



A Catholic, college-preparatory school

St. Mary's High School

2020 - 2021

Course Catalog

St. Mary's High School
35 Tremont Street
Lynn, MA 01902
Phone: (781) 595-7885
Fax: (781) 595-4471
www.stmaryslynn.com

Directory

Art and Music	3
Business	4
English.....	5
Foreign Language.....	9
Math	13
Physical Education	16
Science	17
Social Studies	20
Technology and Engineering.....	24
Theology.....	27
Virtual High School (VHS)	29

Art and Music

ELECTIVES

Chorus I

0.5 Credit

Grades 9 - 12

This course explores choral music from a wide variety of cultures and time periods through both study and performance. There will be a special focus on liturgical music. The core curriculum emphasizes the basics of vocal technique, sight-reading, music theory, and music history. The course also provides opportunities for growth in the understanding of musical elements (rhythm, melody, form, harmony, dynamics, expressive elements, tone, articulation, and style) as applied to the music performed. Students will learn to enjoy participating in vocal music and work cooperatively with other students in the musical organization. Students are expected to participate in evening concerts as a part of the class.

Chorus II

0.5 Credit

Grades 9 - 12

This course explores the continuation of choral music from a wide variety of cultures and time periods through both study and performance. There will be a special focus on liturgical music. The core curriculum emphasizes the basics of vocal technique, sight-reading, music theory, and music history. The course also provides opportunities for growth in the understanding of musical elements (rhythm, melody, form, harmony, dynamics, expressive elements, tone, articulation, and style) as applied to the music performed. Students will learn to enjoy participating in vocal music and work cooperatively with other students in the musical organization. Students are expected to participate in evening concerts as a part of the class.

Intro to Art

FA69

0.5 Credit

Grade 10 - 12

The purpose of this course is to foster a broad understanding of the visual arts. The history and art of past and present world cultures is introduced. Students will create works in a variety of art styles. **Semester Course**

Art I

FA833

1 Credit

Grades 11 - 12

Students are offered the opportunity to explore various visual art forms and techniques in an introductory level course through the elements and principles of art and design using a variety of media.

Business

ELECTIVES

Accounting I Honors BUS736 0.5 Credit Grades 9 - 12

Students will be introduced to the basic principles of accounting and will learn how accounting systems gather and provide data for decisions to be made. The student will learn to classify assets, liabilities, capital, revenue, and expense accounts. Various simple accounting forms will be prepared and analyzed. Topics will include understanding the relationship between debits and credits, types of equity, journalizing transactions, and posting to ledger accounts. Any student planning on a college major/minor in business will find accounting offers a practical understanding of how businesses keep financial records. **Semester Course**

Accounting II Honors BUS733 0.5 Credit Grades 10 - 12

Understanding and applying accounting concepts will continue as students learn to prepare common financial forms including an Income Statement, Balance Sheet, and Post Closing Trial Balance. Posting to special journals and subsidiary ledgers will be introduced. The student will analyze data for and record adjusting and closing entries. Learning how businesses plan and evaluate their financial decisions will be an overall focus. Cash management, payroll systems, and automated accounting will also be topics covered.

Prerequisite: Accounting I, Semester Course

Hospitality and Tourism ACC BUS734 0.5 Credit Grades 9 - 12

Hospitality and Tourism is a one semester course that will introduce the junior or senior high school student to a career choice that they may choose to continue pursuing in college. The course is designed to introduce them to this exciting and growing industry including understanding the restaurant business, the hotel business, and the tourist business. After these understandings are attained, the student will learn about destination marketing including information and research. Sports, events, and entertainment as a means of promoting hospitality and tourism will also be taught. **Semester Course**

Business Today Honors BUS738 1 Credit Grades 10 - 12

An elective course in which students will explore the nature of business today including changes affecting business nationally and internationally. This course will expose students to the activities, decisions, problems and successes involved in business and is recommended to students pursuing a degree in any business discipline.

Personal Finance ACC BUS739 0.5 Credit Grades 11 - 12

A financial literacy course designed to help the student to make informed decisions about spending, saving, borrowing and investing in order to build a solid foundation for their financial security. **Semester Course**

English

English I CP

ENG211

1 Credit

Grade 9

This course is designed to develop reading and writing skills, vocabulary, and grammar with more individualized guidance. The reading material is diverse and includes short stories, novels, plays, essays, and poems. The selection of texts, while subject to change, may include *To Kill a Mockingbird*, *Romeo and Juliet*, and *A Raisin in the Sun*. Students learn to make inferences from their reading and write organized five-paragraph essays with additional time given for proofreading, editing, and rewriting essays. Vocabulary and grammar are strengthened with intensive practice.

English I ACC

ENG214

1 Credit

Grade 9

This course is designed to guide students in the development of their reading and writing skills, vocabulary, and grammar. The reading material is diverse and includes short stories, novels, plays, essays, and poems. The selection of texts, while subject to change, may include *To Kill a Mockingbird*, *Romeo and Juliet*, and *A Raisin in the Sun*. Vocabulary is strengthened with comprehensive exercises and practice with recognition of context clues. Special attention is given to writing the five-paragraph essay and citing textual evidence.

English I Honors

ENG213

1 Credit

Grade 9

This course is designed to challenge the academically advanced student. The reading material is diverse and includes short stories, novels, plays, essays, and poems. The selection of texts, while subject to change, may include *To Kill a Mockingbird*, *Romeo and Juliet*, and *A Raisin in the Sun*. The focus of the course is developing high-level reading, writing, and critical thinking skills for the rest of high school and beyond through an in-depth study of literature, grammar, and vocabulary. Special attention is given to the five-paragraph formal essay. The quality of analysis, discussion, and writing is expected to be particularly thoughtful and sophisticated, and the rate at which material is covered is relatively fast.

Prerequisite: Based on placement testing

Freshman Seminar

LIB001

1 Credit

Grade 9

The course is taught with an emphasis on study skills, human relations, and technology. The course has units: Orientation, Study Skills, Life Roadmap, Careers, Post-Secondary Decisions, Technology, and Portfolio. This course will introduce students to high school expectations, teach essential skills and explore college and career opportunities.

English II ACC

ENG224

1 Credit

Grade 10

This course will further develop and refine the college bound student's reading comprehension, analytical, writing and communication skills through reading, vocabulary, research and writing assignments and exercises. Literature includes, but is not limited to, a survey of the short story, poetry, modern and Shakespearean drama, novels and non-fiction. Outside reading is required and students use this reading as a basis for developing oral communication. A concentration of expository, descriptive and creative writing is incorporated throughout the course.

English II Honors**ENG223****1 Credit****Grade 9 - 10**

This course is designed to challenge the academically advanced student. The course will further develop and refine the student's reading comprehension, analytical and writing skills through reading, vocabulary, writing and research skills. This course serves as a foundation for subsequent, more advanced English classes. Literature includes a survey of the short story, modern and Shakespearean drama, poetry, novels, and non-fiction. Outside reading is required and students use this reading as a basis for developing oral communication. Emphasis is placed on reading, literary analysis, oral communication and expository, descriptive, and creative writing.

Prerequisite: 80 in Honors English I or a 90 in Standard English I.

Teacher or Counselor Recommendation

American Literature ACC**ENG235.****1 Credit****Grade 11**

This course is designed for the college bound junior who demonstrates proficient reading, writing and communication skills. The course focuses on themes in American Literature and examines the major authors, periods and genres in American Literature and the impact of the literature on the culture, history and growth of the American civilization. The development of language arts and skills is achieved through reading, writing, vocabulary, grammar, SAT preparation, critical thinking, oral communication, and collaboration. Clear, concise and effective oral and written communication is stressed. Research and analytical skills will be studied and applied with the completion of a comparative literary analysis paper.

American Literature Honors**ENG233****1 Credit****Grade 11**

Designed for the advanced junior who demonstrates an ability to read, write and communicate on a mature level, this course surveys American Literature from an historical perspective. The study of American Literature encompasses the periods extending from early Native American through contemporary American authors who employ various literary genres. Students examine the impact of the literature on the culture, history and growth of the American civilization. Skills focus on reading, writing, vocabulary, grammar, SAT preparation, critical thinking, oral communication, and collaboration. Research and analytical skills will be studied and applied with the completion of a comparative literary analysis paper. The student will be challenged to become a better reader, writer and thinker.

Prerequisite: 80 in Honors English II or a 90 in Accelerated English II.

Teacher or Counselor Recommendation

AP English Language and Composition**ENG234****1 Credit****Grade 11**

This college level course is designed to help students learn to identify rhetoric (persuasion) in as many forms as possible. Included forms (but not limited to) are political articles, nonfiction readings from current magazines, novels, essays, and et al. Three pre-course summer papers are required, and writing in class is done often, and is timed. All students taking this course are required to take the AP test in the spring.

Prerequisite: Teacher or Counselor Recommendation

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

British & World Literature ACC**ENG240****1 Credit****Grade 12**

This course is designed for the college bound senior who has exhibited a special proficiency in reading and writing. Important works of British and World literature are examined in close detail with an emphasis on literary analysis and analytical writing. All aspects of the college admissions process are covered. The second semester involves emphasis on the types of writing and research skills required of a college student.

British & World Literature Honors	ENG244	1 Credit	Grade 12
--	---------------	-----------------	-----------------

This course is designed to challenge the advanced college bound senior who demonstrates a great proficiency in the English Language Arts. The works of important writers in British and World literature are covered extensively with emphasis on literary analysis and interpretation. The college admission's process is also an integral part of this course. The college application essay is explored in detail. There is a heavy concentration placed on formulating expository and persuasive essays, culminating with the writing of a 10-12 page persuasive research paper. The course's goal is to prepare students for the rigors of college reading and writing.

Prerequisite: 80 in Honors American Literature or a 90 in ACC American Literature.

Teacher or Counselor Recommendation

AP English Literature & Composition.	ENG243	1 Credit	Grade 12
---	---------------	-----------------	-----------------

This college level course is designed to help seniors recognize and consider some of the BIG questions and subjects that have concerned writers for several millennia. Many of these questions and subjects will serve as topics for timed essays written in class. There are three summer pre-course essays required. Students will also learn how to distinguish analyses from mere descriptions. All students in the course are required to take the AP exam in the spring.

Prerequisite: Teacher or Counselor Recommendation

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

ELECTIVES

Creative Writing	ENG245	.5 Credit	Grades 10 - 12
-------------------------	---------------	------------------	-----------------------

This year long workshop course will be a study in the techniques and methods of creative writing, with an emphasis on the development of prose and poetry. Students are required to write in a variety of genres and to demonstrate a capability for giving and receiving constructive criticism. Students will demonstrate a better understanding of the revision and rewriting process through mastery of editing skills, including peer-editing. Students will be required to present their prose and poetry in class and a mandatory final portfolio will be due at the end of the course. Semester Course

Creative Writing Honors	ENG246	.5 Credit	Grades 10 - 12
--------------------------------	---------------	------------------	-----------------------

This course is designed to guide the advanced writing student through the process of creative writing. Through a variety of assignments, students will explore methods of inspiration and the discipline of writing. The main focus of this course will be writing, re-writing, editing and peer review. Students will be introduced to all aspects of creative writing including point of view, creating believable characters, setting a scene, character dialogue, creating conflict, and descriptive writing. Students will be introduced to writing creative fiction and nonfiction in a variety of genres: short story, essay, novel, children's literature, poetry, drama, and screenplay. Semester Course

Critical Film Analysis	ENG251	0.5 Credit	Grades 9 - 12
-------------------------------	---------------	-------------------	----------------------

This elective course is designed to introduce students to the elements of cinematic art through the analysis of key films. Students will critically view film as a literary work with respect to authorship, setting, character, plot, theme, conflicts, symbolism, and cultural significance. Students will participate in listening and speaking activities including class discussions, informal and formal responses, formal presentations and projects. The written component of the course will consist of informal personal responses, film reviews, and formal analytical essays and tests. Semester Course

Public Speaking/Oral Communication**ENG242****0.5 Credit****Grades 11 - 12**

This half-year course will serve as an introduction to public speaking, terminology, basic skills and techniques for making oral presentations and speeches. Students will develop the skills of articulation, relevant argument, poise and presence through repeated experience in practice, performance, and measured self-confidence.

Students will study various types of speeches (informative, persuasive, dramatic, and special occasion), read and listen to speeches, and prepare and present their own speeches. This course is activity-based and students will learn to choose speaking topics and adapt them for specific audiences, to research and support their ideas, and benefit from listener feedback, all while having frequent opportunities to speak in a public forum.

Semester Course

Foreign Language

Mandarin I ACC

WL563

1 Credit

Grades 9 - 12

During the course of Mandarin ACC students will continue developing the basic skill foundation of writing, reading, listening and speaking in a higher level. They will also develop a better understanding of the similarities and differences between cultures and language as they examine the influence of beliefs and values of the target language.

Mandarin I Honors

WL564

1 Credit

Grades 9 - 12

During Mandarin H, emphasis will be placed on pronunciation, basic grammatical structures, vocabulary, culture and basic conversations in a higher level. The course will also offer an elementary approach to listening, reading comprehension and writing. In addition, the integration of the study of language with the study of culture (which includes daily life and history) creates natural links to other disciplines.

Prerequisite: Teacher or Counselor Recommendation

Mandarin II ACC

WL565

1 Credit

Grades 10 - 12

This course will help students expand their foundation in Accelerated Mandarin I to continue to develop their four skills of listening, speaking, reading and writing. Many of the grammatical constructions introduced in Chinese 1 will be repeated in this course with increasing sophistication in terms of style and usage. While many of the linguistic tasks students will learn to handle are similar to those of first year Chinese, the level of language required to carry out these tasks is more advanced. In this course students are required to comprehend and produce paragraph-level Chinese. Rigorous practice of spoken and written Chinese in complex communicative activities will be conducted. Students will also do intensive reading of expository writings on a variety of cultural or situational topics.

Mandarin II Honors

WL566

1 Credit

Grades 10 - 12

This course is for the above average Mandarin speaker who has excelled in first year Mandarin both in the oral and written component. This course is designed to develop student's practical communication skills (listening, speaking, reading, and writing) in Mandarin Chinese. The knowledge of the Chinese language will be taught through situations: greetings, student life, phone conversation, hobbies...etc. There are a variety of activities which will be applied to this class to help students acquire their Chinese language communicative competence such as games, role-plays, cultural studies and group discussion. This level will also establish student's solid foundation in learning Chinese character writing and character formation. Up-to-date materials and Chinese culture (festivals and customs) will also be integrated into this course.

Prerequisite: Teacher or Counselor recommendation

Mandarin III ACC

WL567

1 Credit

Grades 11 - 12

In The third year of Mandarin, students will continue to develop their oral communication skills and to expand their vocabulary ability and paragraph writing with the up-to-date topics relevant to young students in a fun and interesting way. Sentence structures and grammar rules are taught through simple explanations, and reinforced with a variety of practice exercises. Students will study more advanced Chinese grammar, verb conjugations, subject and object pronouns, reference and possession and negatives. Careful pacing leads to gradual progress in language skills, with clearly focused aims for each unit, regular review, and consistent reinforcement. In New Practical Chinese reader, topics continue the development of communication skills, and introduce the customs and culture of contemporary China.

Mandarin III Honors WL568 1 Credit Grades 11 - 12

In Mandarin Honors III, students will continue to learn the Chinese language and culture through a series of dialogues and narratives, with culture notes, language use, and grammar explanations/ exercises. A task-based teaching approach will be used to intensify students' motivation and heighten their awareness of the learning objectives in each chapter. This will be a communication-oriented language classroom in which activities will be widely used through interactive exercises to enhance students' skills in oral and written communication. By building effective learning strategies students will have opportunities to make predictions based on their own experience in the lesson and bring these experiences to an immersion classroom. Through exercises, students will improve their writing skills and eventually write comprehensive essays.

Prerequisite: Teacher or Counselor Recommendation

Mandarin IV ACC WL569 1 Credit Grade 12

In Mandarin Accelerated IV, students will continue to learn the Chinese language and culture through a series of dialogues and narratives, with culture notes, language use, and grammar explanations/ exercises. A task-based teaching approach will be used to intensify students' motivation and heighten their awareness of the learning objectives in each chapter. This will be a communication-oriented language classroom in which activities will be widely used through interactive exercises to enhance students' skills in oral and written communication.

Mandarin IV Honors WL570 1 Credit Grade 12

The Mandarin Honors IV course prepares students to demonstrate their level of Chinese proficiency across the three communicative modes (interpersonal, interpretive, and presentational) and the five goal areas (communication, cultures, connections, comparisons, and communities) as outlined in the Standards for Foreign Language Learning in the 21st Century. Its goal is to provide students with ongoing and varied opportunities to further develop their proficiencies across the full range of language skills within a cultural frame of reference reflective of the richness of Chinese language and culture.

Prerequisite: Teacher or Counselor Recommendation

Spanish I ACC WL512 1 Credit Grades 9 - 12

This course introduces students to the culture and language of the Spanish-speaking world. Emphasis will be placed on pronunciation, basic grammatical structures, vocabulary, culture and basic conversations. Some topics will be developed based on the MA Foreign Language Curriculum Frameworks (Communication, Cultures, Connections, Comparisons, and Communities.) In addition, the integration of the study of language with the study of culture (which includes daily life, history, literature, visual and performing arts, mathematics and science) creates natural links to other disciplines.

Spanish I Honors WL513 1 Credit Grades 9 – 12

This course introduces students to the culture and language of the Spanish-speaking world. Emphasis will be placed on pronunciation, basic grammatical structures, vocabulary, culture and basic conversations. The course will also offer an emphasis approach to listening, reading comprehension and writing. Major topics will be developed based on the MA Foreign Language Curriculum Frameworks (Communication, Cultures, Connections, Comparisons, and Communities.) This course will give the students the ability to carry on a simple conversation. In addition, the integration of the study of language with the study of culture (which includes daily life, history, literature, visual and performing arts, mathematics and science) creates natural links to other disciplines.

Prerequisite: Teacher or Counselor Recommendation

Spanish II ACC WL522 1 Credit Grades 9 - 12

This course builds upon knowledge gained in Spanish I. This course will also reinforce the skills learned in Spanish I: listening, speaking, reading and writing. Emphasis is on perfecting pronunciation, mastery of the basic grammatical structures, and increased communicative proficiency. Most of the major topics will be developed based on the MA Foreign Language Curriculum Frameworks. (Communication, Cultures, connections, Comparisons, and Communities.) Acquisition of functional vocabulary is expected. Students will be exposed to the past tenses, future, conditional and subjunctive mood. Students will be expected to apply them in their writing and speaking.

Spanish II Honors WL523 1 Credit Grades 9 – 12

This course builds upon knowledge gained in Spanish I. This course will also reinforce the skills learned in Spanish I: listening, speaking, reading and writing. Emphasis is on perfecting pronunciation, mastery of the basic grammatical structures, and increased communicative proficiency. Major topics will be developed based on the MA Foreign Language Curriculum Frameworks (Communication, Cultures, Connections, Comparisons, and Communities.) This course will give the students the ability to carry on a simple conversation. Acquisition of functional vocabulary is expected. Students will be exposed to the past tenses, future, conditional and subjunctive mood. Students will be expected to apply them in their writing and speaking. Students will be encouraged to participate in Spanish Club activities.

Prerequisite: Teacher or Counselor Recommendation

Spanish III ACC WL532 1 Credit Grades 10 - 12

This course builds upon knowledge gained in Spanish II and will reinforce the skills previously learned and provide a greater emphasis on the Spanish language, grammar, and culture. Students in this course will build on their Spanish knowledge by learning more complex grammatical structures and become equipped to read and understand a variety of literary selections and gain necessary skills to interact verbally and in writing with Spanish speakers in varied social and business situations. As part of the course, students will be afforded opportunities to read, write, hear, and speak Spanish while they work towards becoming linguistically and culturally literate. Major topics will be developed based on the MA Foreign Language Curriculum Frameworks (Communication, Cultures, Connections, Comparisons, and Communities.) This course will give the students the ability to carry on a simple conversation for this reason acquisition of functional vocabulary is expected.

Spanish III Honors WL533 1 Credit Grades 10 - 12

This course is considered high intermediate level and will continue building upon knowledge gained in Spanish II. They will also reinforce the skills previously learned and provide a greater emphasis on the Spanish language, grammar, and culture. It is a challenging course taking in considerations that students will be presented with high standard vocabulary with a lot of synonyms and cognates, grammar that deals with many complex tenses and clauses as well as idiomatic expressions. In addition, there will be a demanding immersion in Spanish literature and deeper knowledge of the Spanish culture, consistent oral conversation, written composition, listening and reading comprehension. All of the aforementioned will be ongoing activities perform in class in accordance to the MA Foreign Language Curriculum Frameworks (Communication, Cultures, Connections, Comparisons, and Communities.) This course will give the students the ability to carry on complex conversation.

Prerequisite: Teacher or Counselor Recommendation

Spanish IV ACC**WL542****1 Credit****Grades 11 - 12**

This course deepens the four language skills of listening, speaking, reading, and writing. Students will discuss in Spanish contemporary topics and literature while extending their vocabulary and increasing their understanding of grammatical concepts. The classroom activities are designed to develop those skills. Vocabulary will focus on words and expressions relevant to readings or other input. The readings address topics ranging from history and systems of government to professions, celebrations, leisure time, health, and others. Grammatical concepts introduced in Spanish III will be reviewed and reinforced. New grammatical concepts include the conditional and future tenses, the impersonal se, the perfect tenses, and further uses of the subjunctive. This course is conducted mostly in the target language. All of the aforementioned will be ongoing activities performed in class in accordance to the MA Foreign Language Curriculum Frameworks (Communication, Cultures, Connections, Comparisons, and Communities.) This course will give the students the ability to carry on complex conversation.

Spanish IV Honors**WL543****1 Credit****Grades 11 - 12**

This course deepens the four language skills of listening, speaking, reading, and writing. Students will discuss in Spanish contemporary topics and literature while extending their vocabulary and increasing their understanding of grammatical concepts. The classroom activities in Honors Spanish IV are designed to develop those skills. Vocabulary will focus on words and expressions relevant to readings or other input. The readings address topics ranging from history and systems of government to professions, celebrations, leisure time, health, and others. Grammatical concepts introduced in Honors Spanish III will be reviewed and reinforced. New grammatical concepts include the conditional and future tenses, the impersonal se, the perfect tenses, and further uses of the subjunctive. Honor Spanish IV course is conducted entirely in the target language. The pace of the Honor class is accelerated and college directed. All of the aforementioned will be ongoing activities performed in class in accordance to the MA Foreign Language Curriculum Frameworks (Communication, Cultures, Connections, Comparisons, and Communities.) This course will give the students the ability to carry on complex conversation.

Prerequisite: Teacher or Counselor Recommendation.

AP Spanish Language**WL553****1 Credit****Grades 11-12**

This course is intended for the highly motivated and capable student who would benefit from a more accelerated pace of learning and additional, more challenging areas of study. The class will focus on both grammatical accuracy and communicative fluency. Grammatical knowledge and vocabulary will be refined and expanded so that, as a student, you will be able to more easily comprehend written and spoken Spanish, and more easily express your own ideas when writing and speaking. This class will allow you to continue to build proficiency in the areas of reading, writing, listening, and speaking through a variety of interactive and non-interactive activities such as compositions, essays, telephone conversations, email replies, oral presentation, skits, in-depth studies of Spanish and Latin American literature, history, and geography. The primary purpose of the course is to prepare students to be college-ready, well-rounded global citizens who can communicate effectively in Spanish and are aware of the cultural influences of the Spanish and Latino heritage at homeland abroad.

Prerequisite: Completion of Honors Spanish IV and 90 or above average. 89 or below requires Teacher or Counselor Recommendation.

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

Math

Algebra I CP

MAT314

1 Credit

Grade 9

This course, although containing the same content as Algebra I-ACC, has different formative assessments including projects and many more hands-on work in the classroom. The following units are covered: basic terms, operations with real numbers, solving equations and inequalities, polynomials, factoring, algebraic fractions, simultaneous equations and problem solving.

Placement based upon HSPT and a St. Mary's placement test in June.

Algebra I ACC

MAT315

1 Credit

Grade 9

This course guides the student in discovering mathematical principles and furnishes them with exercise material to strengthen their comprehension. The following units are covered: basic terms, operations with real numbers, solving equations and inequalities, polynomials, factoring, algebraic fractions, simultaneous equations and problem solving.

Placement based upon HSPT and a St. Mary's placement test in June.

Algebra I Honors

MAT313

1 Credit

Grade 9

This course is designed for the student who has facility for mathematics. As the student pursues this course, they will work on the following units: real number system, properties and operations, equations and inequalities, polynomials, functions and variations, quadratic equations and problem solving.

Placement based upon HSPT and a St. Mary's placement test in June.

Geometry ACC

MAT325

1 Credit

Grade 10

This course is designed to help the student to understand the nature of a mathematical system and to appreciate the basic structure of Geometry. Time will be spent on both inductive and deductive reasoning. Efforts to show how Algebra and Geometry complement each other will be made.

Prerequisite: Successful completion of Algebra I

Geometry Honors

MAT323

1 Credit

Grades 9 - 10

This course is designed for the student who has shown a high ability level in math and may wish to pursue math or science on the college level. It contains a sophisticated approach to the mathematical structure of geometry with an emphasis placed on deductive reasoning.

Prerequisite: Successful completion of Honors Algebra I, 90 or above in Algebra ACC.

Current Math Teacher's Recommendation and Counselor Recommendation

Algebra II ACC

MAT335

1 Credit

Grades 10 - 11

This course is designed for the college bound student who has a good ability in math. It includes a review of Algebra I. New topics include: Quadratics and their inequalities, the complex number system, polynomial and exponential equations and finally logs.

Prerequisite: Successful completion of Geometry ACC and Algebra I ACC.

Algebra II Honors

MAT333

1 Credit

Grades 10-11

This course is designed for the high ability math student. The topics will include a comprehensive review of Algebra I. New topics include: Quadratics and their inequalities, the complex number system, polynomial and exponential equations and finally logs.

Prerequisite: Successful completion of Alg I H and Geo H, 90 or above in Alg I ACC and Geo ACC.

Current Math Teacher's Recommendation and Counselor Recommendation

Algebra & Trigonometry ACC MAT342 1 Credit Grade 11-12

This course will address the needs of students who have had some challenges in previous Algebra courses, and to strengthen SAT skills. This course will prepare students to go on to higher level math courses such as Precalculus and Calculus in college. Topics will include: Equations and Inequalities, Functions and their graphs, Exponential and Logarithmic functions Trigonometric functions and Analytic Trigonometry.

Prerequisite: Successful completion of Algebra II ACC

Current Math Teacher's Recommendation and Counselor Recommendation

Statistics ACC MAT311 1 Credit Grades 11 – 12

This course is in an introduction level course into the world of statistics. The course consists of the following topics: variations, data collection, organization and analysis of data. There will be a graphic display of data concepts and a study of underlying influences and an aid for developing skills in problem solving. Examples and experiences are based on realistic data drawn from a variety of disciplines. A graphing calculator is essential.

Prerequisite: Passing grade in Algebra II, Trigonometry or Pre-Calculus

Statistics Honors MAT312 1 Credit Grades 11- 12

This course is for the college-bound student who will benefit from a higher understanding of collecting, organizing, and interpreting statistical data. There will be a graphic display for data concepts of underlying influences and an aid for developing skills in problem solving. Examples and experiences are based on realistic data from a wide variety of disciplines. A graphing calculator is required for all students who take this course.

Prerequisite: Passing grade in Algebra II, Trigonometry or Pre-Calculus

Pre-Calculus ACC MAT346 1 Credit Grades 11 - 12

This course is for the college-bound student who will profit from and understanding of the limit of functions, a topic discussed in Calculus. Topics include: evaluation and graphing functions of many forms including quadratic, polynomial, rational, exponential, logarithmic, and trigonometric. The course ends with conic sections their graphs and their applications.

Prerequisite: Successful completion of Honors Algebra II or ACC Algebra II and current Math Teacher's Recommendation and Counselor Recommendation

Pre-Calculus Honors MAT347 1 Credit Grades 11 - 12

This course is for the college-bound student who will profit from and understanding of the limit of functions, a topic discussed in Calculus in college or senior year. Topics include: evaluation and graphing functions of many forms including quadratic, polynomial, rational, exponential, logarithmic, and trigonometric. The course ends with conic sections their graphs and their applications.

Prerequisite: Successful completion of Honors Algebra II, 90 or better in Algebra II ACC

Current Math Teacher's Recommendation and Counselor Recommendation

Calculus ACC MAT342 1 Credit Grade 12

After a full review of all Pre-calculus topics, the student will study the connections among functions as well as the concepts of the derivative, integral, the limit and the antiderivative of many functions including the trigonometric functions.

Prerequisite: Successful completion of Honors Pre-calculus or a grade of C or better in Pre-calculus ACC

Current Math Teacher's Recommendation and Guidance Recommendation

Calculus Honors**MAT343****1 Credit****Grade 12**

After a full review of all Pre-calculus topics, the student will study the connections among functions as well as the concepts of the derivative, integral, the limit and the antiderivative of many functions including the trigonometric functions.

Prerequisite: Successful completion of Honors Pre-calculus or a 90 or above in Pre-calculus ACC.

A recommended PSAT Math 60 or SAT Math 600.

Current Math Teacher's Recommendation and Counselor Recommendation

AP Calculus AB**MAT340****1 Credit****Grade 11 - 12**

This course includes methods of finding and applying the derivative and integral as a limit. Students will study: Calculus of polynomials, trigonometric, exponential, logarithmic and inverse functions. There will be applications involving: analytic geometry, science, business and economics.

Prerequisites: B or better in Honors Pre-calculus and Counselor Approval.

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

Physical Education

ELECTIVES

Physical Education 10

PE96

0.5 Credit

Grade 10

The Physical Education curriculum offers a well-rounded program placing emphasis on wellness, health, sport and lifelong activities. This course provides opportunities to participate in a variety of co-educational activities, where students may enhance their fitness and skill level as well as their cognitive understanding of team and lifelong activities. Students will receive an education in proper warm up and exercise, circuit training, free weight training and injury prevention. Sports /activities: soccer, touch football, basketball, hockey, volleyball (soft), baseball, recreational games, relays, dance, gymnastics, aerobics, self-defense, kick boxing and general fitness.

Semester Course

Personal Fitness

PE97

0.5 Credit

Grades 10 -12

Personal fitness instruction will include correcting postural distortions through stretching to allow for improved breathing, blood flow and overall health. Proper exercise techniques will be taught including calisthenics, weight training, and cardiovascular exercise. Nutritional information discussed and daily food and beverage intake tracking will be included.

Semester Course

Science

Biology ACC

SCI112

1 Credit

Grade 9

This accelerated level course includes a phylogenetic study of the various forms of life from the unicellular level to multicellular level, the manner in which organisms interact, their evolutionary nature, the life processes common to all living organisms and the basic principles of genetics and heredity. Fundamental aspects of scientific inquiry are encouraged both in class discussions and related laboratory investigations.

Biology Honors

SCI113

1 Credit

Grade 9

This honors level course that involves a phylogenetic study of life from the unicellular level to the multicellular level, the manner in which living organisms interact, their evolutionary nature, the life processes common to all living things and the basic principles of genetics and heredity. Laboratory procedures and techniques will accompany topics discussed in classroom. Recommended for the student with a strong aptitude for science or who plans to pursue a science-related career. Related field trips provide the student with access to techniques used in modern biotechnology laboratories.

Prerequisite: Student selection based upon high school placement test

Chemistry ACC

SCI125

1 Credit

Grade 10

This course is meant to supply sufficient diversity to meet the needs of the students who are interested in Chemistry-related technological careers. This course will include an introduction to scientific measurement and calculations, concepts, principles and chemical reactions. The course will include both the theoretical and the mathematical approaches to Chemistry, including laboratory procedures and techniques.

Chemistry Honors

SCI123

1 Credit

Grade 10

This course is meant to provide an in-depth introduction to the field of Chemistry. This course will include an introduction to scientific measurement and calculations, concepts, principles and chemical reactions. Laboratory sessions will be held. These will include an introduction to laboratory procedures and techniques through quantitative experimentation.

Prerequisite: Teacher or Counselor Recommendation

Physics ACC

SCI135

1 Credit

Grade 11

This course is meant to supply sufficient diversity to meet the needs of the students who are interested in science related careers, which may require some background in Physics. This course will provide an introduction to the principles of classical and modern physics, Newtonian and basic quantum mechanics, light and optics. This will be accomplished through classroom discussion and laboratory exercises.

Prerequisite: Minimum grade of an 80 in Algebra I and Chemistry or by Teacher or Counselor Recommendation

Physics Honors

SCI133

1 Credit

Grade 11

This course is meant to provide an in-depth study of the principles of classical and modern Physics, Newtonian and basic quantum mechanics, light and optics. This course is highly recommended for students with a strong aptitude of science and mathematics. It will provide a sufficient foundation for students interested in careers in science and/or engineering.

Prerequisite: Minimum grade of a 70 in Honors Algebra I and Honors Chemistry or Teacher or Counselor Recommendation

ELECTIVES

Environmental Science SCI146 0.5 Credit Grades 9 - 12

Students will explore the patterns and processes of Earth and how these are affected by natural and human impacts. They will study environmental problems that our planet is facing today and various efforts to solve these problems, ultimately understanding the need for a sustainable future. **SEMESTER COURSE**

Biomedical Science SCI115 1.0 Credit Grades 10 - 12

Whether discovering new cancer treatments or teaching healthy lifestyle choices to their communities, today's biomedical science professionals are tackling big challenges to make the world a better place. Biomedical Science students are taking on these same real-world challenges – and they're doing it before they even graduate from high school. Working with the same tools used by professionals in hospitals and labs, students engage in compelling, hands-on activities and work together to find solutions to problems. Students take from the courses in-demand knowledge and skills they will use in high school and for the rest of their lives, on any career path they take.

Marine Biology ACC SCI116 0.5 Credit Grades 11 - 12

This semester course introduces students to the physical, chemical, and biological aspects of life in the oceans. Topics include changes with depth from the surface to the seafloor, the effects of salinity and temperature on marine organisms, taxonomy of marine and aquatic life, niches and anatomy of marine invertebrates, fish and mammals, and the human impacts on the ocean environments. Laboratory exploration focuses on the physical aspects of the ocean environment. Students will also select a topic for independent research and learn citizen science and awareness through development of a mock social media campaign. Students may also participate in field trips to the Northeastern University Marine Science Center and to the local coastlines of Lynn and Nahant.

SEMESTER COURSE

Forensic Science ACC. SCI128 0.5 Credit Grade 11 - 12

This semester course addresses the underlying science of forensics. It will include basic principles of forensic science, the legal aspects of the science, and highlight cases involving evidence studied in class. Topics covered in this course include observation skills, crime-scene investigation and evidence collection, hair and fiber analysis, fingerprints, DNA profiling, blood and blood spatter, forensic toxicology, document analysis, and how they relate to the dynamics of physics. Students focus on the scientific methods of collecting and processing possible evidence. Analytical skills, laboratory methods, and problem-solving techniques will be emphasized in this course.

SEMESTER COURSE

Anatomy & Physiology Honors SCI144 1 Credit Grade 11 - 12

This course will provide the student with a comprehensive study of the structure and function of the major systems of the human body as well as an introduction to the terminology necessary for a thorough understanding of each system. Laboratory session will include major dissections and physiology experiments. This course is strongly recommended for students interested in pursuing a career in the health field.

Prerequisite: Teacher or Counselor Recommendation

AP Biology**SCI145****1 Credit****Grades 9 - 12**

This college level course is designed to provide students with awareness and increased understanding of complex biochemical and biological principles. Three general areas are studied in detail: Molecules and Cells; Heredity and Evolution; and Organisms and Populations. Laboratory exercises are a demanding aspect of this course. The course prepares students to take the Advanced Placement exam in Biology.

Prerequisite: Teacher or Counselor Recommendation

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

AP Chemistry**SCI126****1 Credit****Grades 11 – 12**

This course is designed to be the equivalent of the general chemistry course taken during the first year of college. Students who take the AP Chemistry course will develop a deep understanding of the concepts within the six big ideas through the application of the science practices in the required laboratory component of the course. Students will gain an in-depth understanding of the fundamentals of chemical and mathematical problem solving. A large portion of the course will involve laboratory activities that would be comparable to a college level laboratory experience. Students must complete a minimum of 16, hands-on lab investigations to support the learning objectives in the curriculum framework. At least six of the lab investigations must be guided inquiry-based labs. The result will be readiness for the study of advanced topics in subsequent college courses.

The course centers around six big ideas and seven science practices:

Big Ideas	Science Practices
1. Structure of Matter	1. Drawing, explaining, and interpreting representations
2. Bonding and Intermolecular Forces	2. Using mathematics and logical routines appropriately
3. Chemical Reactions	3. Asking and refining scientific questions
4. Kinetics	4. Designing and implementing data collection strategies
5. Thermodynamics	5. Analyzing and evaluating data
6. Chemical Equilibrium	6. Making predictions and justifying claims with evidence
	7. Connecting chemistry concepts across the big ideas.

Prerequisite: Teacher or Counselor Recommendation.

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

Social Studies

World Civilization II ACC

SOC414

1 Credit

Grade 9

Students will study the rise of the nation state in Europe, the French Revolution and the economic and political roots of the modern world. The course of study also includes the origins and consequences of the Industrial Revolution, 19th century political reform in Western Europe and imperialism in Africa, Asia, and South America. They will explain the causes and consequences of the great military and economic events of the past century, including World War I, the Great Depression, World War II, the Cold War, and the Russian and Chinese revolutions. Finally, students will study the rise of nationalism and the continuing persistence of political, ethnic, and religious conflict in many parts of the world.

World Civilization II Honors

SOC413

1 Credit

Grade 9

Students will study the rise of the nation state in Europe, the French Revolution and the economic and political roots of the modern world. The course of study also includes the origins and consequences of the Industrial Revolution, 19th century political reform in Western Europe and imperialism in Africa, Asia, and South America. They will explain the causes and consequences of the great military and economic events of the past century, including World War I, the Great Depression, World War II, the Cold War, and the Russian and Chinese revolutions. Finally, students will study the rise of nationalism and the continuing persistence of political, ethnic, and religious conflict in many parts of the world. Honors Level courses are distinguished from Accelerated Level by increased emphasis and expectation in essay and research writing, work with and interpretation of primary sources and the use of document-based-questions for more in depth and nuanced study of the period in question.

Prerequisite: Placement based upon HSPT

U.S. History I ACC

SOC422

1 Credit

Grade 10

The course covers the early history of America, beginning with the Pre-Colonial and early Colonial periods. Other areas of study will include the Great Awakening, the pre-revolutionary period, the American Revolution, the Constitution, and the growth of our young nation. The course continues through the Civil War and Reconstruction.

U.S. History I Honors

SOC423

1 Credit

Grade 10

The course covers the early history of America, beginning with the Pre-Colonial and early Colonial periods. Other areas of study will include the Great Awakening, the pre-revolutionary period, the American Revolution, the Constitution, and the growth of our young nation. The course continues through the Civil War and Reconstruction. Honors Level courses are distinguished from Accelerated Level by increased emphasis and expectation in essay and research writing, work with and interpretation of primary sources and the use of document-based-questions for more in depth and nuanced study of the period in question.

Prerequisite: Teacher or Counselor Recommendation

U. S. History II ACC

SOC436

1 Credit

Grade 11

The course covers a variety of themes in United States History beginning with a review of Reconstruction. Other areas of study include industrialization, immigration, the Gilded Age, Progressivism, American Imperialism, WWI, the Great Depression, WWII, the Cold War, the 1960's, and the modern era.

U. S. History II Honors**SOC435****1 Credit****Grade 11**

The course covers a variety of themes in United States History beginning with a review of Reconstruction. Other areas of study include industrialization, immigration, the Gilded Age, Progressivism, American Imperialism, WWI, the Great Depression, WWII, the Cold War, the 1960's, and the modern era. Honors Level courses are distinguished from Accelerated Level by increased emphasis and expectation in essay and research writing, work with and interpretation of primary sources and the use of document-based-questions for more in depth and nuanced study of the period in question.

Prerequisite: Teacher or Counselor Recommendation

AP U.S. History**SOC433****1 Credit****Grade 11 - 12**

Juniors who have performed at a high level during their sophomore year will examine the same issues as listed in U.S. History (423) as well as review those topics covered in U.S. History I. Primary sources will be used as well as American Literature and works by modern day American supports and iconoclasts. Skills in a higher order of thinking and research will be developed in order to prepare the student for the A.P. test given in the spring.

Prerequisite: Teacher or Counselor Recommendation.

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

ELECTIVES**AP World History****SOC437****1 Credit****Grades 9 - 12**

Advanced Placement World History is designed for students who wish to complete high school level studies that are equivalent to an introductory college course in World History. This course offers a detailed, and in-depth study of our shared global history. It will examine the cultural and historical diversity among major civilizations from approximately 8000 B.C.E. to the present. By taking this course, students will develop a greater understanding of global processes and interactions among societies throughout the world. Secondly, students will examine how these societies have changed over periods of time, as well as being able to identify patterns of continuity between different civilizations and time periods. Students will read and organize data based on themes, write analytical and document-based essays, and analyze primary and secondary sources. Additionally, AP World History will prepare students for using evidence to make plausible arguments, while allowing ample practice in identifying point of view, context, and bias within historical documents and text.

Prerequisite: Teacher or Counselor Recommendation.

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

African American Experience in the U. S. I:**SOC450****0.5 Credit****Grades 9 – 12**

African American Experience in the United States I: Atlantic Slave Trade to the Civil War. Students will explore topics like the formation of the Atlantic Slave Trade, slave experience in colonial America, slavery in the antebellum American, the Underground Railroad and the Civil War.

Semester Course

African American Experience in the U. S. II: SOC451 0.5 Credit Grades 9 – 12

African American Experience in the United States II: Civil War to Present. Students will explore topics like the Civil War and Reconstruction, the Era of Jim Crow, the Great Migration, the Harlem Renaissance, the Civil Rights Movement, and Post-Racial America (Modern Civil Rights Movement and Mass Incarceration).

Semester Course

Civics SOC434 0.5 Credit Grades 9 - 12

This course explores rights and responsibilities associated with being an active citizen in a democratic society. Students will explore issues of civic importance such as healthy schools, community planning, environmental responsibility, and the influence of social media, while developing their understanding of the role of civic engagement and of political processes in the local, national, and/or global community. Students will apply the concepts of political thinking and the political inquiry process to investigate, and express informed opinions about, a range of political issues and developments that are both of significance in today's world and of personal interest to them.

Semester Course

Correctional Institutions & Administration SOC452 0.5 Credit Grades 9 - 12

This course provides an introduction to the law. The course will explore some of the basic legal theories and philosophies, look at the historical development of Anglo-American law, and examine the development of the United States with special regard to the Constitution. Additional emphasis will be given to the judicial process along with civil and criminal procedures.

Semester Course

Criminal Justice SOC453 0.5 Credit Grades 9 - 12

This class is an introduction to the purpose and functions of the criminal justice system. The course includes descriptions of the police, courts, and corrections on the local, state, and federal levels. The introduction to criminal justice is available to all students who want to understand better the aim of criminal law and how the criminal justice system operates.

Semester Course

Historical Conspiracy Theories SOC454 0.5 Credits Grade 9 - 12

This course takes a close look at conspiracy theories in American history- some recent, some from the past. Our learning objectives include examining 1) evidence and logic behind different theories 2) events that gave rise to theories and 3) theories that scholars have offered to explain the prevalence of conspiracy theories in modern American culture. It is designed as a project-based class; rooted in research, presentation skills, and public speaking. It will be broken down into five units: Deaths & Disappearances, Sports, Science & Technology, Economics & Society, and Government, Politics, & Conflict.

Semester Course

Terrorism in the 20th & 201st Centuries SOC902 0.5 Credit Grades 9 - 12

This 1 semester course examines the history of state and non-state terrorism in the 20th and 21st centuries. Students will study the major terrorist motives, political ideology, nationalism, and religion, the groups associated with them, the tactics they have employed, and the methods that may alleviate terrorism.

Semester Course

Women's History**SOC449****0.5 Credit****Grades 10 – 12**

This course moves through the chronology of women's history to examine the broad themes that have shaped women's lives in the United States and the world from the colonial period to the present. While tracing larger trends and identifying common experiences, we will also pay close attention to the specific experiences of individual women in order to shed light on the differences and divisions among them. Throughout, we will investigate the ways in which notions of gender difference have changed over time and how a wide variety of women both created and responded to shifting and contested cultural, political, and social roles. The course will finish with a look at modern differences in the rights and experiences of women around the globe.

Semester Course**AP Government & Politics: United States****SOC445****1 Credit****Grade 10 - 12**

U.S. Government and Politics is designed to give students an analytical perspective on government and politics in the United States. This course includes both the study of general concepts used to interpret U.S. policies, as well as the analysis of specific examples. It also requires that students become familiar with the various institutions, groups, beliefs and ideas that constitute U.S. politics.

Prerequisite: Teacher or Counselor Recommendation

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

PSYCHOLOGY ELECTIVES**Intro to Psychology and Sociology ACC****SOC448****1 Credit****Grades 10 - 12**

This course will blend the study of human behavior in terms of society at large with the psychological issues that cause and affect behavior. Sociology will concentrate on the origins, development, and institutions of social behavior. In understanding the basics of psychology, students will learn more about the many factors that can impact thought and behavior, ranging from biological influences to social pressures. Development, personality, emotions, perception, stress, addiction, and psychological disorders will be viewed from both perspectives.

Psychology Honors**SOC447****1 Credit****Grades 11 - 12**

Honors Psychology will help prepare students interested in a career in the medical or psychological fields. Schools of Psychology, important psychologists, development of human's & animals, and abnormal and social psychology will be highlighted. Personality, sensation, perception, emotions, and behavior modification will be taught with emphasis on historical and contemporary cases.

AP Psychology**SOC446****1 Credit****Grade 12**

The AP Psychology course is designed around a variety of assignments that promote acquiring a deep understanding of content, as well as developing study and writing skills necessary to be successful on the advanced placement exam. While preparation for the AP Exam is an important goal of the course, helping students to better understand themselves and the behavior of others is another important aspect of the course.

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

Technology and Engineering

App Creators

TECH648

0.5 Credit

Grades 9 - 12

App Creators introduces students to the field of computer science and the concepts of computational thinking, through the creation of mobile apps. Students are challenged to be creative and innovative, as they collaboratively design and develop mobile solutions to engaging, authentic problems. Students experience the positive impact of the application of computer science to society as well as other disciplines, particularly biomedical science. The unit provides students opportunities for self-expression. Teams identify a personal or community problem of interest to them that can be solved with a mobile app solution. The problem can address issues such as health and wellness, the environment, school culture, emergency preparedness, education, community service—the options are endless!

Semester Course

Intro to Programming

TECH643

0.5 Credit

Grades 9 - 12

This course is designed for students who want to explore an interest in programming. It aims to provide students with an understanding of the role computation can play in solving problems. Students will be introduced to basic concepts, principles, and skills of programming using different programming languages such as C/C++, Java and Python. Students who complete this course should be able to transition to AP Computer Science

Semester Course

AP Computer Science Principles

TECH647

1 Credit

Grades 10 - 12

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science.

The course prepares the students to take the AP Computer Science Principles exam.

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

AP Computer Science A

TECH646

1 Credit

Grade 11 - 12

This college level course emphasizes the design issues that make programs understandable, adaptable, and, when appropriate, reusable. Other areas of study will include the development and analysis of algorithms, data structures and standard algorithms and typical applications. This course is intended to serve as an introductory course for people wishing to pursue a degree in computer science and as a course for people who will major in other disciplines that require significant involvement with technology.

The course prepares the students to take the AP Computer Science A exam.

Prerequisite: Completion of Intro to Programming, 90 or above.

89 or below requires Teacher or Counselor Recommendation

A student cannot drop without a consultation with the Principal who will consider extenuating circumstances after the normal add/drop period.

ALL STUDENTS TAKING THIS COURSE WILL TAKE THE A.P. EXAM.

Civil Engineering and Architecture**STM02****1 Credit****Grades 10 - 12**

A high school level specialization course in the PLTW Engineering Program. In CEA students are introduced to important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software. Utilizing the activity-project-problem-based (APB) teaching and learning pedagogy, students will progress from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

Engineering Design I**STEM3****0.5 Credit****Grade 9**

Ever tried to design something new or draw up an idea you wanted to share with your friends and wondered how you could communicate your idea? Or, have you wondered how someone designed that new MP3 player or sleek new phone? The Introduction to Engineering Design is the course for you. The major focus of the course is learning how to take an idea through a design process that will eventually be manufactured or produced. As you learn about various aspects of engineering and engineering design, such as how engineers communicate through drawing, you will apply what you learn through various activities, projects, and problems. For example, after learning about the different techniques engineers use in determining how to design a product, you and your teacher will have the flexibility to explore the design and engineering processes to solve problems that are of interest to you. The course covers the following:

- Engineering Design Process (the role of an Engineer, the design process)
- Technical Sketching and Drawing and measurement
- Product Design
- Product Analysis and Improvement
- Puzzle Cube Design Challenge Design Process
- Modeling
- Sketching
- Presentation Design and Delivery
- Engineering Drawing Standards
- CAD Drawings

In addition, you will use Inventor, which is a state of the art 3-D design software package from Auto Desk, to help you design solutions to different design projects. Working in teams, you will learn about documenting your solutions, solving problems, and communicating your solutions to other students and members of the professional community of engineering and engineering design.

Introduction to Engineering Design is intended to serve as a foundation course within the Project Lead The Way® course sequence. All of the topics learned in this course will be used in future courses.

Semester Course

Engineering Design II**STEM4****1 Credit****Grades 10 – 12**

This course develops student problem solving skills, with emphasis placed upon the concept of developing a 3-D model rendering of an object. Students focus on the application of visualization processes and tools provided by modern state of the art computer hardware and software. This computer-based process replaces the traditional hand-drawing methods. The course will emphasize the design development process of a product and how a model of that product is produced, analyzed and evaluated, using a Computer Aided Design system (CAD). Various design applications will be explored with discussion of possible career opportunities. Students are introduced to the fundamentals of engineering design and drafting through AutoCAD Inventor, a 3-D solid modeling software package. Topics include problem-solving techniques, documentation, working drawings, prototyping, and manufacturing considerations.

Topic List Course of study includes:

- Geometric Shapes and Solid, (measurement, statistics and applied geometry)
- Dimensions and Tolerances
- Advanced Modeling Skills and Advanced Designs
- Reverse Engineering – Visual Analysis, Functional Analysis and Structural Analysis
- Product Improvement By Design Marketing
- Graphic Design
- Engineering Ethics
- Engineering Design Ethics
- Design Teams Virtual Design Teams

Inventions & Innovations**STEM07****1 Credit****Grades 11 - 12**

In this course students will use their prior knowledge of designing, sketching and use of the Inventor (CAD) program to solve problems in our world today. Students will research and follow the design process used in (IED 1 & 2) to determine the wants or needs of our society today. Students will either create a new invention or innovate previous products. They will follow the IED process and become an Engineer researching possible products that they could use in everyday, to make life easier and more productive.

Theology

Theology I

THG13

1 Credit

Grade 9

Part 1: Scripture

The purpose of this course is to give an overview of Sacred Scripture with an introduction to the basic principles for understanding and interpreting the Bible. Because of the extent of the scriptural material, this outline will not try to cover the vast content but rather offer comments about Scripture's purpose and religious significance. Given the limits of a semester of study, it will not be possible to introduce all the books of the Bible here. But every effort is made to project a sense of the unity of the narrative for the divine plan of salvation, the presence of God's action in this record of his Revelation, and his desire to share his merciful love with us.

Part 2: Christology (The Study of Christ)

The purpose of this course is to introduce students to the mystery of Jesus Christ, the living Word of God, the Second Person of the Blessed Trinity. In this course students will understand that Jesus Christ is the ultimate Revelation to us from God. In learning about who He is, the students will also learn who He calls them to be.

Theology II

THG23

1 Credit

Grade 10

Part 1: Scripture

The purpose of this course is to give an overview of Sacred Scripture with an introduction to the basic principles for understanding and interpreting the Bible. Because of the extent of the scriptural material, this outline will not try to cover the vast content but rather offer comments about Scripture's purpose and religious significance. Given the limits of a semester of study, it will not be possible to introduce all the books of the Bible here. But every effort is made to project a sense of the unity of the narrative for the divine plan of salvation, the presence of God's action in this record of his Revelation, and his desire to share his merciful love with us.

Part 2: Christology (The Study of Christ)

The purpose of this course is to introduce students to the mystery of Jesus Christ, the living Word of God, the Second Person of the Blessed Trinity. In this course students will understand that Jesus Christ is the ultimate Revelation to us from God. In learning about who He is, the students will also learn who He calls them to be.

Theology III

THG33

1 Credit

Grade 11

Part 1: Morality

The purpose of this course is to help students understand that it is only through Christ that they can fully live out God's plans for their lives. Students look at the different components of making a moral decision. Students are to learn the moral concepts and precepts that govern the lives of Christ's disciples, specifically the Ten Commandments and the Beatitudes.

Part 2: Social Catholic Teaching

The purpose of this course is to introduce students to the Church's social teaching. In this course, students are to learn how Christ's concern for others, especially the poor and needy, is present today in the Church's social teaching and mission.

Theology IV ACC – Ecumenism and Interreligious Dialogue THG41 0.5 Credit Grade 12

In this class, we will be studying the meaning of ecumenism and the importance of interreligious dialogue through looking at a variety of Religions from around the world with a focus on what they share in common but also celebrating and discussing their differences in light of Catholic Church teaching. Religion is a key element to all societies as humankind searches for meaning in life and longs for spiritual satisfaction. Through a comparative study of Christianity, Judaism, Islam, Buddhism, and Hinduism (and others if time permits), we hope to gain a greater appreciation for all faiths and all people who strive for holiness.

Theology IV ACC - Catholic Leadership in Society THG42 0.5 Credit Grade 12

The purpose of this course is to guide students in their understanding of society through the example and message laid before us in Jesus Christ. They will examine how the Catholic Church calls us to respond to current day trends, laws, technologies, media and dogma. They will bear witness to our obligation to fully live out the gospel message while answering the call to be leaders in society. They will grow in greater appreciation for the importance of the timeless message of Jesus Christ in an ever-changing societal landscape.

Theology IV Honors - Bio Ethics THG44 1 Credit Grade 12

The purpose of this course is to help the students understand and recognize the value and dignity of the human person. The course first looks at the gift of life and focuses on an integral humanism. After studying current threats to human dignity and the solutions offered by Christ and His Church, the course concludes by applying the principles of the Church's Social Doctrine to specific bioethical questions.

Prerequisite: Teacher or Counselor Recommendation

ELECTIVE

Peace and Justice in the Modern World THG45 0.5 Credit Grades 11 - 12

The overall goal of this course is to have the students recognize the importance of working toward peace and justice in their daily lives by taking time to study the examples of injustice in the modern world. Using the seven themes of Catholic Social Teaching as a foundation, students will observe the state of peace and justice in the world through the examination of both fictional and historical case studies. Jesus said, "Love one another as I have loved you" (John 13:34). Through the lens of Jesus Christ, who is the source of all peace and justice, and His example of selfless love on the Cross, students will analyze social justice and peace as it exists in the world and as it applies to their own lives. **Semester Course**

"If you want peace, work for justice"
- Pope Paul VI

VIRTUAL HIGH SCHOOL (VHS)

To review the course catalog click on the link below:

[VHS Course Catalog](#)

Virtual High School

VHS001

Grades 11 - 12

Students wishing to explore the wide variety of course options available through VHS should make an appointment with their Counselor.

All classes will be credited at the level that is stated under the course listing in the Virtual High School course catalog. Semester courses for Honors and Standard classes selected will be 1 credit. Full year AP Courses selected will be 2 credits.

STUDENTS AND PARENTS WILL BE REQUIRED TO SIGN A CONTRACT REGARDING COST REIMBURSEMENT IF A STUDENT FAILS OR WITHDRAWS FROM THIS COURSE.