

# May 6, 2020 HS Coursework listed on Website

## Advanced Placement courses

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St. Dom's offers students a variety of rigorous learning opportunities. Advanced Placement (AP) courses let students participate in college-level coursework while enrolled in high school. Students can earn college credit, stand out in the college admissions process, gain skills that will help to succeed in college and broaden intellectual horizons.

In addition to AP course, Honors and High Honors courses are also available. Honors classes often offer the same curriculum as regular classes but are tailored for high-achieving students — covering additional topics or some topics in greater depth.

Below is a list of all AP, Honors and High Honors courses offered at St. Dom's.

### Advanced Placement Courses:

- 131 AP ENGLISH LANGUAGE AND COMPOSITION - ADVANCED PLACEMENT (1 credit)
- 132 AP ENGLISH LITERATURE AND COMPOSITION - ADVANCED PLACEMENT (1 credit)
- 129 AP CALCULUS AB – ADVANCED PLACEMENT (1 credit)
- 714 AP STATISTICS - ADVANCED PLACEMENT (1 credit)
- 137 AP PHYSICS 1 – ADVANCED PLACEMENT (1 credit) JUNIORS & SENIORS
- 128 AP BIOLOGY – ADVANCED PLACEMENT (1 credit)
- 126 AP STUDIO ART 2-D DESIGN – ADVANCED PLACEMENT (1 credit)
- 246 AP UNITED STATES HISTORY - ADVANCED PLACEMENT (1 credit)
- 135 AP UNITED STATES GOVERNMENT AND POLITICS - ADVANCED PLACEMENT (1 credit)

### Honors and High Honors Courses:

- 162 ENGLISH I - HONORS (1 credit)
- 164 ENGLISH II - HONORS (1 credit)
- 166 ENGLISH III - HONORS (1 credit)
- 168 ENGLISH IV - HONORS (1 credit)
- 120 ALGEBRA I - HONORS (1 credit)
- 185 GEOMETRY - HONORS (1 Credit)
- 122 ALGEBRA II - HONORS (1 credit)
- 244 TRIGONOMETRY - HONORS 1st Semester (.5 credit)
- 244 TRIGONOMETRY - HONORS 2nd Semester (.5 credit)
- 239 STATISTICS - HONORS 1st Semester (.5 credit)
- 218 PRE-CALCULUS - HONORS (1 credit)

- 146 BIOLOGY - HONORS (1 credit)
- 155 CHEMISTRY - HONORS (1 credit)
- 216 PHYSICS - HONORS (1 credit) - SENIORS ONLY
- 705 ANATOMY AND PHYSIOLOGY - HIGH HONORS (1 credit)
- 242 STUDIO ART – HONORS (1 credit)
- 160 ECONOMICS – HONORS (.5 credit)
- 231 SOCIOLOGY - HONORS (.5 credit)
- 703 WORLD HISTORY-HONORS (1 credit)
- 183 WORLD GEOGRAPHY – HONORS (1 credit)
- 247 U. S. HISTORY - HONORS (1 credit)
- 223 PSYCHOLOGY - HONORS ( 1 credit)
- 177 FRENCH III – HONORS (1 credit)
- 179 FRENCH IV – HONORS (1 credit)
- 236 SPANISH III – HONORS (1 credit)
- 237 SPANISH IV – HONORS (1 credit)
- 152 CAD Intro - HONORS 1st Semester (.5 credit)
- 150 CAD 3D - HONORS 2nd Semester (.5 credit)

# Christian Formation

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Saint Dominic Academy's religious education curriculum is designed to foster understanding of the basic concepts about the Sacred Scriptures, Jesus Christ, the Paschal Mystery, the Church, the Sacraments and morality through the perspective of the centrality of Jesus Christ. Throughout the USCCB's three-year program of study, students develop life-long skills to learn more about their faith by studying Sacred Scripture, through spiritual reflection, peer discussions and applying a deeper relationship with Christ to their everyday lives.

## **NINTH GRADE PROGRAM**

- 226 RELIGION I - COLLEGE (1 credit)

Freshman year is an introduction to the Living in Christ series. The first semester centers on the study of Sacred Scripture leading to a deeper understanding of the people and events of the Old and New Testaments from the perspective of tracing Salvation History with an emphasis on the centrality of Jesus Christ.

The Second Semester focuses on Jesus Christ, the Second Person of the Blessed Trinity. This is an in-depth Christological exploration leading the student to a deeper understanding of the teachings, humanity, and significance of Jesus Christ, the Incarnate Son of God, in Salvation History.

*SERVICE HOURS: 6 hours each semester at an approved site*

## **TENTH GRADE PROGRAM**

- 227 RELIGION II - COLLEGE (1 credit)

Sophomore year continues the Living in Christ series. The first semester centers on the study of The Paschal Mystery. Students develop a deeper understanding of Jesus as the fulfillment of God's promise of redemption. Students also explore how we are continually experiencing the Paschal Mystery through the liturgy of the Church and in everyday life.

The second semester centers on the importance of the Catholic Church as the means of encountering Jesus in our lives. This course briefly touches upon the history of the Church, but concentrates on examining the Church's identity and mission in the world today. Students explore and reflect on what it means to be active participants as well as contributors in the modern Church.

*SERVICE HOURS: 8 hours each semester at an approved site*

## **ELEVENTH GRADE PROGRAM**

- 228 RELIGION III – History of the Catholic Church and Church Morality - COLLEGE (1 credit)

Church history focuses on the main developments, people and events that have shaped the Church throughout its history.

Christian Morality focuses on the development of Catholic identity and living a moral life.

Readings, reflective essays, group discussions, and Community Service are some of the methods by which this course strives to develop a profound understanding of the underlying meaning of Morality. This course seeks to explore the implications of moral decision making and what part conscience plays in the ultimate choices. Church Morality also seeks to define the Decalogue and examine its impact in our continued loving relationship with God in today's society.

*SERVICE HOURS: 10 hours each semester at an approved site*

## **TWELFTH GRADE PROGRAM**

- 167 RELIGION IV – Lay Ministry – COLLEGE (1 credit)

Senior year is the culmination of the Religion Program at Saint Dominic Academy. The senior year sees the converging of the main issues, ideas, and rituals of the Catholic Faith. The year is divided into three main focus areas: The Person, God and the Church and Catholic Social Teachings. Focusing on the Church, students study the family as the foundation for a Catholic understanding of human relationships as well as the responsibility to neighbor and community. From the family, this course continues with a deeper examination of social justice issues affecting today's world and how Catholics address the problems of the injustices. The second semester includes the senior community involvement program, which gives students the opportunity to live what they have been studying

Relevant documents of the Second Vatican Council will be introduced; such as *Gaudium et Spes* and *Lumen Gentium*; Papal Encyclicals, such as *Fides et Ratio* and *Humanae Vitae*; writings by contemporary Christian writers, such as John Paul II, Oscar Romero, Dorothy Day, Mother Teresa, and others; and numerous journal, magazine and newspaper articles.

*SERVICE HOURS: Senior Involvement*

# Computer Science

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- 152 CAD 110 INTRODUCTION TO COMPUTER-AIDED DRAFTING - HONORS (.5 credit) Lab fee \$50.00 (3 credits from Central Maine Community College)

This is an introductory CAD-based drafting and design course utilizing the latest CAD/BIM software. In conjunction with learning CAD, students will be introduced to the process of design, the related components, and materials, research, drawing and presentation of construction-related documents, from conceptual hand sketches, CAD sketches, to CAD drawings and related spreadsheets, materials, and construction techniques. The focus of the course is divided into three main segments. The first segment is to introduce CAD. The second is to introduce factors in pre-design for the building and site as it relates to programming, codes, ADA and space planning. The third is to integrate the pre-design factors into industry standard construction/design drawings created with CAD.

- 150 CAD 296 INTRODUCTION TO 3D STUDIO MAX - HONORS (.5 credit) Lab fee \$50.0 (3 credits from Central Maine Community College)

Students are introduced to the field of 3D modeling, animation, mediums of delivery, and trends in the industry. Basic covered include storyboard and animation applications and techniques, basic 3D modeling, creating and applying; framing, textures, lighting and camera *principles, and techniques*.

*PREREQUISITE: CAD 110 - BASIC 2D CAD (Course 876)*

# BUSINESS

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- **115 ACCOUNTING I - COLLEGE (1 credit)**

This course introduces students to the accounting cycle and the proper record keeping of daily business transactions, including year-end fiscal reports. Service orientated businesses, merchandising businesses and corporations will be examined. In addition, this course includes the study of business ethics as related to business decisions and the study of personal finance: how to write a check properly, how to keep a checking ledger, and how to balance a bank account. During this course, simulation projects will also be done to reinforce the concepts learned and give students the experience of using “real” business forms.



# English

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All students must take and complete four English credits in order to graduate. Listed below are descriptions for the courses students may take as they progress from freshman to senior year.

During freshman year, students are introduced to various types of literature (novel, short story, play, poem, and essay) and develop writing, thinking and speaking skills. Students develop writing skills through vocabulary and grammar study. Writing assignments include composition, character and theme analysis, creative writing and research papers.

Enrollment in an honors course requires a “B” average in the preceding English course or permission of the Guidance Department.

- **161 ENGLISH I - COLLEGE (1 credit)**

The central goal of the first semester is to develop writing and critical thinking skills. Students consistently use the Writing Process, with an emphasis on revising. This prepares students to write effectively in all subject areas. Students will write clear and concise sentences, develop well-thought-out thesis statements and thought-provoking conclusions, which will be demonstrated through expository, persuasive, narrative and descriptive essays. Grammar and vocabulary are stressed.

During the second semester, the focus is on literature. Students are introduced to major literary concepts that build on composition skills, focusing on analysis, personal response, and evaluation. Students will read a multiplicity of classical and contemporary texts, including novels, short stories, plays, poems, and essays.

- **162 ENGLISH I - HONORS (1 credit)**

The first semester develops writings and critical thinking skills. Students consistently use the Writing Process, with an emphasis on revising. This prepares students to write effectively in all subject areas. Students will write clear and concise sentences, develop well-thought-out thesis statements and thought to provoke conclusions, which will be demonstrated through expository, persuasive, narrative and descriptive essays. Grammar and vocabulary are stressed.

During the second semester, the focus is on literature. Students are introduced to major literary concepts that build on composition skills, focusing on analysis, personal response, and evaluation. Students will read a multiplicity of classical and contemporary texts, including novels, short stories, plays, poems, and essays. This course requires students to read intensely and widely and to write focused and ordered compositions.

- **163 ENGLISH II - COLLEGE (1 credit)**

The thematic concepts of romance, tragedy, irony, and comedy are explored through close readings of the text. Vocabulary and composition skills are further developed. Various techniques of expository writing are introduced including abstracts of articles, speculative and

critical essays, and the use of evidence to support a thesis. Considerable emphasis is placed on the components of fiction and poetry. A five to the seven-page research paper is required. This course is designed for students requiring a more deliberate pace of study and places particular importance on reading for comprehension.

- **164 ENGLISH II - HONORS (1 credit)**

The Honors Program continues to focus on reading, writing and speaking skills. Students read a variety of works across literary genres and respond to readings through response journals, creative pieces, and formal essays. While students' responses to the literature drive class discussions, the teacher supplements these discussions with lessons about traditional interpretive frameworks to assist students in their search to create meaning from the text. Students participate in writing process activities. Throughout the year, students learn strategies to increase their vocabularies, to vary their reading, writing and speaking for different purposes, and to think explicitly about their own learning styles. During the second semester, students complete a research paper and learn the basic methods and strategies of performing literary research.

- **165 ENGLISH III AMERICAN LITERATURE - COLLEGE (1 credit)**

The college preparatory junior English curriculum focuses on American literature as a means to further develop expository and critical thinking skills. Students examine the American Literary movements through a chronological survey of major writers such as Hawthorne, Poe, Whitman, Dickinson, and Fitzgerald as well as more contemporary writers. Due to the significance of Shakespeare's works, students also read selected pieces from his collection. Essay writing further develops the use of direct evidence to support critical thinking. Vocabulary, grammar and SAT prep continue.

- **166 ENGLISH III AMERICAN LITERATURE - HONORS (1 credit)**

This course focuses on selections from assorted genres by major American writers. Because of the significance of Shakespeare's works, students read selected pieces from his oeuvre. Students read a variety of American novels, short stories, plays, and poems. Writing assignments are frequent. Creative writing, critical essays, and analytical essays are the focus of writing assignments. They include but are not limited to commentary and criticism of the literary works read. Vocabulary is stressed and independent reading is assigned regularly. Students are expected to read extensively in this course.

- **167 ENGLISH IV - COLLEGE (1 credit)**

The goal of this course is to prepare students for writing and communicating their ideas in a college classroom. Students master reading comprehension skills by reading essays, short stories, poetry, drama, and novels. The course also includes a review of proper English conventions and the continued study of college-level vocabulary. Students write extensively with teacher support, sampling a variety of expository styles. Reading assignments focus on themes in British literature before moving into a study of social justice issues. The course culminates with a senior presentation that incorporates research, writing, and reflection in a formal school presentation.

- **168 ENGLISH IV - HONORS (1 credit)**

English IV is a course for advanced students to master writing and communicating their ideas in a college classroom. Students demonstrate reading comprehension skills by reading essays, short stories, poetry, drama, and novels; the majority of reading is done outside of class. It is assumed that enrolled students have mastered the basics of English language conventions and regularly use a college-level vocabulary. The entire first quarter is dedicated to mastering college-level writing with papers assigned every week. Reading assignments focus on themes in British literature before moving into a study of social justice issues. The course culminates with a senior presentation that incorporates research, writing, and reflection in a formal school presentation.

- **131 AP ENGLISH LANGUAGE AND COMPOSITION - ADVANCED PLACEMENT (1 credit)**

*(This course is open to qualified students in both grades 11 and 12. It rotates in the schedule with AP English Literature and Composition---students with a particular strength and interest in the study of English should plan to take both courses over two years. Students might also consider AP English as a junior and take English IV Honors without an interruption of material.)*

This course helps students become independent readers, creative and mature writers, and effective speakers. Readings range across disciplines, genres, and styles, including both British and American works, with an emphasis on non-fiction and current events. Students focus on three formal aspects of language: grammar, rhetoric, and logic. In keeping with the AP course description, the class time will be a cooperative venture between students and the teacher; students should assume considerable responsibility for the amount of reading and writing they do. It is assumed that students have not only a high level of reading comprehension, vocabulary and writing skills but a love for the subject matter and a desire to push themselves beyond the boundary of a typical classroom. Writing and speaking skills are further developed in a collaborative workshop format, as well as in one-on-one coaching with the instructor. A major thesis paper is required based on the individualized interests and needs of each student.

- **132 AP ENGLISH LITERATURE AND COMPOSITION - ADVANCED PLACEMENT (1 credit)**

*(This course is open to qualified students in both grades 11 and 12. It rotates in our schedule with AP English Language and Composition; students with a particular strength and interest in the study of English could plan to take both courses over two years. Students might also consider AP English as a junior and take an English IV Honors without interruption of material.)*

This course is designed for students with a love of literature and language to immerse themselves in an exploration of the power of the written word. Both British and American literature will be examined as the basis for exploration, and students will have the opportunity for free-choice reading with the goal of stretching their reading skills to a new level. In keeping with the AP course description, the class time will be a cooperative venture between students and the teacher; students should assume considerable responsibility for the amount of reading and writing they do. It is assumed that students have not only a high level of reading comprehension, vocabulary, and writing skills but also a love for the subject matter and a desire to push themselves beyond

the boundary of a typical classroom. Writing and speaking skills will be developed in a collaborative, workshop format, as well as in one-on-one coaching with the instructor. A major thesis paper is required based on the individualized interests and needs of each student.

# Fine Arts

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All students must complete one credit of art to graduate from Saint Dominic Academy. Listed below are the courses available to students that fulfill this requirement. While St. Dom's encourages students to draw from the rich variety in the Art Department, students may apply to earn credits through other similarly sophisticated and expertly instructed Fine Art Programs. This credit must be pre-approved by the administration at St. Dom's. Credit cannot be counted toward the art requirement if the credit was taken prior to approval or admission into Saint Dominic Academy.

All art students will be required to read art reviews from various newspapers as well as selected articles provided by the teacher from Scholastic Art Magazine.

- **242 STUDIO ART I – COLLEGE (.5 credit per semester)**

## Semester I

This course is a studio course based on the study of foundational principles and practices of art making. Students are exposed to aesthetics, art history, art criticism as well as art productions. There is a strong drawing component to this course. Utilizing the textbook Art Talk, students engage topics related to the process that artists have and continue to engage as they produce meaningful imagery. This class will focus its study on the making of two-dimensional work.

- **224 POTTERY – COLLEGE (.5 credit per semester)**

## Semester II

This course is a studio course based on the study of foundational principles and practices of art making. Students are exposed to aesthetics, art history, art criticism as well as art productions. Utilizing the textbook Art Talk, students will engage topics related to the process that artists have and continue to engage as they produce meaningful three-dimensional work using hand-building and wheel-thrown pottery techniques.

- **140 ADVERTISING/GRAPHIC DESIGN – COLLEGE (1 credit)**

This class introduces students to the skills used in the commercial art, graphic design and digital photography. Students study the elements and principles of art and how they relate to graphic design and photography. Students work on the design and layout of the yearbook using Josten's Yearbook Online, additionally, students will learn about the design of newsletters, brochures, logos, and package design. Students learn digital photography and will use the school's digital cameras (or bring their own) to enhance photography skills. Students must have their own laptop and demonstrate skills in graphic design or photography prior to registering. The teacher will sign permission to enroll.

Although juniors may enroll in this class, priority is given to seniors. Prior experience with Adobe Photoshop and student needs to submit a summer assignment prior to entering the class in the fall.

*PREREQUISITE: Computer Experience; own laptop; skills in graphic design or photography.*

- **241 STUDIO ART – HONORS (1 credit)**

**JUNIOR AND SENIOR COURSE** This is an honors course offered to juniors and seniors who are highly motivated and have shown a desire to continue the study of art after the high school level. The focus of the course is to develop a portfolio for college entrance. Students are introduced to matting and photographing their work. A wide variety of mediums and techniques are explored including ceramics, sculpture, painting, drawing, and design. There is a strong drawing component and students are required to maintain a sketchbook and an art journal. Students are required to visit area exhibits and museums. Students are expected to complete weekly assignments and write reports on various areas of art.

*PREREQUISITE: Studio Art I and Recommendation of the Department Head.*

*Produce a collection of works over the summer.*

- **126 AP STUDIO ART 2-D DESIGN or (127) DRAWING – ADVANCED PLACEMENT (1 credit)**

**JUNIOR AND SENIOR COURSE** The Advanced Placement (AP) studio art program makes it possible for highly motivated high school students to do college-level work. AP studio art is not based on a written exam, instead, students are asked to submit a portfolio of work for evaluation at the end of the year. There are two distinct types of portfolios that students may submit: 2D Design or Drawing; each has specific requirements of its own. Each portfolio requires 35-40 pieces of artwork of superior quality. Students are expected to maintain a sketchbook and an art journal, photograph, and mat their works, attend museum and gallery exhibits independently and write reports on areas of art history related to their area of study. Students will also have art lessons based on topics discussed in Scholastic Art.

*PREREQUISITES: Studio Art I and Art Honors or Recommendation of the Department Head.*

*Produce a collection of works over the summer.*

# Health

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- **187 HEALTH - COLLEGE (.5 credit)**

This course is designed to provide students with health information enabling them to develop skills, health practices, and attitudes for daily living that prepare them for their future roles as healthy and productive adults. This required course covers goals, objectives, and suggested activities designed specifically for the ten content areas of health: community health, environmental health, family life, growth and development, personal health, nutritional health, disease and disorders, safety and accident, and substance use and abuse.

*MAJOR PAPERS / PROJECTS: Quarter 1: - Summarize and type a reaction to two health-related articles (20%)*

*Quarter 2: - Nutrition project (20%)*

# MATHEMATICS

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All students must take and complete three (3) years of math to graduate from Saint Dominic Academy. The minimum courses and progression of courses are as follows: Algebra I, Geometry, and Algebra II. Listed below are the courses and descriptions for students to choose from to fulfill their requirement. Students who anticipate pursuing an advanced study in mathematics or science are encouraged to maximize the opportunities the Mathematics Department offers. Many students pursuing other courses of study find that mathematics helps them to embrace a disciplined course of study.

- **119 ALGEBRA I - COLLEGE (1 credit)**

This course prepares students with average mathematical skills for further work in high school mathematics. The course makes a connection with other math courses previously studied. Main concepts studied include variables and expressions, solving equations, graphing, polynomials, factoring, and an introduction to functions and relations.

- **120 ALGEBRA I - HONORS (1 credit)**

This is an accelerated course of introductory secondary school math. Topics include a review of basic arithmetic operations, the introduction of variables in multiple applications, the concept of one- and two-dimensional graphing, polynomial expressions including factoring and exponents, and applications of functions and inequalities. Many of the topics will be applied to word problems and general problem-solving real-life situations.

*SUMMER HOMEWORK: The students will be assigned summer homework which will include doing problems concerning the concepts of the properties of real numbers. The homework will be turned in during the first week of classes and will be evaluated as a homework grade. In addition, a quiz will be administered during the first week of school, after a brief review of the material. Help sessions will be scheduled before the due date.*

- **184 GEOMETRY - COLLEGE - (1 credit)**

This course stresses the basic structure of geometry with a brief introduction to proofs. Basic concepts studied include the simplest geometric shapes and their relationships; properties of triangles, polygons, and circles; trigonometry basics. The importance of algebraic properties in relationship to geometric diagrams is also covered

- **185 GEOMETRY - HONORS (1 credit)**

This is an accelerated course developed for students with above-average mathematical and problem-solving skills. The focus of the course is Euclidean Geometry; however, spherical geometry will be explored. The course stresses inductive and deductive reasoning which will enable students to use an axiomatic system to communicate their reasoning in a variety of forms of proofs and to develop conjectures. Main concepts studied include the relationships between lines, angles, and circles; properties of geometric shapes; the application of algebraic properties to geometric diagrams; similar and congruent figures; right triangle trigonometry; constructions;

areas and volumes; and real-life applications. Constructions will be integrated throughout the course.

*PREREQUISITE: "A+" in Algebra I CP or permission of the Guidance Department*

- **123 ALGEBRA II AND TRIGONOMETRY - COLLEGE (1 credit)**

This course was developed for students with average Algebra I and Geometry skills. The focus of the course is to develop computational problem-solving skills necessary for Advanced Math and/or College Algebra. Main concepts studied include properties of real numbers, inequalities, factoring, rational expressions, systems of equations, complex numbers and an extensive introduction of trigonometry.

- **122 ALGEBRA II - HONORS (1 credit)**

This course stresses an in-depth study of algebra and the development of computational problem-solving skills. Structures and the properties of real numbers are reviewed and extended. This course also includes a treatment of inequalities, absolute values, graphing, determinants, rational expressions, systems of linear equations, methods of solving quadratic equations, complex numbers, polynomials, and logarithms.

*PREREQUISITE: "B" average in Algebra I and Geometry Honors or permission of the Guidance Department*

- **244 TRIGONOMETRY - HONORS 1st & 2nd Semesters (.5 credit)**

Trigonometry Honors is required for those students who plan to take Pre-Calculus Honors. It is recommended that it is taken concurrently with second semester Algebra II Honors.

Trigonometry Honors is the study of angles and their trigonometric functions. Topics include the rotation of these angles, their relationship to right triangles, reference angles and their uses, graphs of the trigonometric functions, identities, functions of the sum of two angles, inverse trigonometric relations, and oblique triangles. A graphing calculator is recommended.

*PREREQUISITE: "B" in Algebra II (H) or permission of the Guidance Department*

- **218 PRE-CALCULUS - HONORS (1 credit)**

This is a top-flight math course for juniors and seniors planning pre-med, engineering, math, or any science-related field. It is also a preparatory course for any student anticipating taking Advanced Placement Calculus. Topics include solving equations and inequalities, conic sections, polynomial functions, exponents, logs, sequences and series, complex numbers, trigonometry, and matrices.

*PREREQUISITE: "B" in Algebra II Honors and in Trig Honors or concurrent enrollment in Trig Honors or permission of the Guidance Department.*

- **117 ADVANCED MATH - COLLEGE (1 credit)**

This course is designed for the college bound student who is not planning to major in mathematics or science. Topics include coordinate geometry, inequalities, functions,

trigonometry, exponents and logs, graphs, and complex numbers. Students must have a basic scientific calculator.

*PREREQUISITE: "C" in Algebra II and Trig or permission of the Guidance Department*

- **129 AP CALCULUS AB – ADVANCED PLACEMENT (1 credit)**

This advanced math course is for the student who is planning a career involving mathematics. A strong knowledge of algebra, geometry, trigonometry, and pre-calculus is needed. Topics include functions, derivatives, integration, limits, differential equations, logs, areas, volumes and slope fields. Students should expect an average of six hours of homework each week. A graphing calculator is required. The Texas Instruments are the preferred choice (TI84 Plus). This course is also a good preparation for the AP Calculus AB Exam taken in the Spring.

*PREREQUISITE: "B" in Trigonometry (H) and Pre-Calculus (H) or permission of the Guidance Department*

- **239 STATISTICS (HONORS) (.5 credit)**

Statistics is an elective math course for juniors and seniors who have successfully completed Algebra II. This course will engage students to think statistically in the real world by teaching them how to analyze data, gather data, explore relationships between variables, and use probability to make decisions about data. It will include a basic introduction on using hypothesis testing to make inferences about data. A graphing calculator is strongly encouraged (TI-84 Plus is preferred).

- **714 AP Statistics (1 credit)**

This course is designed to cover a broad range of statistical topics including methods used to gather, organize, describe, analyze and draw conclusions from data. Students will learn how to describe patterns, plan and conduct studies, explore random phenomena using probability, and test hypotheses. Students will use technology to help with statistical analysis. AP Statistics will prepare students to take the AP statistics exam in May. It is not intended to replace Pre-calculus or AP Calculus.

# Modern Languages

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All students must take and complete two (2) consecutive years of a modern language to graduate from St. Dom's. Listed below are the courses and descriptions offered to students to fulfill their requirement.

All students must have French/English or Spanish/English dictionary.

An Honors course requires a "B" average in the preceding French course or permission of the Guidance Department in order to enroll. An enrollment in French III Honors or French IV Honors also requires permission of the Guidance Department.

- **173 FRENCH I-COLLEGE (1 credit)**

This course presents a good foundation in listening, speaking, reading, and writing in French. Emphasis is on vocabulary, reading, and comprehension, the study of sentence structure, regular and irregular verbs, along with some of the many grammar rules and their exceptions. Exposure to Francophone culture takes place with readings in French.

- **175 FRENCH II-COLLEGE (1 credit)**

French II presents a solid review of the structural elements of French I and two past tenses. There are additional irregular verbs studied and parts of speech such as object pronouns, adjectives, and adverbs. Vocabulary naturally expands thematically, chapter by chapter. The composition is explored, reading is intensified, and French culture and the spoken language are reinforced.

- **177 FRENCH III – HONORS (1 credit)**

This course provides a thorough overview of previously learned material in French I and French II. Vocabulary, grammar, and verb study are continued, with an emphasis on the indicative, subjunctive, and conditional moods, along with simple and compound verb tenses, and varied sentence structure. Students will develop their knowledge by reading a variety of texts: from ads to interviews, from essays to stories, from natural history to literature. Francophone cultural exploration is included, and students will demonstrate responding to actual situations and forming and sharing opinions. Students will also demonstrate their understanding of concepts and culture by working collaboratively with other students in the classroom. Students must be willing to attempt to speak French for the majority of class time.

- **179 FRENCH IV – HONORS (1 credit)**

This is an advanced French course for students who have successfully completed the French III Honors Course. The study of grammatical structure is intensified through the use of extensive writing, reading, and speaking in French. Students learn independent vocabulary enrichment as they develop their responses to particular readings, literary excerpts, analyzed dictation, and

viewing and analysis of French-language films. Students delve into areas of French cultures, such as art, cuisine, music, and history of various areas of the world. The central texts to this course adapt to students' needs and preferences, as they work collaboratively on focus areas. Students must be willing and able to communicate in French, as this course is conducted primarily in French.

- **233 SPANISH I – COLLEGE (1 credit)**

This course presents a good foundation in reading, speaking, and writing Spanish. It aims at a thorough comprehension of materials nationally required in the first year of high school Spanish, such as vocabulary, reading and comprehension, structures made up of regular and irregular verbs in the present, preterit and immediate future tenses, possessive, adjectives, pronouns, objects, and more.

- **235 SPANISH II – COLLEGE (1 credit)**

Spanish II presents a solid review of the structural elements of Spanish I, followed by the past tenses, future and conditional tenses, and the introduction of the subjunctive tenses, irregular verbs and adverbs, object pronouns, comparison of adjectives and adverbs, and expanded vocabulary. The directed composition is further explored, reading is intensified, and Spanish culture and the spoken language are reinforced. The second year of Spanish is devoted to grammar instruction, intensive vocabulary and enhanced reading and writing.

- **236 SPANISH III – HONORS (1 credit)**

Spanish III (Honors) is conducted primarily in Spanish; therefore, students should be willing to converse in the spoken language. The course is designed to be a grammar intensive course; this means that students should have mastered the present, future, conditional and past tenses in Spanish II. Students learn more about the collective subjunctive tenses. In this course, students enhance reading comprehension by reading short stories, listening, speaking, and writing skills as well as expand their knowledge of the Spanish culture.

*PREREQUISITE: "B" or better in Spanish II*

- **237 SPANISH IV – HONORS (1 credit)**

This is an advanced course for students that have successfully completed a Spanish III Honors course. Students should be willing to converse only in Spanish. This course is a grammar intensive course, meaning students should have mastered not only the present and preterite tenses; but also the conditional, imperfect and future tenses. Students learn more subjunctive tenses as well as informal and formal commands. The students enhance their reading, listening, and writing skills by working with different readings and literature, as well as expanding their knowledge of Spanish Culture.

*PREREQUISITE: "B" or better in Spanish III - Honors*

# Science

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All students are required to take and complete three (3) years of a science, and half (.5) a year of health to be graduated from Saint Dominic Academy. Listed below are the courses for students to choose from to fulfill their requirement. Students are encouraged to take more than the required courses if they are pursuing a medical or science field.

- **145 BIOLOGY — COLLEGE (1 credit)**

This course in biology introduces students to those properties that are unique to and define life. Organisms from the simplest unicellular to the most complex multicellular are studied from both a taxonomic and systemic approach. Laboratory investigations and special projects supplement the material presented in class.

- **146 BIOLOGY — HONORS (1 credit)**

This course deals with the properties that are unique to living organisms. The biochemical, cellular, and genetic basis of life is studied in detail in order that life processes at higher levels might be better understood. Cytology, genetics, taxonomy, microbiology, and zoology are some of the major topics to be covered. Laboratory investigations are conducted in order to help students gain a better understanding of principles covered in class.

- **153 CHEMISTRY — COLLEGE (1 credit)**

This course is designed to introduce the college preparatory student to the ideas of chemical principles as they apply to everyday life and to practice a qualitative description of those principles. The phenomena studied include the structure of atoms and molecules, periodic properties, principles of chemical reactions, energy and transfer of heat as well as applications of gas laws. This introductory course integrates theoretical concepts and laws with related laboratory experiments.

*PREREQUISITE: Satisfactory completion of previous mathematics and science courses.*

*(Algebra II/Trig. may be taken concurrently with Chemistry)*

- **155 CHEMISTRY — HONORS (1 credit)**

This course requires the study of chemical principles from a quantitatively rigorous point of view and is specially designed for students who wish to hold open the option of pursuing scientific, technical, or medical careers. Major topics of study include atomic and molecular theory, types of reactions and bonding, inorganic chemical nomenclature, stoichiometry; properties of solutions and principles of molarity and titration in acid-base reactions. The course focus is on the writing and development of formal laboratory reports, integration of Algebra II skills in multi-step problem solving and discussion/explanation of various chemical principles. The course integrates theoretical concepts with laboratory experiments.

*PREREQUISITE: Satisfactory completion of previous mathematics and science courses, with at least a "B" average.*

*(Algebra II Honors may be taken concurrently with Chemistry Honors)*

- **734 ADVANCED CHEMISTRY - HH (1credit) — Juniors and Seniors**

This course will cover topics not included in Honors Chemistry such as:

Gases – Pressure, Boyle’s Law, Charles Law, Ideal Gas Law

Liquids and Solids – Phase Changes, Evaporation, Vapor Pressure

Solutions – Solubility, Molarity, Dilution, Normality

Acid and Bases – Acid Strength, pH Scale, Buffered Solutions

Equilibrium – Equilibrium Condition, Chemical Equilibrium,

Oxidation-Reduction Reactions and Electrochemistry – Oxidation States, Batteries

Radioactivity – Nuclear Energy, Nuclear Fission, Nuclear Fusion

Organic Chemistry

- **215 PHYSICS — HONORS (1 credit) - SENIORS ONLY**

Honors Physics is an in-depth, inquiry-based class that is designed for advanced science students. This rigorous course utilizes theoretical and physical models to promote the understanding of the concepts and the mathematical relationships associated with mechanics, energy, waves and optics, and electricity and magnetism. In addition to a strong science aptitude, a thorough understanding and facility in algebra, geometry and right triangle trigonometry are essential. Physics is recommended for college-bound students interested in science and math. Students must have a basic scientific calculator.

*PREREQUISITE: "B" in Algebra II Honors and Trig. Honors and/or permission of the Guidance Department.*

- **137 AP PHYSICS 1 — ADVANCED PLACEMENT (1 credit) JUNIORS & SENIORS**

AP Physics 1: Algebra-Based is the equivalent of a first-semester college course in algebra-based physics, but it is designed to be taught over the full academic year to enable AP students to develop a deep understanding of the content and to focus on applying their knowledge through inquiry labs. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; and mechanical waves and sound. It also introduces electric circuits.

- **138 AP PHYSICS 2 — ADVANCED PLACEMENT (1 credit) JUNIORS & SENIORS**

AP Physics 2: Algebra-Based is the equivalent of a second-semester college course in algebra-based physics, but it is designed to be taught over the full academic year to enable AP students to develop a deep understanding of the content and to focus on applying their knowledge through inquiry labs. The course covers fluid mechanics; thermodynamics; electricity and magnetism; optics; and atomic and nuclear physics.

*PREREQUISITE: AP Physics 1*

- **705 ANATOMY AND PHYSIOLOGY — HH (1 credit)**

Anatomy and Physiology is an advanced course intended for students interested in the health-related fields and who wish to pursue the study of the human body systems from the structural and functional perspectives. The anatomy of each system is approached at the gross and microscopic levels. Students are expected to master anatomical and physiological concepts with the help of lectures, laboratory sessions, and special projects. Detailed dissection of the mink enables students to visualize the systems in relation to one another and to come to an understanding and appreciation of the intimate connection between structure and function of organs and systems.

*PREREQUISITE: "B" in biology and chemistry or permission of the Guidance Department*

- **128 AP BIOLOGY — ADVANCED PLACEMENT (1 credit)**

AP Biology is a course that is designed to be the equivalent of a two-semester college introductory biology course usually taken by biology majors. The two main goals of AP Biology are to help students develop a conceptual framework for modern biology and to gain an appreciation of science as a process. The major topics included in AP Biology are molecules and cells, genetics, heredity and evolution, and animal communities and populations. Laboratory assignments will account for approximately one-quarter of the course and will require a higher level of problem-solving, research methods, data recording and interpretation, and laboratory techniques. Projects and individual study will accompany lectures to prepare students for collegiate study in the biological sciences.

*PREREQUISITE: "B" in biology and chemistry or permission of the Guidance Department.  
Anatomy and Physiology Recommended.*

- **225 ROBOTICS — SCIENCE AND ELECTRIC (.5 credit)**

This one-semester course is designed to introduce students to the fundamental concepts of programming and robotics. Programming and building robots applies science, technology, engineering and math concepts. For more information about our [Robotics Team click here](#).

- **910 — Environmental Science H**

Environmental Science is the study of interrelationships between human activities and the environment. This honors level course will use scientific knowledge about the natural world, as well as an understanding about ways in which humans interact with the natural world. We examine effects of human actions on the environment, and the means by which policies, regulations, and decisions influence human actions with a strong emphasis in biology, geology, and chemistry. Laboratory investigations are conducted to help students gain a better understanding of principles covered in class

- **912 — Conceptual Physics CP**

As humans, we all must daily interact with the physical world around us. When we not only observe, but also understand the rules of nature that govern our physical world we are more fulfilled, and well-rounded individuals. Physics is a basic science. It is the foundation for biology, chemistry, geology, and all other sciences. Therefore, what you learn in Conceptual Physics will be the basis on which all your knowledge from the disciplines of science builds. While the rules of nature can often be described mathematically, it is not the only way to describe them. It is the goal of Conceptual Physics to facilitate your understanding of the rules of nature by learning their foundations, not by learning their mathematical derivations.

- **909 — Forensics H (Fundamentals and Investigations)**

This course focuses on the types of evidence and techniques behind crime scene investigation and forensic science. We will study true-life stories and use physics, chemistry, anatomy, cell biology, environmental science and computer science in the process of learning about forensic science. You will study topics such as collection, handling and analysis of trace evidence such as hair, fibers and soil; finger prints, DNA analysis, forensic botany and firearms and ballistics. This course should help you see how science is used to answer questions rather than just learning science concepts. It should be a very enjoyable course.

- **911 CP / 914 H — Earth and Space Science**

This class will be a Socratic-dialogue driven, collaborative learning introduction to Astronomy and Earth Science. It is designed to elicit your curiosity and understanding of the universe and our home planet's relationship to the cosmos. We will study the stars and the night sky, fundamentals of Astronomy, the nature of light, our solar system, galaxies, and current understanding our universe. The Earth Science component will focus on our dynamic Earth, how it formed and processes such as plate tectonics.

# Social Studies

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Students are required to take three (3) years of social studies to be graduated from Saint Dominic Academy. One (1) of these courses must be World History and one (1) must be United States History. The third credit may be taken from any of the electives listed.

Enrollment in an honors course requires a “B” average in the preceding course or permission of the Guidance Department.

- **182 WORLD GEOGRAPHY - COLLEGE (1 credit)**

## NINTH GRADE COURSE

The intent of World Geography is to provide knowledge and understanding of peoples and places throughout the world, and how physical geography has shaped political, cultural, and economic conditions throughout the world. The course is broken into the study of eight geographical regions. In addition to developing basic geographic skills such as map reading and data analysis, the course helps students develop their critical reading, analytical writing, and persuasive speaking skills. To support student understanding of historic and contemporary issues, a variety of primary and secondary source materials are utilized. These include historic and contemporary maps, satellite-produced images, photographs, graphs, political documents, news articles, and social and cultural commentaries. Upon completion of the course, students have a spatial perspective of the world, understanding of how countries and cultures interact, and a broad understanding of pervasive issues that characterize countries’ political, environmental, and cultural interactions. Native American studies material is covered that satisfies the requirements of State Law LD 291. Great emphasis is placed on writing along with learning about a variety of cultures and the factors that contributed to their greatness.

- **185 WORLD GEOGRAPHY – HONORS (1 credit)**

## NINTH GRADE COURSE

In Honors World, Geography students examine the physical, political, cultural, and economic geography of the eight major geographical regions of the world. Students come to understand how physical geography has shaped political, cultural, and economic conditions throughout the world. In addition to developing basic geographic skills such as map reading, demographic information gathering, and data analysis, the course helps students develop their critical reading, analytical writing, and persuasive speaking skills. To support student understanding of historic and contemporary issues, a variety of primary and secondary source materials are utilized. These include historic and contemporary maps, satellite-produced images, photographs, graphs, political documents, news articles, and social and cultural commentaries. Upon completion of the course, students have a spatial perspective of the world, understanding of how countries and cultures interact, and a broad understanding of pervasive issues that characterize countries’ political, environmental, and cultural interactions. Native American studies material is covered that satisfies the requirements of State Law LD 291.

- **251 WORLD HISTORY-COLLEGE (1 credit) (See description for W.H. Honors)**
- **703 WORLD HISTORY-HONORS (1 credit)**

#### SOPHOMORE COURSE

World History highlights the economic, social, political, and cultural themes that distinguish peoples, civilizations and periods. The course also stresses common themes that unite civilizations such as social structure, philosophical and religious character, technological advancement, intellectual development, political identity, economic interaction, and environmental influences. Students profit from the experience of reaching across time and making connections with the past. Steady reading and note taking are required. Students write short and medium length essays on both factual and interpretative subjects as well as participate in debate/simulation activities. Honors classes engage in more extensive study and analysis of major movements and issues in history. This course addresses some aspects of the Civics requirement for the Maine high school students. Native American studies material is covered that satisfies the requirements of State Law LD 291.

- **245 U. S. HISTORY - COLLEGE (1 credit)**
- **247 U. S. HISTORY - HONORS (1 credit)**

#### JUNIOR COURSE

United States History surveys American history from colonial times to the present. Students study the political, social, cultural, and economic events and people that have shaped the United States. Emphasis is placed on understanding how this nation came to be, how it survived through wars, dissension, and reforms, and how it has evolved into the democratic, pluralistic, and technologically advanced society that it is today. Students profit from the experience of reaching across time and making connections with the past. Extensive reading and note taking are required. Students write short and medium length essays on both factual and interpretative subjects. Honors classes engage in more extensive study and analysis of major movements and issues in history. This survey course also serves as the Civics requirement for Maine high school students.

- **246 AP UNITED STATES HISTORY - ADVANCED PLACEMENT (1 credit)**

The AP U.S. History course familiarizes students with American historical issues, figures, events, and movements. Through readings, discussions, debates, and writings, students come to know not only the What of our history but also the Why. The course's steady and expansive reading and writing requirements encourage students to develop critical and independent learning skills and habits. By intensively reading and writing on significant issues, AP U.S. History students become more efficient, insightful, and independent readers and writers. Students' research skills are enhanced as they work with original documents, maps, data, and speeches. Additionally, the AP seminar format and the course's emphasis on small learning groups help students learn to express themselves comfortably and confidently and to work cooperatively. Students are prepared to take the AP exam in the Spring. This course also serves as the Maine Civics requirement for high school students.

*PREREQUISITE: "A-" in World History Honors or permission of the teacher and Guidance Department*

- **223 PSYCHOLOGY - HONORS ( 1 credit)**

Psychology is the study of mental processes and behavior. This course introduces students to the scientific and systematic study of mental processes and behavior of humans and other animals. Students will delve into the major subfields of psychology and also focus on the ethics and methods psychologists use in their field of study. This course requires extensive reading augmented by papers/projects and experiential learning. Priority is given to Seniors.

- **135 AP UNITED STATES GOVERNMENT AND POLITICS - ADVANCED PLACEMENT (1 credit)**

Students survey and analyze the major processes and institutions of American government. Course topics include historical and contemporary constitutional issues, recurring struggles in the United States over democracy, conflicts over executive, legislative and judicial power; the rise of the administrative state; development of civil liberties and civil rights; and political beliefs and behavior. The AP seminar format enables students to speak out and to work cooperatively. Students are prepared to take the AP exam in the spring.

*PREREQUISITE: "B" average in United States History honors or "C+" average in AP United States History or permission of the teacher and Guidance Department*

- **160 ECONOMICS – HONORS (.5 credit)**

As our world becomes more interconnected, an awareness of basic economic realities and principles becomes imperative for active citizens. Honors Economics helps students develop an economic perspective on the world by introducing and examining basic economic realities and principles surrounding how societies use limited resources to satisfy unlimited wants and needs. Economics is taught in two parts. The first part provides students with an understanding of the principles of economics that apply to the functions of individual decision-makers, both consumers and producers, within the larger economic system (Microeconomics). Microeconomic topics include consumer demand, production, exchange, the price system, resource allocation, and government intervention. The second part of the course provides students with an understanding of the principles of economics that apply to an economic system as a whole (Macroeconomics). Macroeconomic topics include national income, inflation, business fluctuations, unemployment, the monetary system, the federal budget, international trade, and finance.

Through reading, writing, and speaking, students develop an understanding of basic economic concepts and theories, demonstrate abilities to translate numerical data into graphs, use critical thinking skills to evaluate data, and draw inferences from current and historical data. Priority is given to seniors.

- **231 SOCIOLOGY I - HONORS (.5 credit)**

Sociology is the scientific study of human society and social interaction. Sociology provides an unfamiliar way of looking at familiar institutions and associations. As an introduction to the

discipline of sociology, this course concentrates on developing research skills as well as surveying sociological theories and techniques. In addition to acquainting the student with the basic concepts used by sociologists to explain the social world and social interaction, the course gives the student elementary skills with which to decode society and social life. The skills students learn in this course include the ability to describe, analyze, and contrast the basic value positions or perspectives which generate and shape society's goals. Students also develop a critical understanding of the social research methods by which we discover social processes, patterns, and directions of social change. Priority is given to seniors.