credits)
This course is broken up into a two year curriculum. The first section is designed for students to explore their perspectives/opinions of wellness. The first section covers topics such as personal wellness (physical, mental/emotional, social), stress management (avoiding, adapting, altering, accepting), nutrition & fitness, alcohol and other drugs (use, misuse, abuse), healthy vs. unhealthy relationships (effective communication, family/friend dynamics), and sexual health (human sexuality, preventing abuse & violence, and peer pressure.) The second section of the course is designed to explore current controversial health topics through project-based learning. Students will critically examine factors that influence decision-making. Topics in this section include technology (pros and cons of social media, internet safety), understanding mental health (disorders, destigmatize, seeking help), body image (self-esteem, eating disorders), first aid & safety. Students will also be introduced to the weight room, gymnasium, and team rooms. This course will introduce stress releasing activities such as yoga and walking.

Healthy Lifestyles (940914) (Capstone Experience)
Honors; Grades 11 & 12; 1 Trimester (2.5 credits)
This course will be a student initiated experience that will help students take responsibility for their health throughout the duration of high school and beyond. Students will have the chance to work with their teacher to

increase their overall understanding of Wellness. In the beginning stages of this course, students will create a healthy "habit" in relation to health + fitness, such as nutrition, fitness, mental health, and more. Students will be responsible for selecting a topic of interest, creating a proposal, and setting up an action plan that has clear weekly expectations throughout the trimester. By the end of the course, students will present their evidence of progress. This course is designed for students to hold themselves accountable and be able to demonstrate ways that they can successfully improve their health and happiness.

Net Sports (941513)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This is a physical education activity course designed to teach the beginning player the proper skills and how to use them offensively and defensively. The student will also learn court and service strategies and rules of the game. Safety and on-the-court etiquette will be stressed. Sports such as volleyball, badminton, and paddle ball will be explored.

Weight Training (940513)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This course is designed to give students the opportunity to learn weight training concepts and techniques used for obtaining optimal physical fitness. Students will benefit from comprehensive weight training and cardiorespiratory endurance activities. Students will learn the basic fundamentals of weight training, strength training, aerobic training, and overall fitness training and conditioning.

Yoga and Core Fitness (942113)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
This course is designed to give students the opportunity to learn and enjoy the benefits of yoga and core training. Students will focus on how low impact activities can improve overall flexibility, while also prioritizing strength, core, and cardiovascular endurance. Students will also discuss how yoga can reduce stress, increase their alertness, along with other benefits that accompany practicing yoga.

CAPSTONE EXPERIENCE

The Capstone Experience is a non-traditional course(s) that provides students with the opportunity to demonstrate that they are college-ready and prepared for life after high school. During this course, students will work autonomously and independently on a self-directed initiative. Students engaged in a capstone course will have the opportunity to work with their teacher/facilitator in a truly student-centered environment. While enrolled in a capstone course, students may have the opportunity to leave the building after checking in with the supervising faculty, and may attend events or seminars to assist them with their individual experience. Although each capstone course is different, all students enrolled will be expected to demonstrate the mastery of the school's 21st century skills upon completion of the course.

Anatomy and Physiology: Case Studies (961914) (Capstone Experience)
Honors (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
Course content includes case studies in which students will diagnose and treat patients based on evidence from diagnostic tools, medical histories, symptoms, and vitals. Students will use prior knowledge of anatomy and physiology as well as outside research to support their diagnosis and treatment. As a final project, students will design and present their own case study. *Successful completion of Nutrient Systems and Control and Movement is required.*

Comprehensive Project (995014)
Honors (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This course is a student-centered educational experience that will help students with the transition for life after high school. Students will build 21st century skills through an independent academic experience. By the end of this course, students will present a long-term project on a topic of their choice. The course will be broken into two parts:

topic development and action. During the first part of this course, students will select a topic of interest, write a project proposal, select a mentor, write a pre-project research paper, and submit a narrative summary detailing the action goal for the second part of the course. During the second part of the course, students will set up an action plan with clear weekly expectations, submit weekly work logs, create a presentation with text and visuals documenting the action process, write a reflective essay, and finally, present the project to the class. This course is designed as an opportunity for students to demonstrate the skills of academic, independence, time management, and responsibility.

Concert Band (2 Trimesters 9824A4 & 9824B4) (3 Trimesters 982434)
Honors (heterogeneously grouped); 11, and 12; Trimesters II and III (5.0 credits)
Honors (heterogeneously grouped); 11, and 12; 3 Trimesters (7.5 credits)
The emphasis of this course is on developing musicianship in an ensemble setting through the study of band literature. Students in all grade levels have the option of taking full-year Concert Band for Honors-level credit, or two trimesters (II & III) for Honors-level credit. Students who select the two-trimester option will be required to participate in events and performances during the first trimester. *Participation in the school lesson program is highly recommended.*

Exploring a World Language and Culture (922114) (Capstone Experience)
Honors (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This emphasis on this course is on immersing oneself in a language and culture that the student has always wanted to learn. This course is a student-centered educational experience where students will choose a target language and culture to explore. Students will correspond with individuals from the target culture to learn more about the language and culture. Students will share some of their experiences with the class. This course is designed as an opportunity for students to demonstrate the skills of academic, independence, time management, cultural competency, and responsibility.

Healthy Lifestyles (940914)
Honors; Grades 11 & 12; 1 Trimester (2.5 credits)
This course will be a student initiated experience that will help students take responsibility for their health throughout the duration of high school and beyond. Students will have the chance to work with their teacher to increase their overall understanding of Wellness. In the beginning stages of this course, students will create a healthy "habit" in relation to health + fitness, such as nutrition, fitness, mental health, and more. Students will be responsible for selecting a topic of interest, creating a proposal, and setting up an action plan that has clear weekly expectations throughout the trimester. By the end of the course, students will present their evidence of progress. This course is designed for students to hold themselves accountable and be able to demonstrate ways that they can successfully improve their health and happiness.

Medical Research (963814)
Honors; Grades 11 & 12; 1 Trimester (2.5 credits)
Students will select, critically evaluate, and apply relevant information to produce an original analysis, project, or other scholarly work that reflects a body of knowledge relevant to medicine and healthcare. Students will identify, research, and communicate with others the current issues related to healthcare and medicine. This will be original research on new areas in the medical field. Students will compose a written assignment using the process of draft, revision, and editing. Appropriate evidence will be used from multiple sources to illustrate how the chosen topic is relevant in medicine and healthcare. Students will employ different resources such as graphs, charts, or illustrations to articulate findings or ideas. Students will convey ideas clearly, coherently, and effectively in a written report and an oral presentation. They will work collaboratively with others including peers, healthcare practitioners, and faculty to analyze this healthcare issue or challenge.

Recommended: Successful completion of Advanced Biology: Neurology, Advanced Biology: Immunology or Advanced Placement Biology

Projects in Art (993814)
Honors (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
This student-centered course will allow students to combine their artistic knowledge with 21st century skills to create their own long-term project. Students will develop their own topic and choose their assessment criteria in content, Elements and Principles of Design, and media for each artwork. Possible projects may include, but are not

limited to, a college portfolio, solo art exhibit, or community art outreach project. Each week students will be required to submit at least one component of their project. Additional course requirements include a weekly work log, a final presentation, and a reflective essay. This course is designed as an opportunity for students to demonstrate the skills of: artistic, independence, time management, and responsibility.

Projects in Engineering (963914)
Honors; Grades 11 & 12; 1 Trimester (2.5 credits)
Students in this capstone course will gain a deeper understanding and apply the engineering design process to solve a variety of real world problems. The projects cover the major fields in engineering and computer science (mechanical, materials, structural, electrical engineering, and computer science/engineering). This course is intended for students who enjoy creative, hands-on activities and will use your math skills whether you are in college preparatory or honors math courses. Typical projects include designing and building a full size trebuchet that will throw a watermelon the length of a football field. Students will also have the opportunity to use 3D computer-aided design (CAD) software to create prototypes for mechanical parts using our 3D printer. This course is recommended for students interested in careers in engineering, physics, biomechanics, "physical art", stagecraft, and the trades.

Roadtrip Nation (911914)
Honors (heterogeneously grouped), Grades 11 and 12; 1 Trimester (2.5 credits)
The Roadtrip Nation Experience is a project-based curriculum designed to improve student engagement and academic performance in the classroom by connecting students' interests and studies to real-world careers. Students will broaden their perspective and possibilities by exploring a vast Interview Archive containing the stories of hundreds of successful individuals across diverse industries. Students will be empowered to build a life around their interests, beginning with setting up and interviewing a leader in their community. The vision is that this journey of self-discovery will give students the tools they need to identify what they love and make their aspirations a reality.

Robotics (963714)
Honors; Grades 11 & 12; 1 Trimester (2.5 credits)
During this capstone, students research the Botball competition and compete against classmates in a competition based on the national competition. Students will build the competition table, formulate strategies based on the competition rules, build arms and other extensions of the existing robot, and program their robots to perform the necessary tasks. Students will work hands-on in teams to design, build, program, and document their progress based on the engineering design process. This capstone will incorporate computer science, electrical engineering, mechanical engineering, and project management. As a final project, students will be expected to write a final report and present on the engineering design process as well as improvements made to their robot throughout the course.

Service Learning (995314)
Honors (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
Service learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities. In this course, students will research and evaluate local, national, and global charitable and humanitarian organizations. Students will also gain a greater understanding of the value of service through a variety of guest speakers plus participate in 20 hours of off-site volunteer activities. In conjunction with the research, guest speakers and the impact of their own volunteer experiences, students will create and implement a service project to meet a need in the community. The parameters of the projects are broad and students will determine the focus of their work.

Writing Research (9148A4 & 9148B4)
Honors (heterogeneously grouped); Grades 11 and 12; 2 Trimesters (5 credits)
This course allows the student to select a topic and thesis, and develop them to create in-depth, informative, well-written, and technically sound research papers. Working with the teacher and classmates, the student will develop questions, locate sources, evaluate credibility of sources, and outline, organize, draft, revise, and finalize their work, first in an MLA-related paper of 8-10 pages in the first trimester of the course. In the second half of the course, students will follow the same steps as before, this time identifying an APA-related aspect of their original

topic, resulting in a research paper of 4-5 pages. Students will follow up their research paper with a technology-based presentation. Students will demonstrate the ability to effectively utilize technology at each stage of the research process, from locating sources to keeping drafts of paper portable and available. Students taking this course should be proficient in use of parenthetical citation and creating a works cited page. Assessments will include reading and grammar exercises, MLA and APA style assessments, peer edits, conferences with the instructor, and timeline assessments to help students stay on track. Students taking this course must have reliable internet access outside of school.

SPECIAL EDUCATION

Students identified with special learning needs enrolled in academic support classes will be introduced to a variety of special education related topics. Students in grades 9 and 10 course, Transitional Skills and Development, will be instructed in regards to their individual educational needs, how such needs impact learning in the classroom, and strategies to compensate for those learning challenges. Students will access instructional materials and information through various means in order to practice targeted skills, which will diminish the impact of their learning difficulties and foster independence leading to social and academic success. Students identified with special learning needs in grades 11 and 12 may opt to enroll in Transition. This course is designed to provide students a setting in which to gain a better understanding of the post-high school transition process. Students will work with the special education faculty to learn about real-life skills including completing applications for college and the workforce, resume writing, as well as effective communication skills in a variety of settings. Both support classes are geared towards providing students with the knowledge and practice, which will allow them to be independent thinkers and learners. And, who upon graduation will enter college settings and/or work as productive community members with the skills necessary to meet success.

Transitional Skills and Development (951013)
Elective; Grades 9 and 10; 1 Trimester (2.5 credits)
This course is designed to provide students a setting in which to gain a better understanding of the post-high school transition process. Students will work with the special education faculty to learn about real-life skills including completing applications for college and the workforce, resume writing, as well as effective communication skills in a variety of settings. Classes are geared towards providing students with the knowledge and practice, which will allow them to be independent thinkers, learners and develop skills necessary for transition. And, who upon graduation will enter college settings and/or work as productive community members with the skills necessary to meet success.

Transitional Skills and Practice (951113)
Elective; Grades 11 and 12; 1 Trimester (2.5 credits)
This course is designed to provide students a setting in which to gain a better understanding of the post-high school transition process. Students will work with the special education faculty to learn about real-life skills including completing applications for college and the workforce, resume writing, as well as effective communication skills in a variety of settings. Classes are geared towards providing students with the knowledge and practice, which will allow them to be independent thinkers, learners and develop skills necessary for transition. And, who upon graduation will enter college settings and/or work as productive community members with the skills necessary to meet success. In addition, students may have the opportunity to practice employability skills through a School-to-Work program. The purpose of the School-to-Work program is to provide students who require vocational training, a realistic and hands-on employment training experience. Tyngsborough High School has partnered with several area businesses in order to provide a variety of learning experiences to help students increase their knowledge of the skills needed to maintain employment. Each student receives individualized training within the classroom environment prior to and during their School-to-Work experience as well as placement in an employment setting within the community.

SPECIALIZED PROGRAMS

The following courses and programs in this section will provide students with additional learning opportunities outside the traditional classroom setting. Certain specialized programs may involve student participation outside of

the school building as well as independent learning expectations.

ELD in ESL (989213)
Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
In this course, students with limited English Proficiency (EL) are guided in a systematic, dedicated, and sustained study time to develop various aspects of the English Language. Emphasis is placed on the World Class Instructional Design and Assessment (WIDA) standards of speaking, listening, reading and writing and academic language development. Annual ACCESS testing will occur as a measure of progress and to determine English Language Proficiency levels. This course may require multiple periods to meet state guidelines as determined by placement testing.

Introduction to American Sign Language / Deaf Culture (997713)
Elective (heterogeneously grouped); Grades 9, 10, 11, and 12; 1 Trimester (2.5 credits)
This course introduces the basics of American Sign Language (ASL) and is designed for students who have little or no previous knowledge of ASL. ASL questions, commands, and other simple sentence structures are introduced to develop rudimentary conversational skills in ASL. Information about the history of the language as well as the Deaf Community and Deaf Culture will be introduced.

Introduction to Modified Lesson Design (951213)
Elective; Grades 11 and 12; 1 Trimester (2.5 credits)
This course is designed for students who have an interest in becoming a teacher or are interested in gaining increased knowledge into the world of special education. Students will work directly within the BRIDGES program and will learn about how complex disabilities manifest in the school setting and how teachers go about planning learning experiences. Students will learn how to develop basic lesson plans to target specific skill development.

Peer Tutoring (990113)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
Students involved in Peer Tutoring will gain a first hand knowledge of a middle school classroom experience. Under the supervision of a Tyngsborough High School administrator and a Tyngsborough Middle School teacher, students will assist in class activities. Students may also serve as one-on-one tutors for students within the class. Other possible assignments may include tutoring in a specified learning environment for students who have specific areas of interest (if available).

Online Course Offerings (990712) (990714)
Edgenuity / Virtual High School
Honors or College Preparatory; Grades 11 and 12; 1, 2, or 3 Trimester(s) (2.5, 5, or 7.5 credits)
Students may enroll in a Edgenuity or Virtual High School (VHS) course, which are courses that are taught online. Edgenuity and Virtual High School both offer a broad selection of courses taught by licensed teachers from around the world. These courses offer students flexibility in their school day as well as independence. Online courses are ideal for students who are self-motivated and academically disciplined. This program allows students the opportunity to enroll in classes that may not fit into their schedules, or are not offered at Tyngsborough High School. Space is limited and priority is given to juniors and seniors. An application process is required. Please see your school counselor to determine if online courses are appropriate for you.

Work Study (990013)
Elective (heterogeneously grouped); Grades 11 and 12; 1 Trimester (2.5 credits)
Students may enroll in the work-study program for a single trimester or multiple trimesters. The program was developed to augment the comprehensive offerings of Tyngsborough High School in order to meet the educational needs of a broad range of students. From students who plan to enter the workforce after graduation, students could potentially use this experience to transition into full-time employment at one of the varied businesses that participate in this program. The school to work experience consists of part-day enrollment in traditional academic courses as well as part-day off-site work experience. *A signed contract between student, school employer, and parent/guardian is required*.

BRIDGES

The BRIDGES program consists of a classroom for students who benefit from a consistent and structured routine and schedule. The program is designed for the student who requires a greater focus on functional academics and educational services across multiple learning domains, the program approaches curriculum through a focused, experientially-based methodology. The unique degree of the students' learning profiles creates the need for small group or individualized instruction, with modified curriculum, materials, and/or methods that frequently differ from the general education classroom curriculum and instruction. Many students in the program participate in the MCAS Alternate Assessment. A modified curriculum is implemented based on the individualized needs of each student. Although much of the specialized instruction occurs within the program, integration opportunities are a critical component. Students in the BRIDGES program also have the opportunity to participate in the School-to-Work program, which provides transitional experiences that includes a realistic and hands-on employment training experience.

School-to-Work

The School-to-Work program is a community-based vocational training program available to eligible students who are currently enrolled in the BRIDGES sub-separate program at Tyngsborough High School. The purpose of the School-to-Work program is to provide students who require vocational training, a realistic and hands-on employment training experience. Tyngsborough High School has partnered with several area businesses in order to provide a variety of learning experiences to help students increase their knowledge of the skills needed to maintain employment. Each student receives individualized training within the classroom environment prior to and during their School-to-Work experience as well as placement in an employment setting within the community. Students enrolled in the program may work directly with a job coach who supervises the quality of work and documents the progress each student has achieved in meeting their goals.

MASSACHUSETTS GRADUATION REQUIREMENTS AND RELATED GUIDANCE

Massachusetts Graduation Requirements and Related Guidance

Scholarships Related to MCAS

- John and Abigail Adams Scholarship
- Stanley Z. Koplik Certificate of Mastery Award

COLLEGE PLANNING

Four Year Plan

Massachusetts Department of Higher Education

Advanced Placement

SAT / PSAT

ACT