

ACADEMIC CLASS DESCRIPTIONS

COMPUTER SCIENCE

Students are also given the opportunity to prepare for SAT-I testing by using the available software and are able to use the computers to produce term papers or other projects as required by teachers in other subject areas. Remedial software is available for student use. Hardware available for student projects includes scanners and digital cameras along with a wide range of utility software for graphic design. The curriculum is evaluated each year to keep pace with the changes in computer usage. The Computer Lab is accessible to the faculty and students. Keyboarding all students are exposed to a basic course in the mechanics of typing and personal applications. The beginnings of typing reports, bibliographies, memos, resumes, and drill accuracy exercises are touched upon.

COMPUTER LITERACY

A general computer course is offered to students as a one- semester course. This course is designed to give each student a working knowledge of the skills necessary to operate the computer, as well as to use an integrated software program of word processing, spreadsheet, database, drawing/painting, presentation, and web browsing.

WORD PROCESSING

This is a one-semester course offered to juniors and seniors. It is designed to give each student a working knowledge of the computer as a word processor using software that the student can expect to be using in college and/or the business world. Emphasis is placed on creating a resume, the proper format of a business letter, memorandum, press release, charts, tables, and, purchase orders.

DESKTOP PUBLISHING

This is a one-semester course offered to juniors and seniors. It is designed to give each student a working knowledge of the construction of publications: pamphlets, cards, newsletters, brochures, programs and portfolios.

GRAPHIC DESIGN

This course is offered to seniors as an independent study. They are given guidance into their choice of a variety of software programs in the areas of art, photography, web design, video, and animation. Ample time is allowed for the application of this knowledge to student activities such as theater, the yearbook, and the sports program.

COMPUTER LAB

Fatima's Computer Lab is well equipped when it comes to available features and capabilities. We have 30 Macintosh computers available for student use. The computers are networked to both laser and color inkjet printers which allow our students to create reports, flyers, newsletters and tickets that are professional in appearance. Our students scan photographs and artwork which can be integrated with text to enhance publications. We have also added coursework using digital video production. An expanding body of course-related tutorial programs ranging from math to SAT preparation is also available to students. We feature a Middle School program of weekly enrichment in typing, basic math skills, presentation software, and search techniques. Our High School computer courses are built around the mastery of individual programs that students will see and use in the "real world" for which we are preparing them.

Software titles include:

- **Adobe PageMaker, a professional quality publishing program capable of producing precise, graphically enhanced documents, flyers, and small booklets.**
- **Adobe Illustrator, an industry standard graphic design program.**
- **Macromedia Flash MX, an industry standard animation program.**
- **Adobe Photoshop, and industry standard photograph enhancing program.**
- **Imovie, Apple's video production software.**
- **Microsoft Word, a high level word processing program found in all college computer rooms and offices across the country.**
- **Appleworks, Apple's integrated program of word processing, drawing, painting, spreadsheet, database, and HTML programming.**

We are committed to preparing our students for full participation in this rapidly expanding age of technology.

ENGLISH

JUNIOR HIGH ENGLISH

The English course for grades 7 & 8 offers an integration of grammar, composition, literature, vocabulary, and spelling. An intricate part of the grades 7 & 8 curriculum is the reading program. Attention is given to teaching more complex aspects of word analysis, higher-level comprehension skills, and study skills. Developing and fostering an interest in reading is essential at this grade level. Summer reading lists based on a theme, are given out at the end of the school year. Each student is asked to read three books and view one movie.

GRADE 7 - ENGLISH

Beginning in grade 7, students will engage in a careful sequence and development for the introduction of literary concepts concerning the various types of fiction, non-fiction, poetry, essays and drama, through selections by well-known professional writers. Special attention is given to vocabulary instruction and development principles. Students are involved in seeing, describing, using, defining and writing vocabulary words. The major emphasis of structural analysis, context clues, and word meanings, provide a foundation that readers at their grade level can draw on for comprehending the rapidly expanding vocabulary of content area reading. The spelling program is incorporated into the English course and is designed to be a tool that students can use to improve written expression.

GRADE 8 - ENGLISH

In grade 8, the students have the opportunity to expose their understanding of literary forms previously taught in grade 7. Here the students begin the study and appreciation of American and British authors. New text integrates grammar and literature. Students in this course will begin to steadily increase their awareness of literary value.

Senior High - English

The basic aim of the English program is to develop understanding of the forms of communication to which the student is exposed and to teach them how to use these forms. A closely related aim is to give the student an appreciation of their literary heritage - the vision of life held by the authors whose works comprise this heritage, and to help them form their own vision of life against the background of the ideas to which they are exposed. The English course of studies includes a program of language techniques and skills - a carefully planned development of composition, grammar, vocabulary, capitalization, and punctuation. Prior to summer vacation, students are given a graded book list from which they must read a given number, based on theme, of assigned and/or personal choice books. In the fall, students are required to pass in a report or take a test (according to teacher direction) that would cover the selections read. Outside reading is encouraged throughout the Junior and Senior High level.

GRADE 9 - English

Freshman English stresses communication skills through various types of literature, grammar, composition, and vocabulary. Various literary types will be presented to the students both for their academic value as well as their substance and student enjoyment. Thematic approaches covered include acquiring self-confidence, importance of truth in reality, and positive and negative effects of social interaction. Honors English - This course provides an opportunity to cover more material in literature with a more in-depth analysis of selections. Grammar units are also covered at a faster pace. General English - This course advances at a reasonable pace with emphasis on grammar.

GRADE 10- ENGLISH

This course provides a comprehensive study of American Literature from the 17th to the 20th centuries. Noted American writers are introduced. Students are required to apply knowledge acquired in essay writing. Papers are assigned on major American novels. Lecture, discussion, analysis, and research are all utilized according to the level of the group. Honors English - This course advances rapidly with emphasis on independent work. Essay writing is a part of the testing process. The vocabulary text is at the college bound level. General English - This course advances at a slower pace with emphasis on development of skills in essay writing. The vocabulary text is at a lower level of difficulty.

GRADE 11 - ENGLISH

A comprehensive study is made of literary works from English writers of every period, tracing the development of English literature (short stories, poetry, and drama) from the Anglo-Saxon period to the twentieth century. Teaching aids include critical analysis of major English lit novels and suggestions that encourage creative response and discussion. Honors English - This course advances rapidly with emphasis on independent review. A critical analysis of a noted English novel is required 1st quarter and 3rd quarter. The vocabulary text is at the college bound level. General English - This course advances at a slower pace with more time devoted to review grammar and writing skills. A critical analysis of a major English novel is required 3rd quarter. The vocabulary text is at a lower level of difficulty.

GRADE 12 - ENGLISH

The 12th grade curriculum consists of semester courses, which may vary from year to year depending on student interest and ability. Students will select from several choices, a course per semester. A research paper on a literary topic is the fourth-quarter final examination.

-Creative Writing- This course is designed to improve the student's writing by developing his/her perception or point of view, and consists of assignments, illustrations (i.e. pros reading, poems, and works of art), and discussion questions. The course is based on the premise that good writing grows organically out of good thinking and that good thinking must begin with the materials of immediate experience. Accurate and well-integrated perception of the self and of the environment is primary. In the assignments, the students are asked to examine systematically, the specifics of his own experience and through the assignments, some analogous experiences that promote the student's involvement in the material.

-Horror and Science Fiction -This course is designed to introduce students to the most recent genres in literature. The study of horror fiction begins primarily with Edgar Allen Poe and continues with the major 19th and 20th century horror writers. Besides short stories, the students will read Frankenstein and Dracula, activities and analysis on these novels will be assigned. Science Fiction works are focused mainly on those of the late 1900's and early 20th century. The Martian Chronicles will be read as an example of social science fiction.

-Book- to -Film -This course first introduces students to the history of film and art of filmmaking and then moves on to study novels and the films made from them. Four novels and films are covered; examples of novels used include: The Color Purple, One Flew Over the Cuckoos Nest, Awakenings, The Great Gatsby, and Ordinary People. All students, as part of their final exam, write a screenplay based on a short story. As the class final exam project, the best screenplay is made into a film.

-Reading the Media- Since students are bombarded with information and values found in the media. It is essential that they begin to look at media with a critical eye. This course seeks to have students examine their media experiences and analyze what the media's message is. Media products covered include: film, music, advertisements, and television. Students are asked to create their own media products for evaluation.

FINE ARTS

GRADE 7 & 8 - INTRODUCTION TO ART

Students will begin to understand color theory, primary and complementary colors, hue, intensity and tone, cool and warm tones. Students will be introduced to three-dimensional media through book making and paper-mache.

GRADE 9 - INTRODUCTION TO ART

Students will gain further understanding of the basic elements of design. Students will continue to study and use the principles of color theory. Students should understand both formal and abstract design. Students will continue to study the styles of famous artists through periods of art history. Students will learn to discover, and appreciate their own creativity and abilities and learn to express them.

GRADE 11 - BASIC ART APPRECIATION

Students will be taught color theory, primary and complementary colors, hue, intensity and tone, cool and warm tones. Students will be taught the basic elements and principles of design. Students will be asked to create more detailed works emphasizing horizon, proportion, line form and harmony.

GRADE 12 - FOUNDATION IN ART

Basic elements and principles of Art are taught at a deeper level with more intense work required. Students will gain proficiency in blending and shading of color and color harmony. Students will continue to study the styles of famous artists through the various periods of art history. Students will learn to appreciate the diversity of individual creative styles and techniques and realize their importance and value in our society.

GRADES 7 GENERAL MUSIC

An introduction to basic music theory. The student will learn to read both treble and bass staves, as well as rhythms. The course also includes music appreciation.

GRADE 8 - GENERAL MUSIC

A continuation from 7th grade will reinforce and expand upon the student's musical knowledge. The course also includes music appreciation and a brief overview of music history.

GRADE 9 - THE ROLE AND IMPORTANCE OF MUSIC

To acquaint the student with the many different styles of music in the world around us. To provide a better understanding of the position music holds in culture.

GRADE 10 - THE ROLE AND IMPORTANCE OF MUSIC

To acquaint the student with the many styles of music in the world today. To provide a better understanding of the position music holds in our culture. Special emphasis on the genres of jazz, musical theater, and music in film.

Grade 11 - Music History

To acquaint the student with a broad overview of the rich diversity of music throughout the ages. To enable the student to trace the development of music from antiquity to the present. To provide an understanding of the place that music holds in the social and political atmosphere of each period. Chorus The opportunity to join a choral group is offered to all students who are interested in singing. No audition is required. Members of the chorus may take part in local concerts and/or perform for school functions.

HEALTH EDUCATION

Fatima educates students within the physical education setting in the dangers of alcohol and other controlled substance abuse. Other emphasis is placed on current issues such as sexually transmitted diseases, date rape, eating disorders, steroids/ergogenic aids, diet supplement abuse, and teen violence. Different topics may arise depending on the current impact of the lives of teenagers.

HUMANITIES

SOCIAL JUSTICE

This elective course for juniors and seniors offers students a systematized study of human persons and their behavioral roles and relationships within a culture that has specific norms and values. It also provided insights into social institutions. A community service project is a requirement for this course. Students are placed for a minimum of twenty hours within community and social settings. Community Service placements have been selected from the following: The Rhode Island Children of Crusades for Higher Education (Guiteras School, Bristol), Rhode Island Hospital Volunteer, Cardiac Lab., FATIMA - peer tutoring, Providence Performing Arts, "the Cabaret Co.", Sea Side Nursery School, East Bay CYO Center - peer ministry and Search Teams and Marian Hospital.

MATHEMATICS

Students are offered a complete program of mathematical concepts geared toward preparing them for college and future careers. Individualized classes, homogeneous groupings, and variations in teaching methods meet the varying abilities of our students. The courses which constitute Mathematics program are: Math 7, Math 8, Pre-Algebra, Basic Algebra, Honors Algebra, Basic and honors Geometry, Algebra II and Trigonometry, Advanced Math Concepts, and Calculus.

GRADE 7

This course covers concepts of the fundamental operations of Math and introduces equations, geometric concepts, pre-algebraic notions, and analysis of word problems.

GRADE 8

Math in grade 8 includes a complete treatment of the rational numbers with emphasis placed on the principles, processes and pre-algebraic concepts. The course also includes the metric system and introduces some concepts in geometry, probability, and statistics.

GRADE 9

Algebra I emphasizes the long range development of concepts and skills necessary for working with sets, number systems and their properties, linear equations and their properties, inequalities, operations with variables, problem solving, graphing, factoring, quadratic equations and radicals. Students are divided into two levels according to their ability. Honor students follow a course that deals with skills, but emphasizes theory, algebraic concepts, proofs, and analysis of number systems. College Preparatory students follow a basic course, with emphasis on skills.

GRADE 10 - GEOMETRY

Honors Geometry is an intensive source in Euclidean plane, solid geometry and coordinate geometry. A strong emphasis is placed on logical development and applications to physical situations. Basic concepts in trigonometry are included. Students are encouraged to discover new ways of proving theorems. Basic Geometry is offered to those who have some difficulty grasping math concepts and proving theorems. This is a course in plane geometry and some aspects of solid geometry. Logic in deductive proofs is emphasized through recognition of postulates, definitions, and relationships.

GRADE 11 - ALGEBRA II AND TRIGONOMETRY

This course offers a review of the algebraic concepts presented in Algebra I and develops them in depth applying them to problem solving. The concepts related to the process of factoring, and to the solution of quadratic equations, functions and relations, are stressed. Emphasis is placed on the importance of modeling connections between problem situations that may arise in the real world. The relationship between trigonometric and circular functions is explored. Graphing calculators and the use of the computer provide the students with exploratory methods of learning.

GRADES 11 & 12 - ADVANCED MATH CONCEPTS

An applications based elective program for Juniors and Seniors, providing a balance between theoretical concepts and real-world applications, a comprehensive overview of Math concepts and skills needed by college-bound students. Relations and functions, trigonometry, discrete mathematics, and pre-calculus topics are covered in detail, preparing the students to succeed in a world where technical knowledge is imperative.

GRADES 11 & 12 - CALCULUS

The experienced-based, interactive and exploratory approach, this course involves the students actively in the development of each topic to enhance the understanding of concepts. Relevant and factual applications drawn from a broad background of fields are integrated throughout the text as applied problems and exercises. All techniques of differentiation are covered, as well as applications of integration. Concepts are also clarified through the use of computer software, and the graphing calculator. Emphasis is on self-reliance, verbal precision, deductive reasoning, a readiness to look for general principles, and a questioning attitude, which develops maturity.

MODERN LANGUAGES

SPANISH I, II, & III PORTUGUESE I, II & III

LEVEL 1

The first year introduces students to and promotes an appreciation for the culture and the target language. The emphasis of this course is an understanding of the basics of the language and its use. To accomplish this goal, the course is often conducted in the target language. Throughout the first year, there are many co-operative learning activities incorporated into the curriculum. The grammar of the target language is presented in a way that is both enjoyable and understandable to the student. The end result of the first year is a basic understanding of the language vocabulary and grammar of the target language.

LEVEL II

The goal of the second year of a language is to approach grammar and oral proficiency. The development of oral proficiency is continued in the second level by co-operative learning and in class oral activities. The study of cultures is continued on this level. This study is conducted on a deeper level and through different Medias. At this level, there are selected reading in the target language that enhances their grammar as well as their understanding of the cultures presented. Thus resulting in a student who is able to speak in the target language and culture.

LEVEL III

A higher level of grammar will be introduced to students. More complex and difficult structures will be studied. More sophisticated vocabulary will be taught. Fluency in speaking will be practiced daily. Stories of varying lengths and difficulty will be presented to the students along with thought stimulating discussions and appreciation of foreign culture. This course is primarily conducted in the target language.

PHYSICAL EDUCATION

In an attempt to completely educate the students in the areas of spirit, mind and body, Our Lady of Fatima offers a diversified program in Physical Education. All students are required to participate in Physical Education. Students in grades 7-8 attend classes twice a week for both the fall and spring semesters. Students in grades 9-12 attend classes four days a week for one semester. The program includes the following team sports: volleyball, basketball, softball, and flag football. Individual/Dual sports and activities include the following: badminton, presidential physical fitness challenge, weight training, circuit training, and track and field. A strong emphasis is placed on educating the student to develop transferable, lifetime habits such as health and well being through regular participation in fitness and other recreational activities.

PSYCHOLOGY

This is a challenging elective course for juniors and seniors. It acquaints the student with child development, the processes of learning and thinking, personality development, behavior patterns, adolescent problems, emotional and behavioral adjustments. Major psychologists and their theories are covered with discussion of application of theoretical advances to everyday life. Classroom activities and a research project bring a practical orientation to this course.

RELIGIOUS STUDIES

The Religious Studies Program closely follows the guidelines and suggestions made in the New Catechetical Directory. Its aim is that of all catechists: handing on the symbols of faith to the new generation of believers. These "symbols" refer to concepts such as church, sacrament and revelation; to values such as justice, family and respect for authority to rituals of prayer and worship; and to the doctrines expressed in creeds and church documents--in short to all that gives believers their Catholic identity.

GRADE 7 - CHRIST OUR LIFE JESUS THE WAY, THE TRUTH, AND THE LIFE.

This course teaches about the awesomeness of God: Father, Son, and Holy Spirit, centering on Jesus Christ; and encourages a relationship with Him. It presents Catholic doctrine, which comes from Scripture, the Catechism and other church documents. This program nurtures faith, hope and love in the students, relates life experiences to scripture, and prepares them for Christian living.

GRADE 8 THE CHURCH THEN AND NOW

This course is a study of God's faithful love as it is revealed in the Church founded by Jesus Christ. The students learn the distinctive traits of Catholicism and increase their appreciation for Catholic beliefs and practices. In the spirit of ecumenism, they learn what binds them to Christians of other Churches. The Church Then and Now is designed to help young adolescents grow in their knowledge and love of the Church. Throughout the book, the students are presented with role models, past and present, which show what it means to be a disciple of Jesus.

GRADE 9 JESUS OF NAZARETH - THE MYSTERY REVEALED

This course introduces students to the Catholic identity in all its dimensions- sacramental, doctrinal, ecclesiastical, and pastoral. It overviews the Roman Catholic faith in every aspect and simultaneously provides new insights for student discussion. Its hope is to help students find in their study, that faith can withstand the pressures and temptations of society; and for those who are still in need of evangelization can find precisely the basis they need to make conscious and mature commitment to living in a way that manifests Christ Jesus in their modern world.

GRADE 10 - WORSHIP AND SACRAMENTS

This course begins with the foundation of our church and our faith and Jesus as sacrament. The history, signs/symbols, practices and preparations of the Sacraments of Initiation, Sacraments of Healing, and the Sacraments of Vocation are then studied in detail. Lastly, the reasons why we pray and the ways we pray, the liturgical cycles and eschatology are also taught.

GRADE 11 - THE HEBREW SCRIPTURES (CALLED BY THE FATHER)

A comprehensive survey of the Hebrew Scriptures, interpreted from a Christian perspective. In a voyage of discovery, the text focuses on people stressing the universality of human experience, and presenting Israel's culture, events and history in a clear and simplified form. Biblical events are studied through the individuals involved in them, thus integrating the revelation of the Hebrew Scriptures with the total scheme of salvation, and particularly with each one's personal journey of faith. The text materials help to guide the students in their personal encounter with God's Word, and through its frequent use to grow in their knowledge of their Creator and Savior.

GRADE 12 - LIVING CHRISTIAN MORALITY AND PREPARING FOR A PERMANENT COMMITMENT IN MARRIAGE.

The course attempts to blend contemporary developments in value theory and psychology with the renewed approach to moral theology since the Vatican Council. Social responsibility is implied and a thorough treatment of social justice and Christian response in the public sphere is contained in material taken from the text used, *The Light of the World*. As part of the marriage preparation course, students have, as guest speakers, several members of the diocesan family of Social Services dealing with topics related to relationships, unresolved problems, losses, natural family planning, finances etc. The student's primary text, "Living a Moral Life" discusses moral and ethical topics. The course is enriched with the following: Liturgies, Retreat, Para-Liturgies, Lenten Penance and other religious activities.

GRADES 7-12 PRAYER PROGRAM

The prayer program, which supplements the Religious Studies Program, combines theory and practice of prayer for high school students. It offers many suggestions for prayer exercises, which can lead students to the knowledge of God that comes from an awakened heart. The prayer program is enriched with the following: Liturgies, Para-Liturgies, prayer ritual, and Liturgical dance, Retreats, Lenten Penance, and other religious activities.

SOCIAL STUDIES

JUNIOR HIGH

GRADE 7 AMERICAN HISTORY: FROM PREHISTORY - THE 1850'S

This course offers the student a lively chronological history of the United States from the beginning through the 1850's leading to the Civil War. Emphasizing broad themes of our history as a nation and the richness of our heritage. A mosaic of people consisting of a diverse population which makes our national identity so colorful while contributing towards broadening and strengthening our democratic institutions and improving our economic and technological capacity. Students are guided in using geographical skills and analyzing and understanding concepts leading through the colonial period to the expansion beyond the Rocky Mountains.

GRADE 8: AMERICAN HISTORY: FROM 1850 - PRESENT DAY

This course continues with our journey into American history with the Civil War. In that great bloody struggle are the roots of much of our Twentieth-Century History; the advance democracy, the quest for social justice, the expansion of cities and industries, technological change, and the growth of the federal government. The past is studied to better know the present. Students learn to use geographical skills, primary sources, literature and visual arts as background information. The contributions made by women and people of other races are given much importance.

GRADE 9: WORLD GEOGRAPHY

This one-semester course is meant to be an overview of World Geography and help the students understand themselves and the world around them and to instill in them knowledge and skills necessary for responsible citizenship. Built on a solid factual foundation, the students will learn about the unique features of the world around them. Each of the five themes, or main ideas, of geography, will give students a special perspective about the many lands, peoples, and ways of life that exist on the earth today. Pupils learn to work with globes, maps, charts, graphs, tables, and time lines as a vital part of the learning process. The program enables pupils to appreciate themselves and the contributions of their world-wide neighbors.

GRADE 9: CIVICS AND RHODE ISLAND HISTORY

The one-semester course presents a positive, traditional approach offering students an ideal opportunity to learn about their rights and responsibilities as good citizens. Pupils study the democratic process of our legislative system and the checks and balances provided by the Judicial and Executive branches. Field trips to the State Capital and local courts help to reinforce topics emphasized in the course. Public service careers, the free enterprise and current events will be covered particularly local, state and national elections. The study of Rhode Island History consists of a brief overview of the life of Roger Williams and his struggles and contributions, the main divisions of the state and their foundations

GRADE 10: WORLD HISTORY

The purpose of this course is to study various ancient and contemporary cultures and the history of different countries of the world. A secondary purpose is to help students form concepts and new insights into man's life, behavior, and culture by critical reading and inquiry.

GRADE 11: HISTORY OF THE UNITED STATES FROM THE CIVIL WAR TO THE PRESENT

This course is designed to provide the student with a brief overview of events in American History leading to the Civil War and a detailed study from 1860 to the present. By integrating the multicultural perspectives and geographic, constitutional, religious, and economic themes, the course presents all sides of the story, engaging students in historical, ethical, and political controversies that have changed the course of history. Field trips to Sturbridge Village, Plymouth Plantations and similar educational locations add to the curriculum. An important part of the History curriculum are the presentations made by the Rhode Island Legacy Program with actors from Trinity. Students have the opportunity to observe, discuss, challenge, and share their personal view with the important historical personages depicted in the presentations.

GRADE 11: U.S. HISTORY SINCE 1945

U.S. History Since 1945 is a comprehensive course covering numerous aspects of American History post World War II. Topics will include the United States as a "superpower", the "Cold War", Korea, Viet Nam and Cuba. Domestic topics will include the Civil Rights Movement, popular culture, politics, etc. Though knowledge of past Civil War American History would be helpful, a broad overview of early 20th Century American History will be included.

SCIENCE

OVERVIEW

The science program at FATIMA is a comprehensive program of studies that includes the following:

- **Study of science concepts and principles**
- **Study of technology**
- **Instructor directed laboratory investigations**
- **Inquiry based independent study and investigations**
- **Examination of social and moral issues that arise as a result of scientific progress and technology.**

GOALS

- **To promote curiosity about the world around us.**
- **To acquire knowledge of the fundamentals of the general sciences.**
- **To acquire problem solving skills through the use of scientific method.**
- **To become informed about the latest scientific and technological advances.**
- **To assimilate this information in the context of Christian values.**
- **To provide opportunities for involvement in social, political, civic and religious activities.**

OBJECTIVES

- **Students will demonstrate knowledge in life science, biology, physical science, chemistry, physics, anatomy and environmental science through classroom exercises, projects and assessment.**
- **Science is taught in a variety of ways including formal lectures, research discussion, inquiry learning, audio visual and demonstrations.**
- **Students will practice critical thinking and analytical skills in these areas of study through classroom exercise and independent research projects.**

- **In addition to the classroom experience all students are provided laboratory experience. Here, students are able to practice the scientific method and to use critical thinking skills to carry out laboratory exercises and experiments.**
- **Students, in a variety of ways, carry out independent study: research papers, science fair projects, and classroom projects.**
- **Students will engage in Christian based decision-making exercises on topics of scientific and technological research through classroom discussion, oral presentations and debates.**

JUNIOR HIGH

GRADE 7

The program of studies offered to Grade 7 is Life Science. This course is designed to provide students with an outline of the biological sciences. Students are expected to learn characteristics of living organisms, the fundamentals of cell biology, cell processes, evolution, environmental science, and animal and plant biology. This is a laboratory science, providing students with multiple experiences. Students are expected to participate in the science fair.

GRADE 8

The program of studies offered to Grade 8 is Physical Science. This course is designed to provide students with the fundamentals of physics and chemistry. Throughout this course, students study the basic of kinetic and potential energy, forces, thermal dynamics, and the foundations of atomic structure. Critical thinking skills and problem solving are integral parts of this course. It is a laboratory course. Students are expected to participate in the science fair.

SENIOR HIGH

GRADE 9

The science course offered to students in Grade 9 is Biology. This course explores the fundamentals of life science in great depth. Students follow a molecular/cellular approach of study, stressing the interrelationships that exist among the various life sciences. The topics studied include chemistry foundations, cell biology and function, genetics, plant and animal biology (vertebrate and invertebrate), classification of organisms, environmental science and human anatomy and physiology. Laboratory exercises allow the student to practice critical thinking skills and the scientific method. Participation in the school and state science fair is strongly encouraged but not mandatory. Finally, students also engage in classroom discussions and debates as they endeavor to investigate the ethical and moral dilemmas brought about by rapid advances in technology.

GRADE 10

The science course offered to students in Grade 10 is Chemistry. Chemistry introduces students to the idea that this complex and diverse world arises from only a few basic ingredients. The students study concepts that include the organization of matter, the flow of energy, classifying chemical reactions, balancing reactions, atomic structure, periodic properties, and gas laws. Each unit of study allows students to apply their newly learned lessons in laboratory exercises. In addition, students are required to independently research topics of interest and carry out independent investigations of their topics. They are required to write a research paper of their topics and report their investigations in the form of a formal laboratory report. Participation in the school and state science fair is strongly encouraged but not mandatory.

GRADES 11 AND 12 SCIENCE ELECTIVES

Environmental Science - This course is designed to challenge students and give them awareness and appreciation of their local environment as well as the global environment. Topics include bio-diversity, stewardship, ecosystems, populations, renewable resources, energy and pollution. Students are required to categorize and classify indigenous species of flora, conduct various water and soil tests and carry out several class presentations, including a current environmental controversy in debate format.

Physics- This course is designed to allow students to study the environment in terms of energy and forces. Physics is concerned with interrelationship of matter and energy. One of the goals of physics is to explain the physical universe in terms of energy and matter interactions. Major topics of this subject are Newtonian physics (trigonometry based), which include discussions and lab investigations of forces, vectors, universal gravitation, and momentum. Other topics include wave behavior, sound and light studies, electricity and magnetic fields, and quantum mechanics. Students are required to carry out laboratory investigations.

Anatomy and Physiology- This course is designed to provide students with the opportunity to study the human body in depth. The structure and function of organ systems is taught with the theme of homeostasis. Laboratory investigations include multiple dissections. In this course, students are required to carry out laboratory investigations and present written formal laboratory reports. In addition, they are required to research health topics of their choice and give oral presentations of their research.

SCIENCE REQUIREMENTS FOR GRADUATION

Laboratory Science Biology - 1 credit

Laboratory Science Chemistry - 1 credit

Laboratory Science * Elective Science - 1 credit

(recommended, but not required)

SCIENCE ELECTIVES

Anatomy and Physiology 1 credit

Physics 1 credit

Environmental Science 1 credit