



**CENTRAL CATHOLIC HIGH SCHOOL**  
**ACADEMIC COURSE GUIDE**  
**2023 – 2024**

# RELIGION

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## **Course 112 ENCOUNTERING JESUS, UNDERSTANDING FAITH (Level 2)**

Throughout this two-semester religious studies course, the students will study the person of Jesus Christ and begin the process of the Marist mission, “to make Jesus known and loved.” This course will look at the life, values and teachings of Jesus as a way to lead a meaningful life. Special attention will be given to Jesus’ life goal of bringing about the reign of God and living His example of showing special concern for the least favored. The material covered in this course will serve as a common backdrop for future courses in the Religious Studies curriculum. In addition, students will be introduced to the traditions/heritage of what it means to be part of a Marist heritage.

## **Course 122 HEBREW SCRIPTURES/CHRISTIAN SCRIPTURES (Level 2)**

This two-semester program is required for all sophomores. In the first semester, students become familiar with the beginnings of monotheism and examine God’s relationship and covenant with the Chosen People, as well as Christianity’s Judaic roots. The course follows the history and development of Judaism by examining the historical, prophetic and wisdom literature in the Hebrew Scriptures. In the second semester, students become familiar with the life and message of Jesus Christ. By examining the Gospels, Epistles, and other books of Christian Scripture, theological themes such as revelation, service, and salvation are explored.

## **Course 132 MORALITY/SOCIAL JUSTICE (Level 2)**

These two courses are required for all juniors. Morality is taken in the first semester and Social Justice is taken in the second semester. In the first semester, students are presented with a solid foundation in Christian principles and values and are given skills involved in moral decision-making. At the end of the course, students will be able to articulate and explain official Catholic teaching on major moral issues and will demonstrate the ability to formulate thoughtful analysis of moral issues. The fundamental belief underlying the second semester course is that Christian faith calls believers to practice justice. Students will be able to identify elements of a just world and be able to define characteristics in society that can influence the work that must be accomplished if justice is to prevail. Students will review the Church’s teachings on Social Justice and reflect on the lives of individuals who dared to challenge injustice while living the Gospel message. At the completion of this course students will be able to establish personal guidelines for living justly.

## **Course 142 CHRISTIAN LIFESTYLES (Level 2)**

A second semester requirement for all seniors, this course is designed to help students understand and develop methods of dealing with the opportunities, challenges and developmental tasks facing them in young adulthood. The belief that underlies this course is that a Christian lifestyle is the optimal way to grow and develop. The course focuses on life themes that are common to four lifestyle paths—single life, married life, religious life, and ordained ministry. As students consider the developmental tasks of young adulthood and the four lifestyle paths, they will examine issues and choices in light of the Gospel and Christian tradition and consider Jesus Christ a role model who is fully human and alive.

## **Course 144 EXPLORING WORLD RELIGIONS (Level 2)**

\*Offered for dual enrollment with Southern New Hampshire University\* Information about the dual enrollment program can be found on the website under *Academics, Course Catalog, Dual Enrollment*.

This one-semester, elective course for seniors will take a close look at the world’s major religions including Judaism, Islam, Hinduism, Buddhism, and Protestant and Orthodox Christianity. Students will study the beliefs, rituals, sacred texts and spirituality of these traditions. In addition, the cultural and historical context of each religion will be examined. Throughout the course students will compare these religions with Catholic Christianity in an effort to recognize what Catholics have in common with people of other faiths and in what ways Catholics differ in their understanding of Truth.

## **Course 146 FAITH, VALUES AND TRUTH IN THE MEDIA (Level 2)**

This one semester elective course will focus on the essential elements of media literacy to enable students to be in control of what they see, and not be controlled by what they see. Students will critically evaluate media representations of race, class, gender, violence, money, power and sexuality in the search for the truth that Jesus said will set us free from advertising, peer pressure, social conditioning, corporate values and systemic injustice. The course will encourage universal and Christian values of equality, justice, peace, the dignity of workers and Jesus’ special concern for the poor.

## **Course 148 POVERTY, POLICY AND JUSTICE (Level 2)**

This one-semester elective course for seniors will consider the injustice of poverty, its underlying causes and its effects on individuals and societies. Through the use of articles, Church documents, personal accounts, guest speakers, and film, students will be challenged to confront their own conscience and spiritual beliefs in dealing with issues of poverty. Particular focus will be paid to domestic poverty, especially in the area of homelessness, and on global poverty in areas of crisis throughout the world. A field education project is included in this course.

**Course 151 FACING HISTORY AND OURSELVES: THE HOLOCAUST & HUMAN BEHAVIOR (Level 2)**

This one-semester senior elective course will have students explore the history, causes and aftermath of the Holocaust. Themes will be explored through a series of reading, videos, activities and reflections. Students will reflect on racism and social justice, as well as the importance of global awareness and their own potential for making a difference. Based on the curriculum developed and sponsored by Facing History and Ourselves in Brookline, MA, connections will be made to Catholic social teaching, St. Paul's image that we are all one body in Christ and our Marist call to reach out to the least favored.

**Course 153 FAITH AND SCIENCE (Level2)**

Can you love science and believe in God? Can astrophysics and evolutionary biology coexist with religious faith? Can we appreciate the truths of science and the truths of Scripture? Can science and religion work together to offer us a larger picture of the meaning of our lives? The short answer to all of these questions is: YES! The Catholic faith embraces science. Faith and science offer different yet complementary ways of viewing the world. This course will connect us with the contemporary dialogue between Catholic faith and the sciences. Along the way, we will explore some history, philosophy and contemporary ethical questions. We will use the insights of Catholic tradition to explore questions of faith in a scientific age.

# ENGLISH

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## **Course 211 HONORS ENGLISH I (Level 1)**

*Students qualify for this course based on the cognitive, verbal, reading, and language skills components of the entrance examination.* Honors English I is an accelerated survey course in which students build skills in critical reading, process writing, grammar application, and vocabulary acquisition. Critical reading skills are developed through careful annotation and study of texts in several genres, including the following: short stories, poems of various length, traditional novels, graphic novels, and non-fiction texts. The writing focus is on the development and structure of literature analysis, rhetorical analysis, research, and on-demand essays. Students will learn how to properly find, evaluate, and utilize primary source evidence from literature and non-fiction sources (print and electronic). Instruction will also center on citing source material in MLA format. An in-depth study of grammatical forms, punctuation, and mechanics will be blended with writing instruction. This course is best suited for those students who desire to work in an accelerated writing and literature program.

## **Course 212 ENGLISH I (Level 2)**

English I is a survey course in which students build skills in critical reading, process writing, grammar application, and vocabulary acquisition. Critical reading skills are developed through careful annotation and study of texts in several genres, including the following: poems of various length, short stories, and novels. While the writing focus is on the development and structure of the analytical essay, students will be introduced to the research process. Students will learn how to properly use primary source evidence for support in an essay and cite the sources in MLA format. An in-depth study of grammatical forms, punctuation, and mechanics will be blended with writing instruction.

## **Course 215 LITERARY STRATEGIES (Level 3)**

*This course is taken in conjunction with Course 218, English I.* Students will be immersed in leveled reading to build proficiency in reading comprehension. Using both literary and informational text, the primary focus of the course will be to teach essential reading skills by developing specific reading strategies. This program is also designed to improve the student's written and oral communication skills.

## **Course 218 ENGLISH I (Level 3)**

*This course is taken in conjunction with Course 215, Literary Strategies.* This course introduces students to the principles of grammar, vocabulary, and writing development that are expanded upon throughout the remaining years of the English curriculum. Students will integrate newly learned grammar principles into their oral and written responses. Students will understand and acquire new vocabulary and use it correctly in reading and writing. Students will learn a variety of key concepts, skills, and strategies that will lead to improved comprehension and enable them to grow as readers. Students will be introduced to the basic elements of fiction and the major literary genres. Students will read both classic and contemporary fiction and nonfiction selections.

## **Course 220 AP SEMINAR: ENGLISH II (Level AP)**

*This course is recommended for students who complete Honors English I with an overall average of an A- or better and who excel in the writing component of the class. Students will be required to complete the AP Seminar performance tasks during the Spring semester, and they must sit for the AP Seminar exam in May. Students will be expected to follow AP Seminar with AP Research the following year.* AP Seminar: English 2 will engage students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational, literary, and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments.

## **Course 221 HONORS ENGLISH II (Level 1)**

This course is recommended for those students who earn an average grade of B- or better in Honors English I (level 1) or an A- or better in English I (Level 2). This course expands upon critical reading skills and modes of writing studied in Honors English I; it serves as a pre-AP course to prepare students to take AP English Language and Composition, AP English Literature, or Honors English III as juniors. The course readings emphasize canonical works in American literature, but also build on the foundation of contemporary world literature introduced in Honors English I. Students will read nine (9) texts written between 1600 and 2020 (including novels written in dialect and works of nonfiction). Readings will also include the poetry of Langston Hughes, Maya Angelou, Joy Harjo, and Julia Alvarez, as well as essays by James Baldwin and Jesmyn Ward. Students will write critical analyses, stylistic imitations, creative compositions, and complete a cross-curricular research project. The class requires students to engage in discourse, demonstrate proficient use of digital learning tools, and collaboration. Students who choose Honors English II are expected to be resourceful, creative problem-solvers who think critically and analytically.

## **Course 222 ENGLISH II (Level 2)**

The English II exposes students to units of world literature. Students will read and respond to short stories, poems, novels, and graphic novels that center on a theme of coming of age in a time of conflict. The writing focus will continue to be on MLA-documented literary analysis essays. Students will also study rhetoric and compose on-demand analytical essays from prompts typically found on standardized tests. The curriculum will continue with vocabulary and grammar instruction.

### **Course 223 ENGLISH II (Level 3)**

*Students must receive the recommendation of their English I instructor to enroll in this course. English II, Level 3 is a two-semester course that builds upon the English I, Level 3 and Literary Strategies curriculum by providing continued emphasis on reading comprehension, building vocabulary, foundational writing practices, and the application of grammar/mechanics. The literary curriculum includes the study of fiction and nonfiction via short stories, articles, and poetry with works taken from American and world literature. By the end of the course, students will increase their ability to read independently for meaning and construct MLA-documented formal written responses.*

### **Course 271 HONORS ENGLISH III (Level 1)**

*\*Offered for dual enrollment with Southern New Hampshire University\* Information about the dual enrollment program can be found on the website under Academics, Course Catalog, Dual Enrollment. This course is recommended for students who earn a grade of B- in their current Honors or AP course or an A- or better in English II (level 2). Honors English III continues and expands upon the study of grammar, spelling, vocabulary, literature, and critical writing of sophomore year. The course traces the development of the American story through its Romantic, Realistic, Naturalistic, Modernistic, and Post-Modernistic forms. Students study and prepare approximately sixty stories for class and eight novels independently by roughly twenty-five American authors such as Hawthorne, Irving, Poe, James, Howells, Twain, Bierce, Melville, Crane, Chopin, Jewett, Freeman, Dreiser, Anderson, London, Norris, Hemingway, Fitzgerald, and Faulkner. The writing component of the course focuses on the reader-friendly critical essay; students write approximately six formal 3–4-page critical essays out of class in addition to numerous in-class timed writing assignments. At the end of the year, students complete a portfolio of their written work from the year; the portfolio assignment comprises 40% to 50% of the final grade of the fourth marking period and is a course requirement. Average daily homework assignments require 60-90 minutes. The successful Honors English III student possesses a laudable work ethic, strong analytical and critical thinking skills, and a firm understanding of the formal elements of English grammar.*

### **Course 232 ENGLISH III (Level 2)**

This course expands upon the principles of vocabulary, grammar, and writing studied in previous English courses. The course familiarizes students with the ways in which events in American history affect literature and culture in the United States with a focus on the American Dream. This course emphasizes literary analysis and critical thinking. Students will read book-length works of literature by Steinbeck, Fitzgerald, & Reynolds as well as various short stories written by American authors. The writing component of the course prepares students for collegiate writing by emphasizing process writing style and structure, and the continued development of one's voice. Students will write literary analysis papers and research papers. In addition to the writing and literature, students will gain a better understanding of the writing and critical reading sections of SAT through exercises including vocabulary in context study, and critical reading skills.

### **Course 235 ENGLISH III- EXPLORATIONS (Level 2)**

*English III Explorations* expands upon the principles of reading, grammar, vocabulary, and writing development offered in *English II*. Students read a variety of literary genres by American authors including novels, short stories, poetry, and drama. The writing component of the course prepares students for collegiate writing by emphasizing timed writing, process writing, paper structure, and development of one's voice through journal writing. Formal writing assignments consist of multiple expository essays of various lengths throughout the year. Students also review the core elements of the SAT exam.

### **Course 280 AP RESEARCH (Level AP)**

*Requirements: Successful completion of AP Seminar (score of 3 or higher on exam). This course does not fulfill the English requirement but is taken in conjunction with a junior English class. "AP Research allows students to deeply explore an academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a yearlong investigation to address a research question. In the AP Research course, students further develop the skills acquired in the AP Seminar course by learning research methodology, employing ethical research practices and assessing, analyzing, and synthesizing information. Students reflect on their skill development, document their processes, and curate the artifacts of their scholarly work through a process and reflection portfolio. The course culminates in an academic paper of 4,000 – 5,000 words (accompanied by a performance, exhibit, or product where applicable) and a presentation with an oral defense. Students who score 3 or higher in AP Seminar, AP Research and on four additional AP exams of their choosing will receive the AP Capstone Diploma." (College Board)*

### **Course 240 ADVANCED PLACEMENT ENGLISH LANGUAGE & COMPOSITION (Level A.P.)**

*This course is recommended for students who earn an A- in Honors English II (Course 221), a B+ in Honors English III (Course 271), or a B- in Advanced Placement English Literature and Composition (Course 255). Admission to this class requires the timely and successful completion of a summer assignment. This course provides extensive instruction and practice in critical analysis, synthesis, and writing in preparation for both the college experience and the Advanced Placement Examination in Language and Composition offered by the College Board. Through extensive reading, class discussion, and writing exercises, students examine the interaction between a writer and his or her audience, and the ways in which a writer's subject, purpose, and audience influence the choice of rhetorical strategies and devices. Course readings will focus on nonfiction with additional readings in fiction and drama. Students will read several texts independently and complete a reading journal for each text. Class work centers on a collection of nonfiction essays in various rhetorical modes, as well as at least one Shakespearean play and several other multi-modal texts and samples of both fiction and nonfiction. Students will complete written assignments on readings and must contribute to class discussions. Some of these assignments will be timed, in-class responses to an argument or prompt. Students complete an expository essay (5-6 pages) using primary and secondary sources, at least one imitative piece, and an argument essay (750 words or less) synthesizing several sources and manipulating rhetorical devices, and at least one imitative piece. Finally, students will complete a portfolio of work from the year. A.P. English Language and Composition is a rigorous, demanding course. Students must be prepared to read 6-8 hours per week to complete course assignments. The course is open to both incoming juniors and seniors.*

### **Course 255 ADVANCED PLACEMENT ENGLISH LITERATURE AND COMPOSITION (Level A.P.)**

*This course is recommended for students who earn an A- in Honors English II (Course 221), a B+ in Honors English III (Course 271), or a B- in Advanced Placement English Language and Composition (Course 240). Admission to this class requires the timely and successful completion of a summer assignment. AP English Literature is an accelerated literary studies course designed to foster critical analysis and critical writing at the college level. Students will analyze texts from a variety of historical time periods (medieval age to 21st Century), cultural genres (British, American, Russian, Latino), and literary forms (novel, short story, drama, poetry). Focusing on techniques fiction writers use to create meaning, students will progress their analysis beyond a study of theme to a study of literary technique. Students will demonstrate learning through contributions to class discussions and through a variety of writing assignments and literature tests. While students will continue to write analysis essays outside of class, a heavy emphasis is placed on the in-class, on-demand essay. Students must be prepared to read several hours a week to complete course assignments. This course is best suited for students who enjoy analyzing, discussing, and writing about challenging, thought-provoking (and, sometimes, lengthy) texts.*

### **Course 241 HONORS ENGLISH IV (Level 1)**

*This course is recommended for students who earn a grade average of B- or better in Honors English III (level 1) or students with an average of A- or better in English III (level 2). This course completes the grammar, critical reading, and writing development begun in English I. Students will investigate several genres or themes by analyzing and responding to major works of classic and contemporary literature. Topics/Genres from previous years include: War, Romance, Good vs. Evil, Heroism, Comedy, Government, and The City. Students should be prepared to devote a significant amount of time to daily reading. To respond to the texts, students will engage in both teacher-led and student-led discussions. Students will write a series of short analysis essays and complete a formal literature analysis or project per quarter, deliver presentations, and create media enriched projects. The year will culminate with a comprehensive research project that stems from a theme examined during the year.*

### **Course 242 ENGLISH IV – HEROES AND VILLAINS (Level 2)**

This is a full-year course open to seniors.

This course expands upon the principles of writing and grammar and writing studied in previous English courses. In literature, students will be introduced to major British works, such as Beowulf as well as authors such as Chaucer, Shakespeare, Orwell, and Rowling and the heroes and villains they created in their works. Major themes include good vs. evil, socio-economic status, ambition, courage, greed, love, and corruption. Students will examine these themes and explore their relevance to current media and culture. In writing, special emphasis is given to the process and mechanics involved in creating a research paper. Students will master MLA citation format and the incorporation of outside sources into their own writing. The course culminates in a technologically enriched project that will prepare students for collegiate expectations in regards to research, writing, and presentation.

### **Course 243 ENGLISH IV – ADAPTATIONS (Level 2)**

This is a full-year course open to seniors.

This course expands upon the principles of grammar, vocabulary and writing development studied in previous English courses, with a focus on contextual understanding and demonstration as students prepare for college discourse. The course materials are divided into a series of units that use a Humanities-based approach to learning by focusing on the film industry as a reflection of American culture. Each unit includes: nonfiction reading based on a particular genre or time period, class instruction and discussion based on that film type and era, selected works of short fiction, and a movie that is adapted from and reflective of that material. Assessments for each unit include film analysis utilizing the appropriate terminology, reading comprehension quizzes and cumulative tests that reflect the entire unit. The writing program focuses on the research process: finding and validating sources, utilizing MLA citation format, and skillfully incorporating evidence into a structured document. The final project, which will be completed during the 2nd semester, will include both a research paper and an analytical paper; the average of these two papers will be the final exam grade. Students who opt for this class should be motivated by an interest in movies and cultural history, as well as the opportunity to approach college-level analysis from a unique perspective.

### **Course 246 ENGLISH IV – RACE AND GENDER ON THE PAGE, STAGE AND SCREEN (Level 2)**

This is a full-year course open to seniors.

This course expands upon the principles of grammar, vocabulary and writing development studied in previous English courses, with a focus on contextual understanding and demonstration as students prepare for college discourse. The course materials are divided into a series of units that use a Humanities-based approach to examining themes related to Race and Gender issues in the United States. Classroom lecture, readings, film analysis and discussion will be based on each theme and on applying the concepts to a modern issue/event. The writing program focuses on the research process: finding and validating sources, utilizing MLA citation format, and skillfully incorporating evidence into a structured document. The final project, which will be completed during the 2nd semester, will include both a research paper and an analytical paper; the average of these two papers will be the final exam grade. Students who opt for this course should enjoy studying and discussing history and be comfortable sharing their views in a respectful manner.

### **Course 250 METHODS OF PUBLIC SPEAKING (Level 2)**

*\*Offered for dual enrollment with Southern New Hampshire University\* Information about the dual enrollment program can be found on the website under *Academics, Course Catalog, Dual Enrollment*.*

*Requirements: This elective course is open to juniors and seniors and must be taken in conjunction with an English III or English IV program. This course will offer students the opportunity to develop the necessary speaking and listening skills to meet the challenges of college and the workplace. Students will learn the stages involved in the major speech communication processes and master the mechanisms of speech production and delivery. Students will learn practical techniques for analyzing, evaluating, and improving their own speaking and listening skills and develop an introductory-level mastery of the major modes of speech communication: one-to-one communication, formal and informal group discussion, public address and oratory, debate, and oral interpretation.*

# MATHEMATICS

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## **Course 311 HONORS ALGEBRA I & 2 (Level 1)**

*Requirements: Students qualify for this course based on the Cognitive, Quantitative, and Mathematics skills components on the Central Catholic Entrance Exam or based on demonstrated proficiency on a Central Catholic placement test.* This course covers all of the topics of Algebra I and introduces students to the further study of Algebra II with real life applications. Topics include functions and relations, complex numbers, and variations. Students are required to purchase a *Texas Instrument TI 84 Plus Graphing* calculator for use during this course. SAT preparation is introduced in this course.

## **Course 326 HONORS GEOMETRY /HONORS ALGEBRA II (Level 1)**

*Requirements: This course is an accelerated course for freshmen who have completed an Honors Algebra I program and have taken and demonstrated proficiency on a Central Catholic placement test* This is a fast-paced course that covers Honors Geometry in the first semester and Honors Algebra II in the second semester. In this course students will study the theorems associated with congruent triangles, similarity, parallelism, ratios, proportions, area and volume formulas and an introduction to trigonometry. The second semester concentrates on linear equations and functions, systems of equations and inequalities, quadratic functions, polynomial functions, radicals and complex numbers, rational expressions, an introduction to exponential and logarithmic functions and matrices. Students are required to purchase a *Texas Instrument TI 84 Plus Graphing* calculator for use during this course. SAT preparation is introduced in this course.

## **Course 312 ALGEBRA I (Level 2)**

This course introduces the student to the language of Algebra and also incorporates the study of equations and graphs as they apply to real life applications. Topics include algebraic expressions, equations in one or more variables, inequalities, polynomials, systems of linear equations, radicals, and quadratic equations. Students are required to purchase a *Texas Instrument TI 84 Plus Graphing* calculator for use during this course. SAT preparation is introduced in this course.

## **Course 313 ALGEBRA I (Level 3)**

This course reviews and reinforces the basic fundamentals of arithmetic including integers, decimals and percents. It also incorporates the study of equations and graphs as they apply to real life applications. Topics include the uses of variables, solving equations in one and two variables, polynomials, inequalities, and radicals. Students are required to purchase a *Texas Instrument TI 84 Plus Graphing* calculator for use during this course. SAT preparation is introduced in this course.

## **Course 321 HONORS GEOMETRY (Level 1)**

*Requirements: Students who apply for this course must have a B- or better average in Honors Algebra I & II (Course 311).* This course uses deductive reasoning practices to enable students to study theorems associated with congruent triangles, the similarity of geometric figures, parallelism, ratios, proportions and area, volume and surface area of geometric figures, as well as properties and theorems associated with angles, arcs, and their relationships with circles, and an introduction to trigonometry. Students will also continue to practice and develop their skills in applying the principles of Algebra II. This course includes SAT preparation for geometric topics. A *Texas Instrument TI-84 Plus Graphing calculator* is required for this course.

## **Course 325 HONORS GEOMETRY/ALGEBRA II (Level 1)**

*Requirements: Students must have an A or better average in Algebra I (Course 312). Students who have a C average from Honors Algebra 1 & 2 (Course 311) may elect this course.* This is a fast paced course that covers Geometry in the first three quarters and Algebra II in the fourth quarter. In this course students will study and apply theorems associated with congruent triangles, similarity of geometric figures, parallelism, ratios, proportions, area, volume and surface area of geometric figures and an introduction to trigonometry. After a review of Algebra I, Algebra II topics will include the study of quadratic and polynomial functions, and irrational and complex numbers. This course includes SAT preparation for geometric topics and prepares students for Honors Precalculus (Course 331). A *Texas Instrument TI-84 Plus Graphing calculator* is required for this course.

## **Course 322 GEOMETRY (Level 2)**

*Requirements: Students must have a C- or better from Algebra I (Course 312). Students who earn an A or better from Algebra I (Course 313) may also enroll in this course.* This course offers a systematic development of logical thinking with emphasis on geometric figures. Among the topics studied is the development of logical reasoning and informal proofs, the properties of geometric figures (specifically triangles and quadrilaterals) and parallel lines. Topics also include calculating area, surface area and volume of geometric figures. The use of trigonometric principles as they apply to right triangles and real-life applications is introduced. This course includes SAT preparation for geometric topics. A *Texas Instrument TI-84 Plus Graphing calculator* is required for this course.

### **Course 323 GEOMETRY (Level 3)**

This course will connect geometry concepts with algebraic ideas, reinforcing algebraic skills. Topics will include geometric figures, triangular relationships and quadrilaterals. Among the topics studied is the development of logical reasoning and informal proofs, the properties of geometric figures (specifically triangles and quadrilaterals) and parallel lines. This course includes SAT preparation for geometric topics. A Texas Instrument TI-84 Plus Graphing calculator is required for this course.

### **Course 330 ADVANCED PLACEMENT PRECALCULUS (Level A.P.)**

Requirements: Students must have a B+ or better average in Honors Geometry/Honors Algebra II (Course 326). Students who obtain an A- average or better in Honors Geometry (Course 321) and an A- average or better in Honors Algebra I & II (Course 311) may elect this course. Students who move directly from Honors Algebra I & II (Course 311) are required to attend summer school to complete the requirements for Honors Geometry. Students who attend the summer program must earn an A- or better in Enrichment Geometry. In AP Precalculus, students explore everyday situations using mathematical tools and lenses. Through regular practice, students build deep mastery of modeling and functions, and they examine scenarios through multiple representations. They will learn how to observe, explore, and build mathematical meaning from dynamic systems, an important practice for thriving in an ever-changing world. Topics include polynomial, rational, exponential, logarithmic, trigonometric, and polar functions, and their applications. A Texas Instrument TI-84 Plus Graphing calculator is required for this course.

### **Course 331 HONORS PRECALCULUS (Level 1)**

Requirements: Students who apply for this course must have a C or better average in Honors Geometry (Course 321), or Honors Geometry/Algebra II (Course 325), or Honors Geometry/Honors Algebra II (Course 326). This course is also open to students with an A- or better average in Honors Algebra I & II (Course 311). Students who move directly from (Course 311) are required to attend summer school to complete Honors Geometry. Students who attend the summer program must earn a B- or better in Enrichment Geometry. Students who have earned an A- average or better in Algebra I (Course 312) and Geometry (Course 322) may elect to register for this course. Students who have met the prerequisite from (Course 312) and (Course 322) must attend summer school to complete the requirements for Honors Algebra II. Students who attend the summer program must earn a B- or better average in Enrichment Algebra II. This course combines the appropriate use of technology with standard analytic techniques to provide a balanced approach to the study of Precalculus. It emphasizes the graphical, numerical, and algebraic approaches to analyzing functions and problem solving. SAT preparation is an integral part of this course. A Texas Instrument TI 84 Plus Graphing calculator is required for this course.

### **Course 332 ALGEBRA II & TRIGONOMETRY (Level 2)**

Requirements: Students must have a C- or better average in Algebra I (Course 312) and Geometry (Course 322). Students who have an A or better average in Algebra I (Course 313) and Geometry (Course 323) may also elect to enroll in this course. The course reinforces topics studied in Algebra I. Other topics include: irrational and complex numbers, quadratic and polynomial functions, exponential and logarithmic functions, and trigonometric functions, graphs, identities and equations and an introduction to matrices. S.A.T. preparation is an integral part of this course. A Texas Instrument TI 84 Plus Graphing calculator is required for this course.

### **Course 333 ALGEBRA II (Level 3)**

This course reviews Algebra I and expands on these concepts to study linear, quadratic and exponential functions and their applications to the real world. Other topics include inverse functions, irrational and complex numbers, absolute value equations and inequalities, analytic geometry, and polynomials. Graphical and data analysis are applied whenever possible. SAT preparation is an integral part of this course. A Texas Instrument TI 84 Plus Graphing calculator is required for this course.

### **Course 340 ADVANCED PLACEMENT CALCULUS AB (Level A.P.)**

Requirements: Students who apply for this course must have completed AP Precalculus (Course 330). This course is also open to students who have an A or better average in Honors Precalculus (Course 331). Students with an A- or better average in both Honors Algebra I & II (Course 311) and Honors Geometry (Course 321) may elect this course. This course is also open to students who earn an A- average or better in Honors Geometry/Honors Algebra II (Course 326). Students enrolling directly from Course (321) are required to attend summer school to complete Honors Precalculus. Students who attend the summer program must earn an A- or better average in Enrichment Precalculus. Students from Course 326 who qualify will be required to score an 85% or better on the CCHS Calculus Readiness Test or attend the summer Enrichment Precalculus program and earn a grade of A- or better. Admission to this class requires the timely and successful completion of a summer assignment. Upon entering this course, an assessment covering material from the summer assignment will be given to all students. This is a college level course intended for students who have a strong background in college preparatory mathematics, including algebra, trigonometry, analytical geometry and precalculus topics. Topics studied include limits, continuity, differentiation, integration and their applications. This course prepares the student for the Advanced Placement Calculus Exam. A Texas Instrument TI 84 Plus Graphing calculator is required for this course.

### **Course 341 HONORS CALCULUS (Level 1)**

\*Offered for dual enrollment with Southern New Hampshire University. \* Information about the dual enrollment program can be found on the website under Academics, Course Catalog, Dual Enrollment. Requirements: Students must have a C or better average in Honors Precalculus (Course 331). Students who earn an A- average in Algebra II and Trigonometry (Course 332) may also elect to enroll in this course. Students from Algebra II and Trigonometry (Course 332) are required to attend summer school to complete the requirements for Honors Precalculus. Students who attend the summer program must earn a B- or better average in Enrichment Precalculus. In this applied Calculus course, there is an



abundant supply of examples and exercises using real-world data from business, economics, environmental studies, health care, and the life sciences. Topics include limits, continuity, differentiation, integration, and their applications. A Texas Instrument TI 84 Plus Graphing calculator is required for this course

**Course 390 ADVANCED PLACEMENT CALCULUS BC (Level A.P.)**

*Requirements: Students who apply for this course must have completed Calculus AB (Course 340). Admission to this class requires the timely and successful completion of a summer assignment.* Calculus BC is a full year course in the calculus of functions of a single variable. It includes all the topics taught in Calculus AB plus additional topics such as analysis of and derivatives of parametric, polar, and vector functions, Euler's method, L'Hospital's Rule, application of integrals, antiderivatives by substitution of variables, parts, and partial fractions, improper integrals, solving logistic differential equations, polynomial approximations and series, and Taylor series. The course prepares the student for the Advanced Placement Calculus BC exam. A TI 84 Plus Graphing calculator is required.

**Course 349 ADVANCED CALCULUS CD (Level A.P.)**

*Requirements: Successful completion of AP Calculus BC. (Course 390).* This course will cover infinite sequences and series and also extends the basic concepts of single variable calculus to functions of several variables. Topics include vectors, the geometry of space, vector valued functions, motion in space, partial derivatives, and multiple integrals. A Texas Instrument TI-84 Plus Graphing calculator is required for this course.

**Course 347 INTRODUCTION TO CALCULUS (Level 2)**

*Requirements: Students must have a B+ or better average in Algebra II and Trigonometry (Course 332). Students who have a C- average or better in Honors Precalculus (Course 331) may elect this course.* Introduction to Calculus is comprised of a semester focused on Precalculus followed by a semester of basic Calculus. The semester of Precalculus completes the formal study of the functions begun in Algebra. Students focus on the use of technology, modeling, and problem-solving involving data analysis, linear functions, their inverses, exponential and logarithmic functions, polynomial and rational functions, and quadratic relations. The introductory topics of Calculus include limits, continuity, derivatives, and their real-world applications. Students will model real-world situations involving rates of change. A Texas Instrument TI 84 Plus Graphing calculator is required for this course.

**Course 345 COLLEGE PRECALCULUS (Level 2)**

*Requirements: Students must have a C or better average in Algebra II and Trigonometry (Course 332).* This course is designed for those students with an interest in pursuing higher level math and science courses. The approach taken in College Precalculus is analytical in nature and stresses the theory and language of functions. This course covers advanced mathematical concepts in Precalculus. Topics include a review and extension of trigonometry, linear relations and functions, theory of polynomial equations, rational functions, complex numbers, exponential and logarithmic functions, matrices and determinants, and time permitting, sequences and series. A Texas Instrument TI 84 Plus Graphing calculator is required.

**Course 343 COLLEGE ALGEBRA (Level 3)**

This course covers both introductory and intermediate Algebra topics and will provide a solid foundation for a college algebra course. Specific topics covered include polynomial factoring, linear and quadratic equations, inequalities, linear systems of equations and the study of exponential, logarithmic and trigonometric functions. This course includes SAT preparation during the first semester. A Texas Instrument TI 84 Plus Graphing calculator is required.

**Course 348 ADVANCED PLACEMENT STATISTICS (Level A.P.)**

*Requirements: Students who have completed an AP Mathematics course (this includes Course 340, Course 390, or Course 330) may elect to take this course. Students who have a B+ or better in Honors Precalculus (Course 331) may also enroll in this course.* Admission to this class requires the timely and successful completion of a summer assignment. The purpose of the Advanced Placement (AP) course in statistics is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students are exposed to four broad conceptual themes: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Students will describe patterns and departures from patterns, plan and conduct studies, explore random phenomena using probability and simulation, estimate population parameters, and test hypotheses. This year long course will prepare students to take the AP Statistics exam. A Texas Instrument TI-84 Plus Graphing calculator is required.

# SCIENCE

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## **Course 411 HONORS BIOLOGY (Level 1)**

This course is designed for the highly motivated, science-oriented student. The course covers basic concepts of biology in depth and at an accelerated pace. Some of the topics include the structure and function of living things, the study of the genetic continuity and evolutionary development of life, an examination of the diversity and ecological relationships among living things and an overview of human anatomy and physiology. Intense laboratory work and independent project work are required components of this class. Students who successfully complete this course will be prepared to take Advanced Placement Biology in their junior or senior year.

## **Course 412 BIOLOGY (Level 2)**

This course begins with the study and application of the scientific method. It continues with a molecular and cellular introduction to the structure and function of living organisms, followed by a study of patterns of heredity and genetics. The second semester of the course focuses on the process of evolution and the diversity of life, an exploration of the interrelationships that exist between organisms and their environment and human anatomy and physiology. Laboratory experiences reinforce key ideas presented throughout the course.

## **Course 414 BIOLOGY (Level 3)**

*Requirements: Students who are enrolled in English I (Course 218) and Literary Strategies (Course 215) must also enroll in Course 414.* This process-driven course includes a molecular and cellular introduction to the structure and function of living organisms, followed by a study of genetics and evolutionary development (in both plants and animals). The second semester of the course focuses on the diversity of life followed by an exploration of the interrelationships that exist between organisms and their environment. It concludes with human anatomy and physiology. Laboratory experiences and hands-on activities reinforce key ideas presented throughout the course.

## **Course 421 HONORS CHEMISTRY (Level 1)**

*\*Offered for dual enrollment with Southern New Hampshire University.\** Information about the dual enrollment program can be found on the website under Academics. *Requirements: Students must have a B- or better in Honors Biology (411) and a B- or better in Honors Algebra I & II (Course 311) or an A- or better in Biology (Course 412) and an A- or better in Algebra I (Course 312). Students in Chemistry 421 should also be enrolled in a Level 1 Mathematics course.* This course is designed for the highly motivated, science oriented student. Honors Chemistry is a laboratory-based course which introduces the college bound student to the major concepts fundamental to understanding the structure and properties of matter. In this course students will develop skills in many laboratory techniques used in scientific study, critical thinking skills, and the ability to work independently. Some of the concepts covered include the properties of matter, atomic structure, the Periodic Law, chemical formulas, bonding and chemical equations, the solution process, gas laws, and acid-base relationships and chemical kinetics. Students will be required not only to understand the basic concepts behind these topics, but also perform mathematical operations analyzing data relevant to these areas and conduct laboratory experiments demonstrating and/or testing major chemical principles. Students who successfully complete this course will be prepared to take Advanced Placement Chemistry in their junior or senior years.

## **Course 422 CHEMISTRY (Level 2)**

*Requirements: Students must have a C or better in Biology (Course 412) and Algebra I (Course 312) or an A- or better in Biology (Course 414) and Algebra I (Course 313). Students in Chemistry 422 must also be enrolled in a Level 1 or Level 2 Mathematics course.* Chemistry is an interactive course that allows students to explore and understand matter and its properties. This course covers the basic concepts of inorganic chemistry in a lecture/laboratory atmosphere. Some of the concepts covered include the properties of matter, atomic structure, the Periodic Law, chemical formulas, bonding and chemical equations, the solution process, gas laws, and acid-base relationships. Students will be required not only to understand the basic concepts behind these topics but also perform mathematical operations analyzing data relevant to these areas and conduct laboratory experiments demonstrating and/or testing major chemical properties.

## **Course 424 CHEMISTRY (Level 3)**

This course covers many of the same basic concepts of inorganic chemistry covered in Chemistry (422) but in a more conceptual format. Some of the concepts covered include the states and properties of matter, atomic structure, the structure of the periodic table, bonding, compounds and chemical reactions. Practical examples and applications as well as laboratory experiences will be provided throughout the course to demonstrate to students the importance of chemistry and chemical principles in everyday life.

## **Course 461 HONORS PHYSICS (Level 1)**

*\*Offered for dual enrollment with Southern New Hampshire University.\** Information about the dual enrollment program can be found on the website under Academics, Course Catalog, Dual Enrollment.

*Requirements: Students must have an A- or better average in Chemistry (Course 422) or a B- average or better in Honors Chemistry (Course 421). Students enrolled in Honors Physics must also be enrolled in Honors Precalculus (Course 331).* This lecture/laboratory course investigates concepts from algebraic and trigonometric based introductory physics at the honors college-preparatory level, as well as reasoning and problem-solving skills derived from lab experience. The course will focus on three major content areas: Newtonian Mechanics, Electricity and Magnetism and Waves and Optics. Guided inquiry, laboratory activities and student centered learning are designed to foster the development of critical thinking skills.

### **Course 432 PHYSICS (Level 2)**

*Requirements: Students must have a C- or better in Chemistry (Course 422) or a B or better in Chemistry (Course 424). Students who enroll in this course must also be enrolled in Algebra II & Trigonometry (Course 332). This lecture/laboratory course is designed for the science-oriented student. It is intended to provide a firm introduction to many basic concepts of physics, thereby preparing the student for college level study. Topics presented include mechanics, sound, light, electricity and magnetism. Laboratory work is an integral part of the course.*

### **Course 433 PHYSICS (Level 3)**

*Requirements: Students must have completed a chemistry course to enroll in this course. This lecture/laboratory course is designed to reestablish the student's knowledge of the scientific method and utilize it to solve problems and determine how things work from a physics perspective. Basic physics principles such as forces, motion, fluid mechanics, electronics, and light will be investigated and understood in the context of life experiences.*

### **Course 439 ADVANCED PLACEMENT PHYSICS 1 (Level A.P.)**

*Requirements: Students must have a B average or better in Honors Chemistry (Course 421) or an A or better average in Chemistry (Course 422) or Physics (Course 432). Students enrolled in Advanced Placement Physics 1 must also have a grade of B- or better in Honors Precalculus (Course 331). Admission to this course requires the timely and successful completion of a summer assignment. Students enrolled in this A.P. level course must take the AP Physics 1 Exam in May. Students will be required to attend lab/seminar classes from 7:00 a.m. – 7:50 a.m. as frequently as once every seven-day cycle. This course will focus on Newtonian Mechanics, Work and Energy, and Harmonic Motion. Guided inquiry, laboratory activities and student-centered learning are designed to foster the development of critical thinking skills and prepare the student to take a second-year physics program (AP Physics C) at Central Catholic.*

### **Course 441 HONORS HUMAN ANATOMY & PHYSIOLOGY (Level 1)**

*Requirements: Students must have a B- or better in Level 2 or Level 1 Biology & Chemistry, or an A- or better in Level 3 Biology & Chemistry. Open to seniors, this year long elective course is designed to increase the student's knowledge of and appreciation for the workings of the human body. Through examination of the major body systems and organs students will begin to recognize the importance of a healthy system that is in equilibrium with the surrounding environment.*

### **Course 443 SCIENCE, TECHNOLOGY AND SOCIETY (Level 2)**

Open to seniors, this year-long elective course examines how science and society influence each other. Science literacy and communication will be emphasized as the class explores the nature of scientific enterprise, the development of the atomic bomb and its ramifications, the growth of the environmentalism movement and its cultural impact, and the application of bioethics. Students will develop communication skills through regular reading, writing and class presentation activities, engaging in both historical and contemporary scientific developments.

### **Course 444 ADVANCED PLACEMENT BIOLOGY (Level A.P.)**

*Requirements: Students who apply for this course should have a grade of B or better in Honors Chemistry (Course 421) or an A average or better in Chemistry (Course 422). Select juniors who have excelled (grade of B or better) in Honors Chemistry (Course 421) and are concurrently taking Honors Math (Course 331 or higher) are also eligible to take this course. Admission to this course requires the timely and successful completion of a summer assignment. Students will be required to attend lab/seminar classes from 7:00 a.m. – 7:50 a.m. as frequently as once every seven-day cycle. This college level course is designed to provide the student with an awareness and increased understanding of complex biochemical and biological principles. Content is presented from an evolutionary perspective with a focus on the "4 Big Ideas" as outlined by the College Board's AP Biology Curriculum Framework. Throughout the course there is an emphasis placed on an exploratory approach using science principles which are also outlined in the AP Biology Curriculum Framework. The course prepares the student to take the Advanced Placement exam in Biology.*

### **Course 445 ADVANCED PLACEMENT CHEMISTRY (Level A.P.)**

*Requirements: Students who apply for this course must have a grade of B or better in Honors Chemistry (Course 421) and Honors Precalculus (Course 331) or an A or better in Chemistry (Course 422) and Algebra II and Trigonometry (Course 332). Select juniors who have excelled (grade of B or better) in Honors Chemistry (Course 421) and are concurrently taking Honors Math (Course 331 or higher) are also eligible to take this course. Admission to this course requires the timely and successful completion of a summer assignment. Students will be required to attend lab/seminar classes from 7:00 a.m. – 7:50 a.m. as frequently as once every seven-day cycle. AP Chemistry is the equivalent of a first-year college level course. Aspects of quantum mechanics, aqueous reactions, stoichiometry, kinetics, equilibrium, thermodynamics, and electrochemistry will be discussed in detail. Significant laboratory work will be integrated into the course of studies. The course prepares the student to take the Advanced Placement exam in Chemistry.*

### **Course 448 ADVANCED PLACEMENT PHYSICS C (Level A.P.)**

*Requirements: Students who apply for this course must have a grade of B or better in AP Physics 1 (Course 439) or A or better in Honors Physics (Course 461) and a B or better in Honors Pre-calculus (Course 331). Students must also concurrently take AP Calculus AB (Course 340), AP Calculus BC (Course 390), Advanced Calculus CD (Course 439) or Honors Calculus (Course 341). Timely and satisfactory (grade of B- or better) completion of summer work is required. Students will also be required to attend lab/seminar classes (7:00 a.m. – 7:50 a.m.) as frequently as once every seven-day cycle. AP Physics C is the equivalent of a first-year college level physics course for engineering and physics majors. Calculus is utilized for the entire course. In the first half of the year, topics include Electrostatics, Conductors, Capacitors and Dielectrics, Electric Circuits, Magnetic Fields, and Electromagnetism. In the second half of the year, topics include a deeper analysis of Newtonian Mechanics, Newton's Laws of Motion, Work, Energy and Power, Linear and Angular Momentum, Circular Motion and Rotation, and Oscillations and Gravitation. Laboratory work is an important part of the curriculum. This course prepares the student to take both the AP Physics C Mechanics exam and the AP Physics C Electricity and Magnetism exam.*

**Course 449 ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE (Level A.P.)**

*Requirements: Students who apply for this course must have a grade of B or better in Honors Chemistry (Course 421) and Honors Precalculus (Course 331) or an A or better in Chemistry (Course 422) and Algebra II and Trigonometry (Course 332). Select juniors who have excelled (grade of B or better) in Honors Chemistry (Course 421) and are concurrently taking Honors Math (Course 331 or higher) are also eligible to take this course. Admission to this course requires the timely and successful completion of a summer assignment. Students will be required to attend lab/seminar classes from 7:00 a.m. – 7:50 a.m. as frequently as once every seven-day cycle. The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science, through which students engage with the scientific principles, concepts, and methodologies required to understand interrelationships in the natural world. The course requires that students identify and analyze natural and human made environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving or preventing them. Environmental science is interdisciplinary, embracing topics from geology, biology, environmental studies, chemistry, and geography.*

**Course 451 HONORS FORENSIC SCIENCE (Level 1)**

*\*Offered for dual enrollment with Syracuse University.\* Information about the dual enrollment program can be found on the website under Academics. Requirements: Students must have a B- or better average in all previous level 1 or level 2 science courses or an A- or better in all previous level 3 science courses. Open to seniors, this lecture/laboratory course is offered in conjunction with Project Advance at Syracuse University. Taught by a Central Catholic science teacher, students who successfully complete this course and wish to take the course for dual enrollment may earn both Central Catholic credit and four (4) college credits. This course is focused upon the application of scientific methods and techniques to crime and law. Scientific methods specifically relevant to crime detection and analysis will be presented with emphasis placed upon the techniques used in evaluating physical evidence. Topics and laboratory exercises will include techniques commonly employed in forensic investigations with respect to blood analysis, organic and inorganic evidence analysis, microscopic investigations, hair analysis, DNA, drug chemistry and toxicology, fiber comparisons, paints, glass compositions and fragmentation, fingerprints, soil comparisons, and arson investigations, among others.*

**Course 455 ENGINEER YOUR WORLD (Level 2)**

*Requirements: Open to juniors and seniors. Students must have earned at least a C+ in prior level 2 science and math courses or a B in prior level 3 science and math courses. Engineer Your World is a hands-on high school engineering design curriculum for students who want to learn about engineering and its role in shaping our world. Students will engage in authentic engineering practices in a project-based environment and complete a series of socially relevant design challenges to develop engineering design skills and habits of mind. Engineer Your World covers the breadth of engineering fields and professions so that students can make informed decisions about pursuing engineering.*

# SOCIAL STUDIES

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## **Course 511 HONORS WORLD HISTORY (Level 1)**

This two semester freshmen course presents highlights in the development of world history from the Fertile Crescent, the ancient Americas, ancient Greece and Rome, and Africa, to the Age of Imperialism. The goal of the course is to develop a student's sense of the historical and cultural heritage that we possess as citizens of the world. The major themes studied are: the origins of civilization, the Classical Era, the Middle Ages, African history, the Renaissance and Reformation, Expansionism, Scientific Progress, Latin American history, the Age of Democratic Revolution, the rise of Industrialism and European Imperialism.

## **Course 512 WORLD HISTORY (Level 2)**

This two semester freshmen course presents highlights in the development of world civilization from ancient societies in the Middle East to the Age of European Imperialism. The goal of the course is to develop a student's sense of the historical and cultural heritage that we possess as citizens of a global society. The major themes studied are: the ancient civilizations of the Middle East, Egypt, Greece, and Rome, the Pre-Columbian Americas, early societies in Africa, the spread of Islam, the rise of the Catholic Church, the Middle Ages, the Renaissance and Reformation, Expansionism, Scientific Progress, Absolutism, the Age of Democratic Revolution, the rise of Industrialism, waves of Nationalism, and the age of European Imperialism.

## **Course 513 WORLD HISTORY (Level 3)**

This two semester course presents highlights in the development of world history from the Fertile Crescent, the ancient Americas, ancient Greece and Rome, and Africa, to the Age of Imperialism. The goal of the course is to develop a student's sense of the historical and cultural heritage that we possess as citizens of the world. The major themes studied are: the origins of civilization, the Classical Era, the Middle Ages, African history, the Renaissance and Reformation, Expansionism, Scientific Progress, Latin American history, the Age of Democratic Revolution, the rise of Industrialism and European Imperialism. Special emphasis will be given to reading, study, and time management skills. Instructional strategy and class assessments will be adjusted to differentiate instruction in order to help students read, write and comprehend more successfully in the content area.

## **Course 520 MODERN WORLD/ AMERICAN CIVICS: HISTORY & RESPONSIBILITIES (Level 2)**

In the first semester sophomore year, students will study the 20<sup>th</sup> and 21<sup>st</sup> Century world history. The focus will include the social, political, constitutional, cultural, economic, and diplomatic forces that shaped events. Specific topics will include current events, global connectedness, and world revolutions. In the second semester students will review the role the events leading up to the American Revolution had in the creation of a new government. Students will study the founding documents and be able to identify rights and privileges as well as duties and responsibilities of being a citizen of the United States of America. Students will be able to connect the past to the real-world operations of the three branches of government by following current events.

## **Course 527 HONORS MODERN WORLD/ PRE-ADVANCED PLACEMENT UNITED STATES HISTORY (Level 1)**

*Requirements: Open to sophomores who have obtained at least an A- average in World History (Course 512) or a B average in Honors World History (Course 511).* In the first semester sophomore year, students will study selected regions of the world. The focus will include the social, political, constitutional, cultural, economic and diplomatic forces that shape each of these world areas in the 20<sup>th</sup> and 21<sup>st</sup> century. Specific topics will include current events, global connectedness, revolutions in China and Russia and the Middle East conflict. In the second semester sophomore year, students will begin the first of a three-semester course in United States History and civics education. This course is a Pre-AP program to the Advanced Placement United States History course offered in junior year. Students will focus in depth on the colonial experience, the rise of the American Revolution and the age of the Constitution, the Federalist Era and end with the Age of Jackson. Civic literacy, critical thinking and the ability to write cogent historical essays will be major factors in student assessment in this course.

## **Course 530 ADVANCED PLACEMENT UNITED STATES HISTORY (Level A.P.)**

*Requirements: Open to juniors who have received a grade of B or better in Pre-Advanced Placement United States History (Course 529).* Admission to this course requires the timely and successful completion of a summer assignment. Students must retain their American History textbook from Pre-AP US History. This two-semester course is designed to provide students with analytical skills and factual knowledge necessary to deal critically with the problems of American History. In the first semester, students will study the Antebellum era, the coming of the Civil War, the era of Reconstruction and the forces that produced twentieth century America. Students will probe the Age of Reform and the America's involvement in WWI. In the second semester, students will examine the Roaring Twenties, the onset of the Great Depression, the New Deal, the challenges of the Second World War, the emergence of the Cold War, the divisive era of civil rights, the war in Vietnam, and the forces behind the politics and policies of our time since 1975. The course aims to develop the skills necessary to present ideas clearly in essay form and to prepare students for the Advanced Placement Examination.

## **Course 531 HONORS AMERICAN HISTORY (Level 1)**

*\*Offered for dual enrollment with Southern New Hampshire University.\** Information about the dual enrollment program can be found on the website under *Academics, Course Catalog, Dual Enrollment*. *Requirements: Open to juniors who have a grade of B- or better in Honors Modern World/Pre-AP US (Course 527) or an A- or better in Modern World/Civics (Course 520) and a grade of B- or better in Honors English II (Course 221) or AP Seminar (Course 220) or a B+ or better in English II (Course 222).* Honors American History is a two semester course for academically talented and motivated students. The junior year course is a survey of highlights in American History from the early republic to modern times focusing on

critical thinking and writing skills as well as factual knowledge. The course requires the student to make use of primary source materials and historical works outside the basic textbook.

### **Course 532 AMERICAN HISTORY (Level 2)**

This two semester junior-year course is a survey of highlights in American History from the early United States to modern times. Topics covered during the fall semester include the development of the new nation; major 19th century reform movements; the Civil War and Reconstruction periods; the culture of oppression for African Americans, Native Americans, immigrants, and women; industrialization, urbanization, and immigration of the late-1800s; and the Progressive Movement of the early-1900s. The spring semester focuses on the growth of the United States as a global power; international conflicts such as the World Wars, Cold War, and Vietnam War; materialism and consumerism in the 1950s, the Civil Rights and Women's Rights movements; the rise of conservatism in the 1970s and 80s; and essential challenges of the modern era including race relations, the threat of global terrorism, and economic progress.

### **Course 540 ADVANCED PLACEMENT US GOVERNMENT & POLITICS (Level A.P.)**

*Requirements: Students must have earned a C+ or better average in AP United States History (Course 530) or Honors American History (Course 531), or a B+ or better average in American History (Course 532). Admission to this course requires the timely and successful completion of a summer assignment.* This year-long senior course studies in detail the origins of the Constitution, the three branches of American Government (the executive, legislative, and judicial), the Cabinet, special interest groups, foreign policy and the role of the citizen in the political process. This course prepares students to take the A.P. US Government and Politics exam.

### **Course 571 PSYCHOLOGY (Level 2)**

*\*Offered for dual enrollment with Southern New Hampshire University.\* Information about the dual enrollment program can be found on the website under *Academics, Course Catalog, Dual Enrollment.**

Open to seniors, this two-semester course allows seniors to explore the world of psychology by becoming psychologists when attempting to replicate psychological studies. Each quarter students are required to investigate a topic by reading a psychological study and conducting a similar research design of that particular study to see if the results match. Students present their findings to the class through demonstrations and reports. Topics include Research Methods, Learning, Social Psychology, Memory, Motivation and Emotion, Human Development, Personality, Psychological disorders and Psychological treatment. Research focuses on Cell Phone Use Affecting Experiences, Effect of Language on Memory, Social Roles and Behavior, and other current topics.

### **Course 549 ADVANCED PLACEMENT PSYCHOLOGY (Level AP)**

*Requirements: Open to seniors who have earned a C or better average in AP United States History (Course 530) and AP English (Course 240 or Course 255) or a C+ or better in Honors American History (Course 531) and Honors English III (Course 271) or a B or better average in American History (Course 532) and English III (Course 232). Admission to this course requires the timely and successful completion of a summer assignment.* Advanced Placement Psychology introduces students to the scientific study of behavior and mental processes of humans and other animals. The first semester focuses on scientific methodology, anatomy and physiology, sensation and perception and other biological processes as they pertain to human behavior. There will also be a focus on psychological theories, principles and phenomena associated with the major sub fields within psychology. Content also includes the history of psychology, schools of psychological thought and major theorists. This course prepares student to take the Advanced Placement exam in Psychology. \_

### **Course 552 HONORS WITNESSES TO HISTORY (Level 1)**

*Requirements: Students must have earned a C average or better in all previous Social Studies courses.* Honors Witnesses to History is a biography course focused on three major historical periods in the 20th century. Students will read three biographies of individuals who experienced each period firsthand. The focus of the class is to get a comprehensive view of each historical period with particular focus on the political, social and economic ramifications. Students will write weekly reflections and analysis of reading assignments. The final project is for students to write a biography including outside interviews and sources to be published as a class text.

### **Course 557 URBAN HISTORY AND PROBLEM SOLVING (Level 2)**

This full-year, senior Social Studies elective focuses on major problems in the urban and suburban history of the United States from the late-1800s to the Present. Topics addressed in this course include: urban planning, industrialization, public health and epidemics, terrorism and public safety, architectural innovations, poverty and homelessness, suburbanization, gentrification, and gang violence. Students will take a hands-on approach to problem solving by exploring sites in the Merrimack Valley, interacting with local historians and community leaders, designing and running their own mock city, and applying a systems-thinking approach to the urban problems of today.

### **Course 556 CRIMINAL JUSTICE AND CONTEMPORARY ISSUES (Level 2)**

*Requirements: Open to seniors.* This team-taught, full year course will examine the practical applications of various bodies of law within the American legal system and abroad. It will focus primarily on criminal law and procedures while incorporating topics such as the American judicial structure, judicial decision-making and the impact that world events play in the enforcement of US law. In addition, students will examine the way governments around the world influence people's lives and international diplomacy. Specific attention will be paid to Europe, Asia, and the Middle East. Current events will inspire specific curriculum focuses throughout the semester.

# WORLD LANGUAGES

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## **Course 651 HONORS MANDARIN CHINESE I (Level 1)**

This course provides an introduction to the most widely spoken native language in the world, Mandarin Chinese. Students will learn the standard Chinese and simplified writing system that is used in education and all official communication throughout Mainland China. The course will include the development of basic conversational expressions emphasizing pronunciation and tone, the building of vocabulary and the incorporation of verbal structure into oral communication. Basic elements of grammar, syntax, and structure will reinforce speaking abilities. Students will also learn the building blocks (radicals) of Chinese characters. The Chinese Mandarin course is a combination of Chinese language acquisition and culture.

## **Course 653 HONORS MANDARIN CHINESE II (Level 1)**

*Requirements: Students must have successfully completed Mandarin Chinese I (Course 652).* This course represents a continuation of Chinese 1 but will move at a faster pace as students continue to build upon the skills and knowledge of the writing system, vocabulary, grammar, listening and reading skills of the previous year. Students will also be held to a higher standard of correctness both with regards to writing and pronunciation. At the completion of the second year, students will be able to competently discuss many new topics, give their own opinions, and use everyday language necessary for meaningful exchanges in Chinese. At the end of the second year, students will be able to read, write, and recognize at least 400 characters in Chinese. An increased number of assessments will be based on oral presentations and compositions in Chinese.

## **Course 654 HONORS MANDARIN CHINESE III (Level 1)**

*Requirements: Students must have successfully completed Honors Mandarin Chinese II (Course 653).* In this course, students will continue to expand their vocabulary more rapidly as they begin a more intense interaction with the written word through pieces of short fiction. In this course students will begin to express themselves ever more competently in Chinese, as this will be the basis of nearly all classroom exchange. In addition to further developing their language skills, students will develop and maintain awareness of certain current events in China as they occur in real time.

## **Course 656 HONORS MANDARIN CHINESE IV (Level 1)**

*Requirements: Students must have successfully completed Honors Mandarin Chinese III (Course 654).* This course continues and expands the themes and skills developed in Honors Mandarin Chinese III (Course 654). At this advanced level, the basic language skills of listening, speaking, reading, and writing will be clarified and refined. Students will continue to develop an understanding of Chinese language and culture through conversation, literature, media, the advanced study of grammar, and composition, with attention to both written and oral communication.

## **Course 611 HONORS SPANISH I (Level 1)**

*Students will be placed in this course based on their performance on a Central Catholic High School placement exam.* In Honors Spanish I students will study the language and culture of the Spanish-speaking countries through listening, writing, reading and speaking activities. The course will begin with a review of basic, essential grammar and vocabulary, and then move to introducing more advanced grammar, vocabulary, and communication skills. The goal of this course is to give students a strong foundation in the language and to gain an understanding of different cultures.

## **Course 612 SPANISH I (Level 2)**

In Spanish I students will be introduced to the language and culture of the Spanish-speaking countries through listening, writing, reading and speaking activities. Grammar and vocabulary will be extensively emphasized. The goal of this course is to enable students to communicate effectively at basic levels and to gain an understanding of different cultures.

## **Course 613 SPANISH I (Level 3)**

*Requirements: This course is open to sophomore students entering their first year of world language studies.* In Spanish I students will be introduced to the language and culture of the Spanish-speaking countries through listening, writing, reading, and speaking activities. Grammar and vocabulary will be presented in a manner that allows students to review and build connections from English vocabulary and grammar. The goal of this course is to enable students to communicate in Spanish using basic language structures and to gain an understanding of different cultures.

## **Course 621 HONORS SPANISH II (Level 1)**

*Requirements: Students who take this course must have a B- or better in Honors Spanish I (Course 611) and a B- or better on the final exam or an A- or better average in Spanish I (Course 612) and an A- or better on the final exam.* Expanding on the foundations of Spanish I, students will continue to build their proficiency in the areas of reading, writing, speaking and listening. Extensive and intensive vocabulary and grammar is emphasized, developed and mastered. The goal of the course is to communicate more effectively and in a more sophisticated way in both oral and written Spanish as well as to gain a more in-depth understanding from throughout the Spanish speaking world.

## **Course 622 SPANISH II (Level 2)**

*Requirements: Students must have a C+ or better average in Spanish I and a C+ or better on the final exam.* Spanish II builds on the grammar, vocabulary, listening, reading and speaking skills developed in Spanish I. The course introduces more complex grammatical structures and emphasizes greater oral proficiency. The goal of the course is to communicate effectively at more advanced levels and to gain a more in-depth understanding of Hispanic and Latino cultures.

### **Course 623 SPANISH II (Level 3)**

*Requirements: Students must have completed Spanish I.* This course is for students who need to review the basic grammar skills and vocabulary presented in Spanish I. Students in this course will then go on to more advanced grammatical patterns and sentence structures. Students will continue to work on oral and reading comprehension as well as improving their conversational and writing skills.

### **Course 631 HONORS SPANISH III (Level 1)**

*Requirements: Students who take this course must have a B- or better average in Honors Spanish II (Course 621) and a B- or better average on the final exam or an A- or better average in Spanish II (Course 622) and an A- or better on the final exam.* This course concentrates on the development of advanced speaking, writing, reading and listening skills as a preparation to take AP Spanish the following year. The course will focus on intensive communicative skills, both oral and written through exposure to literary works and current events. The course is taught primarily in Spanish.

### **Course 632 SPANISH III (Level 2)**

*Requirements: Students who take this course must have a C+ or better average in Spanish II (622).* While this course is taught primarily in Spanish, the aim is to develop practical speaking, writing, listening and reading skills. A more extensive vocabulary is developed and grammar mastery is stressed. Students will continue to work on oral and reading comprehension as well as improving their conversational and writing skills.

### **Course 633 SPANISH III/APPLICATIONS OF SPANISH (Level 3)**

*Requirements: Students who take this course must have a C- or better average in Spanish II (623).* This course provides an intensive review of the basic grammar and vocabulary from Spanish I and II. Students will continue to develop practical speaking, writing, reading and listening skills.

### **Course 661 HONORS SPANISH IV (Level 1)**

*\*Offered for dual enrollment with Southern New Hampshire University\* Information about the dual enrollment program can be found on the website under Academics, Course Catalog, Dual Enrollment. Requirements: This course is open to students who received the grade of C+ or better in Honors Spanish III (631) and a C+ or better on the final exam or A- or better average in Spanish III (632) and an A- on the final exam.* This course will be conducted in Spanish and will allow students to continue to build on their proficiency in the language while exploring literature, cinema, and current events in the target language and cultures. Emphasis will be placed on oral and written communication with an intense review of grammatical structures.

### **Course 662 SPANISH IV (Level 2)**

*\*Offered for dual enrollment with Southern New Hampshire University\* Information about the dual enrollment program can be found on the website under Academics, Course Catalog, Dual Enrollment. Requirements: Students who take this course must have a C- or better average in Honors Spanish III (631) and a C- or better on the final exam or a C+ or better average in Spanish III (632) and a C+ on the final exam.* This course is conducted in Spanish and provides the student with an intense study of the skills necessary to build fluency in the target language. A review of grammatical structures will enable the student to further their Spanish reading comprehension.

### **Course 646 ADVANCED PLACEMENT SPANISH LANGUAGE (Level A.P.)**

*Requirements: Students applying for this course must have a B+ or better average in Honors Spanish III (Course 631) or Honors Spanish IV (Course 641) and a B+ or better on the final exam. Admission to this course requires the timely and successful completion of a summer assignment.* This college level course prepares the student to take the Advanced Placement Exam in Spanish Language. In-depth work is done in the area of speaking, reading and writing. This intensified study of Spanish stresses auditory and reading comprehension.

### **Course 647 ADVANCED PLACEMENT SPANISH LITERATURE (Level A.P.)**

*Requirements: Students who take this course must have a B- or better average in A.P. Spanish Language (Course 646). Admission to this course requires the timely and successful completion of a summer assignment.* This college level course prepares the student to take the Advanced Placement Exam in Spanish Literature. The AP Spanish Literature course introduces students to the diverse literature written in Spanish and helps them reflect on the many voices and cultures included in Hispanic literature. The works selected for study will expose students to a wide variety of genres and types of discourse and will enable students to trace the history of Spanish prose from Don Juan Manuel to modern times.

### **Course 610 HONORS FRENCH I (Level 1)**

*Requirements: Students will be placed in this course based on their performance on a Central Catholic placement exam.* In Honors French I students will study the language and culture of the French-speaking countries through listening, writing, reading and speaking activities. The course will begin with a review of basic, essential grammar and vocabulary, and then move to introducing more advanced grammar, vocabulary, and communication skills. The goal of this course is to give students a strong foundation in the language and to gain an understanding of different cultures.

### **Course 614 FRENCH I (Level 2)**

In French I students will be introduced to the language and culture of the French-speaking countries through listening, writing, reading and speaking activities. Grammar and vocabulary will be extensively emphasized. The goal of this course is to have students communicate effectively at basic levels and to gain an understanding of cultures in *le monde francophone*.



**Course 625 HONORS FRENCH II (Level 1)**

*Requirements: Students who take this course must have a C+ or better in Honors French I (Course 610) and a C+ on the final exam or an A- or better average in French I (Course 614) and an A- on the final exam.* Expanding on the foundations of French I, students will continue to build their proficiency in the areas of reading, writing, speaking and listening. Extensive and intensive vocabulary and grammar is emphasized, developed and mastered. The goal of the course is to communicate more effectively and in a more sophisticated way in both oral and written French as well as to gain a more in-depth understanding of cultures in *le monde francophone*.

**Course 624 FRENCH II (Level 2)**

French II builds on the grammar, vocabulary, listening, reading and speaking skills developed in French I. The course introduces more complex grammatical structures and emphasizes greater oral proficiency. The goal of the course is to communicate effectively at more advanced levels and to gain a more in-depth understanding of cultures in *le monde francophone*.

**Course 634 HONORS FRENCH III (Level 1)**

*Requirements: Students who take this course must have a C+ or better average in Honors French II (Course 625) and a C+ on the final exam or an A- or better average in French II (Course 624) and an A- on the final exam.* Honors French III is an interactive course that incorporates familiar language with key new grammar points and cultural themes. Students will delve deeper into French culture through theme-based discussions and readings, film, music, and research. Students will be able to understand the language and communicate effectively in a variety of contexts. The class focuses on themes and communication in order to expand students' knowledge of the language and francophone world.

**Course 635 FRENCH III (Level 2)**

*Requirements: Students applying for this course must have a C- or better average in French II.* While this course is taught primarily in French, the aim is to develop practical speaking, writing, reading and listening skills. Students will also further their knowledge of Francophone cultures around the world.

**Course 644 FRENCH IV CONVERSATION (Level 2)**

*Requirements: Students applying for this course must have a C+ or better average in French III.* The course is conducted in French and provides the student with an in-depth and intensified study of the skill of speaking French. . Though emphasis is placed on speaking and communication skills in French, students will review grammatical structures, continue to develop their writing, and read from a number of literary selections. Students' cultural knowledge is expanded.

**Course 648 ADVANCED PLACEMENT FRENCH LANGUAGE (Level A.P.)**

*Requirements: Students applying for this course must have a B or better average in Honors French III (Course 634) and a B or better on the final exam or an A or better in French IV Conversation (Course 644) and an A on the final exam. Admission to this course requires the timely and successful completion of a summer assignment.* The ultimate goal of the course is for students to improve their linguistic proficiency in the four main skills of French language (speaking, listening, writing and reading) while exploring the cultural diversity of *le monde francophone*. Building on and expanding what they already know, students will communicate in written and oral French as spontaneously as possible. Grammar is learned and reviewed in order that student can speak correctly and convincingly. Vocabulary is expanded in order that students can communicate in an increasingly sophisticated way. This college level course prepares the student to take the Advanced Placement Exam in French Language.

# BUSINESS & TECHNOLOGY

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## **Course 762 ACCOUNTING I (Level 2)**

In this course students gain an understanding of the accounting cycle including the reconciliation of statements, preparation of financial statements, checking accounts, Federal tax returns, payroll systems, sales tax, and the formation of corporations. Students will gain practical experience through a simulated business project.

## **Course 760 ACCOUNTING II (Level 2)**

*Requirements: Students must have taken Accounting I.* Students expand their knowledge of business procedures by examining current accounting practices in partnerships, purchase and sales, inventory, payroll, corporations, and the planning and analysis of financial statements. Students will gain practical experience through two simulated business projects. Students will gain practical experience through a simulated business project.

## **Course 765 BUSINESS LAW (Level 2)**

*Requirements: Open to juniors and seniors, this one semester course must be taken in conjunction with Marketing (Course 766).* Students will examine the relationship of law to the citizen, the minor, the consumer and the business community. An overview of law enforcement, contracts, personal property, warranties, employment practices, liability and torts is provided.

## **Course 766 MARKETING (Level 2)**

*Requirements: Open to juniors and seniors, this one semester course must be taken in conjunction with Business Law (Course 765) or Investments 101: Stocks, Bonds, and Mutual Funds (Course 767).* Students will be provided with a general overview of marketing practices. Major areas of study include: pricing, advertising, sales, research, production and distribution strategies.

## **Course 767 INVESTMENTS 101: STOCKS, BONDS, AND MUTUAL FUNDS (Level 2)**

*Requirements: Open to juniors and seniors, this one semester course must be taken in conjunction with Marketing (Course 766.)* Investments 101 explores the application of various financial instruments in investment management. Students will be introduced to the process of deciding when to buy, hold, or sell a common stock and techniques of portfolio performance evaluation. Topics will include bonds, mutual funds, dividends, diversification, and learning how to read and interpret statistical data. Students will participate in a simulated stock market competition to gain practical experience.

## **Course 700 ADVANCED PLACEMENT ECONOMICS (Level AP)**

*Requirements: Open to juniors and seniors. Students must have a B- or better in Algebra II & Trig (Course 332). Students who enroll in this course will be required to take the AP Macroeconomics exam in May.* Economics is the social science concerning how society distributes limited resources. Students will explore the general theories of economics and apply them to microeconomic analysis (dealing with individual decision makers, both producers and consumers) and macroeconomic analysis (dealing with the economic system as a whole).

## **Course 771 HONORS INTRODUCTION TO PERSONAL FINANCE (Level 1)**

*\*Offered for dual enrollment with Syracuse University.\* Information about the dual enrollment program can be found on the website under Academics.* Honors Introduction to Personal Finance is a three-credit Syracuse University Project Advance course that covers essential aspects of consumer personal finance, including record keeping, budgeting, banking, saving, borrowing, investing, insurance, taxes, and retirement planning. The goal is to combine coverage of the important institutional coverage involved with financial planning, taxes, saving, investing, loans of different types, managing credit, and retirement planning with underlying fundamental concepts and issues. Therefore, not only will students be able to make more informed personal finance decisions over their lifetimes, the conceptual basis will help them to better handle a constantly changing financial world.

## **Course 773 HONORS INTRODUCTION TO ENTREPRENEURSHIP (Level 1)**

*\*Offered for dual enrollment with Syracuse University.\* Information about the dual enrollment program can be found on the website under Academics.* Welcome to the entrepreneurial revolution! This introductory course is intended to provide students with a solid foundation in terms of the vital role played by entrepreneurs and entrepreneurship in the 21st century global economy. During this semester, students will assess, explore, critique, and celebrate the phenomenon of entrepreneurship. Entrepreneurship is approached as a way of thinking and acting, as an attitude and a behavior. The emphasis will be on entrepreneurship as a manageable process that can be applied in virtually any organizational setting. Moreover, our interest is in sustainable entrepreneurship or entrepreneurship over the life cycles of people's careers, of organizations as they evolve from start-up enterprise to sizeable corporation, and of societies as they move from undeveloped to post-industrial. However, our principal focus will be on the creation of new ventures, the ways that they come into being, and factors associated with their success. You will be encouraged to develop and defend your own set of conclusions regarding each of these issues. It is also a course that integrates a number of different disciplines, ranging from sociology and psychology to economics, finance, marketing, and human resource management. Further, this course will integrate theory with practice, and students will be challenged to apply principles, concepts and frameworks to real world situations.

**Course 704 TECHNOLOGY EXPLORATION SEMINAR (Level 2)**

*Requirements: This course must be taken by all incoming freshmen.* In a blended learning environment, this project-based course will provide students with an opportunity to explore the different facets of computer science and the impact technology has in today's world while developing proficiency in software applications and iPad apps. This course will meet once over the summer for training and then both face-to face and online during the first semester of freshman year, with the majority of the students' work done online outside of class time. Students will develop critical thinking and problem-solving skills by working both individually and in groups on projects throughout the semester. Potential topics explored include digital ethics, effects of screen time, and careers in technology, digital forensics, cyber security, artificial intelligence, animation and programming. At the completion of the course, students will have developed a digital portfolio demonstrating the understanding of topics as well as proficiency in applications. This one semester blended learning course is instructor-led and provides students with an asynchronous learning environment.

**Course 716 PROBLEM SOLVING WITH PROGRAMMING (Level 2)**

*Requirements: This one-semester course is required for freshmen taking Honors Alg. I & II (course 311) or Hon. Alg. II/Hon Geom. (Course 326) and for sophomores enrolled in Geometry 322.* Problem solving and critical thinking skills are increasingly important in today's college and working environment. This course offers students an opportunity to develop problem solving and critical thinking skills while learning how to code. Starting with block-style coding, then transitioning to traditional event driven programming, students will master the process of defining a problem, breaking it down into a series of smaller problems, and finally writing a computer program.

**Course 717 HONORS ROBOTICS (Level 1)**

*This one semester course is open to seniors, juniors and to freshmen and sophomores who have completed their programming requirement.* Working in teams, students will build fully functioning robots, use motors and sensors to control them and program them using the VEXCode programming language. As they work with the latest in educational robotics, students apply basic principles of algebra and geometry while learning about energy, force, speed, power, simple mechanics, complex mechanisms, coordinate systems and measuring. Using the VEX Robotics building system, students learn the basics of building a robot and then stretch their imaginations to design remote-controlled robots that complete a variety of engineering challenges. Students will also explore the basics of designing and programming autonomous robots.

**Course 730 ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPLES (Level AP)**

*Requirements: This course requires the successful completion of Algebra I.* AP Computer Science Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. With a unique focus on creative problem solving and real-world applications, AP Computer Science Principles prepares students for college and career. This course is organized around the investigation of several fundamental principles essential to future college courses and a variety of computing and STEM (science, technology, engineering, mathematics) careers. Emphasizing these key big ideas helps students build a solid understanding and facility with computing and computational thinking. These integral understandings can be applied in further studies of computer science and provide a pathway for becoming a well educated and informed citizen who understands how computer science impacts people and society.

**Course 740 ADVANCED PLACEMENT COMPUTER SCIENCE A (Level AP)**

*Requirements: A minimum of a B+ or better in Algebra II & Trig. (Course 332). This course also requires approval of the instructor.* This course emphasizes programming methodology with an emphasis on problem solving and algorithm, using the Java programming language. It also includes the study of data structures and abstraction. The goal of this course is to prepare students to take the AP Computer Science A exam.

# FINE & PERFORMING ARTS

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## **Course 810 AN INTRODUCTION TO VISUAL ART (Level 2)**

Open to freshmen enrolled in Level 2 or Level 3 mathematics and sophomores who have completed Programming. This course will fulfill the one semester Fine & Performing Arts requirement. This course is open to students of all artistic levels. Through a variety of exercises and projects, emphasis will be placed on gaining a working knowledge of the basic Elements of Art and Principles of Design. This course integrates conceptual projects intended to enrich individual student's identity and perspectives on their environments. Through an overview of artistic movements and aesthetics students will gain a deeper understanding of the role art plays in our world and be able to utilize this knowledge in the creation of their own work. There will also be emphasis on how the arts encourage and develop critical thinking and creativity in all areas of life.

## **Course 822 VISUAL ART II (Level 2)**

This one semester course is open to sophomores who completed course 810 or 811 and are enrolled in Geometry (Course 323) or to juniors and seniors as a one-semester POP class. Grading will be based upon the student's degree of effort and their willingness to explore new ideas. Course materials will build upon prior knowledge of the Elements of Art and the Principles of Design. Students will be challenged to work independently, explore different perspectives within visual meaning while making and recognizing the importance of intention and experimentation. The range of assignments will allow students to investigate materials and unconventional processes, gain an understanding of alternative perspectives, and develop skills to deconstruct visual culture.

## **Course 846 PHOTOGRAPHY (Level 2)**

*\*Offered for dual enrollment with Southern New Hampshire University\* Information about the dual enrollment program can be found on the website under Academics, Course Catalog, Dual Enrollment. This course is open to juniors and seniors. A fee of \$100.00 for materials is associated with this course. No previous photographic experience is necessary for this course. Film and digital SLR cameras are provided for students. This course introduces students to the history and practice of producing photographic images. This is an introductory course that integrates the study of digital photography and digital editing with an exploration of traditional film photography techniques. First semester will focus on digital photography and the second semester will blend digital and traditional photography. Materials beyond photography may be explored. Students will develop creative thinking and analytical skills necessary for creating aesthetically successful photographs. Emphasis will be placed on developing technical skill through exploratory assignments, references to historical and contemporary uses of photography, lessons on current photographers and experimentation with materials and techniques. Students are encouraged to develop artistic habits and strive for portfolio quality pieces.*

## **Course 848 SCULPTURE & MODELING IN 3D (Level 2)**

*This course is open to juniors and seniors. A fee of \$50.00 for materials is associated with this course. This course will focus on knowledge and the understanding of the Elements of Art and the Principles of Design as they apply to three-dimensional works of art. Students will be challenged to work independently, explore different perspectives within visual meaning making and recognize the importance of intention and experimentation. Students will begin to explore a variety of 3D design materials and techniques including but not limited to: paper mâché, plaster, clay, weaving, carving and other assemblage processes. Students will also begin to explore SketchUp, a 3D modeling application that allows students to create geometric models and renderings such as buildings and interior design objects. Upon completion of this course students will be able to create and display three-dimensional artworks as well as digitally designed three-dimensional environments. This study of art will include contemporary artist research assignments and grading will be based upon the student's degree of effort and willingness to explore new ideas.*

## **Course 853 DRAWING/PAINTING (Level 2)**

*\*Offered for dual enrollment with Southern New Hampshire University.\* Information about the dual enrollment program can be found on the website under Academics. This course is open to juniors and seniors- A fee of \$100 is associated with this course. This course integrates college level studio art practices with a curriculum designed to encompass and promote the interests and identity of the student. Within the first semester, students will focus on basic skills of drawing and painting. In the second semester of the course students will have the opportunity to explore making art that is based upon personal/conceptual ideas and utilize the technical skills from first semester. A review of the Elements and Principles of Design will be included throughout the year within the context of Contemporary Art. Student work will include and be accessed through conceptual, cognitive and creative processes. Students will be encouraged to develop artistic habits and strive for portfolio quality pieces.*

## **Course 851 ADVANCED PLACEMENT STUDIO ART (Level AP)**

*This course is open to juniors and seniors. A fee of \$100 for materials is associated with this course.*

AP Art and Design courses are for all students who are interested in inquiry-based thinking and making. Although there is no prerequisite for AP Art and Design courses, **prior experiences learning about and making art and design are encouraged** to promote student success in AP Art and Design. In this course students create a portfolio of work to demonstrate inquiry through art and design and development of materials, processes, and ideas over the course of a year. Portfolios include works of art and design, process documentation, and written information about the work presented. In May, students submit portfolios for evaluation to the College Board based on specific criteria, which include skillful synthesis of materials, processes, and ideas and sustained investigation through practice, experimentation, and revision, guided by questions. Students must follow the AP College Board guidelines for either a 2D design, 3D design or Drawing portfolio and submit all required materials by the official due date set by the College Board in order to successfully complete this course.

### **Course 850 ADVANCE PLACEMENT ART HISTORY (LEVEL AP)**

*This course is open to juniors and seniors. Students enrolled in this class must take the AP Art History Exam in May. The AP Art History course welcomes students into the global art world to engage with its forms and content as they research, discuss, read, and write about art, artists, art making, and responses to and interpretations of art. By investigating specific course content of 250 works of art characterized by diverse artistic traditions from prehistory to the present, the students develop in-depth, holistic understanding of the history of art from a global perspective. Students learn and apply skills of visual, contextual, and comparative analysis to engage with a variety of art forms, developing understanding of individual works and interconnections across history.*

### **Courses 812 AN INTRODUCTION TO THEATER ARTS (Level 2)**

*Open to freshmen enrolled in Level 2 and Level 3 mathematics and to sophomores who have completed Programming or Music or Visual Art. This one semester course will fulfill the Fine and Performing Arts requirement. This one-semester course introduces students to basic performance techniques through exercises in monologues, scene work, and voice and diction. Students will also analyze dramatic structure, comedy versus tragedy, and theater history through textbook reading, examples from popular plays, musical, sitcoms, and movies, and a hands-on application of the performance techniques. Through a broad study of theater, students have the opportunity to develop skills in ensemble building, trust, self-confidence, focus, imagination and creativity.*

### **Course 829 TECHNICAL PRODUCTION FOR THEATRE (Level 2)**

*Open to freshmen enrolled in Level 2 and Level 3 mathematics and to sophomores who have completed Programming or Music or Visual Art and to juniors as a POP class. This course will fulfill the Fine and Performing Arts requirement. This one-semester course is designed to introduce elements of technical theater including both theoretical and practical hands-on experience of stage design, set construction, lighting design, sound design, properties management, and stage management.*

### **Courses 814 MODERN MUSIC (Level 2)**

*Open to freshmen enrolled in Level 2 and Level 3 mathematics and to sophomores who have completed Programming or Theater or Visual Art. This one semester course will fulfill the Fine and Performing Arts requirement. This one semester course focuses on popular modern music. Modern music teaches students how to compose, perform and improvise various music styles which will include rock, pop, reggae, hip-hop, rhythm & blues and electronic dance music. Students will be introduced to a variety of musical instruments which are common to these genres: guitar, bass, drums, piano and voice. Upon completion of this course students will be able to make music on a variety of instruments.*

### **Course 864 MUSIC THEORY II (Level 2)**

*This one semester course is open to juniors and seniors. This one semester course focuses on popular modern music. Modern music teaches students how to compose, perform and improvise various music styles which will include rock, pop, reggae, hip-hop, rhythm & blues and electronic dance music. Students will be introduced to a variety of musical instruments which are common to these genres: guitar, bass, drums, piano and voice. Upon completion of this course students will be able to make music on a variety of instruments.*

### **Course 860 BAND (Level 2)**

*This one semester course is open to freshmen, sophomores, juniors and seniors and will fulfill the Fine and Performing Arts requirements for freshmen and sophomores. **This course is offered during the school day.** This course is open to students who are interested in learning or becoming more proficient on a brass, woodwind, string or percussion instrument. First time players are encouraged to join. Participants will be encouraged to perform with the band at home football games and concert performances.*

### **Course 880 ADVANCED PLACEMENT MUSIC THEORY (Level AP)**

*Requirements: Students who apply for this course must have taken a previous Music Theory course, taken private lessons outside of school and/or participated in a school music ensemble. Admission to this course requires teacher approval and the timely and successful completion of a summer assignment. Advanced Placement Music Theory builds upon basic theory knowledge acquired in Introduction to Keyboarding/Music Theory, Band, Orchestra or Chorus. This is a rigorous music theory course that explores not only the fundamental elements of music, but the structural and compositional elements of music. Students will advance their understanding of music through harmonic analysis and composition while developing aural skills through sight singing, melodic and harmonic dictations. This course prepares students for the Advanced Placement Music Theory exam.*

## **FINE & PERFORMING ARTS - COCURRICULAR PROGRAMS**

### **Course 890 BAND (Level 2)**

*This course is open to all students and meets three days a week (Mondays, Thursdays, and Fridays from 7:00-7:55 a.m.). Students who enroll in and successfully complete the course will be awarded .5 academic credits. A special sign-up process is required for this course. Led by a performing musician and experienced band director, the concert, jazz, and pep bands at CCHS invite students of all musical abilities to participate in the program. Students will be graded on attendance, occasional playing tests, rehearsal participation, and self-critiques. The bands perform at two concerts during the school year, as well as home football games and graduation. Subsidies are available for the rental of instruments.*

### **Course 903 CONCERT CHOIR (Level 2)**

*This course is open to all students and meets after school one day a week, for two hours. Students who enroll in and successfully complete the course will be awarded .5 academic credits. A special sign-up process is required for this course. Led by a professional musician and experienced chorus director, the concert choir teaches well-rounded musicianship skills including music theory, sight-singing, healthy vocal technique, and a repertoire that encompasses music in various languages from a range of genres, time periods, and geographical locations. The concert choir presents two concerts during the school year.*

### **Course 872 YEARBOOK (Level 2)**

*This course is open to all students and meets two days a week (Tuesdays and Thursdays from 7:00-7:55 AM). Students who enroll in and successfully complete the course will be awarded .5 academic credits. Students enrolled in this class will be responsible for designing and producing *The Florentian*, Central Catholic's yearbook. Students will use *Josten's* online yearbook program to plan and create spreads to document student life throughout the year, using image and text to chronicle special events, clubs & activities and athletics. Other responsibilities will include conducting interviews, gathering data, writing articles, meeting deadlines and working as a team to produce a cohesive book with a unifying theme. Students will be expected to go to school events and work as a photographer representing Central Catholic, as well as one afternoon meeting each month with the publishing company representative.*

# HEALTH & PHYSICAL EDUCATION

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## **Course 912 HEALTH & WELLNESS (Level 2)**

*Health & Wellness is a required course for freshmen that will meet 5 times per cycle for one semester.* Health & Wellness combines elements of Health Education and Physical Education to guide the behavioral momentum of the student towards a healthy and productive life, provides instruction and strategies to help the student evaluate information in making responsible choices and allows the student to develop an appreciation of their individual emotional and physical wellbeing along with the ability to work cooperatively with others through participation in Project Adventure based modules and team sports/activities which emphasizes teamwork and problem solving skills.

## **Course 924 PHYSICAL EDUCATION FOR SOPHOMORES (Level 4)**

Physical education is a required one semester course for sophomores that will meet 3 times per cycle. Sophomores who participated in one or more interscholastic sports in freshmen year, as verified by the athletic director's office, may opt out of course 924. In this course students will participate in a curriculum which allows them to experience a variety of cardiovascular and fitness related activities. Activities will concentrate on the development of cardiovascular fitness, strength and flexibility along with team building skills through participation in both individual and team based sports activities.

## **Course 945 STRENGTH & FITNESS FOR LIFE (Level 4)**

*An elective one-semester course, for juniors and seniors, this class will meet 2 days per seven-day cycle.* This course is designed for students that want to improve their overall strength and fitness through basic application of muscular strength and endurance training. Students will learn how to apply measurable goals, fitness logs, appropriate nutrition, personal fitness plans, and knowledge of proper technique to become more successful athletes and lifelong physically active people. The course is designed to guide and improve any student who is looking to achieve and maintain a health enhancing level of physical fitness.

## **Course 946 INTRODUCTION TO SPORTS MEDICINE (Level 4)**

*An elective one-semester course, for juniors and seniors, this class will meet 3 days per seven-day cycle.* Sports Medicine is recommended for a student who is interested in a career in health care or a sports related field such as athletic training, coaching, nursing, or physical therapy. Topics will include: The organization and administration of a Sports Medicine Team, injury prevention and treatments, rehabilitation, emergency injury management, injury assessment and evaluation, CPR/blood borne pathogens, basic taping and bandaging, therapeutic modalities and exercise rehabilitation. Students enrolled in this class will have the option of working as a student athletic trainer.

## **Course 947 CPR - FIRST AID – FAST (FIRST AID FOR SEVERE TRAUMA) TRAINING (Level 4)**

*An elective one-semester course, for juniors and seniors, this class will meet 1 day per seven-day cycle.* Students who wish to receive Red Cross certification must pass all Red Cross written and practical examinations. After successful completion of all Red Cross exams students will receive certification in CPR, Basic First Aid and a FAST certification. Central Catholic's commitment to the health and wellness of its community is reinforced by this course in Cardiopulmonary Resuscitation, Basic First Aid and First Aid for Severe Trauma. This course requires a certification fee that is paid to the American Red Cross.