

*C*ourse Catalog



ENGLISH

English Language Literature

Required grade 9

Students focus on developing skills in the close reading of informational, literary, and persuasive texts as well as on developing strong writing, listening, research, and critical reasoning skills. Students read novels, short stories, plays, essays, poems, and nonfiction, and they write in a variety of styles with a focus on structure, vocabulary, and writing mechanics. In addition, students engage in discussions and oral presentations as they develop listening and collaborative skills. Not only do students focus on the development of core skills, but they learn to look beyond surface analysis to facilitate a more complex and critical outlook on literature and life. All lessons are infused with the Gospel values. Students use technology to increase their skills of understanding, collaborating, creating, communicating as well as publishing a digital portfolio. In this course, students will experience many student-centered activities that are designed to be engaging and relevant, and the activities will also address different learning styles.

English American Literature

Required grade 10

Our American Literature course covers the important concepts that continue to have an impact on our American value system today. Beliefs included are Puritan ideals, Transcendental ideas and elements of WWI that created the "Lost Generation" leading to trends in modern American thinking.

Introduction to Literary Study (SEL 150, Seton Hill University 3 credits)

Required grade 11 (weighted or non-weighted option)

This course will serve as an introduction to college-level reading, research, writing, and revision. It will focus on the following key areas of English: creative writing, new media journalism, literature, and research. Course texts will include newspaper articles, editorials, poetry, short fiction, drama, novels, and literary criticism. The course will emphasize literary forms, research tools, and the vocabulary of literary study. Students will be introduced to the field of journalism, and they will also practice creative writing, taking part in workshop with their peers. College credit students will be introduced to various types of literary criticism as well including moral criticism, psychoanalytic criticism, reader-response criticism, new criticism, historical criticism, Marxist criticism, and feminist criticism. Students will learn not only what the authors are arguing in articles, but more importantly, how they build an argument through integration of outside sources, close reading, and responding to other authors. Students will complete their own literary analyses of a poem, a short story, a play, and a novel from a selection of English, American, and World literature with which they will become familiar. They will use MLA format to give credit where credit is due. College credit students will integrate literary criticism into their analyses, and they will write in the vein of a particular type of literary criticism. Non college credit students will integrate nonfiction articles into their essays. Finally, students will demonstrate independence by completing a research paper which will synthesize their understanding of the process of higher-level researching, writing, and revising; they will use primary sources and academic databases to research a topic of interest related to literature and put forth their own strong arguments.

Diversity and Literature (ENGL 113, Duquesne University 3 credits)

Required to grade 12 (weighted or non-weighted option)

Students will examine ways that authors from a selection of nationalities and ethnic backgrounds have used narrative as an expression of culture, art, and identity. The course will survey modes of storytelling as expressed in a variety of media across cultural traditions. Throughout the course, students will explore these central questions: how do stories engage us? How do we engage the world through stories? In addition, students will view literature through the lens of their Catholic faith to explore topics related to diversity such as racism, sexism, classism, ageism, able-ism, and religious oppression. Students will relate these elements to one another through the framework of social justice. They will primarily work with novels, but college credit students will also read supplemental, college-level readings that draw connections between the experience of race and gender in America and the ways that these themes play out in the literature of other nations. College credit students will become familiar with literary criticism and its structure as well. In particular, they will become familiar with postcolonial, feminist, and disability literary criticism. College credit students will also apply concepts from *They Say I Say: The Moves that Matter in Academic Writing* to their writing. All students will write their own original literary and film analyses; non college credit students will incorporate nonfiction articles into their essays, and college credit students will incorporate academic articles and literary criticism into their essays. Furthermore, all students will conduct research on issues related to diversity and write a research paper. Participants will thoroughly and critically examine the effects of racism, racial and gender stereotypes, racial prejudice, gender bias, and institutional racism on the individual. Students will be expected to craft and revise essays for a final portfolio, read challenging texts, and participate in group discussions.

FOREIGN LANGUAGE

All students are required to begin the study of foreign language in the 9th grade, and continue with this choice for three years. Fourth year of study is an option and encouraged.

Chinese (partnership with the University of Pittsburgh Confucius Institute)

Available to grade 9, 10, 11, 12

This course is designed to introduce students to the fundamentals of Chinese language and culture. Emphasis is placed on the four communication skills of listening, reading, writing and speaking. An introduction to Chinese culture is an integral part of this course.

French

Available to grade 9, 10, 11, 12

This course introduces the student to the language and culture of the Francophone world. Listening, speaking, reading and writing skills are reinforced through daily study, along with regular grammar drills and homework assignments. Evaluation is done through oral and written quizzes, unit exams, projects and presentations.

Latin 4 (Latin 0220 Latin Intermediate Verse, University of Pittsburgh, 3 credits)

Available to grade 9, 10, 11, 12

This course develops a novice competence in Latin for a variety of thinking situations. By balancing and integrating the four language skills of listening, speaking, reading and writing with historic culture and grammar activities, this course is designed to provide a basic proficiency in practical situation. Grammar and concepts are used to provide a basic foundation to further language study.

Spanish

Available to grade 9, 10, 11, 12

This course is an introduction to Spanish language and culture. It teaches basic grammar, vocabulary, and culture. Culture is an important part of the course and it is taught through the use of readings, class discussions and media (documentaries, videos, movies, Skype communication, etc.). The goals of this course are to understand the cultural and historical framework of the Spanish-speaking community. Students are assessed by the following elements: Class Work, Quizzes, Homework, Projects & Chapter tests.

HISTORY

Civilization

Required grade 9

In Civilization students study past and present world regions, including East Asia, the Indian Subcontinent, the Middle East, Europe, Saharan and Sub-Saharan Africa and Latin America. The students explore themes such as government and power, economies, religious and ethical systems, revolution, environmental interaction, cultural interaction, empire building, and science and technology. Activities include reading assignments utilizing on-line text, class discussions, PowerPoint presentations and document-based primary source writings.

Foundations of the Republic (HIST 1010, La Roche College 3 credits)

Grade 10 (weighted or non-weighted option)

Emphasis is placed on interpreting documents, mastering a significant body of factual information, and writing critical essays. The course emphasizes a series of themes throughout the year. The themes will include discussions of American diversity, the development of a unique American identity, the evolution of American culture, demographic changes over the course of America's history, economic trends and transformations, the development of political institutions and the components of citizenship, the history of American foreign policy, the history of slavery and its legacies, and the role of religion in the making of United States history. Special attention will be given to the study of the United States Constitution and other foundation documents. This class is the first of a two part course in United States history.

Emergence of Mass Democracy (HIST 1011, La Roche College 3 credits)

Grade 11 (weighted or non-weighted option)

Emphasis is placed on interpreting documents, mastering a significant body of factual information, and writing critical essays. The course emphasizes a series of themes throughout the year. The themes will include discussions of American diversity, the development of a unique American identity, the evolution of American culture, demographic changes over the course of America's history, economic trends and transformations, the development of political institutions and the components of citizenship, the history of American foreign policy, and the role of religion in the making of United States history. This class is the second of a two part course in United States history.

Macroeconomics (ADMG 1005, La Roche College 3 credits)

Grade 12 (weighted or non-weighted option)

The course encompasses basic economic concepts, supply and demand, GDP and national income analysis, unemployment, inflation, macroeconomic theory, monetary policy and the Fed, international trade and the role of the political process in economic life.

MATHEMATICS

Algebra I

Available to grade 9

Algebra is the branch of mathematics concerning the study of the rules of operations and relations, and the constructions and concepts arising from them, including terms, polynomials, equations and algebraic structures.

Algebra II

Available to grade 9, 10, 11

Students master the basic concepts and skills associated with Algebra II. Students use symbolic, numeric, and graphical approaches to study linear, quadratic, polynomial, exponential and logarithmic functions and relations. Additional topics include: systems of equations and matrices, conic sections, an introduction to trigonometric functions and trigonometric identities, and a review of descriptive statistics. Students solve Algebra II problems using a variety of strategies and techniques and gain confidence in doing mathematics and thinking mathematically.

Calculus Business (MATH 0120 Calculus for Business, University of Pittsburgh 4 credits)

Available to grade 11, 12

This course provides an introduction to calculus for students interested in business, economic, social, or biological science. Topics include functions, limits and continuity, differentiation, applications of differentiation, integration, exponential and logarithmic functions, and an introduction to multivariable calculus. Calculus of Trigonometric Functions will be covered if time permits. Applications to the social sciences, business, and economics are stressed.

Calculus Engineering (MATH 0220 Analytic Geometry and Calculus I, University of Pittsburgh 4 credits)

Available to grade 11, 12

Pre requisite courses: Algebra, Geometry, and Pre-Calculus

This course is the standard first course in a basic calculus sequence required for all mathematics, science, and engineering students at the University of Pittsburgh.

Calculus II (Advanced Placement AP)

Available to grade 12

Pre requisite courses: Algebra II, Geometry, Trigonometry, pre-Calculus)

This is an AP course that covers material in Calculus 1 & 2. AP courses in calculus consist of a full high school academic year of work and are comparable to calculus courses in colleges and universities. Students who receive college credit are required to pass the Advanced Placement test in May.

College Algebra (MATH1010 Algebra, La Roche College 3 credits)

Available to grades 12

A traditional study of pre-calculus mathematics with emphasis on functions and relations. Includes a review of linear and quadratic equations, rational expressions, exponents, radicals, and logarithms. Polynomial, exponential, and logarithmic functions are presented together with the conic sections, systems of equations, determinants, and binomial theorem and mathematical induction.

Geometry

Available to grades 9, 10

In this year long course students master the basic concepts and skills associated with Geometry. Students study the following topics: basic geometry terms and definitions, how to write a logical proof, parallel and perpendicular lines, triangle congruence, the properties of two and three-dimensional figures, theories of similarity and circles and applications of probability. Students solve geometry problems using a variety of strategies and techniques and gain confidence in doing mathematics and thinking mathematically.

Pre-Calculus

Available to grades 10, 11, 12

In American mathematics education, pre-calculus (or Algebra 3 in some areas), is an advanced form of secondary school algebra, and trigonometry, and a foundational mathematical discipline. It is also called Introduction to Analysis. Pre-Calculus prepares students for calculus the same way that pre-algebra prepares students for Algebra 1. While pre-algebra teaches students many different fundamental algebra topics, pre-calculus does not involve calculus, but explores topics that will be applied in calculus. It often involves covering algebraic topics that might not have been given attention in earlier algebra courses.

RELIGION

Religion 9

Required grade 9

Semester one: Jesus Christ in Scripture

The purpose of this course is to give students a general knowledge and appreciation of the Sacred Scriptures. In the course they will learn about the Bible, authored by God through Inspiration, and its value to people throughout the world. This course pays particular attention to some of the Old Testament stories and how they reveal who God is and how they point to the Messiah. If they have not been taught this earlier, they will learn how to read the Bible, and will become familiar with the major sections of the Bible and the books included in each section. The students will pay particular attention to the Gospels where they may grow to know and love Jesus Christ more personally.

Semester two: Who is Jesus Christ?

The purpose of this course is to introduce students to the Mystery of Jesus Christ, the Living Word of God, the second Person of the Blessed Trinity. In this course students will understand that Jesus Christ is the ultimate revelation to us from God. In learning about who he is, the students will also learn who he calls them to be.

Religion 10

Required grade 10

Semester one: The Paschal Mystery: The Mission of Jesus Christ

The purpose of this course is to help students understand all that God has done for us through his Son, Jesus Christ. Through this course of study, students will learn that for all eternity, God has planned for us to share eternal happiness with him which is accomplished through the Redemption Christ won for us. Students will learn that they share in this Redemption only in and through Jesus Christ and what that entails for their own spiritual journey. They will also be introduced to what it means to be a disciple of Christ and what life as a disciple entails.

Semester two: The Church: Jesus Christ's Mission Continues

The purpose of this course is to help the students understand that in and through the Church they encounter the Living Jesus Christ. They will be introduced to the fact that the Church was founded by Christ through the Apostles and is sustained by him through the Holy Spirit. The students will come to know that the Church is the living Body of Christ today. This Body has both Divine and human elements. In this course, students will learn not so much about events in the life of the Church but about the sacred nature of the Church.

Religion 11

Required grade 11

Semester one: Sacraments: Jesus' Revelation through the Sacraments

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

Semester two: Life in Christ

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

Religion 12 (TH 155 Catholic Social Teaching, Carlow University 3 credits)

Required grade 12

Semester one: Catholic Social Teaching (weighted or non-weighted option)

Applying Gospel values to issues of human justice. Labor and wages. the environment, prejudice and racism, war and peace, poverty, etc. The issues are anchored in 20th century Catholic theology. (3 text books, major handouts, guest speakers and one field trip.)

Semester two: Sacraments; Discerning Vocations

An 18-week course for senior men and women covering the essentials of marriage and family life; priesthood; and religious life. The Christian styles of self-actualization! The course is based on Catholic theology (2 text books); visits from diocesan-approved Catholic physicians and married couples in leadership roles; and our diocesan vocations director Father Freedy.

SCIENCE

Biology I

Required grade 11

Biology is a junior level lab-oriented course, exploring life at all levels, from molecules and cells to ecosystems and the biosphere. Student exploration, research and problem solving are emphasized throughout the course. Students learn to communicate in a concise and technical manner both orally and in a written format. Methods used include teacher and student presentations, labs (both cook book and inquiry), web based activities and case studies.

Biology II

Available to grade 12 (*semester course*)

Emphasis is placed on recent scientific advances in the field of biology. Students will explore current topics such as the science explaining addiction, ecological problems, STEM cell research and emerging and re-emerging infectious diseases. All students will work on short or long term projects in order to develop research skills, practice laboratory techniques and improve communication skills.

Chemistry

Required grade 10

In Chemistry students will investigate the macroscopic and submicroscopic composition and behavior of matter. The basic concepts of chemistry are presented with the conceptual method so students can visualize how the behavior of atoms and molecules explain the macroscopic environment in their daily lives.

College Physics (PHYS 211 General Analytical Physics I, Duquesne University, 3 credits)

Available to grade 12

Calculus based and problem-oriented introductory physics sequence. A solid algebra and trigonometry background suggested. The approach is strongly quantitative and emphasizes the solving of problems. Topics normally covered are drawn from Newtonian mechanics in two dimensions and include velocity and acceleration, Newton's laws and energy for linear and rotational motion and oscillatory motion. Heat and thermodynamics may be included time permitting.

Materials Science

Available to grade 12 (*semester course*)

Science of the materials of the world and their applications in that world. The course is an application of chemistry, physics, biology and mathematics

Materials Science and Conceptual Physics

Required grade 9

Students study the topics of matter, heat, sound, light, electricity and magnetism in preparation for future science courses of Chemistry, Biology and Physics II. Students apply a three-step learning sequence of exploration, concept development and application. They also participate in hands-on activities that help them understand the concepts and skills that are presented in a weekly laboratory class.

Physics II

Required grade 12 (semester course)

Physics II is an algebra driven physics course limiting itself to topics of mechanics. Upon successful completion of this course, students will be able to:

- Demonstrate knowledge of Newton's Laws of Motion and apply them to simple mechanical systems.
- Demonstrate knowledge of the Law of Conservation of Energy and apply it to simple mechanical systems.
- Demonstrate knowledge of the Law of Conservation of Momentum and apply it to simple mechanical systems.
- Demonstrate knowledge of the Laws of Rotational Dynamics and learn how to apply them to simple mechanical systems.
- Demonstrate the ability to translate common language descriptions into the language of physics and into physical diagrams.
- Demonstrate the ability to interpret physical diagrams in the language of physics.
- Demonstrate the ability to collect, evaluate, interpret, and communicate scientific information in terms of fundamental mechanical concepts.
- Demonstrate the ability to interpret and evaluate data in terms of fundamental mathematical and statistical concepts.

Physical Education

Required grade 9, 10, 11, 12

The curriculum focuses on lifetime fitness and physical activity. Students are encouraged to work together in promoting course and individual goals. Two classes of gym per week are required for four years.