



TABLE OF CONTENTS

Course Map	4
Department Offerings	
Religion.....	6
English.....	9
Fine Arts.....	16
Health and Physical Education.....	24
Mathematics.....	27
Science.....	33
Social Studies	41
Technology and Business.....	50
World Languages.....	55
Additional Offerings	
Peer Mentoring.....	61
Expanded Services.....	61
Dual Credit/Dual Enrollment (Marymount University).....	62
Summer Offerings	63
Global Studies Certificate	65

MISSION STATEMENT

Our mission is to provide students with an education rooted in the life of Christ and to foster the pursuit of excellence in the whole person.

GRADUATION REQUIREMENTS

Bishop O'Connell High School offers a curriculum that is designed to prepare students for admission to leading colleges and universities.

For graduation, Bishop O'Connell requires a **minimum of 26 credits** to be distributed as follows:

SUBJECT	REQUIRED CREDITS
Religion	4
English	4
Social Studies	4
Mathematics	3 (4 recommended)
Science	3 (4 recommended)
World Language	2 (3 recommended)
Health/ Physical Education	1.5
Fine Arts	0.5
Computer	0.5
Additional Courses/Electives	3.5

Credit earned in 8th grade for subjects such as Spanish 1 or Algebra 1 may qualify a student for advanced study after a qualifying test has established proficiency, but does not reduce the overall requirement of 26 units for graduation.

In planning their course of studies, student-athletes are reminded of the need to meet **NCAA core course requirements** for athletic participation at the college level.

Seniors must pass all classes to receive a diploma, including those that do not apply to graduation requirements. Seniors with failures receive a diploma when credit has been earned for failed classes.

REGISTERING FOR CLASSES

This guide is published to help students make responsible decisions regarding next year's academic program.

Students select seven (7) credits each year. When planning course selection, students with their parents and their counselors should carefully review prerequisites and grade levels listed with each class, then select classes consistent with their abilities and interest, past achievements and future goals, matching the admissions requirement of the colleges and universities they plan to consider.

The school reserves the right to cancel or postpone courses for which inadequate enrollment, lack of physical facilities, or unavailability of teacher personnel necessitates such action. The Dean of Academics reserves the right to adjust selection depending on pupil ability, past performance or teacher recommendation.

Drop/Add procedures common at the college level do not apply. Students must seek the approval of their teacher and/or counselor to request a change in scheduled classes.

All students in AP courses are required to take the corresponding examination in May.

Muller Academic Support – Students with documented learning disabilities may apply for acceptance into this program which provides a daily class period of learning support and assists in providing student accommodations. *Additional tuition is assessed for this program.*

Expanded Services – Students with cognitive and intellectual disabilities may apply for admission under Expanded Services, which allows them to grow academically, socially and spiritually with their peers in a Catholic high school environment. More information about Expanded Services may be found on page 61.

Sample Catalog Codes

2300 FRENCH 3 HONORS 10-12 YR 1.0cr

2300 - course number

French 3 Honors – course name

10-12 – course open to grades 10-12









YR – course term (YR – full year, SEM – semester)

1.0 cr – credit value of course

NCAA – NCAA approved core courses for student-athletes

BISHOP O'CONNELL HIGH SCHOOL

Course Map

 RELIGION 4 CREDITS	 MATHEMATICS 3 CREDITS (4 RECOMMENDED)	 ENGLISH 4 CREDITS
 Living as a Disciple of Christ in Society The Church in the 20th Century Sharing the Faith in the World Today Witnessing the Gospel	AP Calculus BC AP Calculus AB AP Statistics Multivariate Calculus Linear Algebra Calculus Honors Statistics Honors Pre-Calculus (H) College Math Topics	AP English Literature English 4 (H)
 Sacraments: Encounters with Jesus Christ Morality: New Life in Jesus Christ	AP Calculus AB AP Statistics Calculus Honors Statistics Pre-Calculus (H) College Math Topics Algebra 2/Trig (H) Algebra 2	AP English Language and Composition English 3 (H)
 The Mission of Jesus Christ The Mission of the Church	Pre-Calculus (H) Algebra 2/Trig (H) Geometry (H)	English 2 (H)
 Revelation of Jesus Christ in Scripture Who is Jesus Christ	Algebra 2/Trig (H) Algebra 1	English 1 (H) Integrated Biology and English (IBE)
 DEPARTMENTAL ELECTIVES Elective courses available in writing, literature, journalism and more.		

 ELECTIVES	 FINE ARTS 0.5 CREDITS	 HEALTH & PE 1.5 CREDITS	 TECH & BUSINESS 0.5 COMPUTER CREDITS
 SCIENCE 3 CREDITS (4 RECOMMENDED)	 SOCIAL STUDIES 4 CREDITS	 WORLD LANGUAGE 2 CREDITS (3 RECOMMENDED)	
AP Physics C AP Physics 2 AP Physics 1 Physics (H) AP Biology AP Chemistry AP Environmental Science Anatomy & Physiology (H) Genetics Honors Organic Chemistry Honors Ecology	AP U.S. Government and Politics AP Comparative Government and Politics AP Human Geography AP Economics AP Art History AP Psychology U.S. Government with Foreign Affairs (H) U.S. Government with Advocacy and Public Policy (H) U.S. Government with Social Justice	AP French Language and Culture AP Latin AP Spanish Language and Culture AP Spanish Literature and Culture Fourth (Honors) Year of World Language	
AP Physics C AP Physics 2 AP Physics 1 Physics (H) AP Biology AP Chemistry AP Environmental Science Anatomy & Physiology (H) Genetics Honors Organic Chemistry Honors Ecology	AP U.S. History AP Human Geography AP Economics AP Art History AP Psychology U.S. and Virginia History (H) Psychology	AP Latin AP Spanish Language and Culture AP Spanish Literature and Culture Third Year (Honors) or Fourth Year (Honors) of World Language	
AP Biology Chemistry (H) Intro to Engineering	AP Modern European History Modern European History Honors Fundamentals of Economics with African American History Fundamentals of Economics with The Developing World World Geography	Second Year or Third Year (Honors) of World Language	
Biology 1 (H) Integrated Biology and English (IBE)	World History (H)	First Year or Second Year of World Language	
Elective courses available in Engineering and Independent Research	Elective courses available in economics, criminal justice, psychology and more.	Spanish speakers (honors) curriculum available	

Courses marked with (H) are offered at both the college-prep and honors level

9235 MISSION OF THE CHURCH**10 SEM .5 cr**

The purpose of this semester course is to show how the Mission of Jesus Christ continues in the Church and how in and through the Church we encounter the living Jesus Christ. In the context of understanding the grace of living in community, students will study how the Church was founded by Christ through the apostles and is sustained by Christ in each generation through the Holy Spirit. Students will come to know that the Church is the living Body of Christ today with both divine and human elements. Students will learn about the sacred nature of the Church and become more aware of their own role as members of the Church.

9330 SACRAMENTS: ENCOUNTERS WITH JESUS CHRIST**11 SEM .5 cr**

The purpose of this semester course is to help students understand that, in the sacraments, especially in the Eucharist, Christ can be encountered today in a full and real way. Students will examine each of the sacraments in detail so as to learn how they may encounter Christ throughout life and use faith as a guide in life.

9335 MORALITY: NEW LIFE IN JESUS CHRIST**11 SEM .5 cr**

The purpose of this semester course is to help students understand that through Christ they can fully live out God's plan for their lives. Students learn the moral concepts and precepts that govern the lives of Christ's disciples.

9455 LIVING AS A DISCIPLE OF CHRIST IN SOCIETY**12 SEM .5 cr**

The purpose of this semester course is to provide students with a strong foundation in the Church's social teaching. Students learn how Christ's concern for others, especially the poor and marginalized, is present today in the Church's mission. Students learn how to apply the Church's social teaching to particular current events and contemporary political issues. *This course (or course 9458) is required for all seniors.*

9458 DISCIPLES OF CHRIST IN SOCIETY:**12 SEM .5 cr****CATHOLIC SOCIAL TEACHING**

This course challenges students to apply their Catholic faith formation to real-world public policy development and problem-solving for the unique social and economic issues facing underserved communities. By drawing on Papal encyclicals, Bishops' pastoral letters, and other elements of Catholic Social Teaching, students will consider how best to use moral guidance in study, research, and complex decision-making for the public good. Students will seek out examples of how to advocate for and engage in the work of building a more just society for all. As part of this course students will travel for a week of intensive service learning. *This course fulfills the Living as a Disciple of Christ requirement for senior religion studies. Only one section of this course is offered (Semester 2). A trip fee of \$300 is required (Financial Aid available).*

9465 THE CHURCH IN THE 20TH CENTURY**12 SEM .5 cr**

The purpose of this semester course is to examine the Church through the lens of each papacy of the 20th century with an emphasis on people, movements, and events through which the Church had an impact on society. Recognizing the Church as the living body of Christ and studying the contributions of modern saints to our understanding of God's universal call to holiness, students learn, through this study of recent Church history, how God continues to act in human history.

9475 SHARING THE FAITH IN THE WORLD TODAY**12 SEM .5 cr**

The purpose of this semester course is to build on the foundational truth that Jesus Christ established the Catholic Church and entrusted to the Church the fullness of God's Revelation. The course provides students with skills of critical thinking and respectful communication needed to share the truths of the Catholic faith with others in the world today. This study of apologetics culminates in a capstone research project on a specific topic central to the Church's new evangelization.

9485 WITNESSING THE GOSPEL**12 SEM .5 cr**

The purpose of this semester course is to allow students to develop a spirituality deeply centered in the mystery of God's grace and the universal call to holiness. Efforts are made to build a foundation of faith, virtue and knowledge for an adult practice of moral and ethical behavior in today's secular society. Emphasis is placed on being active members of parish communities; Catholic students may use this course to earn a preliminary Catholic catechist certificate.

ENGLISH

The English department fosters excellence in critical thinking, analytical writing, public speaking and engaged reading. The English department affirms the whole person through a comprehensive study of the classics of literature with added emphasis on contemporary relevance and Catholic teachings. The curriculum integrates the study of literature with a sequential writing program, instruction in grammar and usage, vocabulary study, and oral presentation. Several elective courses are also offered. Skills learned in English classes are foundational for study in all disciplines and apply to all aspects of life. In this course of study, students are provided opportunities and incentives to appreciate the power of language in expressing thoughts, feelings and beliefs; to nurture a love of reading and improve communication skills in writing and speaking; to capably use 21st century research skills and technology; and to develop critical reading and thinking skills with a focus on logical, precise, moral and ethical reasoning. *Summer reading is required at all grade levels.*

	REQUIRED COURSES	ELECTIVES
Grade 9	1100 English 1 1150 English 1 Honors 4000 Integrated Biology and English (IBE)	Speaking and Presentation Skills (SEM)
Grade 10	1200 English 2 1250 English 2 Honors	Public Speaking (SEM) Journalism Yearbook Production
Grade 11	1300 English 3 1350 English 3 Honors 1360 AP English Language and Composition	Creative Writing (SEM/YR) Humanities Honors American Multicultural Literature (SEM) Public Speaking (SEM) Intro to Film (SEM)
Grade 12	1400 English 4 1420 English 4 Honors 1450 AP English Literature	Journalism Yearbook Production

1100 ENGLISH 1**9 YR 1.0 cr**

The freshman course includes instruction in both language skills and literature. The literature program introduces students to the various literary genres, providing study in the epic, short story, novel, poetry, and drama. The course emphasizes critical reading and critical thinking skills. Vocabulary study is stressed and is taken from the reading, as well as from supplementary sources.

The literature program introduces students to the various literary genres, providing study in the epic, short story, novel, poetry, drama and non-fiction selections. Correct usage, grammar, sentence structure, intensive paragraph study, and library skills are presented in a developmental sequence to assure achievement. Students begin learning the documentation process in the Modern Language Association (MLA) style and gain proficiency in the multiple-paragraph essay. **NCAA**

1150 ENGLISH 1 HONORS**9 YR 1.0 cr**

Prerequisites: HSPT verbal score ≥ 90 and an A in English 8; or results of English honors qualifying exam.

This course is designed for freshmen who demonstrate an above grade-level proficiency in reading and writing. The literature program introduces students to the various literary genres, providing study in the epic, short story, novel, poetry, and drama. The program examines the contributions of influential writers from ancient to modern times. The more advanced points of grammar and usage are covered, as it is expected that students have a basic understanding of the rules that govern the language. Writing and reading assignments are of great frequency and sophistication requiring the student to provide in-depth analysis in both written and discussion formats. **NCAA**

4000 INTEGRATED BIOLOGY AND ENGLISH (IBE)**9 YR 2.0 cr**

Prerequisites: Students must meet qualifications for Biology 1 Honors.

IBE is an interdisciplinary course that integrates Biology 1 Honors (4210) and English 1 (1100) with an authentic community-based field research program. This integrated course, which maintains the full content of both Honors Biology (4210) and English 1 (1100) curricula, is designed to capitalize on the natural connections between these science and language arts courses through an ongoing interdisciplinary research project focused on local environmental issues. Informational writing and technology are used to enhance students' conceptual understanding and real-world problem solving skills. This course is designed for students with above average academic maturity and ability, a strong interest in both science and effective communication, and a commitment to a collaborative work ethic. This Biology Honors/English 1 integration links the two courses through an on-going research project, at the same time preserving the distinctive components of each discipline. Students earn 1.0 credit in Biology 1 Honors (4210) and 1.0 credit in English 1 (1100). *This is not an English 1 Honors course.*

The English 1 (1100) component of this course includes instruction in both language skills and literature. The literature program introduces students to the various literary genres, providing study in the epic, short story, novel, poetry, and drama. The course emphasizes critical reading and critical thinking skills, supplementing the college prep English 1 experience with opportunities for technical writing and research. Vocabulary study is stressed and is taken from the reading, as well as supplementary sources.

The Biology 1 Honors (4210) component of this course emphasizes the molecular approach to the study of biology including chemistry for biology students, cell biology, bioenergetics, heredity, molecular genetics, evolutionary biology, diversity of organisms, and ecology as major units of study. A current, comprehensive background of biology is presented. The course relies heavily on daily readings and study and includes laboratory experiences with emphasis on experimental design, critical thinking, and problem-solving skills. **NCAA**

1200 ENGLISH 2

10 YR 1.0 cr

The sophomore course includes instruction in both language and literature. The literature program introduces students to works in world literature and examines the contributions of influential writers from ancient to modern times. Critical reading and thinking skills, as well as vocabulary study, continue to be emphasized.

The course includes both written and oral language development. The language program builds on the freshman course and includes overall review of usage and grammar. The development of a thesis in the five-paragraph format is a central aspect of this course. Experiences in creative writing are offered. Library and research skills concentrate on preparing students to write documented papers. Instruction in note taking and paraphrasing from source material, together with renewed instruction in the Modern Language Association (MLA) method of documentation, continues. **NCAA**

1250 ENGLISH 2 HONORS

10 YR 1.0 cr

Prerequisites: B in English 1 Honors; A in English 1; or department approval.

The literature program introduces students to works in world literature and examines the contributions of influential writers from ancient to modern times. Student writing is frequent and requires increasing sophistication in word choice, sentence structure, paragraph development, and overall impact. A research paper is a requirement of this course. Students are expected to actively participate in class discussions and to read and analyze a number of texts that supplement the classroom curriculum. **NCAA**

1300 ENGLISH 3

11 YR 1.0 cr

The junior course includes both composition and literature. The literature program surveys the major influences and writers in American literature from colonial times to the present. The program continues to emphasize the critical aspects of reading and thinking demonstrated through critical writing. Vocabulary study continues in preparation for the PSAT and SAT.

The composition program continues to develop skills learned in the freshman and sophomore courses and focuses on the various rhetorical forms of argument: persuasion, expanded definition, comparison/contrast, and literary analysis. Creative writing opportunities are provided. A research paper is a requirement of this course. **NCAA**

1350 ENGLISH 3 HONORS**11 YR 1.0 cr**

Prerequisites: B in English 2 Honors; A in English 2; or department approval.

The junior course includes both composition and literature. The literature program surveys the major influences and writers in American literature from colonial times to the present. Students in this course have shown a readiness to use higher level thinking skills when engaging literary texts, as evidenced by written and oral work that demonstrate an ability to read carefully, judge soundly, and synthesize logically. Students write frequently, exhibiting the reading and analytical skills necessary to conduct sound literary analysis. Students must possess strong organizational skills, the ability to work independently, and the desire to read and analyze several texts in addition to the classroom curriculum. A research paper is a requirement of this course. **NCAA**

1360 AP ENGLISH LANGUAGE AND COMPOSITION**11 YR 1.0 cr**

Prerequisites: A in English 2 Honors or department approval. Writing sample may be required.

This college level course is offered to junior students who have demonstrated a high degree of interest and proficiency in writing. The course is organized to assist students to perform well on the Advanced Placement (AP) Examination in English Language and Composition administered by the College Board in May and required of all students taking this course.

This course provides for the study and writing of various kinds of analytic or personal essays on nonliterary topics and includes instruction in rhetorical aims, modes, and techniques, and how to apply those principles in writing assignments. Although non-fiction is the focus of the AP exam in English Language and Composition, the American literature curriculum, including poetry and fiction, is thoroughly covered in this course. Nonfiction selections are taken from a wide variety of sources. Students who take this course should plan to take AP English Literature in their senior year.

The course complements the current curriculum offered by the English department in its content and skills building. Students are asked to write literary analysis papers; in addition, students write in-class essays to practice classic argumentation and to expand upon the ideas highlighted by the texts on the syllabus. A research paper is a requirement of this course. **NCAA**

1400 ENGLISH 4**12 YR 1.0 cr**

The senior course includes both literature and composition components. The literature program surveys the major works, writers, and influences in the British tradition. Critical skills in reading, thinking, and writing continue to be emphasized and applied. The composition program builds on the skills learned in the first three years and challenges students to refine writing skills in preparation for research, development and documentation within a required research paper. Creative writing opportunities are provided to give the student a forum for creative expression. **NCAA**

1420 ENGLISH 4 HONORS**12 YR 1.0 cr**

Prerequisites: B in English 3 Honors; A in English 3; or department approval.

The senior course includes both literature and composition components. The literature program surveys the major works, writers, and influences in the British tradition. The senior honors course is designed for students who have demonstrated an ability to engage in clear and insightful literary analysis, to produce clear and cohesive essays, and to engage in advanced classroom discussions. Students are expected to read and analyze several texts in addition to the classroom curriculum. A research paper is a requirement of this course. **NCAA**

1450 AP ENGLISH LITERATURE**12 YR 1.0 cr**

Prerequisites: B in AP English Language; A in English 3 Honors; or department approval.

This college level course is offered to highly motivated students of English in senior year. This course is organized to assist students to perform well on the Advanced Placement (AP) Examination in English Literature administered by the College Board in May and required of all students taking this course.

This course includes both literature and composition. The literature is primarily British-based but includes readings from both European and American authors. Critical analysis, sound judgment, and logical synthesis in interpreting the readings are demonstrated in the frequent writing of critical essays. A seminar approach to oral discussions provides a forum for students to interact and to share insights in order to deepen their understanding and appreciation of the readings. Students are expected to read and analyze ten to twelve full-length works in addition to the classroom curriculum. A research paper is a requirement of this course. **NCAA**

1532 CREATIVE WRITING AND PUBLICATIONS**10-12 YR 1.0 cr****1538 CREATIVE WRITING AND PUBLICATIONS****10-12 SEM .5 cr**

This elective course offers a supportive and instructional environment for students wishing to develop their creative writing abilities. Additionally, the course offers hands-on experience in the process of creating and managing publications, both in print and online. Participants work in the genres of poetry, short fiction, drama and screenplay writing. Students also learn how to work in InDesign, Photoshop, and on digital platforms in order to create a publication. Readings consist of classical and modern examples in each of the studied genres. Students will also be expected to review modern publications for understanding of the creative process. Students will learn design skills and produce a creative writing portfolio that may further their ambitions beyond the high school level. *1538 is only available during the first semester.* **NCAA**

6860 HUMANITIES HONORS**11-12 YR 1.0 cr**

Prerequisite: B+ in English, B in English Honors/AP, or recommendation from current social students and/or art teacher.

This elective honors course presents artistic patterns of relationship from ancient Greece to the present among philosophy, literature, architecture, sculpture, painting and music—all in light of the major historical events of each period. Content focuses on the interrelationships between arts and ideas in the framework of their proper historical and cultural settings. *This class also serves as a fine arts or social studies elective.* **NCAA**

1370 AMERICAN MULTICULTURAL LITERATURE**11-12 SEM .5 cr**

This elective course explores American diversity through reading and discussion of contemporary fiction, nonfiction, poetry and drama. Students examine major literary themes and changing definitions of identity, racism, nativism, the American Dream, social values and more. This class requires participants to approach texts with openness and respect for new perspectives and disparate communities. Students evaluate writing strategies and techniques of each author and incorporate research of historical and cultural contexts of works to develop a greater appreciation of diverse cultural texts that represent America. **NCAA**

1390 PUBLIC SPEAKING**10-12 SEM .5 cr**

This elective course includes the basics of effective speaking and listening skills, preparation and tools for giving a speech, and the opportunity to present several types of speeches followed by evaluation by teacher and peers. This course aims to improve knowledge of effective communication skills as well as self-confidence. *This class fulfills the Fine Arts requirement for graduation.* **NCAA**

1395 SPEAKING AND PRESENTATION SKILLS**9 SEM .5 cr**

This elective course is designed to provide freshmen with skills and techniques needed to effectively communicate in an academic environment. Students learn speaking skills such as clarity, tone, and audience awareness for classroom presentations and various collaborative learning settings. Interactive use of technology is taught as an integral element of successful presentations.

6700 INTRO TO FILM**11-12 SEM .5 cr**

This elective course presents an in-depth treatment of film as a powerful 20th and 21st century art form. Students become familiar with film language and technique, study the history of American film, and critique numerous films using the knowledge they acquire through viewing clips from the greatest movies made, as well as from full-length presentations. The course requires discussion and critical writing. Topics to be discussed include: photography, sets/settings, movement, editing, sound, acting, drama, story, writing, ideology, and theory. *This course fulfills the Fine Arts requirement for graduation.*

1510 JOURNALISM**10-12 YR 1.0 cr**

Prerequisites: B in current English class. Writing sample may be required.

This elective course introduces students to the fundamental components of journalism. News and feature writing styles are learned once students have acquired adequate reporting, interviewing, and editing skills. As students “cover” the school community, worthy student writing is published in *The Visor*, the school newspaper. The curriculum explores the history of journalism in the United States, photojournalism, newspaper ethics, and television broadcasting. *This course fulfills the computer and Fine Arts requirements for graduation.*

1460 YEARBOOK PRODUCTION**10-12 YR 1.0 cr**

Prerequisite: B in English, B- in English Honors or AP English and recommendation of current English teacher.

This elective course introduces students to the successful production of a school yearbook. Students learn about the various sections of the yearbook and how to write effective yearbook articles, captions, and headlines. They also learn how to organize and conduct student and faculty interviews, design layouts on the computer using Adobe InDesign, and assemble the pages of the yearbook to meet structure production deadlines. Effective editing, revision, and photography skills are developed. *This course fulfills the computer and Fine Arts requirements for graduation.*

FINE ARTS

An education without the Fine Arts is half an education. The Arts nurture the very fiber of the human spirit. Our belief is that the Arts belong to everyone and that our school community is enriched when every student has the opportunity for self-expression, through visual and graphic arts, photography and video production, through music performances and appreciation, and through art history and drama production. These experiences foster original, intelligent and creative thought processes and cultivate a strong, individual character within each of our students.

Students must earn at least 0.5 credit hours (one semester) in Fine Arts for graduation.

VISUAL ARTS

6010 ART 1

9-11 YR 1.0 cr

This course is a foundation course in basic art and design. Students are introduced to the Elements of Design and Principles of Composition. Students work in various techniques and media on projects designed to sharpen their skills of art through observation, design and composition. Students learn to look at art thoughtfully and critically and begin to develop their own aesthetic sense. There are brief lectures and PowerPoint presentations exploring various artists and their media. Students develop an art vocabulary as well as gaining an understanding and practice of group and individual critiques. By the conclusion of the course, students are able to formulate a personal and informed response to the question: "What is art?"

6020 ART 2

10-12 YR 1.0 cr

Prerequisites: Art 1, a semester art course, or evidence of previous art instruction.

This course is offered as a sequential step from Art 1 or Graphic Design. Students build on previous knowledge and vocabulary and have the opportunity to publish their work in the school art and literary magazine. They may also participate in shows outside the school environment. Students focus on beginning to build a portfolio.

6025 INTRODUCTION TO 3D ART AND TEXTILES

10-12 SEM .5 cr

In this course, students explore fiber art as a design form. They are introduced to a variety of materials, processes and techniques that are used in the creation of three-dimensional fiber art, while studying the history and industrial functionality of fibers. Students become familiar with fiber traditions from various cultures, and study contemporary fiber art, learning how to evaluate and critique pieces through the basic design elements and principles of art. Classes include brief lectures, discussions, demonstrations, project-based learning and independent studio work.

6030 ADVANCED ART HONORS

10-12 YR 1.0 cr

Prerequisites: B in Art 2 and review of student's portfolio.

Advanced Art Honors provides students with the opportunity to engage in the advanced study of art processes, vocabulary and art history. Students are expected to demonstrate principles and elements in art as well as visually communicate ideas, using advanced approaches in drawing and painting. The instructor guides students to form

goals and develop individual styles, to become familiar with art schools and art related careers. Students develop a portfolio of their work and contribute artwork to the Largesse and to displays within and outside the school. There is a focus on presentation, quality work, exhibition and purpose.

6045 AP DRAWING

11-12 YR 1.0 cr

Prerequisites: Completion of Advanced Art Honors.

This course is designed for students who demonstrate proficient skills in drawing and painting. Students apply the elements and principles of art effectively to communicate their ideas visually and verbally in two dimensions. They must exhibit a strong commitment to their discipline. Students are required to submit a portfolio for consideration to the Advanced Placement Board in May for possible college credit pending a qualifying score.

6860 HUMANITIES HONORS

11-12 YR 1.0 cr

Prerequisite: B+ in English, B in English Honors/AP, or recommendation from current social studies and/or art teacher.

This elective honors course presents artistic patterns of relationship from ancient Greece to the present among philosophy, literature, architecture, sculpture, painting and music—all in light of the major historical events of each period. Content focuses on the interrelationships between arts and ideas in the framework of their proper historical and cultural settings. *This class also serves as an English or social studies elective. NCAA*

6049 AP ART HISTORY

11-12 YR 1.0 cr

Prerequisites: B+ in English, B in English Honors/AP or recommendation from current social studies and/or art teacher.

What is art? This college level course explores the history of the art of the world from the prehistoric era to the present. The class addresses stylistic development and cultural values, as well as the historical context that influence artistic production and practice. The class uses an interdisciplinary approach to discuss style, content, meaning, patronage, faith, interpretation, context, and significance of works of art, preparing students for the AP Art History exam in May which all students enrolled in the class are required to take. The course includes one research paper. *This course also serves as an elective Social Studies credit.*

6055 THE ART OF THE UNITED STATES HONORS

11-12 SEM .5 cr

This honors course presents the history of art in the United States from the early Colonial period to the present including, but not limited to Colonial portraiture, American Impressionism, modern abstraction, the Harlem Renaissance, Mexican muralists, Regionalism and WPA art, and Pop Art. The class examines major artists and movements by addressing stylistic developments and cultural values, as well as the historical context that influenced artistic production. The class discusses style, content, meaning, patronage, faith, interpretation, and context. Field trips to local art centers are scheduled to provide first-hand experiences with the art of our nation.

6510 PHOTOGRAPHY**11-12 SEM .5 cr**

This is a foundation course in basic skills and understanding in photography. Students are introduced to the Elements of Design and Principles of Composition. Students work in various techniques and mediums in projects designed to sharpen their skills in photography through observation, design and composition. Students learn to look at photography thoughtfully and critically and begin to develop their own aesthetic sense. There are brief lectures and PowerPoint presentations exploring various artists and their mediums. Students develop a photography vocabulary and gain an understanding of and practice in group and individual critiques. By the conclusion of the course, students are able to formulate a personal and informed response to the question: "What is photography?"

6520 ADVANCED PHOTOGRAPHY**11-12 SEM .5 cr**

Prerequisites: Completion of Photography and permission from instructor.

This course is designed to meet the needs of students who wish to learn advanced techniques in 35mm film and Digital camera photography. Students build upon skills learned in the introductory photography course. Topics may include: documentary photography (photojournalism), studio photography (portrait lighting techniques), how to build strong compositions, operation of a SLR (single lens reflex) camera, and advanced Photoshop techniques.

6600 GRAPHIC DESIGN**10-12 SEM .5 cr**

This course focuses on commercial design. Students learn the fundamentals of design, including layout, illustration, fashion, poster design and T-shirt design. They experience graphic history and disciplines through multi-media and become comfortable working with a variety of materials.

MUSIC**6350 CONCERT BAND****9-10 YR 1.0 cr**

This class is open to any student who has beginner's proficiency or would like to start playing an instrument. Students learn music fundamentals and basic theory as well as musicianship through performance of technical exercises, scales, and band literature. A continuing goal of the course is to develop students' skills as a musician, including historical connections between art, history, architecture, and music. In addition, concert etiquette and team building skills are developed. Personal practice on one's instrument is necessary for success in band class.

6440 SYMPHONIC BAND**10-12 YR 1.0 cr****6450 SYMPHONIC BAND HONORS****10-12 YR 1.0 cr**

Admission to these courses is based on playing ability and a placement audition.

Students continue to learn music theory through the performance of technical exercises, scales, and band literature. A continuing goal of this course is developing mature musicianship in performance. Skills include the process of critically analyzing personal and group performance skills, understanding historical concepts and intermediate theory practices, and the ability to work as a team member. Personal practice on one's instrument is necessary for success in band class. Students may earn honors credit

for this course with additional requirements including performing at school functions, school sanctioned functions, and volunteer events. *Attendance at two outside Fine Arts performances per semester is required for honors credit.*

6200 STRINGS

9-12 YR 1.0 cr

6250 STRINGS HONORS

10-12 YR 1.0 cr

Students in this course form the representative string performing group for the school. Emphasis is placed on the sequential development of advanced technical, ensemble and disciplinary skills necessary for refined rehearsal and performance both in and out of school. In order to receive credit for the course, students must meet participation requirements that include both school day and outside of school day activities. Students will learn and refine the following musical skills: proper instrument posture and position, major and melodic scales, various bowing techniques, proficiency in sight-reading, acceptable tone and intonation, musical balance as a group, proper care and cleaning of instruments, and performance of selected music at an advanced level from various genres and historical eras. *Admission to Strings Ensemble Honors is based on placement audition.*

6205 BEGINNING STRINGS

9-12 YR 1.0 cr

This class offers instruction on violin, viola, cello and string bass instruments with a focus on the skills necessary for long-term success. Fundamentals stressed include proper posture and playing position, development of characteristic tone quality and training in music literacy. The school is able to provide instruments for school and home use. Beginning Strings may also be ideal for those already with experience, but who may need a review and reinforcement of music reading, playing fundamentals and techniques that are vital for lasting musical development. Students of any grade level are welcome. These groups will perform in the Instrumental Concerts. No audition is required--all that is necessary is the desire and motivation to study a musical instrument.

6455 PERCUSSION ENSEMBLE

9-12 SEM .5 cr

This class is designed for students who are completely new to percussion instruments or students who play piano and would like to transfer their piano skills into playing mallet percussion instruments. The course begins with basic percussion techniques and includes learning the fundamentals of playing a variety of percussion instruments and developing and applying musicianship and ensemble skills to the genre. Students are expected to learn how to read music, learn how to play a variety of percussion instruments, and perform as an ensemble by the end of the school year. A wide variety of percussion techniques, styles, and music are taught, ranging from traditional western music to contemporary percussion ensemble music. Students are expected to exhibit a strong work ethic and a high level of discipline.

6831 JAZZ ENSEMBLE**10-12 YR 1.0 cr**

Prerequisites: Department audition and one year in orchestra or guitar class (for strings and guitar) or one year in concert or symphonic band (for wind and percussion).

The ensemble is made up of the standard big band instrumentation. Students learn many different styles of popular music including jazz, rock, fusion, Latin, and blues. Each student in the ensemble also learns jazz theory, jazz history, and the art of improvisation. *This class meets two days per week after school.*

6260 PIANO FUNDAMENTALS**10-12 SEM .5 cr**

This class is designed for students who are beginners or who have very little prior piano experience. This class covers basic theory and harmony, scales and arpeggios, improvisational techniques, music history, and performance practices. This course prepares students for further piano study.

6362 PIANO**11-12 SEM .5 cr****6368 PIANO HONORS****11-12 SEM .5 cr**

This piano seminar is designed for students who have completed Piano Fundamentals or students who have prior experience at the intermediate level or above. Admission to the course is based on playing experience and a placement audition. Students learn basic theory and harmony, scales and arpeggios, improvisational techniques, music history, and performance practices. This course is designed to shape a well-rounded pianist. *This course is available for honors credit with audition and instructor approval.*

6586 ADVANCED PIANO ACCOMPANIMENT**10-12 YR 1.0 cr**

Prerequisite: Admission only through audition for course instructor.

Advanced Piano Accompaniment is offered by audition to students who demonstrate a high level of proficiency on the instrument. In this course, students learn piano technique related to choral and instrumental accompaniment: how to read vocal parts from a choral score, to transpose and reduce an orchestral score, to improvise keyboard accompaniments for lead sheets, to follow a conductor or solo performer, and to sight read in a live performance setting. Students also receive practical training through participation in regular choral rehearsals and coaching from a specialist.

6370 BEGINNING GUITAR**9-12 SEM .5 cr**

Beginning Guitar is a course designed for those with little to no knowledge of how to play guitar. The focus of this class is on basic classical guitar techniques and playing styles. A mixture of older traditional songs and more contemporary pop tunes is used to educate the student on the proper methods of playing. Basic music theory, guitar history and the ability to read music are taught as well.

6380 INTERMEDIATE GUITAR**9-12 SEM .5 cr**

Admission to this class is based on playing experience and placement audition. Intermediate Guitar is a course designed for those with a basic understanding of classical guitar playing. The focus of this class is on more advanced classical guitar music and techniques. A mixture of older traditional songs and more contemporary pop tunes are used to further educate the student on the proper methods of playing. Music theory and history are taught as well.

6574 MEN'S CHORUS 9-12 YR 1.0 cr

6573 MEN'S CHORUS HONORS 11-12 YR 1.0 cr

The O'Connell Knights Men's Chorus is open to all interested 9-12 grade basso voices of any level. This ensemble performs repertoire from a variety of musical styles, cultures and historical periods. Students study introductory vocal technique, musical theory, music literacy, and performance practice, while developing skills as independent musicians. All ensembles combine to perform SATB music for select performances.

Auditions for honors level chorus are held in the spring semester.

6578 WOMEN'S CHORUS 9-12 YR 1.0 cr

6579 WOMEN'S CHORUS HONORS 11-12 YR 1.0 cr

The Women's Camarata is open to all interested 9-12 grade treble voices of any level. This ensemble performs repertoire from a variety of musical styles, cultures, and historical periods. Students study introductory vocal technique, music theory, music literacy, and performance practice, while developing skills as independent musicians.

All ensembles combine to perform SATB music for selected performances. *Audition for honors level chorus are held in the spring semester.*

6585 O'CONNELL SINGERS HONORS 10-12 YR 1.0 cr

Prerequisites: Prior choral singing experience; audition with course instructor.

The O'Connell Singers is an honors level, select treble chamber choir. The ensemble is open to highly qualified students through audition. The O'Connell Singers perform repertoire from a variety of musical styles, cultures and historical periods. Students study introductory vocal technique, music theory, music literacy, and performance practice, while developing skills as independent musicians. All ensembles combine to perform SATB music for select performances. *Auditions are held in the spring semester.*

6588 CHAMBER SINGERS 11-12 YR 1.0 cr

Prerequisites: Audition with course instruction. Co-requisite: Students must be enrolled in another choral ensemble.

The Chamber Singers is an honors level select chamber choir for soprano, alto, tenor, and bass voices. The Chamber Singers perform repertoire from a variety of musical styles, cultures, and historical periods. Students study advanced choral technique, theory, and performance practice while developing skills as independent musicians. Students are expected to have a secure knowledge of vocal production, music literacy, and basic music theory before participating in the ensemble. The group is highly selective and should be considered by singers who are hoping to pursue music in the future. Students are expected to audition for at least two honor choir opportunities (district, state, ACDA, VMEA senior honors choir, NAFME nationals). *This class meets twice per week after school.*

6650 AP MUSIC THEORY 11-12 YR 1.0 cr

Prerequisite: One year of vocal or instrumental class or ensemble.

This course is offered to students who have a strong foundation in music. Successful completion of a preparatory summer assignment is required. Students work at a college pace mastering musical rudiments such as notation, intervals, scales and keys, chords, metric organization, and rhythmic patterns. Students work on aural skills, compositional skills, sight-singing skills, and analytical skills as they apply to music theory. Students are required to take the AP Music Theory exam in May.

6660 SURVEY OF WORLD MUSIC**10-12 SEM .5 cr**

This course explores the classical and folk music of different world cultures. Students are challenged to identify the characteristics of the types of music studied and to understand how music is viewed in different cultures. Course curriculum includes reading, listening and writing assignments related to the music being studied. In addition, learning and playing a variety of world drums and instruments are explored. Students have the opportunity to learn the basics of playing world instruments. *Students must have access to a computer with Internet capability as listening is assigned from internet sources.*

6665 SURVEY OF AMERICAN MUSIC**10-12 SEM .5 cr**

This course explores the development of classical and folk music in the United States. Students are challenged to identify the characteristics of Native American music, colonial music, a variety of folk music in American history including slave songs, classical music, the blues, jazz, country and western, rock and funk. Course curriculum includes reading, listening and writing assignments related to the music being studied. *Students must have access to a computer with Internet capability as listening is assigned from Internet sources. This class also serves as an elective credit in social studies. A section of this class is offered in the summer for an additional fee.*

6955 MUSIC AND COMPUTER TECHNOLOGY**9-12 SEM .5 cr**

This course focuses on how technology has affected music performance, reproduction, and distribution. Students learn recording technology methods including live and studio recording techniques and remixing. They learn computer-based notation, sound sampling, and electronic music production and have the opportunity to utilize beat making and midi technology. *This course fulfills the computer requirement for graduation.*

MEDIA AND DRAMA**6700 INTRO TO FILM****11-12 SEM .5 cr**

This elective course presents an in-depth treatment of film as a powerful 20th and 21st century art form. Students become familiar with film language and technique, study the history of American film, and critique numerous films using the knowledge they acquire through viewing clips from the greatest movies made, as well as from full-length presentations. The course requires discussion and critical writing. Topics to be discussed include: photography, sets/ settings, movement, editing, sound, acting, drama, story, writing, ideology and theory. *This class also serves as an elective in English.*

6825 AV PRODUCTION	10-12	YR	1.0 cr
6810 AUDIO & VIDEO PRODUCTION 1	10-12	SEM	.5 cr
6815 AUDIO & VIDEO PRODUCTION 2	10-12	SEM	.5 cr

In these elective courses, student learn the fundamentals of audio digital video production concepts and techniques. The course covers all aspects of production including creating and editing an audio track, developing an idea into a plot and video script, storyboarding, coordinating all necessary actors, lighting, settings and props, filming, directing and ultimately editing a finished product using current audio and video sound editing applications from the Adobe suite. Over the full year, a minimum of eight audio projects/digital shorts will be produced, culminating in a final combo-project completed by each individual student. Students also will be required to film assemblies or sporting events for the school. Students may also produce video shorts for the morning announcements. *Course 6815 is available only in the second semester and has a prerequisite of completion of 6810 or a similar course.*

6920 ACTING	9-12	SEM	.5 cr
--------------------	-------------	------------	--------------

This acting class focuses on basic acting techniques such as improvisations, pantomime, mime, voice, diction, beginning characterization, and scene study. Exercises include monologues and group scene work. Students become acquainted with the responsibilities of a producer and director, as well as set, lighting, costume, and makeup designers.

6930 THEATER TECHNOLOGY	10-12	SEM	.5 cr
--------------------------------	--------------	------------	--------------

This semester course explores the ways that changing technology of theater affects scenography, the coordinated design of scenery, lights, costumes, and other technical aspects of stagecraft. Students learn the vocabulary of equipment, the properties of modern scene materials, the advances in technological fields, and the professional standards in design and technology. In addition, a hands-on laboratory component is part of the course: Students help design and execute the technological aspects of the acting classes' and drama club's productions.

HEALTH AND PHYSICAL EDUCATION

“The correct practice of sport requires a good team spirit, respectful attitudes, the appreciation of the qualities of others, honesty in the game and humility to recognize one’s own limitations. In short, sports, especially in less competitive forms, fosters festive celebration and friendly coexistence with the Christian outlook, becomes a “generative principle” of profound human relations and encourages the building of more serene and supportive world.” - Pope John Paul II

The personal and social benefits of good health habits and physical fitness are increasingly important today. The health and physical education department provides students with opportunities to learn about lifelong, healthy lifestyles. By reflecting the mission of the school in pursuit of excellence in the whole person, the student will be exposed to the virtues of fortitude, teamwork, and athletic endeavor as a means of drawing them to a personal relationship with Christ, to a spirit of service to others, and to developing habits of mind and body which lead to continued success.

Each student is required to earn 1.5 credits in Health/Physical Education. Students may select to be excused from .5 credits of physical education for two seasons of participation in O’Connell sports teams. Students may also request prior approval from the Dean of Academics for dance, gymnastics, equestrian competition, or other programs not available at O’Connell to satisfy this requirement.

8115 HEALTH 1 (GIRLS)	9	SEM	.5 cr
8015 HEALTH 1 (BOYS)	9	SEM	.5 cr

This semester course is designed to take a holistic approach to human health. It is based on the conviction that the human person is a unified totality and personal well-being consists in the proper integration of physical, emotional, mental, social and moral life. From this perspective, the course seeks to investigate the positive development of human well-being and certain behaviors which threaten this development. Topics to be studied include: basic factors in physical, mental, emotional and moral health; nutrition and fitness; CPR; harmful effects of drugs, steroids, and alcohol; sexual health and disease and benefits of a healthy active lifestyle. *This course is required for all students and is available in the summer (#S815) for an additional fee.*

8111 PHYSICAL EDUCATION 1/INTRO TO TEAM SPORTS (GIRLS)	9	SEM	.5 cr
8011 PHYSICAL EDUCATION 1/INTRO TO TEAM SPORTS (BOYS)	9	SEM	.5 cr

This course includes a variety of team and individual activities to meet the student’s present need for fitness and physical activity. Students are provided with knowledge of fitness components, basic rules and history, and skilled movements related to selected sports. Students will also learn the process of self-analysis related to skills in each unit and will abide by a code of sportsmanship in all settings.

(E800) An early bird section of Health (8125) & Physical Education 1 (8025) meets daily at 6:45 a.m. during the school year. There is no additional fee for this before-school class.

S800 HEALTH & PHYSICAL EDUCATION 1**9****1.0 cr**

This is a summer course that combines Health 1 and PE 1. It requires an additional fee.

This course emphasizes the development of healthy active lifestyle. Health includes selected systems of the body and their related health issues; alcohol, drugs and tobacco; infectious disease; nutrition, stress, and fitness and a unit on the implication of “bullying.” Physical Education includes a variety of team and individual activities to meet the student’s present need for fitness and physical activity and introduces activities that can be continued later as part of a healthy lifestyle.

8225 DRIVER EDUCATION WITH FIRST AID AND CURRENT ISSUES 10-11 SEM .5cr

This course includes classroom driver education instruction (36 hours) which covers all aspects of safe and responsible use of a motor vehicle. Opportunity is provided for parents to attend a Virginia-required parent meeting. Other topics included in the course are first aid and current issues such as concussion protocol.

8228 DRIVER EDUCATION WITH PHYSICAL EDUCATION 10-11 SEM .5 cr

This course consists of classroom driver education instruction (36 hours) which will cover aspects of safe and responsible use of a motor vehicle. Opportunity is provided for parents to attend a Virginia-required parent meeting. The co-ed physical education portion of the course provides students with the opportunity to take part in team activities and to maintain their physical fitness.

S801 DRIVER EDUCATION WITH FIRST AID AND PHYSICAL EDUCATION 2**10****1.0 cr**

This is a summer course and requires an additional fee.

This course includes classroom Driver Education (36 hours) and First Aid instruction. The Physical Education portion of this course includes a variety of team and individual activities to meet the individual’s present need for fitness and physical activity and introducing activities that can be continued later as part of healthy lifestyle.

(E801) An early bird section of this course meets daily at 6:45 a.m. during the school year. There is no additional fee for this before-school class.

IN CAR DRIVER EDUCATION**10-12****0.0 cr**

In-Car Driver Education is offered in the summer and during the school year on a first come, first-served basis. *A fee is charged for this instruction. No credit is offered for these sessions.*

8350 LIFETIME AND INDIVIDUAL SPORTS**10-12 SEM****.5 cr**

Prerequisite: PE 1/Introduction to Team Sports or equivalent.

This course includes continued learning of motor skills related to more team and individual sports such as track and field, tennis, ultimate frisbee, flag football, badminton, soccer, volleyball, basketball, and bowling. The course will provide opportunities to foster leadership attributes, strategic play, sportsmanship, and statistics/record keeping aspects among the sport activities.

8360 RECREATIONAL GAMES AND WELL-BEING 10-12 SEM .5 cr

This discussion/activity course focuses on the scientific underpinnings for the practice of regular physical activity to support holistic well-being. The first portion of every class explores the biopsychosocial research on regular physical activity, physical activity recommendations, and program design and implementation. The remainder of every class is experiential, devoted to engaging in regular physical activity and recreational games and tournaments such as kickball, spikeball, and dodgeball.

8445 WEIGHT TRAINING 10-12 SEM .5 cr

This course emphasizes self-improvement and will enhance the student's knowledge of physiology, endurance, and strength development. Techniques and form for weight lifting will be emphasized as students are given daily class opportunities to establish personal goals that are tracked and monitored for learning the elements of exercise program design and to allow students to demonstrate marked improvement throughout the semester.

8300 SPORTS MEDICINE 10-12 SEM .5 cr

Prerequisites: 2.5 GPA and permission of the instructor.

This course is an introduction to the many aspects of sports medicine. Instruction on common injuries to all parts of the body composes the core of the course. Many non-injury topics are also covered such as sport nutrition, drug abuse in sports, sport psychology, medical conditions and sports participation, sports performance enhancement, and exercise in heat and cold. Careers in sports medicine and an introduction to current literature are also included.

8448 PERSONAL FITNESS FOR ATHLETES 10-12 SEM .5 cr

Prerequisites: PE 1/Introduction to Team Sports or participation in a school sport.

This course is designed to help student athletes who are participating in a school sport develop personal health and skill goals. Besides athletic team preparation, this course consists of group conditioning, strength training, and other athletic skills. The emphasis of the class will be on improving the overall fitness of each athlete by supplying all students with an in-depth understanding of fitness components and techniques used in exercise prescription for health, fitness for the skills appropriate for each athlete, education on basic nutrition principles for athletes, and hands-on experiences to build personal programs to train for each individual sport.

8320 NUTRITION FOR A HEALTHY LIFESTYLE 10-12 SEM .5 cr

This course explores the foundations of a healthy diet, including recommended nutrients, budget-conscious selection and preparation of foods, and strategies for navigating complex, and sometimes contradictory nutrition information. Students explore the role that key nutrients play in chronic disease prevention and the political and cultural role food plays in our society. This class provides students with a general understanding of the key principles of a healthy diet and provides guidance on strategies for sustainable lifestyle behavior change.

MATHEMATICS

The mission of the math department at Bishop O’Connell High School is to prepare each student for future courses in mathematics and related disciplines, to instill competence and confidence in students to continue their education in math related fields beyond high school, and to demonstrate the value of living a life rooted in Christ.

Freshman placement is based on several factors: high school placement scores in math, math grades in 8th grade, and algebra exemption exam scores. Students may elevate a level in their next math course if they have an A in their current class. Students must maintain a B average to remain in Honors courses.

Freshmen starting in Algebra 1/A wanting to progress to Calculus before leaving high school may schedule Geometry and Algebra 2/Trig simultaneously in 10th grade or take the summer Geometry class, followed by the Geometry exemption exam, in order to be placed in Algebra 2/Trig in the 10th grade.

Please Note – A graphing calculator is required for all math classes.

Mathematics Course Map

Grade 9	Algebra 1/A	Algebra 2/Trig	Algebra 2/Trig Honors
	▼	▼	▼
Grade 10	Geometry Geometry/A Geometry Honors Geom/A & Alg2/Trig	Geometry/A Geometry Honors Pre-Calculus Pre-Calculus Honors	Geometry/A Geometry Honors Pre-Calculus Pre-Calculus Honors
	▼	▼	▼
Grade 11	Algebra 2 Algebra 2/Trig Algebra 2/Trig Honors Pre-Calculus	Pre-Calculus Pre-Calculus Honors College Math Topics Calculus Honors AP Calculus AB Statistics AP Statistics	Pre-Calculus Pre-Calculus Honors Calculus Honors AP Calculus AB AP Calculus BC Statistics AP Statistics
	▼	▼	▼
Grade 12	Pre-Calculus Pre-Calculus Honors Calculus Honors College Math Topics Statistics AP Statistics	Pre-Calculus Pre-Calculus Honors Calculus Honors AP Calculus AB AP Calculus BC Statistics AP Statistics	Calculus Honors AP Calculus AB AP Calculus BC Multivariate Calculus Linear Algebra Statistics AP Statistics

3110 ALGEBRA 1/A**9 YR 1.0 cr**

This course covers fundamental algebra in-depth. Topics include: the language of algebra; properties of real numbers; solving equations and inequalities in one and two variables; multiplying and factoring algebraic numbers; rational numbers and irrational numbers; solving equations involving rational and irrational numbers; solving systems of linear equations and linear inequalities and their graphs; simplifying radical terms, and solving equations by factoring. Word problems concerning distance, rate and time, percentages, interest, geometric figures, and number problems are taught as they occur in the text. Students are introduced to the graphing calculator with linear equations and solving systems of linear equations. *The class is paced so that students can enter an honors class in tenth grade or continue the four-year college-prep mathematics program.*

NCAA**3309 ALGEBRA 2/TRIGONOMETRY****9 YR 1.0 cr**

Prerequisites: Placement in this course is based on the results of the Diocesan Algebra Exemption Exam or HSPT Math score ≥ 88 and a B in Algebra 1.

Beginning with a review of the basics of first-year algebra, the students are led to a more detailed study of the polynomial and the concept of functions. Topics that are presented for study include exponents, radicals, factoring, rational expressions, quadratic equations, and complex numbers. The fundamentals of trigonometry are presented in the fourth quarter. *Placement in this course is based upon the results of the Diocesan Algebra Exemption Exam.* **NCAA**

3350 ALGEBRA 2/TRIGONOMETRY HONORS**9-11 YR 1.0 cr**

Prerequisites: A in Algebra 1/A or departmental approval. For students entering the 9th grade, placement in this course is based on the results of the Diocesan Algebra Exemption Exam or HSPT Math score ≥ 88 and a B in Algebra 1.

This course begins with a review of the basic concepts of first-year algebra followed by the topics of Algebra 2. These topics include: linear functions and relations, systems of equations and inequalities, matrices, quadratic functions, exponential and logarithmic functions, polynomial functions, rational and radical functions, statistics and conic sections. The study of trigonometry, which takes place in the fourth quarter includes radian measure, trigonometric functions and identities, and solving general triangles.

NCAA**3280 GEOMETRY****10 YR 1.0 cr**

This course is an axiomatic approach to the basic theorems of Euclidean geometry. It uses an integrated approach to the study of plane and solid geometry, including proofs. A study of the areas and volumes of two-dimensional and three-dimensional figures is included in the course. A thorough study of the right triangle is taught as a brief introduction to trigonometry. This is a complete course in geometry using hands-on work to discover the concepts of geometry. **NCAA**

3220 GEOMETRY/A**10 YR 1.0 cr**

Prerequisites: C in Algebra 1/A.

This course is an axiomatic approach to the basic theorems of Euclidean geometry. It uses an integrated approach to the study of plane and solid geometry, including proofs. Included in the course is a study of the areas and volumes of two-dimensional and

three-dimensional figures. A thorough study of the right triangle is taught as a brief introduction to trigonometry. **NCAA**

3230 GEOMETRY HONORS

10 YR 1.0 cr

Prerequisites: B- in Algebra2/Trig Honors; B+ in Algebra2/Trig; A+ in Algebra 1/A; or department approval

This course is an axiomatic approach to the basic theorems of Euclidean geometry. It uses an integrated approach to the study of plane and solid geometry, including proofs. Included in the course is a study of the areas and volumes of two-dimensional and three-dimensional figures. A thorough study of the right triangle is taught as a brief introduction to trigonometry. This course is taught at a rigorous pace with significant emphasis on proofs. Course content also includes construction, loci, coordinate geometry, and transformations. **NCAA**

3380 ALGEBRA 2

11-12 YR 1.0 cr

Prerequisites: C in Algebra 1 and Geometry or completion of summer Algebra enrichment course.

This course is required for students who have completed Algebra 1 and Geometry and do not meet the prerequisites for Algebra 2/Trig. Building upon the basic elements of first year algebra, this course develops a full range of Algebra 2 concepts. Topics include polynomials and the concept of functions, exponents, radicals, factoring, rational expressions, quadratic equations, complex numbers, conic sections, probability, and an introduction to the basic elements of trigonometry. **NCAA**

3300 ALGEBRA 2/TRIGONOMETRY

10-11 YR 1.0 cr

Prerequisites: B- in Algebra 1/A; or departmental approval. Students with a C or C+ in Algebra 1/A wishing to take this course must pass an approved online Algebra 1 refresher over the summer.

Beginning with a review of the basics of first-year algebra, the students are led to a more detailed study of the polynomial and the concept of functions. Topics that are presented for study include exponents, radicals, factoring, rational expressions, quadratic equations, and complex numbers. The fundamentals of trigonometry are presented in the fourth quarter. **NCAA**

3400 COLLEGE MATH TOPICS

11-12 YR 1.0 cr

Prerequisites: Satisfactory completion of Geometry and Algebra 2 or Algebra 2/Trig; or department approval.

This course is designed to introduce students to new concepts in mathematics including right triangle trigonometry, set theory, logic, number representation and probability. Students improve upon skills previously acquired in Algebra 1, Algebra 2 and Geometry through application to practical problems that model "real world" challenges. Students continue to develop their mathematical skills in problem solving, inductive and deductive reasoning, voting and apportionment methods, graphing, mathematical modeling, number theory, and linear programming. This is a course primarily designed for seniors who wish to apply their mathematical skills in science, business, financial management, statistics and surveys. **NCAA**

3410 PRE-CALCULUS**10-12 YR 1.0 cr**

Prerequisites: B in Algebra 2/Trig; A in Algebra 2; or department approval.

This course is intended for students who wish to continue a college prep math curriculum beyond Algebra 2/Trig and subsequently take a calculus course. Topics covered are: a review of linear and quadratic functions, polynomial functions and their inverses, conic sections, exponents and logarithms and trigonometry with a concentration on radian measure, series, sequences, limits, and combinatorics. **NCAA**

3450 PRE-CALCULUS HONORS**10-12 YR 1.0 cr**

Prerequisites: B in Algebra 2/Trig Honors; A+ in Algebra 2/Trig; or department approval.

This course is designed for the student who wishes to continue a college prep curriculum and subsequently take an AP or Honors Calculus course. Topics include a review of linear and quadratic functions, polynomial functions and inverses, exponents and logarithms, trigonometry, probability, series, sequences, limits and graphing techniques using transformations, and combinatorics. This course is enriched with an introduction to derivatives. Emphasis is divided between theory and problem solving. **NCAA**

3510 CALCULUS HONORS**11-12 YR 1.0 cr**

Prerequisites: B in Pre-Calculus; C in Pre-Calculus Honors; or department approval.

This course is intended for the student who would like an introduction to calculus without the pressure of an Advanced Placement pace. Without the need for an extended review to prepare for the AP exam, this course covers all the computational skills and applications of Calculus AB, but at a less rigorous pace. See 3550 AP Calculus AB for the list of skills and applications for this course. **NCAA**

3550 AP CALCULUS AB**11-12 YR 1.0 cr**

Prerequisites: B in Pre-Calculus Honors or department approval.

This college level calculus course culminates with the Advanced Placement test in AB Calculus in May. The concepts of limits and continuity are developed into differential calculus, covering the derivative geometrically, numerically and analytically. Derivatives of trigonometric, exponential, logarithmic and inverse functions, the chain rule, and implicit differentiation are studied. Applications of derivatives include curve analysis, related rates, growth and decay, and velocities and accelerations. Second semester topics include: integral calculus; the computations of various Riemann sums and applications of integral calculus including topics such as area between curves; rotations of solids and average value. In addition to the curriculum outlined by the College Board, this course is enriched with additional calculus topics. All students must take the AP Calculus AB exam in May. *A graphing calculator is required for this course and for the AP exam. A summer project reviewing pre-calculus topics is also required.* **NCAA**

3560 AP CALCULUS BC**11-12 YR 1.0 cr**

Prerequisites: C in Calculus AB; B+ in Calculus Honors; A+ in Pre-Calculus Honors; or department approval.

This college level calculus course culminates with the Advanced Placement test in Calculus BC in May. The concept of differential calculus is developed, including the derivatives of polynomial, trigonometric, exponential, and logarithmic functions, and their inverses are studied. Rules for differentiation and applications of derivatives are studied, including the chain rule, implicit differentiation, curve analysis, related rates,

growth and decay, and kinematics. Numerical methods such as Euler's method and Newton's method are also covered. Second semester topics include: integral calculus and applications of integral calculus including topics such as area between curves; rotations of solids and average value of a function. Numerical integration methods such as Riemann sums are also presented. Additionally, the course includes multivariable calculus, vector calculus, Taylor and Maclaurin series representations of functions, and polar curves. All students must take the AP Calculus BC exam in May. For any student enrolled in AP Physics C, it is highly recommended to enroll in AP Calculus BC concurrently. *A graphing calculator is required for this course and for the AP exam. A summer project reviewing pre-calculus topics is also required. NCAA*

3570 MULTIVARIATE CALCULUS

11-12 YR 1.0 cr

Prerequisites: B in Calculus BC; A in Calculus AB; or department approval. Students from Calculus AB must score 4 or 5 in the AP Calculus AB exam. Students not achieving those scores will be scheduled for AP Calculus BC.

This honors level study of multivariable calculus includes a review of Calculus BC topics not studied in Calculus AB; Taylor and Maclaurin series, polar curves and vector/parametric calculus. The course also includes elementary three-dimensional geometry, vector-valued functions, partial differentiation, multiple integration, and computations using Green's and Stokes' theorems. Students are introduced to the appropriate use of computer algebra software to create three-dimensional graphs and to perform difficult numerical integration. *A TI-83, TI-84 or any of the college board approved TI-Nspire graphing calculators is required. NCAA*

3580 LINEAR ALGEBRA AND PROOF TECHNIQUES

11-12 YR 1.0 cr

Prerequisites: B in Calculus BC; A in Calculus AB; or department approval. Students from Calculus AB must have scored a 4 or 5 in AP Calculus AB exam. Students not achieving the required AP AB scores will be scheduled for AP Calculus BC.

This honors level study of Linear Algebra includes a review of Calculus BC topics not studied in Calculus AB; Taylor and Maclaurin series, polar curves and vector/parametric calculus. Linear Algebra provides an introduction to proofs through the study of real vector spaces, linear transformations, matrices, determinants, eigenvalues, and eigenvectors. The course will be proof-based with an emphasis on concepts and logic. *A TI-83, TI-84, or any of the college board approved TI-Nspire graphing calculators is required. NCAA*

3600 STATISTICS AND PROBABILITY HONORS

11-12 YR 1.0 cr

Prerequisites: B in Algebra 2/Trig; C in Pre-Calculus; or department approval.

An introduction to probability and statistics at a pre-calculus level, this course provides an opportunity to explore and understand the statistics encountered daily in life. Emphasis is on basic concepts including organizing and displaying data, averages and variation, probability theory, binomial probability distribution, normal and sampling distribution, estimation and hypothesis testing. Statistics involves applied mathematics with meaningful problems preparing the student for all fields of college study. *This course is available for dual credit through Marymount University. NCAA*

3650 AP STATISTICS**11-12 YR 1.0 cr**

Prerequisites: B in Pre-Calculus; B- in Pre-Calculus Honors; or department approval.

This college level, pre-calculus-based statistics course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. The course culminates with the Advanced Placement Test in Statistics in May. The students interpret univariate data, explore bivariate data, and learn probability theory, the normal curve, confidence intervals, and tests of significance, adhering to the curriculum outlined by the College Board. **NCAA**

SCIENCE

The science department ensures that students learn and practice critical concepts in biology, chemistry, physics and engineering in order to better understand the scientific principles that govern the way the world operates and gain insight into the nature of God. An emphasis is placed on developing laboratory, critical thinking and problem solving skills and fostering an attitude of inquiry and investigative thought, while staying current with a world of ever-expanding scientific knowledge and technology.

The science department offers the courses necessary to meet the needs of the science education of a college preparatory student. These courses are offered at college prep, honors and AP levels. All science courses meet or exceed the guidelines recommended by the Virginia Standards of Learning and the National Science Foundation.

COURSE	NEXT COURSE OPPORTUNITIES	ADDITIONAL ELECTIVES
Biology 1	Chemistry Chemistry Honors Intro to Engineering Design	Intro to Engineering <i>Open to Grades 10-12</i> Principles of Engineering <i>Open to Grades 10-12 with completion of Alg2/Trig</i> Civil Engineering and Architecture <i>Open to Grades 11-12 with completion of previous Engineering course.</i> AP Computer Science Principles <i>Open to Grades 11/12 with completion of previous Engineering course.</i> Genetics Honors (SEM) Organic Chemistry Honors (SEM) <i>Open to Grades 11-12 with completion of Biology & Chemistry</i> Independent Research <i>Open to Grades 10-12 with department approval</i>
Biology 1 Honors	Chemistry Chemistry Honors Chemistry Honors AND AP Biology	
Intro to Engineering	Chemistry	
Chemistry w/Alg 2 or Geometry/A	AP Biology Anatomy/Physiology Anatomy/Physiology Honors Ecology Intro to Engineering	
Chemistry w/Alg 2/Trig	Physics Physics Honors AP Physics 1 AP Biology AP Chemistry Anatomy/Physiology Anatomy/Physiology Honors Principles of Engineering	
Chemistry Honors	Physics Physics Honors AP Physics 1 AP Biology AP Chemistry AP Environmental Science Anatomy/Physiology Anatomy/Physiology Honors Principles of Engineering	
Physics	AP Biology AP Chemistry AP Environmental Science Anatomy/Physiology Anatomy/Physiology Honors Ecology Principles of Engineering	
Physics Honors or AP Physics 1	AP Physics 2 AP Physics C AP Biology AP Chemistry AP Environmental Science Anatomy/Physiology Anatomy/Physiology Honors Principles of Engineering	

4200 BIOLOGY 1**9-10 YR 1.0 cr**

Biology 1 is a lab-based introductory college preparatory course in which a philosophical and scientific approach are used in order to better understand the role and dignity of human beings within the context of creation. This course provides a broad overview and introduction to the following topics: ecology, molecular biology, genetics, biotechnology, bioethics and evolution. Labs and computer-based activities are an integral part of this course. **NCAA**

4210 BIOLOGY 1 HONORS**9-10 YR 1.0 cr**

Prerequisites: HSPT Composite \geq 90 with an A in Science 8 and a B in Algebra 1; or results of English honors qualifying exam.

Biology 1 Honors is a course intended for students who exhibit an above average interest and ability in science and a sufficient level of academic maturity. This is an introductory course which utilizes the molecular approach to the study of biology. A current, comprehensive background of biology is presented so that the student may make intelligent decisions concerning topics such as growth and development, evolution, genetic engineering, cellular energy, and DNA. The course relies heavily on daily readings and study and includes laboratory experiences with emphasis on experimental design, critical thinking, and problem-solving skills. **NCAA**

4000 INTEGRATED BIOLOGY AND ENGLISH (IBE)**9 YR 2.0 cr**

Prerequisites: Students must meet qualifications for Biology 1 Honors.

IBE is an interdisciplinary course that integrates Biology 1 Honors (4210) and English 1 (1100) with an authentic community-based field research program. This integrated course, which maintains the full content of both Honors Biology (4210) and English 1 (1100) curricula, is designed to capitalize on the natural connections between these science and language arts courses through an ongoing interdisciplinary research project focused on local environmental issues. Informational writing and technology are used to enhance students' conceptual understanding and real-world problem solving skills. This course is designed for students with above average academic maturity and ability, a strong interest in both science and effective communication, and a commitment to a collaborative work ethic. This Biology Honors/English 1 integration links the two courses through an ongoing research project, at the same time preserving the distinctive components of each discipline. Students earn 1.0 credit in Biology 1 Honors (4210) and 1.0 credit in English 1 (1100). *This is not an English 1 Honors course.*

The Biology 1 Honors (4210) component of this course emphasizes the molecular approach to the study of biology including chemistry for biology students, cell biology, bioenergetics, heredity, molecular genetics, evolutionary biology, diversity of organisms, and ecology as major units of study. A current, comprehensive background of biology is presented. The course relies heavily on daily readings and study and includes laboratory experiences with emphasis on experimental design, critical thinking, and problem-solving skills.

The English 1 (1100) component of this course includes instruction in both language skills and literature. The literature program introduces students to the various literary genres, providing study in the epic, short story, novel, poetry, and drama. The course emphasizes critical reading and critical thinking skills, supplementing the college prep English 1 experience with opportunities for technical writing and research. Vocabulary study is stressed and is taken from the reading, as well as supplementary sources. **NCAA**

4300 CHEMISTRY**10-12 YR 1.0 cr**

Prerequisites: C in Biology; B in Algebra 1/A; or departmental approval. Co-requisite: Algebra2/Trig.

This is an introductory general chemistry course designed for a well-rounded liberal arts education. The composition and behavior of matter and energy are the focus. Students are expected to develop problem-solving skills which are both mathematical and conceptual. Laboratory experiences are designed to enhance and reinforce classroom instruction. **NCAA**

4350 CHEMISTRY HONORS**10-12 YR 1.0 cr**

Prerequisites: B in Biology Honors; A in Biology with B in Algebra 2/Trig Honors or B+ in Algebra 2/Trig; or department approval.

This course is a college preparatory introduction to the study of matter which emphasizes conceptual understanding as well as in-depth mathematical problem-solving. The course curriculum includes: states of matter, kinetics, equilibrium, atomic theory, acids and bases, and other selected topics. Additional time is scheduled for laboratory experiences to support classroom instruction, to practice inductive reasoning skills, to develop concepts of experimental design; and to emphasize data collection and report writing skills. Students are expected to develop and apply analytical thinking and communication skills to theoretical and applied aspects of chemistry. *A graphing calculator is required.* **NCAA**

4400 PHYSICS**11-12 YR 1.0 cr**

Prerequisites: B- in Chemistry and B- in Algebra 2/Trig; A- in Algebra 2 with concurrent enrollment in College Math Topics; or department approval.

This course presents the physics concepts that form a foundation for the studies of science, technology, and engineering and focuses on discovering relationships between facts and the patterns that exist in nature. Demonstrations, laboratory exercises, and problem solving using mathematical and graphical techniques are incorporated into these concepts. There is an emphasis on thinking and reasoning to solve problems and apply what has been learned. **NCAA**

4430 PHYSICS HONORS**11-12 YR 1.0 cr**

Prerequisites: B- in Chemistry Honors and in Algebra 2/ Trig Honors; B+ in Chemistry and Algebra 2/Trig; or department approval.

Honors provides a rigorous analysis of the main principles of classical and modern physics and emphasizes the development of critical thinking and problem-solving strategies. Mathematical reasoning, laboratory experiences, some computer-based, and calculator graphing and programming are utilized in the development of the principles involved and the ability to apply these principles in the solution of problems. Topics include kinematics, dynamics, work, energy, waves, light and optics, mechanics, and electricity. A programmable graphing calculator is required. **NCAA**

4460 AP PHYSICS 1**11-12 YR 1.0 cr**

Prerequisites: B in Chemistry Honors and Algebra 2/ Trig Honors; A- in Chemistry and Algebra 2/Trig; or department approval.

AP Physics 1 is an algebra-based, introductory college-level physics course that explores topics such as Newtonian mechanics (including rotational motion), work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Through inquiry-based learning, students develop scientific critical thinking and reasoning skills. Students are required to take the AP College Board Physics 1 exam in May. *Graphing calculators are required. This course fulfills the computer requirement for graduation. NCAA*

4470 AP PHYSICS 2**11-12 YR 1.0 cr**

Prerequisites: C in AP Physics 1; B in Physics Honors; or department approval. Co-requisite: Pre-Calculus Honors (3450) or Calculus (3510, 3550, 3560).

AP Physics 2 is an algebra-based, introductory college-level physics course that explores topics such as fluid statics and dynamics, thermodynamics with kinetic theory; pressure/volume diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics. Through inquiry-based learning, students develop scientific critical thinking and reasoning skills. Students are required to take the AP College Board Physics 2 exam in May. *Graphing calculators are required. This course fulfills the computer requirement for graduation. NCAA*

4490 AP PHYSICS C**11-12 YR 1.0 cr**

Prerequisites: B+ in AP Physics 1; B+ in Physics Honors (4430); or department approval. Co-requisite: Calculus (3510, 3550, 3560, 3570).

Advanced Placement Physics C is designed as a follow-up to an introductory physics course. The curriculum is equivalent to a first year college-level physics course for those students majoring in science and engineering. Emphasis is placed on advanced techniques of problem-solving, including the use of calculus. Students are required to take the two AP College Board Physics C exams in May. **NCAA**

4250 AP BIOLOGY**11-12 YR 1.0 cr**

Prerequisites: B in Biology Honors and B in Chemistry Honors; A- in Biology and B+ in Chemistry; department approval. Rising sophomores may be invited by the science department to schedule AP Biology with Chemistry Honors based on commitment to a strong work ethic, consistently high grades (A- in Biology Honors, B+ in Algebra 2/ Trig Honors, or A- in Algebra 2/Trig), and advanced lab skills.

The AP Biology curriculum encompasses “four big ideas”: evolution, cellular processes, genetics, and interactions, with essential knowledge and process skills that support each one. AP Biology is a rigorous and demanding course which is equivalent to a full-year introductory college biology course. Content is covered in depth with strong emphasis on scientific process and analytical thinking. In addition, statistical analysis of data and modeling of concepts is expected. Labs, analytical discussion of results, and inquiry during class sessions require significant amounts of study and preparation beyond class time. *Juniors and seniors enrolling in the class are highly encouraged to participate in a two-day summer workshop being offered to review Biology 1 skills and concepts. Students are required to take the AP College Board Biology exam in May. This course fulfills the computer requirement for graduation. NCAA*

4370 AP CHEMISTRY**11-12 YR 1.0 cr**

*Prerequisites: B in Chemistry Honors and Algebra 2/Trig Honors; or department approval.
Co-requisite: AP Physics or Honors Physics.*

The AP Chemistry course is designed to be the equivalent of the general chemistry course usually taken during the first college year. For some students, this course enables them to undertake, in their first year, second-year work in the chemistry sequence at their institution or to register in courses in other fields where general chemistry is a prerequisite. For other students, the AP Chemistry course fulfills the laboratory science requirement and frees time for other courses. There is a strong emphasis on independent reading and study as well as on laboratory skills. The course provides students with the conceptual framework, factual knowledge, and analytical skills necessary to deal with the rapidly evolving science of chemistry. Students are required to take the AP College Board Chemistry exam in May. *This course fulfills the computer requirement for graduation. NCAA*

4290 AP ENVIRONMENTAL SCIENCE**11-12 YR 1.0 cr**

Prerequisites: B+ in Biology and in Chemistry; or department approval.

Co-requisite: Physics, Physics Honors, or AP Physics 1.

This college level interdisciplinary course integrates scientific principles of chemistry, biology, and earth science to understand interrelationships of the natural world.

The class explores topics such as ecology, populations, resource use, pollution, and biodiversity. Environmental problems, both natural and man-made, are identified and analyzed in classroom lectures, labs, field work, and independent projects. This course prepares students for the required AP Environmental Science exam in May. **NCAA**

4270 ECOLOGY**11-12 YR 1.0 cr**

Prerequisites: C in Biology and Chemistry.

In Ecology, students study how populations of organisms are affected by competing organisms, symbiotic relationships, predator/prey interactions, evolutionary changes, and interactions with humans. Unique characteristics of terrestrial and aquatic ecosystems are examined including plant and animal species, ecosystem services, and primary productivity. Students learn how humans have affected ecosystems and what conservation efforts are being undertaken to preserve the Earth's biodiversity. During fourth quarter, students focus in greater detail on local ecosystems by studying the characteristics of Eastern forests and learning to identify local tree and animal species.

NCAA**4500 ANATOMY & PHYSIOLOGY****11-12 YR 1.0 cr**

Prerequisites: C in Biology and Chemistry.

Anatomy and physiology is the study of the structure and function of the body. The course begins with a review of basic cell concepts, including cell structure, cell reproduction, and protein synthesis. The class then examines major tissue types before discussing each of the organ systems in detail. Health issues such as immunity, common genetic disorders, and cancer are also investigated. Projects and laboratory activities enhance the learning experience. **NCAA**

4530 ANATOMY & PHYSIOLOGY HONORS**11-12 YR 1.0 cr**

Prerequisites: B in Chemistry with a B in Biology Honors or an A in Biology 1; or department approval.

This course is designed for students who have demonstrated an above average proficiency in previous science courses. Anatomy and physiology is the study of the structure and function of the body. The course begins with a review of basic cell concepts, including cell structure, cell reproduction, and protein synthesis. The class then examines major tissue types before discussing each of the organ systems in detail. Health issues such as immunity, common genetic disorders, and cancer are also investigated. This course requires a significant amount of additional reading and the completion of several in-depth projects and laboratory activities. **NCAA**

4555 GENETICS HONORS**11-12 SEM .5 cr**

Prerequisites: B+ in Biology Honors or A- in Biology; B in Chemistry Honors or A- in Chemistry; or department approval.

Genetics is the study of inheritance and how genes act to produce the characteristics of a living organism. In this course, students learn about the principles of inheritance. Genetics is a laboratory class that emphasizes problem-solving, decision-making, and critical thinking. Emphasis is placed on the (1) molecular basis of heredity, (2) molecular structure and replication of genetic material, (3) patterns of Mendelian and non-Mendelian inheritance, (4) genetic diseases, and (5) biotechnological applications. Related bioethical questions are discussed as they arise.

4645 ORGANIC CHEMISTRY HONORS**11-12 SEM .5 cr**

Prerequisites: B in Chemistry Honors, A in Chemistry.

This course is designed for motivated students who hope to pursue careers in chemistry, biochemistry or medicine. Students are introduced to nomenclature, synthesis, characterization, and reactions of organic molecules. The course includes the study of infrared, UV-Visible, and Raman spectroscopy, molecular orbital theory, liquid and gas chromatography, fluorescence, refractometry, mass spectrometry, and nuclear magnetic resonance spectroscopy. Student are required to read peer-reviewed scientific journal articles to learn about current research in the field. Laboratory activities provide students with significant hands-on experience.

“PROJECT LEAD THE WAY” ENGINEERING**4620 INTRODUCTION TO ENGINEERING DESIGN****9-12 YR 1.0 cr**

Prerequisites: Successful completion of Algebra 1; or department approval.

Prerequisite or Co-requisite: Biology 1.

Introduction to Engineering Design is a Project Lead the Way course that focuses on the process of engineering design and its application. Through hands-on projects, students apply STEM concepts, understand important standards in the various fields of engineering, and document their work in solving engineering-based problems. Students use industry standard 3-D modeling software to design solutions as well as an engineer notebook for the recording of all data. Students conclude projects by presenting their work to peers and faculty members. Ninth graders may enroll in this course as a second

science with department permission. *This course fulfills the computer requirement of graduation.*

4665 PRINCIPLES OF ENGINEERING

10-12 YR 1.0 cr

Prerequisites: C in Algebra 2/Trig.

Co-requisite: Physics or department approval.

This Project Lead the Way course emphasizes the underlying principles of engineering and technology. Students apply STEM concepts to real-world problems to develop critical thinking and problem solving skills in four engineering disciplines: civil, mechanical, electrical, and aerospace engineering. Students improve their use of mathematical analysis, computer simulations, and scientific method. Engineers often work as part of a team to plan, design, and supervise the development of a project from conception through completion. This course emphasizes project work and team-based assignments. It is intended for students with strong STEM skills who have an interest in engineering as a career. *This course fulfills the computer requirement for graduation.*

NCAA

4675 CIVIL ENGINEERING AND ARCHITECTURE

11-12 YR 1.0 cr

Prerequisites: Completion of Introduction to Engineering Design or Principles of Engineering; C in Algebra 2/Trig; or department approval.

In this Project Lead the Way course, students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures. In addition, students use 3D design software to design and document solutions for major course projects. Students communicate and present project results to their peers and members of a professional community of engineers and architects. This course emphasizes project work and team-based assignments. It is intended for students with strong STEM skills who have an interest in engineering or architecture as a career. *This course fulfills the computer requirement for graduation.*

7775 AP COMPUTER SCIENCE PRINCIPLES

10-12 YR 1.0 cr

Prerequisites: B in Algebra 2/Trig and completion of an engineering class (or a computer class with department approval).

AP Computer Science Principles offers a multidisciplinary approach to exploring the underlying principles of computation. Using the Python programming language as a primary tool and incorporating multiple platforms and languages for computation, this course introduces students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem-solving. Students are required to complete the AP Computer Science Principles through-course assessment and end of course exam administered by College Board in May. *This course is a Project Lead the Way (PLTW) engineering offering and fulfills the computer requirement for graduation.*

INDEPENDENT RESEARCH

4700 INDEPENDENT RESEARCH

10-12 YR 1.0 cr

Prerequisite: Approval from department chairperson and Independent Research Coordinator.

This course is designed to give students the opportunity to perform in-depth scientific research on a particular topic. Emphasis is placed on experimental design, laboratory skills, library research, and computer technology. Appropriate forms of statistical analysis are taught and utilized for research purposes. Students are required to produce a project/paper for submission to regional science fairs, the Virginia Junior Academy of Science, and competitions such as Intel and Toshiba. Networking with area universities and scientific agencies is encouraged. Students who wish to be considered for this course must exhibit a strong, independent work ethic, consistently high grades and advanced lab skills. Students should also understand that this course will likely require significant work outside of normal school hours. *This elective course does not fulfill the science requirements for graduation.*

SOCIAL STUDIES

	REQUIRED COURSES	ELECTIVES
Grade 9	<p style="text-align: center;">5100 World History 5150 World History Honors</p>	
Grade 10	<p style="text-align: center;">5175 World Geography 5965/5180 Fundamentals of Economics with The Developing World 5965/5280 Fundamentals of Economics with African American History 5255 Modern European History Honors 5250 AP Modern European History</p>	
Grade 11	<p style="text-align: center;">5300 U.S. & Virginia History 5320 U.S. & Virginia History Honors 5350 AP U.S. History</p>	<p style="text-align: center;">5190 AP Human Geography (SEM) 5470 AP Comparative Government and Politics (SEM) 5510 AP Economics 5590 AP Psychology 6049 AP Art History 6860 Humanities Honors 5580 Psychology 5280 African-American History (SEM) 5180 The Developing World (SEM) 5760 Issues for the 21st Century (SEM) 5287 U.S. Civil Rights and Civil Liberties (SEM) 5620 Criminal Justice (SEM) 5965 Fundamentals of Economics (SEM) 5515 International Business (SEM)</p>
Grade 12	<p style="text-align: center;">5405 U.S. Government with Foreign Affairs 5440 U.S. Government Honors with Foreign Affairs 5415 U.S. Government with Advocacy/ Public Policy 5430 U.S. Government Honors with Advocacy /Public Policy 5425 U.S. Government with Social Justice 5465 AP U.S. Government and Politics</p>	

The Bishop O’Connell High School social studies department desires to transform students into informed, faith-filled citizens, able to navigate a new global community. We seek to affirm the whole person through a deeper understanding of the social and cultural events of the past and the present, as well as through a fuller comprehension of both domestic and global issues. To reach this goal, we are committed to providing challenging and engaging learning experiences for students by employing creative pedagogies and leveraging the use of a variety of instructional technologies.

It is our faith that leads us and our Church that calls us to a different kind of political engagement: one shaped by the moral convictions of well-formed consciences and focused on the dignity of every human being, the pursuit of the common good, and the protection of the weak and the vulnerable. As a key part of our curriculum, each student

is offered opportunities to engage in citizenship and advocacy. These opportunities expand civic knowledge, develop participation skills, and support the belief that, in a democracy, the actions of each person make a difference. Throughout the social studies curriculum, students are given a chance to apply their faith-based civic knowledge, skills and values as they work to discuss real issues in the nation and the world.

Those who qualify for Honors and Advanced Placement are encouraged to select those courses.

5100 WORLD HISTORY

9 YR 1.0 cr

World History is a survey course covering the major political, economic, social, religious, and cultural developments of the peoples of the world. The course is presented chronologically, beginning with prehistoric times and continuing into modern times. Emphasis is placed on the development of Western civilization, but students are also introduced to the major achievements of non-Western civilizations and cultures woven into the continuing development of humanity. Social studies skills such as analysis, interpretation, and evaluation are explored and practiced by the students. **NCAA**

5150 WORLD HISTORY HONORS

9 YR 1.0 cr

Prerequisites: HSPT reading scores ≥ 90 and an A in Social Studies 8; or results of English honors qualifying exam.

This course provides students with a challenging and stimulating view of world history. Beginning with human origins and the earliest civilizations, the course develops an in-depth knowledge of the human presence in the world along the path of history through the present. Emphasis is placed on the development of Western civilization, but students are also introduced to the major achievements of non-Western civilizations and cultures woven into the continuing development of humanity. Instructional format is multifaceted with the use of lectures, questioning and exchange, independent research using the Internet, and frequent written assignments (projects and papers) based on the student's research. **NCAA**

5175 WORLD GEOGRAPHY

10-12 YR 1.0 cr

Prerequisites: Completion of World History or World History Honors.

This course focuses on the world's peoples, places, and environments. The knowledge, skills, and perspectives of the course are centered on the world's peoples and their cultural characteristics, landforms and climates, economic development, and migration and settlement patterns. Spatial concepts of geography are used as a framework for studying interactions between humans and their environments. Using geographic resources and current events, students employ inquiry, research, and technology skills to ask and answer geographic questions. Particular emphasis is placed on students' understanding and applying geographic concepts and skills to their daily lives. **NCAA**

5255 MODERN EUROPEAN HISTORY HONORS**10-12 YR 1.0 cr**

Prerequisites: B+ in World History or B in World History Honors; and B in current English class; or department approval.

This course studies European history from the origins of the Renaissance to the fall of Eastern European communism, the reunification of Germany, and the movement to create a united Europe. Emphasis is placed on analysis of primary source materials, development of analytical reading skills, coherent essay writing, and independent thought and study skills. Students engage ideas and themes in a variety of ways including project-based learning and guided research. **NCAA**

5250 AP MODERN EUROPEAN HISTORY**10 YR 1.0 cr**

Prerequisites: A+ in World History or B+ in World History Honors; and B+ in current English class; or department approval. A writing sample may be required.

The course studies the history of Europe from the origins of the Renaissance to the fall of Eastern European communism, the reunification of Germany, and the movement to the creation of a united Europe. Emphasis is placed on analysis of primary source materials, development of analytical reading skills, coherent essay writing, and independent thought and study skills. All students enrolled in this course are required to take the AP European History exam in May. *The completion of a summer project is required by the beginning of school.* **NCAA**

5965 FUNDAMENTALS OF ECONOMICS**10-12 SEM .5 cr**

This multi-faceted economics course emphasizes real-world applications. Lessons are designed and developed to give students an opportunity to examine principles of economics and business. Students are instructed in the basic tenets of the American free enterprise system and explore its place in the larger global market. Work on computer simulations relating to both micro and macroeconomics is an integral part of the coursework. **NCAA**

5280 AFRICAN-AMERICAN HISTORY**10-12 SEM .5 cr**

This is a survey course of African American history. Topics include accomplishments of African civilizations before first contact with Europeans, the trans-Atlantic slave trade (including its impact on the world economy), slavery, African Americans in the Civil War, the abolition of slavery, Reconstruction, Jim Crow and segregation, the Great Migration, the Harlem Renaissance, the civil rights revolution, and contemporary issues in the African American community, including the achievement gap, the wage gap, housing discrimination, and overrepresentation/injustices in the criminal justice system. Students also discuss and elaborate on the cultural, religious, and economic contributions that African Americans have made in the modern world. **NCAA**

5180 THE DEVELOPING WORLD**10-12 SEM .5 cr**

This course focuses on the study of the “developing world,” a broad, fluid term meant to encompass a wide range of countries that are emerging into the modern, industrial present as a byproduct of globalization. These countries are widely varying in geographic location, size, economy, religion and politics; but they share common features. Most face conditions such as extreme poverty, high rates of population growth, gender inequality, political instability and economic dependence on the industrial countries of the northern hemisphere. Importantly, most of the world is developing. Two-thirds of the world’s countries and nearly 80% of its population live in the developing world. Students benefit from knowledge of a world that is becoming increasingly interdependent. **NCAA**

5287 U.S. CIVIL RIGHTS AND CIVIL LIBERTIES**10-12 SEM .5 cr**

This course examines civil rights and liberties in the United States, especially relating to Asian Americans, African Americans, Hispanics, women, individuals with disabilities, and various religious groups. Topics include but are not limited to Constitutional freedoms (i.e. speech, press, religion, assembly, petition), the rights of the accused, and the rights of the disabled. Leaders in the field of civil rights and civil liberties also be studied. Students develop a deeper interest in and understanding of these civil rights and liberties by using the text, online sources, class discussions and essays. Student participation and group discussion play important roles in the class. **NCAA**

5300 U.S. AND VIRGINIA HISTORY**11 YR 1.0 cr**

United States and Virginia History is a survey course in American history with special emphasis on the history of Virginia. The course traces the development of the political, economic, religious, and social life of the people of the United States from the 15th century to the contemporary period. U.S. relations with foreign countries are explored. The positive influence of Judeo-Christian values in American life is emphasized. Geography is stressed as a factor in the complete understanding of the social development of the country. **NCAA**

5320 U.S. AND VIRGINIA HISTORY HONORS**11 YR 1.0 cr**

Prerequisites: B in Modern European History; B in World History Honors; A in World History; B in English; or department approval.

This course involves a study of the formative movements in the development of American civilization within a chronological framework. The course traces the development of the political, economic, religious, and social life of the people of the United States from the 15th century to the contemporary period, with special emphasis on the history of Virginia. Students can expect to use primary and secondary sources to analyze major themes. In addition, as an honors course, students focus on writing and research within the curriculum. Students also use current events, both foreign and domestic, as opportunities to independently research and formulate ideas. **NCAA**

5350 AP U.S. HISTORY**11 YR 1.0 cr**

Prerequisites: B in AP Modern European History or A- in World History Honors; and B+ in English; or department approval. A writing sample may be required.

This course involves a study of the formative movements in the development of American civilization within a chronological framework. Emphasis is placed on historiography, analysis of primary source materials, development of discriminatory reading powers, coherent essay writing and independent study skills. All students enrolled in this course are required to take the AP U.S. History exam in May. *The completion of a summer project is required by the beginning of school. NCAA*

5580 PSYCHOLOGY**11-12 YR 1.0 cr**

Prerequisite: B in current Social Studies class.

This course covers core concepts in psychology, emphasizing the use of the scientific method in social science research and the physiological bases of behavior. Topics covered in the first semester include the brain, sensation and perception, states of consciousness (sleep/dreams/hypnosis/daydreams), memory and learning. During the second semester the course covers human development, personality disorders, therapy and social psychology. Students should expect a rigorous curriculum based on systematic and scientific studies of challenging course material. **NCAA**

5590 AP PSYCHOLOGY**11-12 YR 1.0 cr**

Prerequisites: B in AP Modern European History or AP U.S. History; or B+ in U.S. History Honors or Modern European History Honors; or A in current Social Studies; B in current English; or department approval.

The AP Psychology course is designed to introduce students to the systematic and scientific study of the behavior and mental process of human beings and other species. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. Additionally, students study and implement the ethics and methods psychologists use in their science and practice. At the completion of the course, students are required to take the AP Psychology exam. **NCAA**

6049 AP ART HISTORY**11-12 YR 1.0 cr**

Prerequisites: B+ in English; or department approval.

What is art? This college level course explores the history of the art of the world from the prehistoric era to the present. The class addresses stylistic development and cultural values, as well as the historical context that influence artistic production and practice. The class uses an interdisciplinary approach to discuss style, content, meaning, patronage, faith, interpretation, context, and significance of works of art, preparing students for the AP Art History exam in May which all students enrolled in the class are required to take. The course includes one research paper. *This course also satisfies the fine arts credit.*

6860 HUMANITIES HONORS**11-12 YR 1.0 cr**

Prerequisite: B+ in English, B in English Honors/AP, or recommendation from current social students and/or art teacher.

This elective honors course presents artistic patterns of relationships from ancient Greece to the present among philosophy, literature, architecture, sculpture, painting and music—all in light of the major historical events of each period. Content focuses on the interrelationships between arts and ideas in the framework of their proper historical and cultural settings. *This class also satisfies the fine arts credit.* **NCAA**

5510 AP ECONOMICS**11-12 YR 1.0 cr**

Prerequisites: B+ in current Social Studies class; B in current Mathematics and English.

This is a full-year college first-year level course concentrating on an analytical rather than a descriptive approach to the principles of economics. The major aspects of macroeconomics are: economic models, inflation, unemployment, GDP accounting, aggregate demand/supply analysis, the banking system, monetary and fiscal policy and competing theories of income stabilization. The study of microeconomics includes: demand and supply, markets, price theory, elasticity, costs of the business firm, models of pure competition, monopoly, monopolistic competition and oligopoly, international trade and selected topics as time allows. Students are required to take both AP Economics exams administered by the College Board in May. **NCAA**

5190 AP HUMAN GEOGRAPHY**11-12 SEM .5 cr**

Prerequisites: B in AP U.S. History or AP Modern European History; or A- in U.S. History Honors; or A+ in U.S. History; and B+ in current English course; or department approval. A writing sample may be required.

The purpose of the AP Human Geography course is to introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students learn to employ spatial concepts and landscape analysis to examine human socioeconomic organization and its environmental consequences. They also learn about the methods and tools geographers use in their research and applications. The course material and readings are comparable to college freshman level survey courses in geography. Students are required to take the Human Geography AP exam administered by the College Board in May. **NCAA**

5470 AP COMPARATIVE GOVERNMENT AND POLITICS**11-12 SEM .5 cr**

Prerequisites: B in AP U.S. History or AP Modern European History; or A- in U.S. History Honors; or A+ in U.S. History; and B+ in current English course; or department approval. A writing sample may be required.

This course introduces students to fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of country settings. The course aims to illustrate the rich diversity of political life, to show available institutional alternatives, to explain differences in processes and policy outcomes, and to communicate to students the importance of global cultural and economic changes. The course covers six specific countries: China, Great Britain, Iran, Mexico, Nigeria, and Russia. This study of culture and politics is intellectually challenging and readings are at the college level. Students are required to take the Comparative Government AP exam administered by the College Board in May. **NCAA**

5760 ISSUES FOR THE 21ST CENTURY**11-12 SEM .5 cr**

This course is an introduction to significant events in the 21st century. Students investigate cause, effect, and change in places across the world. One principal aim of the course is for students to develop a better understanding of the response of traditional societies to the impact of modernization on their values and customs. Another is to examine ideological conflicts of the modern world. Students also research contemporary problems that originated in the 21st century that demand creative and thoughtful solutions. Analytical skills, synthesis of conflicting viewpoints, conducting research, participating in deliberations and writing historical essays are all emphasized in this course. **NCAA**

5515 INTERNATIONAL BUSINESS**11-12 SEM .5 c**

Prerequisites: B in World History or World History Honors.

In society today decisions in one part of the world impact others thousands of miles away. This course introduces students to the interrelationships between the business and economic practices of countries. Topics include globalization, ethics, investment, marketing, and trade issues. Students consider the decisions made by companies when expanding their operations globally and how they must adapt to local business customs and practices. Current events from around the world and the use of computer applications are an integral part of this course. *This course fulfills the computer requirement for graduation.* **NCAA pending**

5620 CRIMINAL JUSTICE**11-12 SEM .5 cr**

This course is designed to provide junior and senior students with basic knowledge of the United States criminal justice system. It is a broad course touching on a variety of subjects within the field. Topics include, but are not limited to, corrections, the ethics of law enforcement, search & seizure, police operations, criminal procedure, theories of criminal behavior, criminal investigations and court proceedings. Students enjoy guest speakers and take field trips to relevant local sites. **NCAA**

GOVERNMENT SENIOR SEMINARS

As an extension of our mission to deliver opportunities for students to engage in citizenship and advocacy, to expand civic knowledge, and to discuss real global issues, seniors are required to complete a seminar that both acquaints them with the functions of the U.S. government as well as provides them an outlet to apply that knowledge. In the first semester, students study a range of general concepts used to interpret politics, while gaining a familiarity with the various institutions, groups, beliefs, and ideas that constitute the U.S. government. In the second semester, students are given the opportunity to apply that knowledge in a variety of ways while allowing for a deeper understanding and participation in civics, advocacy, foreign relations, economics, and social justice. Students must pick from the following list:

5405 U.S. GOVERNMENT WITH FOREIGN AFFAIRS **12** **YR** **1.0 cr**

This course examines the function of government and the political, social and economic aspects of federal, state and local government in the United States. This course satisfies the government requirements while giving students a deeper knowledge and understanding of the role of the United States in global affairs. Students use their knowledge of the executive branch and the U.S. Department of State to explore current events, focusing on global crises and the American social, political and military response. Topics include current events, recent conflicts, domestic perspectives, and diplomatic relations. The second semester includes guest speakers, field trips, and lively discussion-based seminars. Students can expect to engage in both ongoing relevant issues as well as those from the recent past. **NCAA**

5415 U. S. GOVERNMENT WITH ADVOCACY AND PUBLIC POLICY **12** **YR** **1.0 cr**

This course examines the function of government and the political, social and economic aspects of federal, state and local government in the United States. This course satisfies the government requirements while giving students a deeper knowledge and understanding of effective advocacy and democratic participation. Students explore each level of government while focusing on gaining access to the policy process with the goal of affecting change. Participants gain basic skills in grassroots mobilization, lobbying and negotiation. This is a student-driven, project-based course in which members hear from expert guest lecturers, visit local government entities, engage in real political interaction, and advocate for relevant, social issues appropriate to the school's mission. **NCAA**

5425 U.S. GOVERNMENT WITH SOCIAL JUSTICE **12** **YR** **1.0 cr**

This course examines the function of government and the political, social and economic aspects of federal, state and local government in the United States. This course satisfies the government requirements while introducing students to enduring domestic issues relevant to basic civil rights and liberties. Students use their knowledge of the U.S. Constitution and the Bill of Rights to explore ongoing American current events that require ideological examination and demand creative and thoughtful solutions. Topics are fluid and determined by significant contemporary concerns; however, students can expect some issues, which remain constant and germane to the school's mission to serve as the core curriculum. In the second semester, students can expect to present on current topics, to visit relevant sites and to participate in guest lectures. **NCAA**

**5430 U. S. GOVERNMENT HONORS WITH
ADVOCACY AND PUBLIC POLICY****12 YR 1.0 cr**

Prerequisites: B- in AP U.S. History or U.S. History Honors; or A in U.S. History; and B in current English; or department approval. A writing sample may be required.

This course examines the function of government and the political, social and economic aspects of federal, state and local government in the United States. This course satisfies the government requirements while giving students a deeper knowledge and understanding of effective advocacy and democratic participation. Students explore each level of government while focusing on gaining access to the policy process with the goal of affecting change. Participants gain basic skills in grassroots mobilization, lobbying and negotiation. As an Honors course, students experience an accelerated pace of instruction, extended scope of topic, and an increased depth of learning. This is a student-driven, project-based course in which members hear from expert guest lecturers, visit local government entities, engage in real political interaction, and advocate for relevant, social issues appropriate to the school's mission. **NCAA**

5440 U.S. GOVERNMENT HONORS WITH FOREIGN AFFAIRS**12 YR 1.0 cr**

Prerequisites: B- in AP U.S. History or U.S. History Honors; or A in U.S. History; and B in current English; or department approval. A writing sample may be required.

This course examines the function of government and the political, social and economic aspects of federal, state and local government in the United States. This course satisfies the government requirements while giving students a deeper knowledge and understanding of the United States role in global affairs. Students use their knowledge of the executive branch and the U.S. Department of State to explore current events, focusing on global crises and the American social, political and military response. Topics include current events, recent conflicts, domestic perspectives, and diplomatic relations. The second semester includes guest speakers, field trips, and lively discussion-based seminars. As an Honors course, students experience an accelerated pace of instruction, extended scope of topic, and an increased depth of learning. Students can expect to engage in both ongoing relevant issues as well as those from the recent past. **NCAA**

5465 AP U.S. GOVERNMENT AND POLITICS**12 YR 1.0 cr**

Prerequisites: B in AP U.S. History; or A- in U.S. History Honors; and B+ in current English; or department approval. A writing sample may be required.

This course examines the function of government and the political, social and economic aspects of federal, state and local government in the United States. As an AP course, special attention will be paid to college-level concepts and writing. Course readings—text, original documents, government reports, and court cases—are at the college freshman level, and students can expect the material to be challenging. As this course follows the AP curriculum, it is a year-long study, but contains individual break-out units on current political events, relevant foreign relations concerns, and advocacy. Students are required to take the AP U.S. Government Exam administered by College Board at the end of the school year. *The completion of a summer project is required by the beginning of school.* **NCAA**

TECHNOLOGY AND BUSINESS

The faculty of the technology and business department is committed to equipping all students with the skills needed to succeed in the fast-changing world of business and technology, and providing experiences that are authentic and global; that use technology responsibly in a safe, moral and ethical way; and that focus on fostering critical thinking, problem-solving, collaboration and creativity within the whole person.

Through a variety of electives, members of this department prepare students for success in rapidly-evolving technology and business fields and provide them with a strong foundation for further study at the university level.

Students must earn at least 0.5 credit hours (one semester) in computers for graduation. The following is a list of courses from this department that meet this requirement:

- 7530 Digital Technology: Gateway to Tomorrow (SEM)
- 7110 Personal Branding and Digital Communication (SEM)
- 7640 Multimedia and Image Management (Also meets Fine Arts requirement)
- 7785 Computer Game Design and Development (SEM)
- 7810 HTML: Intro to Web Page/Mobile App Development (SEM)
- 7310 Economics and Financial Management
- 7320 Personal Money Management and Your Future (SEM)
- 5515 International Business (SEM)
- 7920 Cybersecurity 1 (SEM)
- 7775 AP Computer Science Principles
- 7790 AP Computer Science A

BUSINESS COURSES

7260 ACCOUNTING HONORS

11-12 YR 1.0 cr

Prerequisite: B in Algebra 2/Trig.

Accounting Honors uses an integrated, college approach to teach real world accounting. Students first learn how to plan and evaluate for operating, financing, and investing decisions. Students develop the skills to use accounting systems for gathering and providing data to internal and external decision makers. This year-long course includes all topics covered in the first two accounting courses in university business schools. With this course, students majoring in any of area of business will be fully prepared to excel immediately in their required accounting courses. Students have the opportunity to take a year-end qualifying exam and an online course to earn up to six fully transferable credits to several universities nationwide.

7310 ECONOMICS AND FINANCIAL MANAGEMENT **11-12 YR** **1.0 cr**

This elective is a multi-faceted economics and financial management course with emphasis on real-world applications. Students explore exciting and interesting areas that will help them to gain the necessary skills to ensure their future financial security. Students are instructed in the basic tenets of the American free enterprise system and basic economic theory. Using knowledge learned about economics, students discover how to make informed financial decisions. Work on computer simulations that relate to both micro and macroeconomics, participating in a virtual stock market game, and preparing a personal budget are integral parts of the coursework. *This course fulfills the computer requirement for graduation. It is also offered as two separate semesters courses: 5965 - Fundamentals of Economics and 7320 - Personal Money Management.*

7320 PERSONAL MONEY MANAGEMENT AND YOUR FUTURE **11-12 SEM** **.5 cr**

There are many skills students will need to succeed after graduation that deal with how to handle their personal finances. In this course, students learn how to navigate the financial decisions they will face and how to make informed decisions related to careers, budgeting, banking, credit, insurance, spending, taxes, saving, investing, living independently, and inheritance. Students explore topics of high interest that can help them gain the skills needed to ensure future security. *This course fulfills the computer requirement for graduation.*

5515 INTERNATIONAL BUSINESS **11-12 SEM** **.5 cr**

Prerequisites: B in World History or World History Honors.

In society today, decisions in one part of the world affect others thousands of miles away. This course introduces students to the interrelationships between the business and economic practices of countries. Topics include globalization, ethics, investment, marketing, and trade issues. Students consider the decisions made by companies when expanding their operations globally and how they must adapt to local business customs and practices. Current events from around the world and the use of computer applications are an integral part of this course. *This course serves as a social studies elective and fulfills the computer requirement for graduation.*

7375 MARKETING ESSENTIALS **11-12 SEM** **.5 cr**

This class is designed to introduce students to various aspects of core marketing functions. Students learn how products are brought from an idea to becoming available to consumers. Processes from distribution to pricing to promotion are examined within various industries such as sports, retail, fashion, and entertainment. Students explore technical issues from the marketing perspective along with case studies of real-world examples of marketing. Fundamental business and economic concepts are studied. The importance of ethical concerns and consideration are also explored.

5510 AP ECONOMICS**11-12 YR 1.0 cr**

Prerequisites: B+ in current Social Studies class; B in current Mathematics and English.

This is a full-year college first-year level course concentrating on an analytical rather than a descriptive approach to the principles of economics. The major aspects of macroeconomics are: economic models, inflation, unemployment, GDP accounting, aggregate demand/supply analysis, the banking system, monetary and fiscal policy and competing theories of income stabilization. The study of microeconomics includes: demand and supply, markets, price theory, elasticity, costs of the business firm, models of pure competition, monopoly, monopolistic competition and oligopoly, international trade and selected topics as time allows. Students are required to take the AP Economics exams in May. *This course serves as a social studies elective. NCAA*

5965 FUNDAMENTALS OF ECONOMICS**10-12 SEM .5 cr**

This multi-faceted economics course emphasizes real-world applications. Lessons are designed and developed for the purpose of giving students an opportunity to examine principles of economics and business. Students are instructed in the basic tenets of the American free enterprise system and explore its place in the larger global market. Work on computer simulations relating to both micro and macroeconomics is an integral part of the coursework. *This course serves as a social studies elective. NCAA*

COMPUTER COURSES**7530 DIGITAL TECHNOLOGY: GATEWAY TO TOMORROW****9-12 SEM .5 cr**

In this hands-on course, students learn to integrate computing concepts that are now essential skills for whatever career path is chosen. Students will apply logic procedures and implement programming procedures, designing and developing programs and Apps, and learning about the latest technology developments. Some topics that will be explored include digital safety and security, Internet of Things, 3D printing, and office productivity. Various software will be used including Scratch, HTML5, AppInventor, and JavaScript. This course is an excellent introductory course for students considering studying computer science, engineering, or business. *This course fulfills the computer requirement for graduation.*

7110 PERSONAL BRANDING AND DIGITAL COMMUNICATION**9-11 SEM .5 cr**

Drawing from the school's strong emphasis on Catholic identity, students learn to recognize ethical and moral situations involved with the use of digital communication platforms, enabling them to express a digital footprint with the proper use of social media and develop a positive and professional personal identity or "brand." This project-based course provides students with opportunities to create and utilize a digital portfolio, to develop a skill set essential for success in both college and work environments, and to appropriately communicate using digital tools. Additionally, this course serves as a vehicle for students to present themselves to real world audiences, such as in applications for special programs or scholarships, through the ability to present their "brand" effectively. *This course fulfills the computer requirement for graduation. A section of this class is offered online in the summer for an additional fee.*

7640 MULTIMEDIA AND IMAGE MANAGEMENT**10-12 YR 1.0 cr**

In this project-based course, students explore the creative end of business technology and prepare for a business world in which they are expected to use business-standard software applications to complete projects and solve problems. In this hands-on course, students learn how digital media is used through video, audio, images, and animation. This course allows students to complete several original pieces of digital media including image manipulations, a self-portrait, and an animation movie clip. Students become proficient in industry standard graphic design software. *This course fulfills both the computer and fine arts requirements for graduation.*

7785 COMPUTER GAME DESIGN AND DEVELOPMENT**10-12 SEM .5 cr**

This introduction to interactive computer game and app design and development mixes play with homework. Content includes a brief history of computer games, industry professions, essential components in a game, digital content creation strategies, game design and development process and techniques. The focus is on Unity3D programming and digital artistry. Students will maintain both a Game Developer's Journal and a Game Design Document and engage in game play testing. A unique interactive app or video game will serve as a capstone project summarizing learning. *This course fulfills the computer requirement for graduation.*

7810 HTML: INTRO TO WEB PAGE/MOBILE APPLICATION DEVELOPMENT**10-12 SEM .5 cr**

This course focuses on the techniques needed for planning, designing and developing effective web pages. The course introduces students to HTML, CSS, and JAVA Script to create web pages. Among the topics covered are: organization, style, updating, proofreading, incorporation of graphics, and enhancements to the site or application. Students will also learn about current events and issues in the Tech and Web industries. *This course fulfills the computer requirement for graduation.*

7920 CYBERSECURITY 1: INTRODUCTION TO COMPUTER SECURITY**10-12 SEM .5 cr**

This course is designed to provide students with an introduction to the fundamentals of basic computer security issues, from the home-user/student/general public's point-of-view. Students focus on personal security for computer systems and devices at home, at work, on mobile devices, and especially as they relate to the Internet & World Wide Web. The course capitalizes on the incorporation of additional content from the EC-Council, and in activities that link to the Information Security Community, via organizations such as ACM, IEEE, CSTA, ISSA-NOVA, and the EC-Council, and will ultimately allow students to take the EC-Council's C|SCU Certification Exam, as a first step toward future cybersecurity credential's achievements. *This course fulfills the computer requirement for graduation.*

7775 AP COMPUTER SCIENCE PRINCIPLES**10-12 YR 1.0 cr**

Prerequisites: B in Algebra 2/Trig and completion of an engineering class (or a computer class with department approval).

AP Computer Science Principles offers a multidisciplinary approach to exploring the underlying principles of computation. Using the Python programming language as a primary tool and incorporating multiple platforms and languages for computation, this course introduces students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles also gives students the opportunity to use current technologies to create computational artifacts for both self-expression and problem solving. Students are required to complete the AP Computer Science Principles through-course assessment and end of course exam administered by College Board in May. *This course is a Project Lead the Way (PLTW) engineering offering and fulfills the computer requirement for graduation.*

7790 AP COMPUTER SCIENCE A**11-12 YR 1.0 cr**

Prerequisites: Successful completion of AP Computer Science Principles (7775) or equivalent; or department approval.

Utilizing the Java Programming language, students advance their study of computer science with an emphasis on developing computer programs or parts of programs to solve problems. Topics include the development and analysis of algorithms, the development and use of fundamental data structures, the design issues that make programs understandable and adaptable, and social and ethical issues in computer science. Students must have access to a network-enabled computer to complete assignments at home, and are required to take the AP Computer Science A exam in May. *This course fulfills the computer requirement for graduation.*

WORLD LANGUAGES

The mission of the world languages department is to equip students linguistically and culturally to communicate successfully in a global society. Students become empowered to communicate across cultures while sharing the Catholic faith with the world. To this end, courses in the department emphasize the five national standards:

- Communicate in the target language
- Gain knowledge and understanding of other cultures
- Connect to other disciplines
- Compare various cultures and realize there are multiple ways of viewing the world
- Participate in multilingual communities in a variety of contexts

These standards are presented within the four basic areas of language learning: listening, speaking, reading and writing.

A four-year sequence of a world language is strongly recommended for those students who meet the requirements. Students who have studied a language in their middle school are given a placement test. No matter the starting level, all students are required to take two years of the same language during grades 9-12 (this does not include middle school language study). All native speakers are tested to determine their level of fluency.

GERMAN

2010 GERMAN 1

9-11 YR 1.0 cr

This course aims to develop the four skills of language learning: listening, speaking, reading and writing. Students will learn vocabulary and grammar necessary to communicate on a beginner level in various situations. Topics on culture and contemporary events in German-speaking regions are emphasized. **NCAA**

2020 GERMAN 2

10-11 YR 1.0 cr

Prerequisite: C in German 1.

This course aims to develop further the four skills of language learning: listening, speaking, reading and writing. This approach emphasizes the study of dialogues, narratives and structural patterns and develops skill in pronunciation and listening comprehension. The cultural study of German-speaking countries continues, augmented with videos and special projects. **NCAA**

2030 GERMAN 3 HONORS

11-12 YR 1.0 cr

Prerequisites: B in German 2 or department approval.

This course continues the development of the four skills of language learning, with an introduction to a more intensive reading program and more complex structures in composition. Students will learn vocabulary and grammar necessary to communicate on an intermediate level in various situations. The study of the culture of German-speaking countries and early history and literature continues. **NCAA**

2040 GERMAN 4 HONORS**11-12 YR 1.0 cr**

Prerequisites: B in German 3 Honors or department approval.

Proficiency in composition and oral discussion continues to be developed through oral presentations and supplementary literature. Grammar points are discussed in finer detail and greater complexity. An overview of German history and literature is studied. The cultural concerns of today's young people in Germany, Austria and Switzerland are explored in conjunction with those activities. A German dictionary is required. **NCAA**

FRENCH**2100 FRENCH 1****9-11 YR 1.0 cr**

This course aims to develop the four skills of language learning: listening, speaking, reading and writing. This approach emphasizes the study of structural patterns, as well as pronunciation and listening comprehension through an oral proficiency approach. The culture, geography and history of the Francophone world are introduced through the use of the text and supplementary materials. **NCAA**

2200 FRENCH 2**9-12 YR 1.0 cr**

Prerequisite: C in French 1.

This course aims to develop further the four skills of language learning: listening, speaking, reading and writing. This approach emphasizes the study of narratives and structural patterns, as well as pronunciation and listening comprehension through an oral proficiency approach. The cultural study of the Francophone world continues, augmented with videos and special projects. **NCAA**

2290 FRENCH 3**10-12 YR 1.0 cr**

Prerequisites: B in French 2 or department approval.

This course continues the four skills of language learning, introducing a more intensive study of complex structures. A study of French history and literature is also introduced. CDs, DVDs, and computer technology are used to enhance this course. **NCAA**

2300 FRENCH 3 HONORS**10-12 YR 1.0 cr**

Prerequisites: B+ in French 2 or department approval.

This course includes an intensive study of complex structures with emphasis on translation, writing and oral skills. A survey of French history and literature is conducted. Selected texts, audio and video resources, and other materials enhance this course. Class is conducted primarily in French. **NCAA**

2420 FRENCH 4**11-12 YR 1.0 cr**

Prerequisites: B in French 3; B- in French 3 Honors; or department approval.

This course continues the study of grammatical structures with introduction to the literature and cultural contributions of France and Francophile countries. The goal of this course is to reinforce and refine all four skills of the target language. **NCAA**

2400 FRENCH 4 HONORS**11-12 YR 1.0 cr**

Prerequisites: B in French 3 Honors; A in French 3; or department approval.

This course continues the program of study of French, including an in-depth survey of French history, literature, and civilization from the Renaissance to the present.

The course also includes an intensive study of grammatical structures, reading comprehension, composition and oral skills. Selected texts, audio, video, DVD's, and other materials supplement this course. Class is conducted in French. *This course is available for dual credit through Marymount University.* **NCAA**

2450 AP FRENCH 5 LANGUAGE AND CULTURE**12 YR 1.0 cr**

Prerequisites: B+ in French 4 Honors or department approval.

This course emphasizes in depth the four basic skills of language learning. The class is conducted entirely in French. Students are required to speak only in the target language.

All students are required to take the AP French Exam. One literary text is read, and the course is supplemented with videos, publications, and other resources. **NCAA**

SPANISH**2500 SPANISH 1****9-11 YR 1.0 cr**

This course aims to develop the four skills of language learning: listening, speaking, reading and writing. This approach emphasizes the study of dialogues, narratives and structural patterns and develops skill in pronunciation and listening comprehension. The culture, geography and history of Spain and Latin America are introduced through the use of maps, videos, technology, and other supplementary materials and assignments.

NCAA**2600 SPANISH 2****9-12 YR 1.0 cr**

Prerequisite: C in Spanish 1.

Students attain proficiency in the four skills of language learning: listening, speaking, reading and writing. This approach emphasizes the study of dialogues, narratives and structural patterns and uses CDs and DVD's to develop skill in pronunciation, critical thinking, and listening comprehension. The cultural study of Spain and Latin America is supplemented with maps, videos and other supplementary material and projects. Technology is integrated into coursework to immerse students in authentic language and culture. **NCAA**

2565 SPANISH SPEAKERS 3 HONORS**9-12 YR 1.0 cr**

Prerequisite: Placement interview; students are selected based on oral and written skills.

The purpose of the Spanish speakers class is to refine reading and writing skills of those with native speaking ability. An intensive overview of Spanish grammar, spelling, pronunciation and vocabulary is conducted. The course is enriched with literary and cultural reading selections and projects. Spanish is used exclusively in the classroom.

NCAA

2690 SPANISH 3**9-12 YR 1.0 cr***Prerequisites: B in Spanish 2 or department approval.*

This course further develops the four basic skills of the target language, with an emphasis on improving oral proficiency. Students are expected to have the ability to initiate conversation as well as to understand and respond in Spanish. An intensive study of Spanish culture and geography is supplemented with maps, videos, projects and technology. **NCAA**

2700 SPANISH 3 HONORS**9-12 YR 1.0 cr***Prerequisites: B+ in Spanish 2 (2610) or A- in Spanish 2 (2600) with department approval.*

This advanced course further develops the four basic skills of the target language, with an emphasis on oral proficiency. The curriculum includes literary readings of Spanish and Latin American authors, and introduces more advanced grammatical structures of the language. Classes are conducted primarily in Spanish. **NCAA**

2820 SPANISH 4**9-12 YR 1.0 cr***Prerequisites: B in Spanish 3; B- in Spanish 3 Honors; or department approval.*

This course continues the study of grammatical structures with alternate units of introductory literature of Spain and Latin America through short stories. The goal of this course is to reinforce and refine all four skills of the target language. **NCAA**

2830 SPANISH 4 HONORS**10-12 YR 1.0 cr****2835 HERITAGE SPANISH 4 HONORS****10-12 YR 1.0 cr***Prerequisites: B in Spanish 3 Honors; A in Spanish 3; or department approval.*

This course reviews grammatical structures, and introduces more advanced structures of the language. In addition, it surveys Spanish literature and art. Discussion is in the target language. *This course is available for dual credit through Marymount University.* **NCAA**

2890 AP SPANISH LANGUAGE AND CULTURE**11-12 YR 1.0 cr***Prerequisites: A- in Spanish 4 Honors; A+ in Spanish 4; and department approval.*

The AP Spanish Language and Culture course is a program designed to develop students' communication skills in Spanish and to prepare students for the AP Spanish Language and Culture Exam. This course emphasizes conversation, composition and advanced grammar. It provides exposure to a variety of materials that expands students' knowledge of Spanish in both oral and written form. The class is conducted in Spanish. All students are required to take the AP Spanish Language and Culture Exam at the conclusion of the course. **NCAA**

2860 SPANISH 5 HONORS**11-12 YR 1.0 cr***Prerequisites: B in Spanish 4 Honors; A in Spanish 4; with department approval.*

Spanish 5 Honors is conducted almost exclusively in the target language, thereby offering the student ample opportunity to practice speaking and listening skills. The student participates in discussions and conversations. The literature, art, history, geography and culture of Spanish-speaking countries are studied alternately during the year. Writing abilities continue to be developed through more advanced student compositions and journal entries. Films and videos are utilized in order to expand the student's knowledge and understanding of Spanish-speaking people and their cultures. **NCAA**

2850 AP SPANISH 5 LITERATURE AND CULTURE**10-12 YR 1.0 cr***Prerequisites: A in Spanish 4 Honor; B+ in Heritage Spanish 4 Honors; B in AP Spanish Language and Culture; and department approval.*

The AP Spanish Literature and Culture course is the equivalent of a third-year college literature course. It promotes the formal study of a representative body of literature written in Spanish, from Peninsular Spain, Latin America, and the United States. The course offers students ongoing and varied opportunities to develop proficiency in Spanish across a range of skills, with emphasis on critical reading and analytical writing. In addition, the students relate the readings to literary, historical, sociocultural, and geopolitical contexts. All students are required to take the AP Spanish Literature and Culture exam at the conclusion of the course. **NCAA**

LATIN**2900 LATIN 1****9-12 YR 1.0 cr**

In this course the language and culture of the ancient Romans are introduced through a reading based approach. Latin vocabulary and the basic components of grammar are learned. A study of English word formation and vocabulary building from Latin roots are also incorporated into each chapter. **NCAA**

2950 LATIN 2**9-12 YR 1.0 cr***Prerequisite: C in Latin 1.*

This course continues the study of Latin grammar with an emphasis on more complex grammar. The history and the culture of ancient Rome are also studied. **NCAA**

2980 LATIN 3 HONORS**10-12 YR 1.0 cr***Prerequisite: B+ in Latin 2 or department approval.*

This course completes the study of Latin grammar. Grammatical principles are reviewed and consolidated as students are introduced to Latin prose and poetry. **NCAA**

2990 LATIN 4 HONORS**10-12 YR 1.0 cr***Prerequisite: B in Latin 3 Honors; B+ in Latin 3; or department approval.*

Students continue to develop their skill at translating original Latin texts. In this literature course, students read, in Latin, a variety of prose and poetry authors. In addition to learning the vocabulary and grammar specific to the author, students analyze the work as literature and write short essays in Latin, analyzing and interpreting the literature. **NCAA**

2995 AP LATIN**10-12 YR 1.0 cr**

Prerequisite: A- in Latin 3 Honors or department approval.

Students read, analyze, and interpret portions of Vergil's *Aeneid* and Julius Caesar's *Gallic Wars* in Latin. This course follows the syllabus and requirements established by the College Board. Students are required to take the AP Latin Exam in May. **NCAA**

AMERICAN SIGN LANGUAGE**2920 AMERICAN SIGN LANGUAGE 1****9-12 YR 1.0 cr**

This course aims to introduce and develop skills in American Sign Language through grammar, vocabulary and fingerspelling as well as through the understanding of Deaf culture. Appropriate behavior used and expected in the Deaf community will be taught. Students will learn how to use sign language and to converse without using voice. Significant amounts of class will be conducted "voice off." Applications of ASL will be introduced to include communicating with and engaging with people with communication and language deficits, not exclusively those who are deaf.

2930 AMERICAN SIGN LANGUAGE 2**9-12 YR 1.0 cr**

Prerequisite - C in American Sign Language 1.

This course aims to build on the skills learned in American Sign Language 1 through grammar, vocabulary and fingerspelling, as well as through expanded knowledge of Deaf culture and history. Students will continue to learn how to use sign language and converse without using voice. Significant amounts of class will be conducted "voice off." Applications of ASL will be focused on communication with deaf individuals and also engaging with people with communication and language deficits. *This is the second and final year of the two-year ASL program.*

PEER MENTORING

1010 EXPANDED SERVICES PEER MENTORING

10-12 YR 1.0 cr

Prerequisites: Counselor recommendation and interview with director of Expanded Services.

In this course, students are matched 1:1 with an Expanded Services student for the purpose of mentoring during one of the mentee's class periods. Some mentors accompany students to general education classes such as history or physical education; others serve as mentors in classes provided in a small group setting taught by an Expanded Services teacher. Responsibilities of a Peer Mentor include: attending a training session prior to the start of the semester, attending class daily with the assigned mentee, supporting the mentee in the given class, collaborating with the related teachers as needed, and completing weekly online assignments designed to provide broader understanding and context to the student's role as a mentor. *This course option is available for GPA or non-GPA credit or can be used for Christian service as a non-credit course.*

EXPANDED SERVICES

Bishop O'Connell provides a modified and inclusive curriculum to students with cognitive and intellectual disabilities. Affirming the inherent dignity of each individual, O'Connell embraces students with more significant learning needs, accepting students for who they are and how they learn.

Students receive an individualized non-diploma program of study which includes classes in small group settings with a certified special education teacher as well as grade-level general education classes accompanied by a peer mentor. Students who receive Expanded Services learn alongside their general education peers throughout the school day and participate in activities offered at O'Connell.

This modified curriculum includes instruction based on each student's annual Individualized Catholic Education Plan, with English and math typically taught in a small group setting with an Expanded Services teacher.

At O'Connell, peer mentors are an integral part of the inclusive education offered through Expanded Services. Students in the peer mentor program are assigned a mentee and a class to attend with their mentee for the purpose of mentoring in the given class or during flexible instructional time. All peer mentors attend training in August and throughout the year.

For more information, contact Mrs. Susan Rinaldi at srinaldi@bishopoconnell.org or call 703-237-1400.

"No child should be denied his or her right to an education in faith, which in turn nurtures the soul of a nation." – Pope Benedict XVI

— DUAL CREDIT/DUAL ENROLLMENT WITH — MARYMOUNT UNIVERSITY

Bishop O'Connell High School and Marymount University are working in partnership to expand opportunities for high school students to pursue excellence in their academic development. Through the Dual Credit and Dual Enrollment programs, participating O'Connell students may earn college credit while in high school from Marymount University, a four-year Catholic university and a proud Arlington neighbor. This opportunity for obtaining dual credit is open to students whose general academic profile meets Marymount University criteria.

Dual Enrollment: Classes at Marymount – Credits from O'Connell and Marymount

Students whose academic profiles meet Marymount University criteria may register to enroll in classes offered at Marymount. Students must consult with, and receive approval from, the counseling department and the Academic Dean, with priority given to timing of classes scheduled at O'Connell. Seniors interested in continuing a program of study at a higher level than currently offered at O'Connell are ideal candidates for dual enrollment.

Dual Credit: Classes at O'Connell – Credit from O'Connell and Marymount

At this time, Marymount University offers college credit for classes taught at Bishop O'Connell High School. Dual credit classes are taught by O'Connell faculty. These instructors have adjunct professor status at Marymount University. Students enrolled in Statistics (3600) at Bishop O'Connell may request and be approved to earn credit for Statistical Analysis (MU MA 132) at Marymount University. French 4 Honors (MU FL 201), Spanish 4 Honors (MU SP 201), and Multivariate Calculus (MU MA 221) are also available at O'Connell for dual credit. Students submit registration forms for dual credit in mid-September.

Summer London Program: British Politics & Modern Society

Marymount University in partnership with Bishop O'Connell High School is offering its first Global Summer Institute Program, July 11-21, 2020. This unique opportunity allows high school students to learn about British politics and society, as they experience life and culture in the heart of London. Students will also have the option to earn three college credits. Application deadline is Feb. 28, 2020.

For more information on our partnership programs with Marymount University, visit www.bishopoconnell.org/dual.

SUMMER OFFERINGS

In addition to classes scheduled during the school year, O’Connell offers courses for credit, for enrichment and for credit recovery. Students register online for these classes at www.bishopoconnell.org/summer. Please note that perfect attendance is required to earn credit for summer classes. *No school July 3.*

SUMMER CLASSES FOR CREDIT

Health/PE 1 or Health/PE 2 (Grades 9-12)

June 15 - July 8 (Tuition: \$850)

8 a.m. – 2 p.m.

Classes meet for six hours daily, earning 1.0 credit. Driver education is included in Health/PE 2 (see full descriptions in the Health and Physical Education section of this guide).

Health 1 (Grade 9)

July 6 – 17 (Tuition: \$425)

8 a.m. – 11 a.m.

This 0.5 credit class is designed for freshmen intending to use athletic participation to obtain their PE credit (see full description for courses 8015/8115).

Survey of American Music (Grades 9-12)

July 27 – Aug. 7 (Tuition: \$425)

12:30 - 4 p.m.

This 0.5 credit class meets a student’s fine arts requirements (see full description for course 6665).

Geometry/A (Grade 10)

June 17 – July 17 (Tuition: \$850)

9 a.m. - 2 p.m.

This 1.0 credit course is designed for rising sophomores who have earned an A or A+ in Algebra 1/A and seek to study Honors Algebra 2/ Trigonometry and Pre-Calculus before scheduling Calculus in their senior year (see full description for course 3220).

Personal Branding and Digital Communication (Grades 9-12)

June 17 – July 24 (Tuition: \$300)

Hybrid/Online Course (course work must be completed by July 24)

This project-based course provides students with opportunities to create and utilize a digital portfolio, to develop a skill set essential for success in both college and work environments, and to appropriately communicate using digital tools. This course serves as a vehicle for students to present themselves to real world audiences more effectively. *This 0.5 credit course fulfills the computer requirement for graduation.*

AP Comparative Government & Politics (Grades 11-12)

June 17 – July 24 (Tuition: \$300)

Hybrid/Online Course (coursework must be completed by July 24)

This 0.5 credit social studies course is presented in a hybrid online format. Students meet periodically with the instructor in addition to coursework done online. Students are required to take the AP exam in May 2019. (see full description for course 5470).

Academic Enrichment Opportunities

Introduction to High School English (Grade 9)

June 17 – July 2

10:15 - 11:45 a.m.

Tuition: \$200 (or \$350 total for those enrolling in both English and Math courses)

This non-credit, three-week course is designed for incoming freshmen to prepare for the rigors of high school English, with a focus on grammar, writing skills and summer reading. Emphasis is placed on class participation as well as developing a work ethic for success in 9th grade studies.

Introduction to High School Math (Grade 9)

June 17 – July 2

8:30 - 10 a.m.

Tuition: \$200 (or \$350 total for those enrolling in both English and Math courses)

This non-credit, three week course is designed for incoming freshmen to prepare for the rigors of high school mathematics, with a focus on Algebra foundations. Emphasis is placed on reviewing math skills, as well as developing techniques and work habits for success in 9th grade studies.

Math Enrichment (Grades 10-12)

Students whose grades do not qualify them for advancing to the next math in their sequence should register with the math department chairperson for online math coursework provided through Educere to qualify for the desired class.

World Language Enrichment (Grades 10-12)

Students with a grade of C in language are expected to complete an online summer enrichment class provided through Middlebury College to gain the background needed to succeed at the next course level in that language. Student should register with the language department chairperson.

CREDIT RECOVERY

Students must make up any failure or incomplete grade before beginning the next school year. Ordinarily, this is done by daily attendance in summer sessions of supervised study and instruction at Bishop O'Connell.

GLOBAL STUDIES CERTIFICATE PROGRAM

Thinking globally, preparing to lead and serve

Bishop O’Connell High School established the Global Studies Certificate Program to prepare students to be well-informed, self-motivated adults with the skills, confidence and moral perspective needed to succeed as leaders in the 21st century. This optional program is centered on student-selected, beyond-the-classroom learning experiences focused on themes of world importance in our time.

The Bishop O’Connell curriculum requires completion of 26 credits in specific subjects studied over a period of eight semesters. Students who choose to participate in the Global Studies Program receive a certificate upon graduation which indicates the completion of a set of non-GPA credit units in global studies, the equivalent of a ninth semester of academic work.

PROGRAM COMPONENTS

Choose a Thread – Each student selects an area of concentration from Faith and Humanitarian Issues, Global Business and Finance, Language and Culture, Global Health and Environmental Issues, Arts and Humanities, and Global Politics. In order to keep a truly “global” perspective for this program, each student accumulates learning experiences in the other five threads.

Attend Core Sessions – Each global studies student must participate in three core learning sessions: Understanding Politics in a Globalized World, Foundations of Global Business and Finance, and Morals and Ethics for a Globalized World. These three-hour sessions are offered periodically throughout the year.

Participate in Supplemental Seminars and Learning Experiences – Each student plans a specific set of personal field experiences, each of which is approved by the global studies advisor. In addition, the global studies program arranges events with special guest speakers who share their work experiences and provide insights into future trends and career opportunities. Field trips to local organizations or events are also coordinated. During the course of this program, students seek out and participate in a wide range of experiences that are related to their interest areas.

Include a Bishop O’Connell Course – Each student includes in his/her class schedule one course at O’Connell that relates to his/her focus area, such as World Geography, AP Art History, Ecology/Environmental Science, or The Developing World.

Complete a Capstone Project – During senior year, each participant is required to prepare a capstone presentation that demonstrates how the student has synthesized knowledge gained during the global studies experience. Seniors select three or four standout experiences for presentation to a faculty committee, giving their perspectives and insights into how these experiences have changed their individual worldview and increased their global awareness. In discussions with committee members, students reflect on the significance of their global studies experience.

Participants incur no additional fee for this program. In order to enroll in the program, a student must complete the registration form and schedule an individual meeting with the global studies advisor. More information can be found at www.bishopoconnell.org/global.

—NOTES—