

Course Catalog
2018-2019





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REQUIREMENTS FOR FONTBONNE HALL

REGENTS DIPLOMA

Religious Studies	4 units	
English	4 units	plus the English Language Arts (CC) Regents Examination
Social Studies	4 units	plus the Global History & Geography Regents Examination plus the United States History & Government Regents Examination
Mathematics	3 units	plus the Algebra I (CC) Regents Examination
Science	3 units	plus one Regents Examination in Science
World Language	3 units	
Fine Arts	1 unit	
Health	½ unit	
Physical Education	2 units	
Elective Courses	5 units	

ADVANCED REGENTS DIPLOMA

Religion	4 units	
English	4 units	plus the English Language Arts (CC) Regents Examination
Social Studies	4 units	plus the Global History & Geography Regents Examination plus the United States History & Government Regents Examination
Mathematics	3 units	plus the Algebra I (CC) Regents Examination plus the Geometry (CC) Regents Examination plus the Algebra 2 (CC) Regents Examination
Science	3 units	plus the Living Environment Regents Examination plus at least one Regents Examination in: <ul style="list-style-type: none"> • Physical Setting: Chemistry • Physical Setting: Earth Science • Physical Setting: Physics
World Language	3 units	plus the Alternate World Language Examination
Fine Arts	1 unit	
Health	½ unit	
Physical Education	2 units	
Elective Courses	5 units	

Available starting with the Class of 2020:

STEM DIPLOMA

All requirements for Regents or Advanced Regents Diploma **plus**

Mathematics	1 additional unit
Science	1 additional unit
<i>Computer Science Concentration</i>	Computer Science I and Computer Science II, (beginning in 10 th or 11 th grade)
<i>Science Research Concentration</i>	Science Research, Intermediate Science Research, and Advanced Science Research, (beginning in 10 th grade)
<i>Engineering Concentration</i>	Brown Engineering, Engineering Capstone I, and Engineering Capstone II, (beginning in 10 th grade)

HONORS STEM DIPLOMA

All requirements for Regents or Advanced Regents Diploma **plus**

Mathematics	1 additional unit, (all units at Honors or AP level)
Science	1 additional unit, (3 units at Honors level)
<i>Computer Science Concentration</i>	Computer Science I and Computer Science II, (beginning in 10 th or 11 th grade)
<i>Science Research Concentration</i>	Science Research, Intermediate Science Research, and Advanced Science Research, (beginning in 10 th grade)
<i>Engineering Concentration</i>	Brown Engineering, Engineering Capstone I, and Engineering Capstone II, (beginning in 10 th grade)

ADVANCED STEM DIPLOMA

All requirements for Regents or Advanced Regents Diploma **plus**

Mathematics	1 additional unit, (3 units at Honors or AP level)
Science	1 additional unit, (3 units at AP level)
<i>Computer Science Concentration</i>	Computer Science I and Computer Science II, (beginning in 10 th or 11 th grade)
<i>Science Research Concentration</i>	Science Research, Intermediate Science Research, and Advanced Science Research, (beginning in 10 th grade)
<i>Engineering Concentration</i>	Brown Engineering, Engineering Capstone I, and Engineering Capstone II, (beginning in 10 th grade)

REQUIREMENTS BY GRADE LEVEL

<p style="text-align: center;"><u>9th grade</u></p> Religion – 1 unit English – 1 unit Social Studies – 1 unit Mathematics – 1 unit Science – 1 unit World Language – 1 unit Fine Arts – 1 unit Physical Education – ½ unit Total – 7½ units	<p style="text-align: center;"><u>10th grade</u></p> Religion – 1 unit English – 1 unit Social Studies – 1 unit Mathematics – 1 unit Science – 1 unit World Language – 1½ unit Elective Courses – minimum of ½ unit Physical Education – ½ unit Total – minimum of 7½ units
<p style="text-align: center;"><u>11th grade</u></p> Religion – 1 unit English – 1 unit Social Studies – 1 unit Mathematics – 1 unit Science – 1 unit World Language – 1 unit Health – ½ unit Elective Courses – minimum of ½ unit Physical Education – ½ unit Total – minimum of 7½ units	<p style="text-align: center;"><u>12th Grade</u></p> Religion – 1 unit English – 1 unit Social Studies – 1 unit Elective Courses – minimum of 4 units Physical Education – ½ unit Total – minimum of 7½ units

AP Capstone Program

AP Capstone is a 2-year sequence of courses designed to allow students to immerse themselves in topics that matter to them, while they develop the analytic, research, problem-solving, and communication skills that colleges seek in their applicants. This sequence of courses equips students with the independent research, collaborative teamwork, and communication skills that are increasingly valued by colleges. It cultivates curious, independent, and collaborative scholars and prepares them to make logical, evidence-based decisions.

Students who earn scores of 3 or higher in AP Seminar and AP Research will be given a certificate. If, in addition, a student scores 3 or higher on four additional AP exams, she will earn an AP Capstone diploma.

The A.P. Exam is mandatory for each course during the May AP Exam period in the year that the course is taken.

AP Seminar

Grade 10 or 11

091

In this course, students investigate real-world topics from multiple perspectives; carefully analyze information, write evidence-based arguments, and effectively communicate them; work independently and with a team to research a topic, develop a written report and deliver a presentation. In addition to the mandatory AP exam, students are also evaluated based on a team project and presentation, and individual essay and presentation. This is the first year of a two-year sequence, and **an application is required**.

AP Research

Grade 12

092

In this course, students build on the skills developed in AP Seminar to design, plan, and conduct a year-long mentored, research-based investigation; apply research methods and practices to address a real-world topic selected by the student; write a college-level research paper; present and orally defend research findings and methodology. In lieu of an AP exam, students are evaluated on an academic paper, presentation, and oral defense. This is the second year of a two-year sequence.

Prerequisite: AP Seminar

College Bridge Programs

St. John's University College Advantage Program

St. John's provides qualifying high school juniors and seniors with the opportunity to enroll concurrently in high school and credit bearing St. John's courses at a cost of \$325 per course.

Eligibility Requirements

12th Grade:

- A minimum cumulative average of 80 in each of the five major subjects including English, World Language, Mathematics, Science, and Social Studies.
- A combined Math and Critical Reading SAT score of 1000, or a minimum ACT score of 23.

11th Grade:

- A minimum cumulative average of 85 in each of the five major subjects including English, World Language, Mathematics, Science, and Social Studies.
- A combined Math and Critical Reading P/SAT score of 100/1000, or a minimum ACT score of 23.
-

Eligible Courses*

Calculus	Religion 12
Pre-Calculus Honors	Anatomy & Physiology
Italian 4	Forensics
Spanish 4	AP Chemistry
AP Biology	English 12

*Subject to Change

St. Francis College

Eligible Courses

English 12
Introduction to Business
Entrepreneurship (*Prerequisite is Intro to Business*)

St. Joseph's College SJC@FHA

This is an accelerated pre-college program hybrid primarily for those students who are interested in pursuing a career in Child Study. Students must have a minimum cumulative average of 80.

Eligible Courses for SJC@FHA Child Study Path*

Introduction to Child Development
English 12
Pre-Calculus Honors
AP Calculus
AP United States History
Level 4 Adv Span Conv & Cult

*Subject to Change

College Advisement and Student Support Services

The goal of the College Advisement and Student Support Services office is to assist our students in having the most successful and rewarding school experience, academically, socially, and spiritually.

This role supports our belief that a well-rounded education encourages academic curiosity, personal creativity, intellectual risk-taking and cultural awareness, leading to a spirit of lifelong learning. The department respects the individuality of each student, while attempting to help the student understand and use her intellect and talents.

In collaboration with teachers, parents and the community, we offer academic counseling in all grade levels to enhance the ability of the students to identify and utilize the appropriate resources and course selections needed for academic success.

Personal counseling is also available either by teacher or parent referral, or by interest of the individual student.

English Department

English 9

Grade 9

110

English 9 is a ninth-year course which stresses the development of reading, writing, speech, vocabulary and listening/note taking skills. Students are introduced to, and practice, essay writing. Basic literary analysis and elementary research methods are introduced. Preparation for the ELA Common Core Regents exam is an important part of the course.

Credit: 1

English 9 Honors

Grade 9

115

This course is an advanced ninth-year course. This is a rigorously paced class that focuses on evidence-based responses in MLA format, connecting literature to society, and close analysis of literary works. Students should demonstrate advanced analytical reasoning and excellent writing skills. Admission is based on TACHS scores, elementary/intermediate school records, and a placement exam administered by the English Department.

Credit: 1

English 10

Grade 10

120

English 10 is a tenth-year course which stresses further development of the language skills introduced in English 9. Special emphasis is placed on reading comprehension and literary appreciation. This year-long course will also include the continued development of the research paper. Preparation for the ELA Common Core Regents, PSAT and the SAT are included.

Credit: 1

English 10 Honors

Grade 10

125

This is an advanced tenth-year course. This rigorously paced class focuses on more advanced writing techniques and adheres to MLA format. Students should be able to independently develop ideas and make connections within the texts. This class will cover more difficult topics than English 9 Honors. This class is comprised of students who have demonstrated excellent language skills, analytical skills, and a love of reading.

Prerequisite: Teacher recommendation.

Credit: 1

English 11

Grade 11

130

This full-year course focuses on the various genres encompassed in American literature. Each unit of work features writing by American authors in line with historical events covered in U.S. History. Further development of the skills taught in Grades 9 and 10 continue and PSAT, SAT and Regents preparation are taught in preparation for the ELA Common Core exam, which is mandatory.

Credit: 1

Advanced Placement English Language and Composition

Grade 11

147

This year-long course prepares the student to take the Advanced Placement test in English given in May of each year. This exam tests both writing ability and knowledge of various rhetorical modes. Students study how a writer's choice of words, sentence length, sentence structure, and other elements affect his or her style. The student's fluency in a variety of different writing modes will be expected.

The A.P. Exam and the ELA Common Core Regents Exam are mandatory.

Prerequisite: Teacher recommendation.

Credit: 1

English 12**Grade 12****142**

This is a survey course focusing on traditional and non-traditional genres of Western literature, as well as writing as a multi-step process. Students write papers of literary analysis, engage in discussions of literary works, and prepare for collegiate level academic discourse. Particular attention will be paid to examining the structure and methods authors use in their arguments. Students will be exposed to various styles of conversations and ways to appropriately respond with college-level writing and analysis.

Qualifying students may take this course for St. John's University and Saint Francis College credit. Students pursuing the St. Joseph's College Child Study Pathway can take this class for college credit.

Credit: 1

Advanced Placement English Literature and Composition**Grade 12****146**

This year-long course prepares the student to take the Advanced Placement test in English given in May of each year. To this end, the students study many representative works of proven literary worth from several genres and periods. In addition, they concentrate on concise and effective use of language in their written assignments.

The AP Exam is mandatory.

Prerequisite: Teacher recommendation.

Credit: 1

Print Journalism**Grade 11 or 12****150**

The focus of the class will be on the fundamental basics of Print Journalism. The course will cover the history of journalism, the fundamentals of AP style, the fundamentals of journalistic writing, the fundamentals of photo composition, and design basics. Students must write for *the Folio* as part of their grade.

Credit: 1

Broadcast Journalism**Grade 12****151**

Building on their Print Journalism foundation, students in this class will develop skills in news writing, videography, editing, and visual storytelling. Through hands-on experience in our Broadcast Journalism studio, students will create video content to stream online.

Prerequisite: Print Journalism.

Credit: 1

Film Editing**Grades 11, 12****152**

Students in this course will focus on using Final Cut Pro X editing software to develop hands-on skills in importing media and creating projects. Basic and advanced editing concepts will be taught. Students will focus on continuity, sound alteration/manipulation, picture management, color correction, utilizing graphic elements, and introductory special effects.

Credit: 0.5

Fine and Practical Arts Department

Art

Visual Perception

Grade 9

610

This is a one-year course which offers the student an opportunity to increase perception and awareness in art. The foundations of Visual Art and Art History will be studied. The development of art and art movements will be illustrated and related visual assignments will be part of studio study.

Approximate Cost: \$50

Credit: ½

Major Art 1

Grade 10

620

Major Art 1 is a second year course that provides an opportunity for students to expand on the drawing and painting concepts introduced in Visual Perception. Emphasis is placed on experiences with design principles, drawing techniques, and painting skills leading to the development of abilities that are necessary for advanced art courses. Design fields in the art world, including fashion and architecture, are covered. Students are given more in-depth problems to solve creatively while becoming more adept through a broad exposure to various media. Careful and accurate perception of form, space, and construction are stressed as well as the unique vision and originality of each student.

Prerequisite: Minimum average of 90 in Visual Perception; Portfolio of 5-10 works; Departmental Approval

Approximate Cost: \$150

Credit: 1

Major Art 2

Grade 11

630

Major Art 2 is an upper level course designed for the student who wishes to further develop skills and techniques that were introduced in previous art courses. Advanced drawing and painting techniques will be covered including the human face and proportion; anatomy will be a major area of exploration. Students will be continually encouraged to expand their creative ideas as well as their technical potential. This course will approach drawing and painting utilizing various techniques and materials. This is a desirable course for any student wishing to develop a portfolio for college. It is expected for any student intending to enroll in Major Art 3 to successfully complete this course.

Prerequisite: Minimum average of 90 in Major Art 1; Portfolio of 5-10 works; Departmental Approval

Approximate Cost: \$150

Credit: 1

Major Art 3

Grade 12

640

This course is offered to seniors who wish to develop a professional art portfolio for college admission. This is a fast-paced course designed to hone in on the strong technical skill set students have developed in their previous art courses. Students will use their skills creatively and explore personal styles as they develop a portfolio of work that represents their unique artistic vision. Experimentation is strongly encouraged, as is strong technique, craft, and attention to detail. This course will further explore more unique, personal, and conceptual approaches in order to generate projects that use traditional and experimental approaches. Students will have the opportunity to experiment within each project.

Prerequisite: Minimum average of 90 in Major Art 2, and a portfolio of 10 Major Art pieces.

Approximate Cost: \$150

Credit: 1

Photography & Media Arts 1**Grade 11 and 12****642**

This year long course is designed to offer students a variety of technical and creative skills in photography and media arts. In this art course, students will learn how to use a digital camera, as well as the basics of Adobe Photoshop and Adobe Illustrator. The elements and principles of design as they relate to photograph composition and graphic design are emphasized. Topics include: basic and experimental techniques, digital manipulation and how to incorporate traditional art media. Students will also study significant photographers and graphic artists in history. Students will examine images critically through weekly critiques. Professional display of photographs and media art using mats and frames will be expected for the final portfolio at the end of the year.

Prerequisite: Visual Perception.

Approximate Cost: \$120 for Adobe Photoshop plus \$100 Lab Fee

Each student must have her own digital single lens reflex camera.

Credit: 1

Photography & Media Arts 2**Grade 12****643**

Students in this class will build proficiency in photo editing programs. Portfolios of personal projects and assigned projects will be evaluated quarterly to further each student's artistic practice. Students will create artworks focusing on social justice, cultural issues, identity development and exploration. Students will be expected to take photographs outside of school on a regular basis.

Prerequisite: Average of 90+ in Photography and Media Arts 1; DSLR camera, foundational knowledge of aperture, shutter, and ISO; completion of summer assignment

Credit: 1

Computer Science

Computer Science I

Grade 9, 10, 11

808

This course will provide you with a foundation into the basics of writing a computer program. As a project-based class, you will explore the different areas of programming including but not limited to the following: Code writing Syntax and Format, Mathematical Modeling, Graphic Design and Animation. The class culminates in a final project that is student-defined.

Credit: $\frac{1}{2}$

Computer Science II

Grade 10, 11, 12

809

This course will provide you with a further application of programming as well as more complicated tasks. Programming will be done with C++ and include the following topics: Basic Functions, Abstract Functions and The Standard Library.

Prerequisite: Computer Science I

Credit: 1

Dance/Performing Arts

Dance 1

Grade 10

615

Students are introduced to a variety of dance techniques and genres, including several folkloric dances. At this level, classes focus on dance technique and performance, body awareness, dance history, studies of choreographers, guided improvisation, intermediate choreography, elements of dance, and dance critique and analysis. Students are required to keep a journal documenting their learning throughout the year. Dance classes require the student to be dressed appropriately for dance and participation is essential to the fulfillment and completion of this the course.

This class requires students begin school at 7:45 a.m. two to three times per week.

Credit: ½

Dance 2

Grade 11, 12

625

This beginner course is an introduction to the fundamentals of Jazz, Ballet, and Modern In each dance class; students will be expected to participate in warm-ups, across the floor progressions, choreography, and review. This course will culminate in a spring concert performance. Dance classes require the student to be dressed appropriately for dance and participation is essential to the fulfillment and completion of this the course.

Prerequisite: Dance 1

This class requires students begin school at 7:45 a.m. two to three times per week.

Credit: ½

Health

Health

Grade 11

433

This course is aimed at making health personally and socially relevant to the student. Basic health principles are taught in the areas of substance abuse and sexuality. The student examines her own values and is given skills for intelligent decision-making. In following with the New York State guidelines, hand-only CPR is also taught. **This class is required for 11th graders.**

Credit: ½

First Aid and CPR

Grade 11, 12

420

Students will learn American Heart Association basic lifesaving and First Aid resulting in certification. The course will meet once each cycle for a semester. Class size will be limited to 18 students.

Credit: 0

Music

Music Appreciation

Grade 9

655

This course exposes students to music from the Middle Ages to the present, familiarizing them with diverse styles that have developed Western music over the centuries, and provides a basic grounding in the elements of music: melody, harmony, rhythm, notation, and instrumentation. Students will increase their awareness of and appreciation for various musical styles through listening, studying, and where appropriate, viewing performances of great works.

Credit: ½

Vocal Ensemble

Grade 10, 11, 12

670

This course is for anyone who enjoys singing and wishes to improve her overall musical skills. Proper vocal technique is emphasized, including correct diction, vowel placement, proper breathing, ear-training (singing in harmony with accurate pitch), and confident independent singing. Students will work to advance and improve the basic music-reading skills they learned in Music Appreciation through sight-reading exercises and the rehearsal and performance of unison and two-part choral music. A major component of the grade will be performing music spanning a variety of styles in Christmas and Spring Concerts, and mandatory after school rehearsals will be held prior to each concert.

Prerequisite: Music Appreciation; Audition.

Credit: 1

Select Chorus

Grade 10, 11, 12

672

This course is for students with advanced musical abilities and previous choral experience. Students will work to advance and improve their music-making skills through sight-reading exercises and the rehearsal, memorization, and performance of three- and four-part choral music. Attention to detail is emphasized, and all ink on the page of the score will be rendered. A major component of the grade will be performing music spanning a variety of styles in Christmas and Spring Concerts, and mandatory after school rehearsals will be held prior to each concert.

Prerequisite: Music Appreciation; Audition.

Credit: 1

Advanced Music Studies

Grade 10, 11, 12

675

This course is intended to prepare students for musical activities after graduation, be they in a collegiate course of study or extracurricular. The major musical eras of Western civilization, (Medieval, Renaissance, Baroque, Classical, Romantic, and Modern) are examined, as are representative composers of each era. Students will work to advance and improve the basic music-reading skills they learned in Music Appreciation. Over the course of the year, they will also be required to attend and report on live music events, each significantly different in style and instrumentation.

Credit: ½

Physical Education

Physical Education 9

Grade 9

710

This course is designed to give each student an exposure to different sports. The year begins with conditioning. The class then moves on to beginning volleyball, and basic tumbling. The students will then learn soccer and participate in lead-up games. Basic self-defense techniques will be presented.

Credit: ½

Physical Education 10

Grade 10

720

In Physical Education the students will learn cooperative games, basketball and badminton.

Credit: ½

Physical Education 11

Grade 11

730

The students will start the year with cardiovascular activities. The students will learn two hand touch, folk and square dances as well as New York City Street Games.

Credit: ½

Physical Education 12

Grade 12

740

Students will learn fitness and nutrition. This will be followed by aerobics. The year will culminate with the fundamentals of social dance.

Credit: ½

Leaders in Physical Education

Grade 12

741

This course is for those students who in the opinion of the instructors have the ability and knowledge to assist in Physical Education 9 and 10 classes. The leaders are taught how to write a lesson plan, officiate various sports and to lead group activities if and when requested to do so. These students are to set an example for Physical Education classes as well as for the rest of the school in appearance, manner and decorum.

Prerequisite: By teacher invitation only.

Credit: ½

Mathematics Department

Algebra I

Grade 9

518

This course follows the New York State Syllabus for Algebra I and includes topics such as relationships between quantities and reasoning with equations and their graphs, descriptive statistics, linear and exponential functions, polynomial and quadratic expressions, equations and functions, and a synthesis of modeling with equations. The Algebra 1 (Common Core) Regents Examination will be taken in June.

Credit: 1

Algebra I Honors

Grade 9

519

This course follows the New York State Syllabus for Algebra I and includes topics such as relationships between quantities and reasoning with equations and their graphs, descriptive statistics, linear and exponential functions, polynomial and quadratic expressions, equations and functions, and a synthesis of modeling with equations. This course will be taught at an accelerated pace with emphasis on challenging problems. The Algebra 1 (Common Core) Regents Examination will be taken in June. Admission is based on TACHS scores, elementary/intermediate school records, and a placement exam administered by the Mathematics Department.

Credit: 1

Geometry

Grade 10

524

This course follows the New York State Syllabus for Geometry and includes topics on congruence in terms of rigid motions, similarity, proving geometric theorems, making geometric constructions, problems involving trigonometric ratios, coordinate geometry proofs, circles, and applying geometric concepts in modeling situations. The Geometry (Common Core) Regents Examination will be taken in June.

Credit: 1

Geometry Honors

Grade 9, 10

526

This course follows the New York State Syllabus for Geometry and includes topics on congruence in terms of rigid motions, similarity, proving geometric theorems, making geometric constructions, problems involving trigonometric ratios, coordinate geometry proofs, circles, and applying geometric concepts in modeling situations. This course will be taught at an accelerated pace with emphasis on challenging problems. The Geometry (Common Core) Regents Examination will be taken in June.

Prerequisite: Teacher recommendation.

Credit: 1

Algebra 2

Grade 10, 11

531

This course follows the New York State Syllabus for Algebra 2 and includes topics in functions, probability, statistics, logarithms, and trigonometry. The Algebra 2 (Common Core) Regents Examination will be taken in June.

Credit: 1

Algebra 2 Honors

Grade 10, 11

541

This course follows the New York State Syllabus for Algebra 2 and includes topics in functions, probability, statistics, logarithms, and trigonometry. This course will be taught at an accelerated pace with emphasis on challenging problems. The Algebra 2 (Common Core) Regents Examination will be taken in June.

Prerequisite: Teacher recommendation.

Credit: 1

Pre-Calculus**Grade 11, 12****535**

Topics in this course will include linear relations and functions, linear programming, theory of equations, matrices, the circular functions and trigonometry, sequences and series, polar coordinates and graphs of polar equations, limits, the natural logarithm, and conics. This course will prepare the student for a first course in Calculus. A summer assignment is to be completed and submitted on the first day of class.

Qualifying students may take the first semester of this course for St. John's University credit.

Prerequisite: Algebra 2 (Common Core) Regents and teacher recommendation.

Credit: 1

Pre-Calculus Honors**Grade 11, 12****548**

Topics in this course will include linear relations and functions, linear programming, theory of equations, matrices, the circular functions and trigonometry, sequences and series, polar coordinates and graphs of polar equations, limits, the natural logarithm, and conics. This course will prepare the student for a first course in Calculus and will be taught at an accelerated pace with emphasis on challenging problems. A summer assignment is to be completed and submitted on the first day of class.

Qualifying students may take the first semester of this course for St. John's University credit.

Students pursuing the St. Joseph's College Child Study Pathway can take this class for college credit.

Prerequisite: Algebra 2 (Common Core) Regents and teacher recommendation.

Credit: 1

College Algebra**Grade 12****541**

This course is a functional approach to Algebra. Emphasis will be placed on the study of functions and their graphs; inequalities, linear, quadratic, piece-wise defined, rational, polynomial, and exponential; an exploration of matrices and linear programming will also be pursued.

Prerequisite: Algebra 2 and teacher recommendation.

Credit: 1

Advanced Placement Calculus AB**Grade 11, 12****543**

This is a critical analysis of the theories and foundations of Calculus. Topics include the basic concepts and applications of limits and functions, differentiation and integration. The object of this course is to give exceptional math students the opportunity to study college Calculus while still in high school. A summer assignment is to be completed and submitted on the first day of class.

The A.P. Exam is mandatory.

Qualifying students may take this course for St. John's University credit.

Students pursuing the St. Joseph's College Child Study Pathway can take this class for college credit.

Prerequisite: Algebra 2 Honors or Pre-Calculus Honors and teacher recommendation.

Credit: 1

Advanced Placement Calculus BC**Grade 12****544**

This course builds on the foundation built in AP Calculus AB. Topics include a more in-depth look at topics from AP Calculus AB as well as infinite series and polar, parametric, and vector-valued functions.

The A.P. Exam is mandatory.

Prerequisite: AP Calculus AB.

Credit: 1

Advanced Placement Statistics

Grade 12

545

A two-semester distance learning course which follows the AP Statistics syllabus. The AP exam in May is required. Access to a computer outside of school is highly recommended.

Cost - \$350

The A.P. Exam is mandatory.

Prerequisite: Departmental approval.

Credit: 1

Religious Studies Department

Religion 9

Grade 9

015

This is a full year course which includes:

Hebrew Scriptures – Quarter I and II

The students will be instructed in methods of bible study and key themes in the major books of the Hebrew Scriptures.

Christian Scriptures – Quarter III and IV

The students will be introduced to the New Testament, focusing on the gospels. Key themes in the preaching of Jesus will be considered in detail. The seven sacraments will be considered in relationship to the biblical preaching and contemporary issues.

Credit: 1

Religion 10

Grade 10

020

This is a full year course that teaches:

Life in Christ – Quarter I and Quarter II

Jesus reveals how we should live and is the model of Christian life. In our study of personal morality we will explore the dignity of the human person, the ethical teachings of Christ, and, with the help of Scripture and Tradition, the student will learn a workable method of approaching personal moral decisions.

Life in Christ – Quarter III and Quarter IV

“How do I live as a Beatitude Person in a world filled with many voices clamoring for my attention?” This will be the focus of social morality. By our nature, we are social beings and are linked to the rest of humanity; we will be held accountable not only for the things we have done, but also for the things we failed to do for others – particularly the marginalized. Since morality is not just about us, but is about society as well, students will stay current on pressing moral topics and ethical issues of the day and will be able to critically formulate and intelligently express their positions on a multiplicity of moral, ethical, religious, political and social justice issues.

Credit: 1

Religion 11

Grade 11

030

Social Justice – Quarter I, II, III

This course explores the social dimension of Christian faith. Students will explore the essential characteristics of a Catholic vision of social justice. Through social analysis and theological reflection they will explore the Christian challenge to truly live gospel values. The course culminates in a project that integrates their service work done throughout the year and with their critical reflection on the demands of the gospel.

Credit: 1

This is a full year course that teaches:

Jesus in Christian Faith – Quarter I and II

All religious language is an attempt to articulate our experience of our human limits, our sorrows and our joys. The goal of this course is to consider three fundamental human questions: Who am I? Where did I come from? Where am I going? The life and teachings of Jesus are considered in the light of his answers to these fundamental questions. The course will provide an introduction to Christianity highlighting scripture, creedal statements, rites, theological writings, artistic expressions, and other discourses manifesting and expressing the Christian faith in its various traditions throughout its two thousand year development.

Building Loving Relationships – Quarter III and IV

The goal of this course is to consider love as the heart of all human experience. The foundation of our vision of love is the New Testament vision of Jesus and the interpretation of that vision in the history of Christian life and thought. Contemporary questions related to our loving relationships will be viewed through these dual perspectives.

Qualifying students may take this course for St. John's University credit.

Credit: 1

Religion in Cinema

Cinema offers a unique artistic insight into humanity's deepest hopes and concerns. The goal of this course is to look at a selection of representative films which offer valuable insights into critical elements of Catholic faith. Students selecting this course must be committed to significant independent research including watching one film each cycle as well as preparing three major collaborative presentations each quarter related to these assigned films.

Co-requisite: Religion 11 or Religion 12

Credit: ½

Science Department

PEaAPS (Practical Engineering and Advanced Physical Science) **Grade 9** **470**

This course focuses on an introduction to Chemistry and Physics with applications to Engineering where feasible. It provides students with a hands-on approach to understanding scientific principles and the scientific method. Students will be actively engaged in solving problems, formulating hypotheses, gathering data and analyzing data to form conclusions about experimental objectives.

Credit: 1

PEaAPS Honors **Grade 9** **472**

This course focuses on an introduction to Chemistry, Physics, and the Geological Sciences with applications to Engineering where feasible. It provides students with a hands-on approach to understanding scientific principles and the scientific method. Students will be actively engaged in solving problems, formulating hypotheses, gathering data and analyzing data to form conclusions about experimental objectives. Admission is based on TACHS scores and elementary or intermediate school records.

Credit: 1

Living Environment **Grade 10** **425**

This course concentrates on the Living Environment curriculum which examines the interaction of species with the environment at the ecological level and the study of Modern Genetics. Scientific inquiry and laboratory experiences are central to this course.

Credit: 1

Biology Honors **Grade 10** **428**

This course approaches the Living Environment curriculum at a more advanced level, preparing the students for both the Living Environment Regents and the SAT II in Biology. SAT II in Biology is mandatory.

Pre-requisite: Teacher recommendation

Credit: 1

Chemistry **Grade 10, 11, 12** **430**

Chemistry is the quantitative and qualitative study of matter and energy. Included is an overview of kinetics, atomic theory, organic chemistry and modern applications. This course follows the New York State Regents syllabus and incorporates required laboratory exercises. Students will take the NYS Regents examination in Physical Setting/Chemistry in June.

Prerequisite: Living Environment Regents Exam

Credit: 1

Chemistry Honors **Grade 10, 11, 12** **438**

This advanced chemistry course focuses on the quantitative and qualitative study of matter and energy. Included is an in-depth study of kinetics, atomic theory, organic chemistry, and modern applications. This course follows the New York State Regents syllabus and incorporates laboratory exercises. In addition to taking the NYS Regents examination, students will be encouraged to take the SAT II in Chemistry.

Pre-requisite: Living Environment Regents Exam and teacher recommendation

Credit: 1

Physics**Grade 11, 12****440**

This course presents a modern view of physics with a concentration on fundamental theories and laboratory investigations. The Physics program covers the following areas: mechanics, wave phenomena, electricity, magnetism, solid state physics, and atomic and nuclear physics. This course follows the New York State Syllabus and allows for Regents credit through the Regents examination and required laboratory exercises.

Co-requisite: Students must concurrently take Algebra 2 or an equivalent course.

Credit: 1

Physics Honors**Grade 11, 12****447**

This advanced course presents an in-depth study of physics with a concentration on fundamental theories and laboratory investigations. This program studies topics in mechanics, wave phenomena, electricity, magnetism, solid state physics, and atomic and nuclear physics. Mastery of mathematical applications is required. This course follows the NYS Regents syllabus. In addition to taking the NYS Regents examination, students will be encouraged to take the SAT II in Physics.

Co-requisite: Students must concurrently take Algebra 2 or an equivalent course.

Pre-requisite: Teacher recommendation.

Credit: 1

Introduction to Anatomy and Physiology**Grade 11, 12****455**

This course includes the study of the functions of systems of the human body. In addition, a laboratory component that focuses on learning common medical/nursing terminology and the study of diseases is required. This course is recommended for students interested in the fields of nursing, physical therapy, sports medicine, occupational therapy, and related disciplines.

Qualifying students may take this course for St. John's University credit.

Co-requisite for Juniors: Chemistry or Physics

Pre-requisite: Teacher recommendation.

Credit: 1

Biotechnology**Grade 11, 12****452**

Biotechnology is a hands-on, lab-oriented elective course with real-world applications. This 21st century course will expose students to cutting edge technology and prepare them for a future in the rapidly emerging biotechnology and green engineering fields. With emphasis for training our youth for the jobs of the future, this course will lay the groundwork for the science of discovery by focusing on skills such as DNA extraction techniques, genetic engineering, creating genetically modified organisms, bacterial transformations, using restriction enzymes; broadening occupational awareness with profiles of careers in Biotechnology; connecting the skills students are developing with applications to the real world of biotechnology; independently researching barcoding; and exploring barcoding methods in teams to learn more about biodiversity in NYC.

Credit: 1

Forensics**Grade 11, 12****481**

Forensics is the integration of science and the law. Students will learn to incorporate scientific and laboratory techniques to solve simulated legal problems.

Qualifying students may take this course for St. John's University credit.

Co-requisite for Juniors: Chemistry or Physics

Pre-requisite: Teacher recommendation.

Credit: 1

Advanced Placement Biology**Grade 10, 11, 12****465**

This course is the equivalent of a required first-year college Biology course with a curriculum set by the College Board. Topics include cell chemistry, bioenergetics, plant and animal physiology, cell structure and reproduction, and modern genetics. Included are mandatory laboratory units.

The A.P. Exam is mandatory.

Qualifying students may take this course for St. John's University credit.

Prerequisite: Teacher recommendation

Credit: 1

Advanced Placement Chemistry**Grade 10, 11, 12****475**

This is the equivalent of a required first-year college Chemistry course with a curriculum set by the College Board. This course will cover topics such as the arrangement of atoms, chemical and physical properties of materials, changes in matter, rates of chemical reactions, and laws of thermodynamics. Included are mandatory laboratory units.

The A.P. Exam is mandatory.

Qualifying students may take this course for St. John's University credit.

Prerequisite: Teacher recommendation

Credit: 1

Advanced Placement Physics 1**Grades 11, 12****477**

This new course focuses on the interconnections between the various strands and units contained in the course syllabus and how each contributes to the "Big Ideas" that provide a core foundation for this science course. Problem solving techniques and strategies are fine-tuned throughout the year, and students are continually tasked with connecting physics applications learned in different units to synthesize solutions to complex problems. The emphasis is on theoretical topics, critical thinking, and problem solving all of which makes this class challenging. Mathematics is used to illuminate physical situations, and so students must be strong in both math and science to be successful in this course. Conceptual understanding of the material is a requirement for success. Students will be expected to write justifications and explanations of physics concepts. Students have the opportunity to work cooperatively to solve challenging problems and to present their solutions to the class.

The A.P. Exam is mandatory.

Prerequisite: Teacher recommendation

Co-requisite: Students must concurrently take Algebra 2 or an equivalent course.

Credit: 1

Advanced Placement Environmental Science**Grades 11, 12****487**

This course will help students identify and analyze environmental problems and their effects. Students will evaluate the effectiveness of proposed solutions. They will learn to think like environmental scientists as they make predictions based on observation. Students will write hypotheses, design and complete field studies and experiences, and reach conclusions based on the analysis of resulting data.

The A.P. Exam is mandatory.

Prerequisite: Teacher recommendation

Credit: 1

Nursing Seminar**Grade 11, 12****458**

This after school seminar will be an introduction to the nursing field. This will be taught by a nursing professor at Fontbonne.

Credit: 0

Science Specialty Programs

Science Research

Grade 10

485

Science Research is a three-year sequence of classes that begins in sophomore year. Students select a topic of investigation and conduct original research under the guidance and supervision of a research scientist at a college or university. The class will meet three times a cycle before school, and students will also meet with a teacher during a resource period once every other cycle. Over the course of three years, 12 college credits can be earned that are awarded by SUNY Albany. During the first year of the program, students decide on a topic, learn how to conduct a journal search, and find a research scientist to work with. Participation in the Science Research Symposium is mandatory. Students should be aware that working on a project will involve work over the summer months.

Two college credits may be earned the summer between Science Research and Intermediate Science Research

This class requires students begin school at 7:45 a.m. two to three times per week.

Credit: 1

Intermediate Science Research

Grade 11

486

This is the second course in the three year Science Research Program and is open to juniors who have taken Science Research. The class will meet three times a cycle, before school, and students will also meet in a small group with a teacher during a resource period once every other cycle. The objective of the second year of the program is to finalize a research objective and begin data collection. Participation in the Science Research Symposium is mandatory. Summer work in order to complete data collection and conduct data analysis is expected.

Three college credits may be earned from SUNY Albany the summer between Intermediate Science Research and Advanced Science Research

Prerequisite: Science Research

This class requires students begin school at 7:45 a.m. two to three times per week.

Credit: 1

Advanced Science Research

Grade 12

487

This is the third and final course in the three year Science Research Program and is open to seniors who have taken Science Research and Intermediate Science Research. The class will meet three times a cycle, before school, and students will meet in a small group with a teacher during a resource period once every other cycle. The objective of the final year is to teach students how to write the final research paper and to submit the paper to various contests such as the Intel Science Talent Search. Participation in the Science Research Symposium is mandatory.

Three college credits may be earned from SUNY Albany.

Prerequisite: Intermediate Science Research

This class requires students begin school at 7:45 a.m. two to three times per week.

Credit: 1

The Brown University Pre-College Engineering Program

Grade 10

489

This pre-college engineering program is an online year long course that presents the following pre-college curricula: Exploring Engineering, Biomedical Design for Society's Needs, and Renewable Energy Engineering: Wind and Solar Power. The course is taught by a professor from Brown University, with a hands-on engineering project, facilitated by an FHA faculty member. In order to take the course, students must be available for project work after school and course work will require 5 hours of work per week. The class is limited to 25 students.

Pre-requisite: Teacher recommendation.

Credit: 1

This course is a capstone format class where you will meet with the instructor twice a cycle. You will be given an opportunity to choose an engineering project of your own design. Through the practice of the engineering process you will be expected to produce a working prototype at the end of the year.

Prerequisite: Brown Pre-College Engineering

Credit: 1

Social Studies Department

Global History & Geography 9

Grade 9

210

This chronological approach to global history begins with the Paleolithic Era and the first civilizations, continues with an examination of classical societies, including Ancient Greece and Rome, and traces the expansion of trade networks and their global impact. The course emphasizes the key themes of interactions over time, shifts in political power, and the role of belief systems in society. Students will be exploring history through the use of both primary and secondary sources.

Credit: 1

Advanced Placement World History

Grade 9, 10

250

This is a two year course culminating with the required Advanced Placement Examination in May of sophomore year. The course content is structured around the investigation of five course themes and 19 key concepts in six different chronological periods, from approximately 8000 BC to the present. Students will use critical and interpretive skills, as well as examine and analyze historical issues from a “big picture perspective”. Incoming freshman will be considered for the course based on TACHS Exam and state test scores.

The A.P. Exam and Regents Exam are mandatory at the end of sophomore year.

You must successfully complete Advanced Placement World 9 in order to be considered for Advanced Placement World 10.

Credit: 1

Global History & Geography 10

Grade 10

220

This course begins with a brief focus on the early 1700’s and provides a snapshot of the world circa 1750. The course continues chronologically up to the present. Several concepts are woven throughout the course including industrialization, nationalism, imperialism, conflict, technology, and the interconnectedness of the world. The last four key ideas focus on global issues. A mandatory New York State Regents examination, which will cover only 10th grade material, will be administered in June.

Credit: 1

United States History & Government

Grade 11

230

This course begins with the colonial and constitutional foundations of the United States and explores the government structure and functions provided in the Constitution. The development of the nation and the political, social, and economic factors that led to the challenges our nation faced in the Civil War are addressed. Industrialization, urbanization, and the accompanying problems are examined, along with America’s emergence as a world power, the two world wars of the 20th century, and the Cold War. Students explore the expansion of the federal government, evolving social beliefs and behaviors, and the nation’s place in an increasingly globalized and interconnected world. A mandatory New York State Regents examination will be administered in June.

Credit: 1

Advanced Placement United States History**Grade 11****240**

This Advanced Placement course focuses on the development of historical thinking skills (chronological reasoning, comparing and contextualizing, crafting historical arguments using historical evidence, and interpreting and synthesizing historical narrative) and an understanding of content learning objectives organized around seven themes, such as identity, peopling, and America in the world. The course is in line with college and university United States History survey courses. Students are required to take the Advanced Placement exam in May and the United States History and Government Regents in June. A summer assignment is to be completed and submitted on the first day of class. The AP exam and Regents exam are mandatory.

Prerequisite: Teacher recommendation.

Students pursuing the St. Joseph's College Child Study Pathway can take this class for college credit.

Credit: 1

Introduction to Economics**Grade 12****248**

This course examines the principles of the United States free market economy and its history within a global context. Students will analyze the role of supply and demand in determining the prices individuals and businesses face in the product and factor markets. Students will explore the role of entrepreneurs in our economy and participate in an interactive project, using Google Apps for Education. Students will also explore the challenges facing the United States free market economy and various policy-making opportunities available to government to address these challenges through discussion of current events as they relate to economic theory. Students will examine their individual responsibility for managing their personal finances.

Credit: ½

Participation in Government and Civics**Grade 12****246**

This course examines the foundations of our American democracy, calling attention to the importance of voting and other methods of participation in government and civic life. All levels of government are encompassed within the course affording the opportunity to utilize local resources. It is designed to give students the understanding of how and why certain actions are taken and the impact of these actions on their personal lives.

Credit: ½

Street Law and Modern Politics**Grade 12****244**

Students will explore the topics of law that are particularly relevant to their lives and examine the current political landscape. The Street Law section of the course introduces students to the basics of the legal system, ethics, criminal law and juvenile justice, torts, consumer and housing law, family law and individual rights and liberties. Modern Politics will discuss the history, thought and debate of contemporary politics, preparing them for a more active and educated citizenship.

Credit: 1

Advanced Placement Psychology**Grade 11, 12****241**

This course introduces students to the systematic and scientific study of human behavior and mental processes. Students explore and apply psychological theories, key concepts, and phenomena associated with such topics as the biological basis of behavior, sensation, and perception. They will also consider learning and cognition, motivation, testing, treatment of abnormal behavior, and social psychology. Throughout the course, students employ psychological research methods, including ethical considerations, as they use the scientific method, analyze bias, evaluate claims and evidence, and effectively communicate ideas. The AP exam, given in May, is mandatory.

Prerequisite: Teacher recommendation.

Credit: 1

Introduction to Child Development**Grade 12****260**

This course is an introduction to the study of the child from birth to age 12, with an emphasis on the child from infancy through pre-school and middle school. Students will study principles and theories of development with regard to prenatal and neonatal development and birth; physical cognitive, social, emotional and moral growth; caregiver-child relationships; language acquisition and theories of learning; and the impact of culture and history on growth and development. Students will also study the NYS/NYC Board of Education curriculum in the identification and reporting of suspected child abuse. Students are required to attend observation sessions at the Dillon Center at St. Joseph's College and community service hours must be related to working with children from birth to age 12.

Students pursuing the St. Joseph's College Child Study Pathway can take this class for up to 6 college credits.

Credit: 1

World Culture and the Role of Women**Grade 12****270**

This course focuses on the roles women play in specific areas of the world including: The Far East, Middle East, Western Europe, and the United States. It will examine the social, political, and economic impact the region has on the lives of women to present day. It will consider the implications of footbinding, child marriage, and struggle for gender equality in education. It will also explore how women continue to shape the development of these regions. The course will include analyzing documentary films, examining modern literary writings, and discussing current scholarly articles related to the topic.

Credit: 1

Criminology (online)**Grade 11, 12****276**

This course introduces students to the field of criminology, the study of crime. Students look at possible explanations for crime from psychological, biological, and sociological perspectives. Students will investigate how the criminal justice system handles criminals and their misdeeds.

Credit: ½

Experience NYC**Grade 10, 11****910**

In partnership with Xavier High School, this after school course gives students the opportunity to view New York City through a new lens. Through excursions around the city with a brother cohort, students will learn about their home city's relationship with history, the arts, science, and more.

Credit: ½

World Language Department

Fontbonne Hall Academy requires 3 years of study in a Language Other Than English (LOTE). However, a fourth year of study is strongly recommended.

<u>Level 1 – Italian</u>	Grade 9	312
<u>Level 1 – Spanish</u>		314

Level 1 of a language is designed to give the beginning student pronunciation, grammar, syntax, and listening comprehension in the target language. Basic everyday conversation, requesting and providing information related to daily life are practiced. Grammar will stress verbal conjugations enabling students to express information in the present, past and future tenses. A basic cultural awareness of the target language is inaugurated.

Credit: 1

<u>Level 2 – Italian</u>	Grade 10	322
<u>Level 2 – Spanish</u>		324

In these courses more complex structural patterns are offered with continued emphasis on pronunciation and comprehension. Reading, writing, and conversational skills are further developed through the use of brief stories and compositions and assigned topics concerned with everyday situations. Verbal conjugation is expanded to include the descriptive past. Cultural awareness is continued.

Prerequisite: Level 1

Credit: 1

<u>Introduction to Latin</u>	Grade 10	316
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This is a one year course for beginners in Latin which provides the basic knowledge of the essential Latin forms, grammar, syntax, and vocabulary from which so many English words derive. This aspect of the course will lead to an increased understanding of how Latin and English function, and therefore help our students prepare for the SAT and ACT. Also, in a highly interactive learning setting the course offers a general introduction to Roman history and culture through text analyses by classical authors. **This class is required for 10th graders.**

Credit: ½

<u>Level 3H – Italian</u>	Grade 10	333
<u>Level 3H – Spanish</u>		335

This is an accelerated course that covers topics in preparation for the Alternate Language Exam that students will take in June. The course offers more complex grammatical and conversational patterns. Students will practice more advanced listening, speaking, reading and writing skills.

Prerequisite: Teacher recommendation.

Credit: 1

<u>Level 3 – Italian</u>	Grade 11	332
<u>Level 3 – Spanish</u>		334

Students learn to use the conditional and subjunctive as well as grammatical structures studied previously for:

1. Reading comprehension for information as well as pleasure.
2. Impromptu conversation using listening and speaking skills.
3. Original written expression in the form of compositions.
4. Alternate Language Exam preparation.

Cultural study is continued in a multi-media approach.

Credit: 1

<u>Level 4H – Italian</u>	Grade 11	343
<u>Level 4H – Spanish</u>		354

Students will further strengthen their foundation in grammar and syntax. Readings, conversations and written assignments will be based on some of the major language authors. Students will use appropriate vocabulary and learn ways to address different audiences. The successful completion of the course will lead students into college-level study in senior year. Students are required to complete a summer reading assignment.

Prerequisite: Teacher recommendation.

Credit: 1

<u>Level 4 – Adv. Italian Conversation & Culture</u>	Grade 12	342
<u>Level 4 – Adv. Spanish Conversation & Culture</u>		344

This course is an advanced conversation and composition course designed for students who wish to perfect their language skills. Grammar, conversation, written assignment, and reading based on the works of several major authors from Italy, Spain and Latin America.

Qualifying students may take the course for St. John’s University credit.

Students pursuing the St. Joseph’s College Child Study Pathway can take this class for college credit.

Prerequisite: Teacher recommendation.

Credit: 1

<u>AP Italian</u>	Grade 12	352
<u>AP Spanish</u>		364

The aim of this course is the perfection of all the skills requisite to the mastery of the target language, namely reading, writing, listening and speaking. The course is conducted in the target language. Students gain in-depth knowledge of the language with regards to grammar, literature, culture and current events through a wide spectrum of classroom activities. Furthermore, students will be encouraged to interpret within the appropriate cultural context spoken and written communication by examining movies, texts, radio and television broadcasts and speeches. Students are required to complete a summer reading assignment.

The A.P. Exam is mandatory.

Prerequisite: Teacher recommendation.

Credit: 1