

## **ENGLISH DEPARTMENT**

It is expected that students completing a four-year English program will be able to:

- ✓ Communicate using a variety of mediums
- ✓ Attain a score of Proficient or Advanced on MCAS testing
- ✓ Research topics using print and non-print mediums
- ✓ Make connections between literature and real life
- ✓ Work cooperatively with others

**NOTE: All Juniors and Seniors will be assigned Summer Reading.**

### **01012 CP English 9** **1.05**

This college-prep course is designed to provide the student with a curriculum that is genre-based, giving students a wide range of literary experiences from the classical epic to the contemporary short story. Students also read *Romeo and Juliet*. Writing open-response questions and the five-paragraph essay are emphasized. Other MCAS skills are also developed. Additionally, a research paper is required. On completing this course, ninth graders should show competency in:

- Writing (literature-based and creative)
- Making inferences from reading passages
- Interpreting literature
- Identifying and describing the elements of the major literary genres
- Research skills
- Making connections between literature and other disciplines
- Using knowledge of standard grammar
- Vocabulary development

### **01112 Adv. English 9** **1.1**

This course is an advanced English course, and it encompasses all of the curriculum requirements of ninth grade English described above, but at a higher level of difficulty. Students are responsible for a heavier reading load and generally more rigorous expectations in terms of writing and research. On completing this course, ninth graders should show competency in:

- Writing (literature-based and creative)
- Making inferences from reading passages
- Interpreting literature

- Identifying and describing the elements of the major literary genres
- Research skills
- Making connections between literature and other disciplines
- Using knowledge of standard grammar
- Vocabulary development

### **02012 CP English 10** **1.05**

Sophomores will continue to read classic and contemporary literature, becoming more familiar with the elements of the various genres. Writing open-responses to essays and other MCAS skills are further developed. All students will read *Macbeth* and a research paper is required. Sophomores completing this course should show competency in:

- Academic and creative writing
- Interpreting literature
- Applying grammar skills to writing
- Research skills
- Speaking skills
- Responding to open response questions
- Writing several forms of the essay

### **02112 Adv. English 10** **1.1**

Students electing the advanced level course will complete the work of the grade 10 class described above and must expect a demanding reading schedule in addition to the class text. Writing, reading, and research will be focused on at the advanced level. Sophomores completing this course should show competency in:

- Academic and creative writing
- Interpreting literature
- Applying grammar skills to writing
- Research skills
- Speaking skills
- Responding to open response questions
- Writing several forms of the essay
- MCAS skills

### **03012 CP English 11** **1.0**

This course is designed for the student to work toward competency in reading, writing, speaking and listening skills. Students will read short stories, drama, novels, and poetry. A research paper is required. On completing this course, juniors should exhibit competency in:

- Organizing information
- Writing in response to literature
- Writing essays
- Vocabulary building
- Speaking skills
- Research skills

**031****03112 Adv. Amer. Literature Gr.11-12 1.1**

This course is designed for college-bound juniors and seniors who are sophisticated readers and writers and who are skilled at interpreting the short story, poetry, drama, and novel. The course employs additional novels and plays beyond the text, along with SAT preparation. A college application essay is written and research papers are required. On completing this course, students should exhibit competency in:

- Writing in response to literature (essays and creative pieces)
- Interpreting literature
- Applying grammar through writing
- Replying to open-response questions
- Vocabulary building (using drill and context clues)
- Speaking skills (discussions on reading assignments, presentations)
- Research skills

**032****03212 CP American Lit. Gr. 11-12 1.0**

This course is designed for juniors and seniors who enjoy reading and writing about American authors. The class focuses on the text with fewer outside readings. A research paper is required along with a college application essay. SAT vocabulary building and test-taking strategies are included. On completing this course, students should exhibit competency in:

- Writing in response to literature (essays and creative pieces)
- Interpreting literature
- Applying grammar through writing
- Replying to open-response questions
- Vocabulary building (using drill and context clues)
- Speaking skills (discussions on reading assignments, presentations)
- Research skills

**040 CP English 12****1.0**

This course is designed for the senior student to expand upon the eleventh grade English (1.0) course. The anthology is genre based, and students will read short stories, drama, novels, and poetry. Students also develop skills in resume writing, cover letters, job interviews, and job searching. A college application essay is written, and a research paper/project is required. On completing this course, seniors will exhibit competency in:

- Organizing information
- Writing in response to literature
- Writing essays
- Vocabulary building
- Critical and creative thinking
- Research skills

**041****04112 Adv. British Literature Gr. 11-12 1.1**

This course is designed for the self-motivated, college-bound junior or senior who wishes to follow an intensive survey course in British Literature. The course is organized chronologically, presenting the literature of Great Britain in an historical and literary context. Students will analyze poetry, drama, short stories, and essays as well as novels. The course also incorporates a study of the origins of the English language. A college application essay is written, and research papers are required. On completing this course, students will exhibit competency in:

- Writing in response to literature
- Identifying literary elements
- Writing a college essay
- Research skills
- Vocabulary building
- Speaking skills

**050****05012 CP Journalism Gr. 11-12 1.0**

This course is designed to teach students the skills necessary to write news stories, features, editorials, sports stories, and reviews. Students also read examples of "new journalism". Additionally, Capote's *In Cold Blood* is studied. Students are encouraged to submit articles to the school newspaper. Upon completion of this course, students will exhibit competency in:

- Research and interviewing skills
- Writing techniques in journalism
- Using standard grammar for writing and editing
- Journalistic ethics
- Analyzing news stories
- Writing about literature

**051****05112 Adv. Creative Writing Gr. 11-12 1.1**

This is an activity course designed for college-bound juniors and seniors who are looking for ways to become more proficient writers. Students will learn how to express themselves creatively by composing original stories, poems, and a host of other writing assignments based on literature and personal experience. The course will use the four-step writing process (rough draft, peer editing, deep revision and publication/presentation). Additionally, writing a college application essay and research papers are part of the curriculum. Vocabulary building, world literature and a Shakespearean play are also part of the curriculum. Sharing final drafts from the podium is a requirement. Upon completion of this course students should exhibit competency in:

- Composing creative pieces

- Analyzing and writing in response to literature
- Writing analytical and critical reviews
- Composing a college essay
- Using the four-step writing process
- Critiquing the work of classmates
- Research skills
- Using new vocabulary in writing
- Presenting final drafts of writing from the podium

**061**

**06112 Adv. Women in Lit Gr.11-12 1.1**

This course is for college-bound juniors and seniors who are proficient readers and writers with a special interest in the writing of women. The course is organized thematically and includes all the major genres. Students will read novels by Amy Tan, Toni Morrison, Barbara Kingsolver and Zora Neale Hurston. A college application essay will be written, and research papers are required. At the completion of this course, students will exhibit competency in:

- Close reading skills
- Interpreting literature
- Research skills
- Public speaking
- Writing a college essay
- Evaluating the contributions of women to the literary canon

**066**

**06612 HS Language & Composition 1.0**

**Gr. 11-12**

**Prerequisite: H.S. Team Leader approval**

This course emphasizes the development of reading comprehension, writing, speaking and listening skills. Students will read varied types of literature, including a genre-based anthology, dramas, mysteries and novels to address the individual interests and skill development of each student. Small class size allows for individual instruction and reinforcement.

Upon completion of this course students will demonstrate improved skill in:

- Organizing information
- Writing in response to literature
- Vocabulary
- Writing Essays

**068**

**06812 HS Literature & Writing 1.0**

**Gr. 11-12**

**Prerequisite: H.S. Team Leader approval**

This course emphasizes the development of reading comprehension, writing, speaking and listening skills. Varied types of literature will be used including plays,

novels, short stories and poetry and genre-based anthology to address the individual interests and skill development of each student. Small class size allows for individual instruction and reinforcement. Upon completion of this course students will demonstrate improved skill in:

- Organizing information
- Writing in response to literature
- Vocabulary
- Writing Essays
- Critical thinking
- Interpreting literature

**07512 HS English 9 1.0**

**Prerequisite: H.S. Team Leader approval**

This course is designed to provide the student with a curriculum that is genre-based, giving students a wide range of literary experiences. Writing open-response questions and the five-paragraph essay are emphasized. Other MCAS skills are also developed. All students read Romeo and Juliet. Research skills are introduced.

On completing this course, ninth graders should demonstrate improved skills in:

- Writing
- Making inferences from reading passages
- Interpreting literature
- Identifying and describing the elements of the major literary genres
- Research skills
- Making connections between literature and other disciplines
- Using knowledge of standard grammar
- Vocabulary development

**07612 HS English 10 1.0**

**Prerequisite: H.S. Team Leader approval**

Sophomores will continue to read literature, becoming more familiar with the elements of the various genres. Writing open-responses to essays and other MCAS skills are developed. All students read Macbeth and research skills are further developed. Sophomores completing this course should demonstrate improved skills in:

- Interpreting literature
- Applying grammar skills to writing
- Research skills
- Speaking skills
- Responding to open-response questions
- Writing literature-based essays
- MCAS skills

**07712 HS English 11 1.0**

**Prerequisite: H.S. Team Leader approval**

This course is designed to provide juniors with instruction in reading, writing, speaking and listening skills. Students will read varied types of literature and write a research-based paper. On completing this course, juniors should demonstrate improved skills in:

- Organizing information
- Writing responses to literature
- Writing essays
- Vocabulary
- Speaking skills
- Research skills

## **078 HS English 12 1.0**

**Prerequisite: H.S. Team Leader approval**

This course is designed to expand upon the eleventh grade English course. The anthology is genre-based and students will read short stories, drama, essays and poetry. A research-based paper/project is required. On completion of this course, students should demonstrate skills in:

- Organizing information
- Writing in response to literature
- Writing essays
- Vocabulary
- Critical and creative thinking

## **097**

### **09712 AP Language & Composition 1.2**

**Gr. 11-12**

**Prerequisite: 88 avg. in previous English courses and teacher/Dept. chair recommendation.**

This course is for students who want a challenging academic program and are capable of college level work. Students will read and analyze selections in American Literature. Through their study of non-fiction literature, students will learn to apply the analytic techniques necessary for the AP Language and Composition exam. Students will discuss and analyze connotation, imagery, metaphor, irony, paradox, syntax, tone, diction, archetypes, allusions and other elements of fiction and non-fiction. Summer reading and writing is required. Students should expect to sit for the AP English Language & Composition exam in the spring. Upon completion of this course students will exhibit proficiency in:

- Identifying the basic elements of style
- Analyzing arguments
- Exploring personal responses to literature
- Practicing strategies for analysis & argument
- Research skills
- Vocabulary building
- Grammatical applications

## **099**

### **09912 AP English Lit & Composition 1.2**

**Gr. 11-12**

**Prerequisite: 88 avg. in previous English courses and teacher / Dept. chair recommendation**

AP English Literature and Composition will provide you with the intellectual challenges and workload consistent with a typical undergraduate college/university literature course.

The course instructs you in the close reading and critical analysis of fiction. You will learn about structure, style and theme, as well as the use of figurative language imagery, symbolism, diction, syntax and tone. The course includes intensive study of representative works from various genres and periods accompanied by thoughtful discussion and writing. The student will look at writers from the sixteenth to the twenty-first century approaching the works deliberately and thoroughly and considering both textual detail and historical context.

In the end, the AP Literature and Composition course seeks to have students experience a work on a subjective and emotional level, interpret a work by analysis through close reading, and evaluate a work by making an assessment of its quality and its social and cultural values. Likewise, this AP course involves writing in three modes: writing to understand, writing to explain, and writing to evaluate. In May, you will be required to take the AP English Literature and Composition exam.

Upon completion of the AP English Literature course, students should be able to:

- Develop accurate, perceptive reading through close study of major texts (English, American, Classical) representing various literary genres
- Acquire fluent, precise college style writing through the preparation of essays about the texts
- Understand the technique of poetry (such as scansion and metrical variations) as it affects and enhances meaning in a poem
- Generate independent, thoughtful and analytical discourse during class discussions and public speaking

## **080**

### **08012 HS Reading Gr. 9-12 1.0**

**Prerequisite: H.S. Team Leader approval**

This course is designed to provide instruction in reading. Basic skill development and comprehension strategies will be addressed. Readings will include novels, short stories, excerpts and/or passages from material across all disciplines to address individual student interest and skill development. This course will provide students with opportunities to build literacy

skills. Upon completion of this course, students will have been provided with instruction to improve skills in:

- Implementing active reading strategies
- Comprehension
- Basic skills

**07812 LB English 9 1.0**

**Prerequisite: H.S. Team Leader approval**

**07912 LR English 9 1.0**

**Prerequisite: H.S. Team Leader approval**

**00712 Academic Support Gr.9-10 1 credit**

**Prerequisite: H.S. Team Leader approval**

This course is designed to provide instruction to support students in meeting curricular demands. Preview and clarification of class material will be provided along with study techniques. Instruction will introduce and instruct students on skills necessary to meet curricular/school demands along with strategies to improve the student's skill in successfully and independently meeting class expectations.

## **MATHEMATICS DEPARTMENT**

The mission of the Mathematics Department is to produce mathematically literate students who will maintain a lifelong interest in mathematics. The program of studies will provide direct instruction, guided practice, student-directed learning activities, and applications to current technology. All courses will incorporate the guidelines of the Massachusetts Mathematics Curriculum Frameworks. With successful completion of the required course of studies, students will be able to:

- Demonstrate competence in basic and higher order mathematical skills
- Apply mathematical problem-solving skills and techniques to real and abstract situations
- Exhibit a continuing curiosity for mathematical language, structure and applications
- Obtain a passing score on MCAS testing

### **102**

**10212 Adv Algebra I 1.1**

**Grades 9-12**

This course will begin with an in-depth review of topics covered in Extended Algebra. Some of these topics include solving and graphing basic equations/inequalities, operations with signed numbers and basic functions. Several methods of solving linear systems will be taught. Linear inequalities will be introduced. Quadratic, exponential and rational functions, including their related graphs will be explored. Polynomials and rational expressions will be extended. Geometry, probability and statistics will be integrated throughout the course. **Graphing calculators will be used on a regular basis in this course and students will be expected to bring a graphing calculator to class each day.** Upon successful completion of this course, students will be able to:

- Solve systems of linear equations and inequalities using elimination, substitution and graphic techniques
- Graph and compare various types of functions
- Factor polynomials to solve problems related to geometry
- Write a linear equation in two variables, given sufficient information

### **103**

**10312 CP Math Essentials 1.05**

**Grades 9-12 One Semester ½ credit**

The objective for this course is to assist and better prepare students for the mandatory MCAS test.

Geometry topics are emphasized throughout the semester. Algebraic concepts and procedures are regularly applied and reviewed. This course may be taken in addition to an algebra or geometry course. Upon successful completion of this course students should be able to:

- Understand principles of congruence and similarity
- Apply Pythagorean Theories and its converse appropriately
- Calculate and understand the relationship between the sides and angles of a wide variety of polygons
- Draw and interpret transformations
- Calculate perimeter, circumference and area of 2-dimensional geometric figures
- Calculate lateral area, surface area and volume of 3-dimensional geometric figures
- Apply basic principles of probability and statistics

## **104**

### **10412 CP Integrated Math I Gr. 9-12 1.05**

This course will explore a variety of mathematics topics relating to the five strands of the Massachusetts Mathematics Curriculum Framework. Number Sense including the concept of rational and real numbers will be explored. Equation/inequality solving will be introduced and expanded upon. Linear graphing will be explored and applied to real world situations. Exponent laws and applications will be reviewed. Concepts in data analysis, probability and statistics will be reviewed. Topics in Geometry and Measurement will be introduced and expanded upon.

Upon successful completion of this course students will be able to:

- Add, subtract, multiply, divide and perform the order of operations on real numbers
- Solve equations and inequalities
- Graph equations in two variables
- Construct and/or analyze various types of graphs
- Apply basic geometric concepts
- Find area/perimeter/volumes /lateral area/total surface area
- Determine parallel/perpendicular lines and angle relationships when cut by a transversal
- Find the probability of various events
- Graph linear equations
- Determine the equation of a line given sufficient information
- Apply the distance/midpoint formulas
- Apply the exponent laws

## **106**

### **10612 CP Integr Math II Gr. 10-12 1.05**

**Prerequisite: CP Integrated Math I**

This course is a continuation of CP Integrated Math I. Topics in Integrated I will be reviewed and expanded. The five strands of the Framework will be incorporated in this curriculum. Upon successful completion of this course students will be able to:

- Perform basic operations on real numbers
- Solve more complex equations/inequalities
- Classify polygons
- Determine interior/exterior angles of a triangle
- Apply the Pythagorean theorem to right triangles
- Determine how triangles are congruent/similar
- Graph linear equations and determine the equation of a line
- Solve systems of linear equations
- Perform operations on polynomials
- Factor polynomials
- Apply basic definitions to circles
- Determine circumference/area of circles
- Distinguish central angles and inscribed angles of circles
- Determine functions from relations
- Graph quadratic functions

## **107**

### **10712 CP Integr Math III Gr. 10-12 1.05**

**Prerequisite: CP Integrated I and II**

This course is a continuation of CP Integrated Math I and II. The five strands of the Framework will be integrated throughout this curriculum. At the conclusion of this course, each student will have the equivalent of Algebra I, Geometry and Algebra II. Upon successful completion of this course, each student will be able to:

- Graph linear functions
- Distinguish functions from relations
- Solve  $2 \times 2$  and  $3 \times 3$  systems of equations using a variety of methods
- Perform operations on functions, including composition
- Perform operations on polynomials, including synthetic division
- Factor polynomials and solve polynomial equations
- Find zeros of polynomials
- Perform operation son rational expressions and solve rational equations
- Simplify radicals and perform operations on radical expressions
- Graph quadratic functions
- Convert quadratic functions from polynomial to vertex form
- Complete the square
- Apply the quadratic formula to solve quadratic functions

**111****11112 Adv Algebra II Gr. 9-12 1.1****Prerequisite: Algebra I and/or teacher recommendation.**

This course begins with a review of concepts learned in Algebra I. Topics include linear and quadratic equations/inequalities, absolute value, rational expressions and equations, systems of equations, polynomials, relations and functions, radicals, complex numbers and graphing. Graphing calculators will be used on a regular basis in this course and students will be expected to bring a graphing calculator to class each day. Upon successful completion of this course students will be able to:

- Solve linear, quadratic, absolute value, rational, polynomial and radical equations/inequalities
- Solve systems of equations in two and three variables
- Define and perform operations on radicals, complex numbers, polynomials (including composition)
- Graph linear, quadratic, polynomial and rational functions
- Determine which relations are functions

**11212 Honors Algebra II Grade 9 1.15****Prerequisite: 8<sup>th</sup> grade Algebra I****Demonstrated aptitude on Orleans-Hanna Algebra test and teacher recommendation.**

Students must be recommended by a Middle School math teacher and successfully complete a placement test. This course will develop and expand a student's knowledge of Algebra I. Topics included are linear and quadratic functions, matrices, solving systems of equations, polynomials, logarithms and an introduction to trigonometry. **Graphing calculators will be used on a regular basis in this course and students will be expected to bring a graphing calculator to class each day.** Upon successful completion of this course, students will be able to:

- Define and perform operations on complex numbers
- Use matrices, algebraic and graphical methods to solve systems of equations
- Recognize, evaluate and graph functions such as polynomial, rational, logarithmic or exponential
- Solve quadratic equations with real or complex roots and apply to the solutions of problems

Solve real world problems that can be modeled using polynomial, logarithmic, exponential, rational and quadratic functions. Use applicable, graphical, tabular or symbolic methods to the solution of such problems

**12212 Adv Plane Geometry Gr.10 1.1****Prerequisite: Algebra I and/or teacher rec.**

This course develops knowledge of geometric proofs. A broad range of geometric concepts are included. Algebraic application is used throughout the course and principles of trigonometry are introduced. **Graphing calculators will be used on a regular basis in this course and students will be expected to bring a graphing calculator to class each day.** Upon successful completion of this course, students should be able to:

- Recognize special types of polygons. Identify and apply their parts and properties.
- Write simple proofs in geometric situations
- Apply formulas on a rectangular coordinate system
- Make geometric constructions. Make conjectures about the constructions.
- Apply congruence and similarity correspondences.
- Solve simple triangle problems using Pythagorean Theorem, Triangle Inequality, Triangle Angle Sum, etc.
- Use the properties of special triangles
- Calculate midpoints, slopes and distances on the coordinate plane
- Draw and interpret transformations and successive transformations of figures in the coordinate plane
- Calculate perimeter, circumference and area of common geometric figures. Find volume and lateral area of solids. Define sine, cosine and tangent of an acute angle. Use in problem solving.

**12312 Honors Geometry Gr. 10 1.15****Prerequisite: Honors Algebra II, demonstrate aptitude on Orleans-Hanna and teacher recommendation.**

This course presents the concepts of geometry in two and three dimensions, including logical reasoning, mathematical proof, and basic trigonometry. Graphing calculators, computer programs and other "hands on" tools will be employed in order to allow students the opportunity to explore and discover geometric properties. **Students are expected to bring their graphing calculator to class each day.** Upon completion of this course, students will be able to:

- Recognize special types of polygons. Identify and apply their parts and properties.
- Write more complex proofs in geometric situations. Understand and use inductive and deductive reasoning as well as proof by contradiction in geometric proofs.

- Apply formulas on a rectangular coordinate system. Use a coordinate system to prove theorems.
- Make geometric constructions. Make and prove conjectures about the constructions.
- Apply congruence and similarity correspondences.
- Solve complex triangle problems, prove theorems using Pythagorean Theorem, Triangle Inequality, Triangle Angle Sum and other geometric properties.
- Use the properties of special triangles
- Calculate midpoints, slopes and distances on the coordinate plane
- Draw and interpret transformations and successive transformations of figures in the coordinate plane.
- Calculate perimeter, circumference and area of common geometric figures. Find volume and lateral area of solids.
- Define sine, cosine and tangent of an acute angle. Use in problem solving and simple proofs.

### **131**

#### **13112 CP Algebra II Gr. 10-12 1.0**

This course will include an extensive review of Algebra I topics. These topics will be expanded upon and applied to rational expressions, polynomials, quadratic graphing and systems of equations in two and three variables.

Upon successful completion of this course students will be able to:

- Solve systems of equations in two and three variables
- Perform operations on rational expressions
- Perform operations on polynomials
- Solve and graph quadratic equations

### **140**

#### **14012 Adv Functions, Stats & Trigonometry**

**Gr.11-12**

**1.1**

**Prerequisite: Algebra II and teacher recom.**

This course will explore a variety of functions both graphically and algebraically, and apply them to real world situations. In addition, basic statistics will be introduced and applied. The third component, Trigonometry will be reviewed and expanded upon. Technology applications will take place throughout the course. Graphing calculators will be used on a regular basis in this course and students will be expected to bring a graphing calculator to class each day. Upon successful completion of the course, students will be able to:

- Identify functions and their graphs

- Apply function theory & trigonometry to real world situations
- Use graphing calculators and computer applications to solve and explain problems
- Develop a statistical analysis of various types of data
- Design and carry out a survey (data collection) and synthesize the results

### **141**

#### **14112 CP Inter Princ of Math Gr. 9-12 1.0**

**Prerequisite: Algebra I & II and Geometry**

This course is designed to reinforce algebraic and geometric principles covered in prior mathematics courses. It provides a solid foundation in mathematics by regularly integrating both areas of study. SAT/PSAT type problems are introduced and reviewed on a daily basis to assist and familiarize students with the nature and scope of those exams.

Upon successful completion of this course students should be able to:

- Effectively apply a variety of problem solving techniques
- Use scientific and graphing calculators appropriately
- Apply trigonometric principles
- Effectively perform operation using systems of equations, rational expressions, rational exponents, complex numbers, quadratic equations and functions

### **142**

#### **14212 Adv Pre-Calculus Gr. 11-12 1.1**

**Prerequisite: A grade of 80 or better in Algebra II and teacher recommendation.**

This course is designed for those students who will be continuing their study of mathematics at the college level. All standard pre-calculus topics are presented: quadratic functions, polynomial equations, exponential functions, analytic geometry, trigonometry, sequences, limits, and series and matrices. There is also an introduction to discrete mathematics and statistics. There will be numerous applications throughout the year to stress the importance of mathematics in various careers. The graphing calculator will be an integral part of the course and students will be expected to bring it to class each day. Upon successful completion of this course, students should be able to:

- Solve trigonometric equations by graphing and algebraic methods
- Use trigonometric identities to prove new identities and to find exact values of trigonometric functions, solve equations and simplify expressions

- Define, graph and identify important characteristics of conic sections such as axes, foci, asymptote and tangents
- Convert between degree and radians, measure and use radians in the solution of problems
- Make predictions from a set of data by using linear and quadratic regression results

**143 Adv Calculus Gr. 12 1.1**

**Prerequisite: Adv/Hon Pre-Calculus or Honors Pre-Calculus and teacher recomm.**

This class is designed to prepare the advanced math student for further study in calculus. Students will study the fundamental concepts of analysis. This course is designed to follow the CP Pre-Calculus course. There will be a summer assignment. Graphing calculators will be used on a regular basis in this course and students will be expected to bring a graphing calculator to class each day. Upon successful completion of this course, students should be able to:

- Use the graphing calculator and computer programs to solve applicable problems
- Evaluate the derivatives and anti-derivatives of functions
- Solve related rate, optimization and physics problems using Calculus
- Recognize families of functions and use the derivative and limits to analyze their behavior

**14412 Honors Pre-Calculus Gr.11 1.15**

**Prerequisite: Honors Geometry , demonstrated aptitude on Orleans-Hanna and teacher recommendation**

This course presents Pre-Calculus topics in depth, including complex numbers, logarithms, functions, trigonometry and analytic geometry. Graphing calculators and other computer programs will be employed in developing and applying these principles. Upon successful completion of this course, students should be able to:

- Graph linear, quadratic, polynomial, logarithmic and trigonometric functions
- Solve triangles using trigonometric ratios and the Laws of Sines and Cosines
- Convert radians to degrees and degrees to radians and use radians in the solution of problems
- Define, graph and identify important characteristics of conic sections such as axes, foci and asymptote

**199 AP Calculus Grade 12 1.2**

**Prerequisite: Calculus or Honors Pre-Calc. and teacher recommendation**

The main focus of this class is to prepare the students for the advanced placement exam in Calculus AB. It follows a traditional Calculus syllabus for a full-year course in elementary functions and introductory calculus. This course assumes students have mastered concepts in algebra, geometry, trigonometry and analytic geometry. Upon successful completion of this course, students should be able to:

- Calculate and estimate limits from equations or tables of data
- Determine continuity in terms of limits
- Compute the derivative of a function
- Use the derivative to solve real world problems
- Find and evaluate integrals using The Fundamental Theorem of Calculus
- Solve differential equations
- Use the concept of Riemann Sums to find areas under functions

**17512 HS Integrated Math I Gr. 9-12 1.0**

**Prerequisite: H.S. Team Leader approval**

This course will introduce the concept of signed numbers, order of operations, basic equations and inequalities. Integers and fractions will be used to represent relationships in graphs. Functions are introduced via graphs, tables and equations. The concept of slope and graphing linear equations in two variables will be explored and applied to real world situations. Concepts in geometry, probability and statistics will be integrated throughout the course. Upon successful completion of this course, students will be able to:

- Solve equations and inequalities
- Graph equations in two variables
- Draw and interpret graphs based on given sets of data
- Compare various types of functions
- Represent a real world linear relationship in a table, graph or equation
- Identify and use properties of real numbers

**17612 HS Algebra I Gr. 9-12 1.0**

**Prerequisite: H.S. Team Leader approval**

This course will expand upon the topics covered in Extended Algebra. Some of these topics include solving and graphing basic equations/inequalities, operations with signed numbers and basic functions. Several methods of solving linear systems will be taught. Linear inequalities will be introduced. Quadratic, exponential and rational functions, including their related graphs will be explored. Polynomials and rational expressions will be extended. Geometry,

probability and statistics will be integrated throughout the course. Upon successful completion of this course, students will be able to:

- Solve systems of linear equations and inequalities using elimination, substitution and graphic techniques
- Graph and compare various types of functions
- Use the graphing calculator to investigate and solve real world problems
- Factor polynomials to solve problems related to geometry
- Write a linear equation in two variables, given sufficient information

**17712 HS Integrated Math II 1.0**

**Grades 10-12 1 credit**

**Prerequisite: H.S. Team Leader approval**

This class integrates geometry and algebra instruction with a continuing emphasis on building and strengthening basic skills. Geometric postulates and theorems will be introduced and students will apply these postulates and theorems in conjunction with algebraic properties.

Upon successful completion of this course students will have developed skills in:

- Applying mathematical concepts with greater confidence
- Calculate areas, perimeters and volumes
- Use and apply concepts in Geometry and Algebra
- Apply probability and statistics in real life situations
- Use estimates to reinforce computational skills

**17812 LB Math 9 1.0**

**Prerequisite: Team Leader approval**

**17912 LR Math 9 1.0**

**Prerequisite: Team Leader approval**

## **SOCIAL STUDIES DEPT.**

The BMR Social Studies Department seeks to prepare students to become lifelong learners. The Department will promote the development of academic and social skills and foster student self-sufficiency. Students are encouraged to become actively involved in the learning process so that they may adapt to the diverse demands of their post-secondary experiences.

**22012 CP World History II Gr.9 1.05**  
**(1789 - present)**

This course involves a history of the modern world covering world history from 1789 to the modern period. Topics include: the French Revolution, the Industrial Revolution, Nationalism, Imperialism, the approach of World War I, Economic Depression; the rise and fall of totalitarian dictatorships, World War II, decolonization and the contemporary world. Emphasis is placed on the relation between past events and present conditions. Cause and effect, vocabulary, writing skills and note-taking, as well as verbal expression, are developed during the course of the year. Upon successful completion of this course, students will be able to:

- Write using standard English for a variety of purpose and audiences.
- Communicate ideas and information effectively in formal presentations
- Organize and synthesize information for a variety of sources
- Apply appropriate geographic principles

**22112 Adv World History II Gr.9 1.1**  
**(1789 - present)**

This course involves a history of the modern world covering world history from 1789 to the modern period. Topics include: the French Revolution, the Industrial Revolution, Nationalism, Imperialism, the approach of World War I, the Depression; the rise and fall of totalitarian dictatorship, World War II, decolonization and the contemporary world. Emphasis is placed on the relation between past events and present conditions. Major concepts drawn from the disciplines of history and the social sciences – economics, geography, law and government, philosophy, political science, psychology and sociology will be applied. The characteristics and significance of historical eras will become evident as a result of studying the evocative details of history. Research papers based on outside readings are used to supplement the course. Upon successful completion of this course, students will be able to:

- Write using standard English for a variety of purpose and audiences
- Communicate ideas and information effectively in formal presentations
- Organize and synthesize information from a variety of sources
- Utilize historical evidence to formulate positions, viewpoints and to understand current issues.
- Explain how different cultures express, communicate and instill their most important ideas
- Apply appropriate geographic principles

### **23012 CP US Hist I (1763-1917) Gr 10 1.05**

This course provides a basic chronological approach to the study of American History. Students examine the historical and intellectual origins of the United States during the Revolutionary and constitutional eras. They learn about the important political and economic factors that contributed to the outbreak of the Revolution as well as the consequences of the Revolution, including the writing and key ideas of the U.S. Constitution. Students also study the basic framework of American democracy and the basic concepts of American government such as popular sovereignty, federalism, separation of powers, and individual rights. Students study America's westward expansion, the establishment of political parties and economic and social change. The students will learn about the growth of sectional conflict, how sectional conflict led to the Civil War, and will examine post-Civil War America, including: Reconstruction, the Gilded Age, modern industrialism, imperialism and early attempts at reform. Upon successful completion of this course, students will be able to:

- Select, organize and coherently develop ideas
- Communicate ideas and information effectively in formal presentations
- Evaluate spoken information and ideas
- Explain democratic/constitutional principles and practices, compare them to other forms of government and demonstrate the ability to take action within the political system

### **23112 Adv US History I (1763-1917) 1.1** **Gr. 10**

United States History I is a challenging course covering the period from the post-colonial period to early 1900's. The course provides a basic chronological approach to the study of American History. Students examine the historical and intellectual origins of the United States during the Revolutionary and Constitutional eras. They learn about the important political and economic factors that contributed to the outbreak of the Revolution as well as the consequences of the Revolution, including the writing and key ideas of the U.S. Constitution. Students also study the basic framework of American democracy and the basic concepts of American government such as popular sovereignty, federalism, separation of powers and individual rights. Students study America's westward expansion, the establishment of political parties and economic and social change. The students will learn about the growth of sectional conflict, how sectional conflict led to the Civil War, and will examine post-Civil War America including: Reconstruction, the Gilded Age, modern industrialism, imperialism and early reform movements. The course attempts to develop the student's historical perspective and his/her ability to pose historical questions and express his/her ideas

orally and in writing. Considerable attention will be devoted to training in the use of historical skills: gathering information, formulating generalizations, using primary resources, and writing and speaking with clarity. Research papers based on outside readings are used to supplement the course. Upon successful completion of this course, students will be able to:

- Express meaning and key points clearly and succinctly
- Prepare and deliver presentation with significant use of visual media
- Communicate ideas and information effectively in formal presentations
- Extend and refine knowledge using appropriate thinking skills
- Describe and distinguish between possible conclusions and decide which is best
- Utilize historical evidence to formulate positions, viewpoints and to understand current issues
- Analyze basic political, social and economic problems confronting individuals, nations and the world

### **240**

### **24012 CP US Hist II (1917-2001) Gr 11 1.0**

This course provides a basic chronological approach to the study of American History. The course is designed to introduce the student to the forces, events and people that have shaped and altered American society and U.S. relations with nations large and small in an ever-shrinking world. United States history from World War I to the present, combined with an analysis of constitutional issues, is the core of this course. The emphasis is on the United States as an industrial nation. Domestic issues are developed as well as issues of global/international involvement. Class participation and skill development are emphasized. Upon successful completion of this course, students will be able to:

- Select, organize and coherently develop ideas
- Communicate ideas and information effectively in formal presentations
- Evaluate spoken information and ideas
- Explain democratic/constitutional principles and practices, compare them to other forms of government and demonstrate the ability to take action within the political system

### **241**

### **24112 Adv US Hist II (1917-2004) Gr 11 1.1**

United States History is a challenging course covering the period from World War I to the present. Students will be acquainted with the major political, constitutional, intellectual and social movements of this country, as well as diplomatic and military interaction with foreign powers. The course will also examine

themes such as the emergence of the United States as a world power, the cause and results of World Wars I & II, the rise of organized labor and the development of reform movements. The course attempts to develop the student's historical perspective and his/her ability to pose historical questions and express his/her ideas orally and in writing. Considerable attention will be devoted to training in the use of historical skills: gathering information, formulating generalizations, using primary resources and writing and speaking with clarity. This course examines the achievements of the American people, their ideas, their institutions, national goals and public policies. Research papers based on outside readings are used to supplement the course. Upon successful completion of this course students will be able to:

- Express meaning and key points clearly and succinctly
- Prepare and deliver a presentation with significant use of visual media
- Communicate ideas and information effectively in formal presentations
- Extend and refine knowledge using appropriate thinking skills
- Describe and distinguish between possible conclusions and decide which is best
- Utilize historical evidence to formulate positions, viewpoints, and to understand current issues
- Analyze basic political, social and economic problems confronting individuals, nations and the world

**250**  
**25012 Adv Sociology Gr. 11-12 1.1**

Available to juniors and seniors, this course will examine society, the interaction of groups, how groups function, and the influence groups have on each other. Through a study of human relations, students are helped to develop a better understanding of those groups to which they belong. Through data collection and use of that data to test hypotheses and to explore sociological alternatives, both oral and written communication skills are developed and strengthened. Research papers are required and outside readings are used to supplement the course. Upon successful completion, students will be able to:

- Express meaning and key points clearly and succinctly
- Communicate ideas and information in formal presentations
- Organize and synthesize information from a variety of sources
- Use technology to find, organize and communicate information
- Prepare and deliver a presentation with significant use of visual media
- Analyze basic political, social and economic problems confronting individuals, nations and the world

**251**  
**25112 Adv Psychology Gr.11-12 1.1**

Available to juniors and seniors, this course will provide a broad, general introduction to psychology, this course will emphasize how the basic subject matter of psychology has been attained by scientific methods. The course will examine patterns and variations of human behavior and the process of human development. It will help the student see how psychological knowledge can be applied to improve the quality of life. Research papers are required and outside readings are used to supplement this course. Upon successful completion of this course, students will be able to:

- Express meaning and key points clearly and succinctly
- Communicate ideas and information effectively in formal presentations
- Organize and synthesize information from a variety of sources
- Use technology to find, organize and communicate information
- Prepare and deliver a presentation with significant use of visual media

**252**  
**25212 CP Street Law Gr.11-12 1.0**

The first quarter of this course emphasizes civic responsibility and the role of the individual in the political and legal process. Juniors and seniors will study the Constitution in depth focusing in on the Legislative, Executive and Judiciary branches of our government. The Bill of Rights will be explored in detail, giving the student a better understanding of their rights as a citizen. The remainder of the course will include a study of the legal system and will explore major aspects of criminal, civil and family law. Upon successful completion of this course, students will be able to:

- Express a practical understanding of the fundamental principles and values underlying our Constitution, laws and legal system.
- Critically examine current issues and controversies relating to law and the legal system.
- Develop a greater sense of justice, tolerance and fairness.
- Distinguish and explain the difference between rights and privileges.
- Improve basic skills including critical thinking and reasoning, communication, observation and problem solving.
- Use technology to find, organize and communicate information.

**299**

**29912 AP US Hist (1500-1990) Gr.11-12 1.2**

**Prerequisite: 85 avg. in previous Soc. Stud. classes and/or teacher recommendation.**

Available to juniors and seniors, this course is an examination of American history from 1500-1990. The focus is on the development of those political, economic and social institutions which help to explain present-day U.S. society. Specifically, this course will focus on such issues as the Nixon era, World War II and the Cold War, industrialization, the Revolution and colonization. Students will also study historiography. Students will learn to analyze, synthesize and evaluate historical information which will prepare them for the AP exam. Students will be required to write essays and research papers, and outside readings are also used to supplement this course. Upon successful completion of this course students will be able to:

- Communicate ideas and information effectively in formal presentations
- Extend and refine knowledge using appropriate thinking skills
- Describe and distinguish between possible conclusions and decide which is best
- Utilize historical evidence to formulate positions, viewpoints, and to understand current issues
- Analyze basic political, social and economic problems confronting individuals, nations and the world
- Develop critical thinking skills in both verbal and written communication
- Develop a sense of the cause-effect relationship of history
- Critically examine primary and secondary sources in testing historical data
- Detect bias in historical writing
- Argue persuasively for a position based on historical data (D.B.Q.)

**27812 LB World History 1.0**

**Prerequisite: Team Leader approval**

**27912 LR World History 1.0**

**Prerequisite: Team Leader approval**

**SCIENCE DEPARTMENT**

**All students enrolled in freshman science courses will be assigned Summer Reading**

After completing the prescribed grade 9 and 10 science courses, students may choose any science elective (full year course or a combination of two semester courses) to meet the third required science credit for graduation.

**32212 Honors Biology Gr. 9 1.15**

**Prerequisite: Teacher recommendation**

This accelerated course begins with a focus on biology at the level of organization of molecules and proceeds to cells, individuals, populations and the biosphere. The theory of evolution by natural selection is an underlying theme throughout the course. Major topics include chemical and cellular basis of life, energy transformations, reproduction and development, genetics, evolution, phylogeny and biological diversity and ecology. Upon successful completion of this course, students will be able to:

- Understand and apply biological principles and concepts
- Design and carry out experiments, collect and analyze data and formulate conclusions
- Demonstrate an understanding of the complexities of living things and their interrelationships in nature
- Make informed decisions about the legal, ethical and societal issues that are raised by biotechnology
- Utilize written media and a variety of technologies to do scientific research and presentations

**323 1.0**

**32312 CP Forensic Science Gr.11-12 1.05**

**One Semester ½ credit**

This course is designed to be an introduction to the basic principles of forensic science. It will explore the various ways in which chemistry, biology and physics are used to collect and analyze crime scene evidence. Potential topics include crime scene analysis and collection of physical evidence, use of physical properties to identify evidence, microscopy, fingerprints, DNA science and handwriting analysis. Upon completion of this course, students will be able to:

- Apply the scientific method to various crime solving scenarios
- Identify the different kinds of physical evidence that can be used to solve crimes
- Apply basic scientific principles in the crime solving process

- Collect and scientifically analyze crime scene evidence
- Use various written and electronic media to prepare written and oral presentations

**324** **1.0**  
**32412 CP Environmental Science** **1.05**  
**Gr 11-12** **One semester** **½ credit**

This course deals with an overview of physical, chemical, biological and geographical principles of the environment. We will study the interactions between biotic and abiotic components in our environment. Topics include invasive species, use of natural resources, pollution, bio-diversity and renewable energy. Laboratory and field investigations are designed to develop skills in applying the scientific method.

- Ecosystem functions
- Community dynamics
- Design and carry out experiments, collect and analyze data and formulate conclusions
- Use various written and electronic media to prepare written and oral presentations

**330** **1.0**  
**33012 CP Anatomy & Physiology** **1.05**  
**Grade 11-12**

This course is designed for the college bound junior or senior who wishes to gain an understanding of anatomy & physiology of the human body. The eleven body systems will be introduced at the tissue level and progress to the organ system level. Students will be required to participate in various organ dissections and completing the course with a fetal pig dissection. Upon successful completion of this course, students will be able to:

- Explain the structural levels of organization
- Identify and differentiate between organs and functions of the eleven body systems
- Demonstrate an understanding of how the body systems work to maintain homeostasis and discover what is affected in a diseased system
- Use various written and electronic media to prepare written and oral presentations

**331**  
**33112 Adv Anat & Physiology (DEP)** **1.1**  
**Grade 11-12**  
**Prerequisite: Teacher recommendation**

This course is designed for the self-motivated college bound junior or senior who wishes to gain an understanding of anatomy and physiology of the human body through an in-depth study of the eleven

body systems. Topics to be covered will include: Latin prefixes and suffixes, homeostasis, structure and function of tissues and organs of each system, with emphasis on the skeletal, muscular, circulatory and nervous systems. Students will be required to participate in various organ dissections as well as a fetal pig dissection. Upon successful completion of this course, students will be able to:

- Explain the structural levels of organization
- Demonstrate recognition of microscopic samples of tissue and organ identification
- Identify the parts of the eleven body systems and their physiologies
- Demonstrate an understanding of how the body systems work to maintain homeostasis and discover what is affected in a diseased system
- Use various written and electronic media to prepare written and oral presentations

**340** **1.0**  
**34012 CP Chemistry I** **Gr 11-12** **1.05**  
**Prerequisite: Successful completion of Algebra I**

This is an introductory course in Chemistry for the college-bound student who does not intend to enter a science-oriented field. This course will focus on the basic concepts of chemistry and offers the application of chemistry to everyday life. Basic math for chemical measuring and calculations are used throughout the course. Topics covered during the year include classification of matter, measurements and problem solving, gas laws, current issues, analytical testing. Laboratory report writing will be required.

Upon completion of this course students will be able to:

- Explain atomic structure
- Use the periodic table to understand and predict relationships between atoms, molecules and compounds
- Recognize and explain various types of chemical bonds
- Demonstrate the ability to write formulas and chemical equations
- Demonstrate the understanding of solids, liquids and gasses

**34112 Adv Chemistry I** **Gr 10-12** **1.1**  
**Prerequisite: Algebra I grade of 80 or higher and teacher recommendation.**  
**Note: Gr. 10 students must have completed Honors Biology in Gr. 9**

This chemistry course is designed to be an introduction to the basic concepts of chemistry. The topics to be covered include: classification and changes of matter, measurements and problem-solving, atomic structure, periodic law, chemical bonding, chemical formula calculations, chemical

equations, stoichiometry, gas laws, and solutions. Laboratory work is an integral part of the course. Upon successful completion of the course, students will be able to:

- Demonstrate proficiency in the use of significant figures in calculations
- Explain atomic structure with emphasis on electron configuration
- Use the periodic table to understand and predict relationships between atoms, molecules and compounds
- Recognize and explain various types of chemical bonds
- Demonstrate the ability to write formulas and chemical equations
- Calculate stoichiometry problems
- Demonstrate an understanding of the gas laws and gas stoichiometry problems
- Explain metals and non-metals and their reactions
- Document and summarize lab work in reports

### **351**

#### **35112 Adv Chemistry II Gr. 11-12 1.1**

**Prerequisite: Chemistry I and teacher recommendation**

This second year chemistry course builds on the concepts taught in Chemistry I. Topics covered include: ions in solution, acid-based reactions, pH calculations, thermochemistry, kinetics, chemical equilibrium, oxidation-reduction reactions, organic chemistry and nuclear chemistry. Upon successful completion of this course, students will be able to:

- Demonstrate an understanding of acid-base reactions, pH and titration
- Explain reaction energy and kinetics
- Demonstrate and understanding of chemical equilibrium and factors affecting equilibrium
- Explain the properties of hydrocarbons and their derivatives
- Demonstrate an understanding of nuclear chemistry
- Explain oxidation reduction reactions and electro-chemistry
- Demonstrate an understanding of solutions and their calculations

### **361**

#### **36112 Adv Physics Gr. 11-12 1.1**

**Prerequisite: Pre-Calculus or FST and teacher recommendation.**

This course provides a survey of the principal concepts in Newtonian physics. Laboratory and field investigations are designed to develop skills in applying the scientific method. Students are expected

to demonstrate a grasp of the following major concepts:

- Laws of motion
- Vector Calculation
- Gravity
- Wave dynamics
- Fluid dynamics
- Optics
- Relativity and quantum physics
- Design and carry out experiments, collect and analyze data and formulate conclusions
- Use various written and electronic media to prepare written and oral presentations

#### **37012 CP Biology I Gr. 9 1.05**

This course will cover the basic concepts in biology and their applications. Topics to be covered include metric system, atomic structure, chemistry of life, cells, biodiversity, biotechnology, and ecology. Upon successful completion of this course, the student will be able to:

- Demonstrate an understanding of the basic concepts of biology
- Design and carry out experiments, collect and analyze data and formulate conclusions with the use of biotechnology
- Make connections between biology and their everyday lives
- Give written and oral presentations on a variety of biological topics with the use of various written and electronic media
- Students prepared to pass state-mandated MCAS test

#### **37112 Adv. Biology I Gr. 9 1.1**

**Prerequisite: Teacher recommendation**

This college preparatory course will explore the basic concepts in biology and their applications. Topics to be covered include metric system, atomic structure, chemistry of life, cells, biodiversity, biotechnology, and ecology. Upon successful completion of this course, students will be able to:

- Demonstrate an understanding of the basic concepts of biology
- Make formal statements of the principles of biology and understand their implications
- Explain how the principles of biology can be used to control, alter or utilize resources around them to benefit society and their environment
- Design and carry out experiments, collect and analyze data and formulate conclusions with the use of biotechnology
- Give written and oral presentations on a variety of biological topics with the use of various written and electronic media
- Students prepared to pass state-mandated MCAS test

**38012 CP Biology II Gr. 10 1.05**

This life science course will reinforce the basic concepts in biology. Topics to be covered include: cell structure and function, taxonomy, and biological diversity, genetics, reproduction and development, evolution and ecological interactions. Upon successful completion of this course, students will be able to:

- Demonstrate an understanding of the basic principles of biology
- Explain how biology affects many aspects of everyday living
- Design and carry out experiments, collect and analyze data and formulate conclusions with the use of biotechnology
- Demonstrate an understanding of present and future technology applications in biology
- Relate biology concepts studied to laboratory experiences
- Use various written and electronic media to prepare written and oral presentations
- Students prepared to pass state-mandated MCAS test

**38112 Adv Biology II Gr. 10 1.1**

**Prerequisite: Teacher recommendation**

This college preparatory course emphasizes a number of underlying principles that form the framework for this course: the chemical basis of life, cell structure and function, energy transformations, genetic continuity and reproduction, evolution, taxonomy and biological diversity and ecology. Upon successful completion of this course, students will be able to:

- Demonstrate an understanding of basic biological principles
- Design and carry out experiments, collect and analyze data and formulate conclusions
- Explain the interaction and interdependence of organisms and their environment
- Identify biology-related social issues and their impact on society
- Use various written and electronic media to prepare written and oral presentations
- Students prepared to pass state-mandated MCAS test

**399**

**39912 AP Biology Gr. 10 1.2**

**Prerequisite: Honors Biology and Teacher recommendation**

Advanced Placement (AP) Biology is designed to be the equivalent of a college introductory course usually taken by biology majors during their first year. Grade 11 & 12 students are encouraged to take Chemistry I concurrently with this course. This course differs

significantly from the usual high school course with respect to the kind of textbook used, the range and depth of topics covered, the kind of laboratory work done by students and the time and effort required of students

Using evolution as a unifying theme, the major topics covered include the chemical basis of life, metabolism of cells, genetic continuity, homeostasis in plants and animals, and how populations evolve as part of ecosystems. All students are required to take the AP Examination in May and assume the cost of this exam which is approximately \$82. Students who demonstrate themselves to be qualified on this exam may receive college credit and/or advanced placement depending on the policy of the college they choose to attend. Upon successful completion of this course, students should be able to:

- Demonstrate the ability to compare, analyze and relate major processes of living things
- Explain the principles of cellular biochemistry, genetics, ecology and evolution
- Discuss evolution and its role as an underlying theme of biology
- Appreciate science as a process rather than an accumulation of facts
- Design and carry out experiments, collect and analyze data and formulate conclusions
- Use various written and electronic media to prepare written and oral presentations

**37812 LB Physical Science 1.0**

**Prerequisite: Team Leader approval**

**37912 LR Physical Science 1.0**

**Prerequisite: Team Leader approval**

**FOREIGN LANGUAGE DEPT.**

The study of a foreign language will:

- ✓ Encourage students to communicate in another language on a variety of topics
- ✓ Increase student's appreciation of and foster respect for different cultures
- ✓ Help students in their understanding of other school subjects

**410****41012 CP Spanish I Gr. 9-12 1.05**

This is a beginning course in formal Spanish designed for students who have experienced challenges with reading and language arts. Good study habits, homework, class participation and personal responsibility will be important for success in this class as well as all other foreign language classes. In addition to the development of reading and writing skills, there will be a great deal of emphasis on listening and speaking skills. Culture will also be explored with the intention of exposing students to ideas and customs different from their own. Upon successful completion of this course, students will be able to use Spanish to:

- Talk about and describe themselves and others
- Talk about school and community
- Talk about leisure time activities
- Talk about food and clothing
- Talk about family and friends
- Talk about their likes and dislikes
- Make comparisons between American and Hispanic culture

**411****41112 Adv Spanish I Grades 9-12 1.1**

This is a beginning course in formal Spanish designed for college bound students who may be interested in continuing their study of Spanish beyond the foreign language graduation requirement. Good study and work habits are essential for success in this course. Students will strive to accomplish all of the objectives of CP Spanish I at a faster pace with a higher degree of proficiency. Reading, writing, listening and speaking skills are stressed. In addition to the outcomes listed in CP Spanish I, students who successfully complete this course will be able to use Spanish to:

- Talk about where they are, where they have been, and where they are going
- Talk about weather and climate

**420****42012 CP Spanish II Gr. 9-12 1.05****Prerequisite: CP Spanish I (1.0)**

This course is designed for students who want to fulfill the second year of the foreign language requirement. In addition to the development of reading and writing skills, much emphasis will be placed on conversational skills, especially as they pertain to the work world. Upon successful completion of this course, students will be able to use Spanish to write and talk about:

- Merchandising
- Community
- Environment
- Medicine

- Restaurants
- Media
- Hispanic Traditions and Celebrations

**421****42112 Adv Spanish II Gr. 9-12 1.1****Prerequisite: Spanish I (1.1) or CP Spanish I (1.0) with teacher recommendation**

This course is a continuation of Spanish I (1.1). Successful students will be able to use Spanish to:

- Describe sporting events
- Discuss travel arrangements
- Compare and contrast people and things
- Talk about health and daily routine
- Talk about agreeing and disagreeing
- Describe in detail the past and present

**430****1.05****43012 CP Spanish III 1.0****Prerequisite: CP Spanish II**

This course is designed sequentially for the CP Spanish II student who seeks to complete a third year of a foreign language which many colleges now require. At the successful completion of this class, students will be able to use Spanish on a variety of topics including:

- School to Work / Professions
- Health
- Childhood and family
- Travel
- Clothing / Retail
- Extracurricular activities

**431****43112 Adv Spanish III 1.1****Prerequisite: Adv. Spanish II (1.1) with teacher recommendation**

This course, conducted primarily in Spanish, will provide students with the skills needed to demonstrate communicative proficiency in the target language. Upon successful completion of this course, students will be able to use Spanish to:

- Talk about past and future events
- Give commands in the affirmative and the negative
- Discuss environment
- Discuss professions
- Express what one would do in a particular situation
- Examine the history and geography of Spain

**440 Honors Spanish IV 1.2**

**Prerequisite: Spanish III (1.1) with teacher recommendation**

This course is conducted in Spanish and is designed for the serious student who has had a high degree of success in Spanish I, II and III. There is an emphasis on composition, speaking and reading. Readings will include selections from Latin American and Spanish authors. Upon successful completion of this course, students will be able to:

- Communicate in Spanish in a variety of mediums using good speed, pronunciation and proper grammatical syntax
- Read, understand and comment on articles from Spanish newspapers and magazines, as well as literary excerpts
- Listen to and understand native speakers with various dialects
- Write in Spanish on a variety of topics with a good deal of accuracy

**442**

**44212 AP Spanish Language 1.2**

**Prerequisite: Spanish IV (1.1) with teacher recommendation**

AP Spanish Language is intended for students who wish to develop their proficiency in all four language skills: listening, speaking, reading and writing. Students who enroll should already have a basic knowledge of the language and culture of Spanish-speaking peoples and should have attained a reasonable proficiency in listening comprehension, speaking, reading and writing.

This course covers the equivalent of a third-year college course in advanced Spanish writing and conversation. It encompasses oral skills, reading comprehension, grammar and composition. Students taking such a course, emphasizing the use of Spanish for active communication, have the following objectives:

- The ability to comprehend formal and informal spoken Spanish
- The acquisition of vocabulary and a grasp of structure to allow the easy, accurate reading of newspaper and magazine articles, as well as literary passages of modern literature in Spanish;

**461**

**46112 Adv French I Gr. 9-10 1.1**

This is a beginning course in the study of formal French. It is designed for college bound students who may be interested in the study of French beyond the foreign language graduation requirement. Good study

habits, homework, class participation and personal responsibility will be important for success in this class. There will be a great deal of emphasis placed on reading, writing, listening and speaking skills. Culture will be explored with the intention of exposing students to ideas and customs different from their own. Upon successful completion of this course, students will be able to use French to:

- Talk about and describe themselves and others
- Talk about school
- Talk about food and clothing
- Talk about family and friends
- Talk about leisure activities and sports
- Say what they like and dislike
- Talk about weather and climate
- Make comparisons between American and French culture

**471**

**47112 Adv French II 1.1**

**Prerequisite: Adv. French I (1.1)**

This course is a continuation of Adv. French I (1.1). Successful students will be able to use French to:

- Express opinions
- Express wishes and desires
- Talk about agreeing and disagreeing
- Compare and contrast people and things
- Express what they have just done
- Talk about professions
- Discuss activities in the past, present and future
- Express food preferences

**481**

**48112 Adv French III 1.1**

**Prerequisite: Adv. French II (1.1) with teacher recommendation**

This course is a continuation of Adv. French I and French II. Much emphasis is placed on all four skills: reading, writing, listening and speaking. Upon successful completion of this course, students will be able to use French to:

- Respond to questions without redundancies
- Express beliefs and opinions
- Talk about what they read and write using the present, past and future
- Talk about daily routines and physical description
- Talk about travel
- Talk about relationships with friends and family
- Talk about plans following high school

**490 Honors French IV 1.2**

**Prerequisite: Adv. French III (1.1) with teacher recommendation**

This course is designed for the serious student who has had a high degree of success in French I, II and III. There is an emphasis on composition, speaking and reading. Readings will include selections from a variety of French authors. Upon successful completion of this course, students will be able to:

- Communicate ideas in French in a variety of mediums using good speed and pronunciation
- Read, understand and discuss current events, short stories and poetry
- Discuss works of Albert Camus and Antoine St. Exupery
- Discuss French film
- Write in French on a variety of topics with a good deal of accuracy

**499 AP French Language 1.2**

**Prerequisite: Honors French IV (1.2) with teacher recommendation**

AP French is intended for students who wish to develop their proficiency in all four language skills: listening, speaking, reading and writing. Students who enroll should already have a basic knowledge of the language and culture of French-speaking peoples and should have attained a reasonable proficiency in listening comprehension, speaking, reading and writing.

An AP French Language course covers the equivalent of a third-year college course in advanced French writing and conversation. It encompasses oral skills, reading comprehension, grammar and composition. Students taking such a course, emphasizing the use of French for active communication, have the following objectives:

- The ability to comprehend formal and informal spoken French
- The acquisition of vocabulary and a grasp of structure to allow the easy, accurate reading of newspaper and magazine articles, as well as literary passages of modern literature in French
- The ability to compose expository passages
- The ability to express ideas orally with accuracy and fluency.

All students are required to take the AP Examination in May and assume the cost of this exam which is approximately \$82. Students who demonstrate themselves to be qualified on this exam may receive college credit and/or advanced placement depending on the policy of the college they choose to attend.

**INTEGRATED TECHNOLOGIES**

The mission of the BMR High School Integrated Technologies Department, working in partnership with the students, parents, educators, support staff, community and other interested citizens, is to develop mutual understanding and cooperation among students in the business/engineering technology world. We will provide students with a variety of innovative programs and activities which will encourage leadership in business and technological skills that will enhance their career development, civic service, economic education and community involvement.

***~ Business Technology ~***

**501**

**50112 CP Intermediate Keyboarding 1.05**

**One Semester Gr. 9-12 ½ credit**

Students will increase speed and accuracy skills. Students will develop basic document skills such as letters, reports and tables. Upon completion, students will be able to:

- Key approximately 40-45 words per minute
- Demonstrate speed and accuracy through timed writings
- Key basic letters, tables, outlines, reports and memos

**509**

**50912 Mktg & Advertising Strategies 1.05**

**One Semester Gr. 10-12 ½ credit**

This course will develop a basic knowledge of marketing, sales promotions and advertising. The course will explore various career opportunities in these areas. Students will design and implement a marketing prototype. Upon completion of this course students will be able to:

- Understand different marketing strategies
- Understand the uses of sales promotions
- Become better consumer-oriented salespeople
- Use critical thinking skills to logically investigate, solve and find creative resolutions to various marketing concepts

**510****51012 Entrepreneur/Advertis/Mktg. 1.05**

**One Semester Gr. 10-12 ½ credit**  
**(Mktg. and Advertising Strategies would be recommended but is not a prerequisite)**

This course is designed to allow students to investigate specific careers. Students will learn the major steps in developing a business plan through the use of technology, marketing and advertising strategies. They will market their business using various media outlets. Upon completion of this course student will be able to:

- Develop hands-on knowledge of establishing a business
- Understand different advertising and marketing techniques
- Utilize technology to investigate potential marketing masses
- Use critical thinking skills to logically investigate, solve and find creative resolutions when applying marketing concepts

**514****1.0****51412 Student Internships 1.05**

**One Semester Gr. 11-12 ½ credit**  
**Application and approval processed through the School-to-Career Coordinator.**

The internship will consist of a minimum of 40 hours to be spent at a workplace related to the student's career interest. Course requirements will include weekly meetings with the Career Specialist, maintaining photo and written journals, as well as a visual and oral presentation based on the internship experience. A final paper will allow them to relate their internship to their academic courses. The course will be offered on a pass/fail basis determined by the satisfactory completion of all requirements. The time and effort commitment needed to meet these requirements is expected to be comparable to other semester courses. Upon completion of this course, students will be able to:

- Identify and implement the skills needed for the workplace
- Identify and implement the responsibilities of a successful employee
- Make connections between their academic courses and the workplace
- Be in a better position to decide if they intend to pursue this career/occupation
- Make informed decisions regarding post-secondary education option

**520****52012 Adv Accounting I 1.1**

**Grades 9-12 1 credit**

The first-year Accounting course will give the student a thorough background in the basic accounting procedures used to operate a business. The student will engage in an in-depth look at how the accounting cycle works in a service and product oriented business. The accounting procedures presented will also service as a sound background for employment in office jobs and preparation for studying business courses in college. Upon completion, the student will be able to:

- Complete the accounting cycle from the opening entry to the post-closing trial balance for both a service-oriented and a merchandising business.
- Complete the accounting cycle from the opening entry to the post-closing trial balance for a merchandising business organized as a partnership.
- Understand check registers and related banking procedures
- Sort and record transactions using both a cash journal and a multi-column journal
- Understand the concept of general ledger accounting

**521****52112 Adv Accounting II 1.1**

**Gr. 10-12 1 credit**

**Prerequisite: Accounting I**

The Advanced Accounting course is the second phase of a two-year high school accounting curriculum. The course is structured to provide students with the knowledge and skills needed in preparing for the study of accounting in college. Emphasis is placed on accounting control systems, financial statement analysis, inventory and the intricacies of working with capital, stock dividends and related earnings. Students are given the opportunity of performing several accounting applications using the computer. Upon completion, the student will be able to:

- Complete the accounting cycle from the opening entry to the post-closing trial balance for a merchandising business organized as a corporation
- Understand payroll accounting and banking procedures
- Maintain check register for a business
- Sort and record transactions using special journals
- Become proficient in the preparation of financial statements

**523****52312 Microsoft Office Skills 1.05****Grade 9-12 1 Semester ½ credit**

This computer course is designed to extend students' knowledge of technology, enhance computer literacy and develop skills and cultivate creative ability. Instruction will be based on Microsoft Office software specializing in Word, Excel, Access and Power Point. Students will become proficient in word processing (Word), spreadsheets (Excel), databases (Access), and programming/graphics (Power Point), using a step-by-step approach with immediate reinforcement problems. Upon completion, students will be able to use the skills that follow in either college courses or the workforce:

- Demonstrate proficiency in word processing
- Demonstrate proficiency in spreadsheet functions
- Demonstrate proficiency in database programming
- Demonstrate proficiency in graphic design and layout

**524****1.0****52412 Money, Money, Money! 1.05****Gr. 11-12 1 Semester ½ credit**

This course is designed to inform and educate students on important financial issues. The course will include knowledge on financial planning, budgeting, check writing and balances, insurance, investments, credit cards, college loans and more! Upon completion students will be able to:

- Arrange their own college loans
- Complete the student portion of FAFSA
- Participate in stock market investment competition
- Create their own budget
- Analyze social security, 401K, and annuity options
- Evaluate credit cards and risk
- Create a personal insurance plan
- Obtain an individual credit rating and report
- Investigate various home mortgages and personal loans

**535****53512 Adv Introduction to Visual Basic 1.1****Grade 10-12 One Semester ½ credit**

Students will learn the fundamentals of GUI (Graphical User Interface) design by using Visual Basic's object oriented programming concepts and techniques to create several small graphical user interfaces. Visual

Basic will be used to design, layout and implement screen controls, menus, buttons, forms and other user interface devices. Programming techniques such as logic flow, input validation, data management, object linking and embedding (OLE), online help, and multi-media integration will be discussed. Upon successful completion of this course, students should be able to:

- Add and assign properties to Visual Basic controls
- Create menu bars and pull-down menus
- Add and manipulate graphics
- Display and activate controls, declare variables, assign data and prepare Visual Basic programs for interaction
- Test and de-bug applications

**536****1.0****53612 Intro to C++ Torque Game Bldr 1.05****Grades 10-12 One Semester ½ credit**

This course will introduce the students to object-oriented programming concepts using the C++ programming language. Using proper programming techniques and syntax, the course will use data types, libraries, conditional statements, looping techniques to solve problems. Torque Game Builder will be used to create 2D games that use the concepts learned in C++.

**537****1.0****53712 Game Programming Using TGB 1.05****Grade 10-12 One Semester ½ credit****Prerequisite: Intro to C++**

Using the WYSIWYG Torque Level Editor and C++ scripting students will learn techniques used to build 2D games. Concepts involve:

- Object placement and manipulation
- Property inspection and editing
- Asset importation
- Sound and Video
- Particle effects
- Tile manipulation
- Behavior management

## ~ Design & Engineering ~

### **755** **1.0** **75512 Graphic Communications I** **1.05**

**Grades 9-12 One Semester ½ Credit**

Graphic Communications is a fast-growing, vast professional field where, under the most basic definition, ideas are sold by integrating text, pictures, symbols, artwork and more in a visually-appealing manner. This hands-on course is an introduction to the fundamentals of electronic imaging and how they are created and reproduced. It offers introduction to typesetting, image setting, photo conversion and related areas of reproduction. Assignments encompass theory and skills related to various graphic arts processes. Upon successful completion of this course, students should exhibit competency in:

- Basic skills needed in the field of graphic communications
- Utilization of appropriate graphic computer software
- Applying decision-making skills to design and complete projects

### **756** **1.0** **75612 Graphic Communications II** **1.05**

**Grades 9-12 One Semester ½ Credit**

**Prerequisite: Graphic Communications I**

Graphic Communications II will expand upon the skills and concepts introduced in Graphics I. In this course, students work on projects which will introduce them to what they would find in a typical business environment in the graphic communication field. Upon successful completion of this course, students should exhibit competency in:

- Demonstrating proficiency in page layout, drawing programs and photo manipulation
- Completing projects as the graphic designer, following the instructions of a client.
- Completing projects as the boss, giving instructions that must be followed by a classmate.
- Have several professional-looking projects for their portfolio

### **757** **1.0** **75712 Graphic Communications III** **1.05**

**Grades 10-12 Full Year 1 credit**

**Prerequisite: Graphics I and II**

Graphics III will take the practical skills learned in Graphics I and II, and put them to use on various projects that will be used throughout the school district. Upon successful completion of this course, students should exhibit competency in:

- Meeting tight deadlines for projects

- Interacting on a professional basis with clients
- Being able to operate all software and production equipment effortlessly

### **758** **1.0** **75812 CP Digital Photography** **1.05**

**Grades 9-12 One Semester ½ credit**

**Prerequisite: Adobe Photoshop**

This course further explores the principals of design as it relates to digital imaging. Adobe Photoshop, an industry standard, will be used extensively in designing and producing digital images. The course will emphasize and develop student's skills in making expressive visual statements utilizing computer technology. Upon completion of this class, students will have the ability to:

- Gain a greater in-depth understanding of Photoshop and its creative possibilities
- Foster a stronger sense of the possibilities of integrating the digital with the traditional photography
- Create a strong portfolio, both digitally and in print

### **760** **1.0** **76012 Video Production** **1.05**

**Grades 11-12 One Semester ½ credit**

**Prerequisite: Students must meet with the instructor and obtain his signature in order to sign up for the class. Successful video production students should have the ability to work both independently and cooperatively, and be capable of functioning in the non-traditional classroom setting of the video production room. Computer experience is essential and highly recommended.**

This course will introduce students to video production. The fundamental techniques necessary to operate a video camera and editing software will be addressed. Through a hands-on approach, students will become proficient in the craft and art of video production. The class will create the BMRTV NEWS program through the use of a camera, appropriate lighting, video editing equipment, audio mixing and computer generated graphics. Students will work cooperatively to produce the news. Students will also be expected to produce individual video projects. Upon completion of this course students will be able to:

- Operate a video camera, audio mixer, create movie files and burn DVD's
- Utilize a variety of camera shots, movements and sequences
- Understand basic aspects of composition

- Demonstrate an understanding of lighting techniques
- Record sound and mix sound with video
- Edit video and sound utilizing appropriate technology
- Create graphic images with computer software
- Produce a short video program

**761** **1.0**  
**76112 CP Adobe Photoshop** **1.05**  
**Grades 9-12 One Semester ½ credit**  
**This course is a prerequisite for Digital Photography. Also, it is recommended for those interested in taking Webpage Design.**

Adobe Photoshop is the industry-standard software package for image creation, correction and enhancement. This comprehensive one semester course will acquaint students with all of Photoshop's vast image-editing capabilities for both print and web purposes. Upon completion, students will be able to:

- Produce attention-grabbing images from scratch
- Design corporate logos
- Repair old or damaged images
- Enhance scanned images
- Apply special effects, filters, styles and actions to images and text
- Create rollover navigation menus and animations for the web

**762** **1.0**  
**76212 CP Tech Team I** **1.05**  
**Grades 9-12 One Semester ½ credit**

This is a course developed through the "School-to-Careers" Partnership, designed to provide students with hands-on experience in the maintenance and troubleshooting of personal computers.

Upon successful completion of this course, students will be able to:

- Identify the components of a PC
- Assemble and disassemble a PC
- Install operating system software
- Diagnose and troubleshoot PC problems
- Utilize electronic diagnostic equipment
- Begin preparation for the A+ Certification program
- Become interns in the maintenance and upkeep of specific aspects of the BMR network

**763** **1.0**  
**76312 CP Tech Team II** **1.05**  
**Grades 9-12 One Semester ½ credit**  
**Prerequisite: Tech Team I**

This course will expand upon the skills and concepts introduced in Tech Team I. Students will:

- Continue preparation for the A+ certification program
- Continue as interns in the maintenance and upkeep of specific aspects of the BMR network

**765** **1.0**  
**76512 CP Webpage Design I** **1.05**  
**Grade 9-12 One Semester ½ credit**  
**(Adobe Photoshop would be strongly recommended, but is not a prerequisite.)**

This course introduces students to topics involved in establishing a presence on the World Wide Web. Students will use webpage editors and graphics programs to design and build their own homepages. Upon completion of this course, students will be able to:

- Understand general terminology involving the Internet
- Comprehend the basics behind HTML coding
- Construct a webpage using a text editor
- Use *Dreamweaver* to build a webpage
- Use *Adobe Photoshop* to construct logos and navigation menus
- Create animated graphics for web pages
- Upload files to the Internet using FTP programs

**766** **1.0**  
**76612 CP Webpage Design II** **1.05**  
**Grade 9-12 One Semester ½ credit**  
**Prerequisite: Webpage Design I**

This course is a computer laboratory intensive program. Upon successful completion, a student will be able to design, develop and implement professional quality Webpages. Students will be required to demonstrate mastery of these skills and techniques through the production of several webpages, tests and a professional portfolio.

In this course, students will learn to use:

- Macromedia *Dreamweaver* for creating complex visual layouts of webpages utilizing cascading style sheets and student generated templates
- Adobe *Photoshop* and *ImageReady* to enhance Webpage content with motion and graphics
- *Dreamweaver* extensions for compelling and interactive page designs
- Java applets and scripting for dynamic content
- Adobe *Acrobat* for creating documents to be shared across the Internet

**767** **1.0**  
**76712 CP CAD I - Computer Design** **1.05**  
**Grades 9-12 One Semester ½ credit**

This introductory course explores the practice and fundamentals of Computer Aided Design (CAD). Students will develop the ability to create and interpret a variety of 2D engineering drawings using AutoCAD software. Upon successful completion, students will be able to:

- Understand the basic tools and techniques of AutoCAD
- Create accurate, scaled drawing with dimensions
- Understand basic geometric construction
- Visualize in three dimensions
- Interpret various types of technical drawings

**768** **1.0**  
**76812 CP CAD II - Computer Design** **1.05**  
**Grades 9-12 One Semester ½ credit**  
**Prerequisite: CAD I**

Students will continue their CAD techniques and practices to complete multi-view drawings and design in 3D space. Upon successful completion students will be able to:

- Create and interpret complex mechanical drawings with AutoCAD
- Design and render true 3D objects using SolidWorks software
- Conduct detailed parts analysis
- Explore careers related to engineering

**769** **1.0**  
**76912 CP Architectural Drawing** **1.05**  
**Grades 9-12 One Semester ½ credit**  
**Prerequisite: CAD I**

This advanced course builds on topics covered in the introductory course with a focus on architectural drawing and design. Types of plans, symbols, dimensions and lines will be discussed. Advanced CAD commands will be explored to create dynamic blueprints in true 3D space. Upon successful completion, students will be able to:

- Create and interpret a complete set of plans for a residential dwelling
- Understand basic light construction methods and materials
- Design functional living spaces using industry standards
- Use ArchiCAD commands to generate rendered architectural drawings

**770** **1.0**  
**77012 CP Manufacturing I** **1.05**  
**Grades 9-12 Full Year 1 credit**

Students will use the engineering design process, tools and machines to transform wood and other raw materials into useful consumer items. Upon completion of the course, students will:

- Develop problem-solving skills
- Learn safe and proper use of tools and machines
- Design and interpret working drawings
- Learn proper finishing techniques
- Develop lifelong hobbies and skills

**771** **1.0**  
**77112 Manufacturing II** **1.05**  
**Grades 10-12 One Semester ½ credit**  
**Prerequisite: Manufacturing I**

Students will explore mass production and automation in manufacturing processes. Upon completion of the course, students will:

- Develop manufacturing projects using wood, metal and plastics
- Participate on a mass production team
- Set up and manage a production run
- Use problem-solving skills to develop appropriate jigs and fixtures
- Explore career pathways in manufacturing

**772** **1.0**  
**77212 Manufacturing III** **1.05**  
**Grade 10-12 One Semester ½ credit**  
**Prerequisite: Manufacturing I and II**

Students have an option of participating in either a mass production project or individual activities. Upon completion of the course, students will be able to:

- Refine and enhance their problem-solving skills
- Continue manufacturing projects using wood, metal and plastics

**773** **1.0**  
**77312 CP Technology I** **1.05**  
**Grades 9-12 One Semester ½ credit**

Students will explore various types of modern and ancient technology via the use of small projects. Areas of study may include, but are not limited to, the following:

- Aerodynamics and flight
- Inventions, packaging and marketing
- Residential construction

- Electricity and electronics
- Dams, reservoirs and canals
- Bridges, tunnels and roads

**774 1.0**  
**77412 CP Technology II 1.05**

**Grades 9-12 One Semester ½ credit**  
**Prerequisite: Technology I**

Students will continue their exploration of various types of technology. Areas of study may include, but are not limited to, the following:

- Alternate energy sources
- Robotics
- Junkyard wars
- Hydraulics and pneumatics
- Skyscrapers and earthquakes
- Internal and external combustion engines

**775 1.0**  
**77512 CP Construction Zone 1.05**

**Grades 9-12 One Semester ½ credit**

The Construction Zone introduces students to the high-paying jobs in the construction industry. Operating in teams at various workstations, you'll use the professional tools of each trade for a hands-on work experience. Through the Construction Zones' many activities, students will explore the basic aspect of each craft and understand how the different trades work together on a construction project. Activities may include, but are not limited to, the following:

- Air Conditioning/Refrigeration
- Bricklayer & Cement Mason
- Electricity & Electronics
- Power Mechanics/Small Engine Repair
- Residential Construction
- Residential Plumbing
- Welding

**776 1.0**  
**77612 CP Construction I 1.05**

**Grades 9-12 One Semester ½ credit**

Students will explore various types of construction projects. Job activities may include community use benches, picnic tables, shed and other similar structures. Upon completion of the course, students will be able to:

- Design and develop solutions to practical problems
- Safely use tools and machines commonly found in the construction industry
- Understand the various construction technologies and material utilization

**777 1.0**

**77712 CP Construction II 1.05**

**Grades 9-12 One Semester ½ credit**  
**Prerequisite: Construction I**

A continuation of the introductory course, students will further design and develop projects based on community use. Alternative construction methods and materials will be explored. Upon completion, students will be able to:

- Build a geodesic dome
- Demonstrate load transmission in bridge and building design
- Explore career pathways in the construction industry

## **ART DEPARTMENT**

**605 1.0**

**60512 Foundations in Art 1.05**

**Grades 9-12 Full Year 1 credit**

This course is an exploratory basic program. It is designed to provide an overview and introduction to Visual Arts through studying a variety of art tools and materials. With an emphasis on studio production, this course is designed to develop higher level thinking, art-related technology skill, art criticism, art history and aesthetics. Upon completion of this course students will be able to:

- Utilize the Art Elements and Design Principles as applied in the creation of art
- Gain information from works of art: Art Criticism
- Gain information about works of art: Art History
- Recognize the materials and processes of two and three dimensional design
- Conceptualize, plan and carry out an original project
- Use the basic tools, materials, techniques and skills relative to the assignments
- Develop the patience, discipline and stamina required for consistent work habits and routines
- Develop an appreciation for the arts through research of artists and art movements
- Know the importance of and participate in group and self critiques and evaluations

**606** **1.0**  
**60612 CP Drawing Beyond Doodling** **1.05**  
**Grades 9-12 Full Year 1 credit**

So you can't draw? Well, this class is for you! This basic drawing course is designed to get you "jump-started" in drawing. Upon completion of this course, the student will have a basic knowledge of:

- The goals of drawing
- Establishing a composition
- Drawing from objects
- Charcoal and graphite
- Pen, ink and wash
- Landscape drawing
- Anatomy and the figure

**607**  
**60712 Experimental Painting** **1.1**  
**Grades 10-12 1 credit**  
**Prerequisite: Drawing Beyond Doodling or an ability to draw.**

This course is designed to develop and expand on all areas of painting. Students will work with Watercolor, Acrylic, Gouache and Oil. You will gain a working knowledge of:

- Painting and careers in art
- Color theory and the Color Wheel
- Elements and principles of design
- Materials, techniques, tools and equipment
- Planning and organizing

**610**  
**61012 Adv Ceramics** **1.1**  
**Gr. 9-12 Full Year 1 credit**

This course is for the well-motivated, college-bound student. It is work intensive and has an academic component. Completion of this course will strongly prepare you for any Intro to Ceramics course which you may take to fulfill your Fine Arts requirement at the college level. It is a fun course and the rewards of success are great. Ceramic students learn:

- Organization and planning
- Pinch, coil and slab handbuilding techniques
- Construction of a primitive sculpture
- Construction of African and Native American vessels
- Construction of slab platters
- Decoration and glazing

**613** **1.0**  
**61312 CP Basic Pottery** **1.05**  
**Grades 9-12 One Semester ½ credit**

Basic Pottery is a semester course designed to introduce the beginner to the basic properties of clay and construction techniques. Students will learn:

- Pinch, Coil and Slab techniques
- Sculpture
- Decoration and Glazing

## **MUSIC DEPARTMENT**

Students who take part in the Fine Arts will have the opportunity to develop their artistic skills along with being able to express their creativity. Students will become proficient in their chosen discipline in a hands-on environment. They will be able to demonstrate and understand different styles and historical periods and its related vocabulary.

**800** **1.0**  
**80012 CP Concert Band** **1.05**  
**Grades 9-12 1 credit**

The Concert Band is a performing ensemble for any student who is able to play an instrument. Students will have the opportunity to perform and understand instrumental music of all styles. Class requirements include: 6-8 major scales, knowledge of musical terms, 3-4 after-school concerts and participation in the Memorial Day parades. Participation in the Concert Band will assist students to:

- Strengthen their playing ability
- Improve their musical knowledge
- Develop socially acceptable standards of behavior
- Develop a positive self-image

**810** **1.1**  
**81012 Adv Wind Ensemble** **1.1**  
**Grades 9-12 1 credit**

This instrumental music ensemble is designed for the advanced musician. Students must audition or be recommended by the instructor. Students will have the opportunity to perform and understand instrumental music of all styles and difficulty levels. Class requirements include: 9-12 major scales, 4-6 minor

scales, knowledge of musical terms, 3-4 after school concerts, participation in the Memorial Day parades and semester exams. Participation in the Wind Ensemble will assist students to:

- Understand and perform college-level literature
- Strengthen their playing ability
- Improving their musical knowledge
- Develop socially acceptable standards of behavior
- Develop a positive self-image

**821** **1.0**  
**82112 Music Theory** **1.05**  
**Grades 10-12** **1/2 credit**

Students will have the opportunity to develop the fundamentals of music theory through four primary approaches: writing, listening, playing and singing. Class requirements will include: analyzing traditional music, rhythm studies, solfege and composition. This class is ideal for the student with a serious interest in music as a career. Upon successful completion of this course, students will be able to:

- Demonstrate a working knowledge of traditional music theory and notation
- Have basic skills in singing and ear training
- Create and analyze original compositions

**822** **1.0**  
**82212 Music Technology** **1.05**  
**Grades 10-12** **1/2 credit**

This course offers a hands-on approach to music and music technology through the use of computers and electronic instruments. Students will have the opportunity to create and understand music in a STUDIO environment. The use of electronic keyboards, notation and sequencing software and classroom instruction will enable students to compose, edit, listen and print music. Basic theory, composition, ear training and history will be taught with the use of music software and the Internet. This course will be of great value for students interested in majoring in music and / or music technology.

Upon completion of this course, the student will be able to:

- Manipulate a variety of software programs
- Understand Midi (Musical Instrument Digital Interface)
- Create and produce an original composition
- Music notation and printing music
- Sequencing and editing
- Demonstrate a basic knowledge of music theory

**824** **1.0**  
**82412 CP Chorus** **1.05**  
**Grades 9-12** **1 credit**

The chorus is a performing ensemble open to all interested students. They will have the opportunity to perform music of all styles and historical periods. Responsibilities will include two evening concerts. Through participation in chorus, students will:

- Understand and perform a varied repertoire of music
- Learn correct vocal technique
- Improve their musical knowledge
- Develop socially acceptable standards of behavior
- Develop a positive self-image

## **COMPREHENSIVE HEALTH AND WELLNESS DEPARTMENT**

The Comprehensive Health and Wellness curriculum provides students with the opportunities for optimum development of their physical, social and mental well-being. Through a variety of wellness course activities, students will be provided with the skills needed to make healthy decisions and reduce health-related risk behaviors.

**905** **1.0**  
**90512 CP PE /Wellness/ Healthy Living** **1.05**  
**Cycle 2 Full year Gr. 9-12 1 credit**

This required course will provide students with the knowledge needed to make healthy decisions and reduce health-related risk behaviors. It will help students to develop skills needed to understand disease prevention and control, physical, mental and social growth through the life cycle, nutrition, physical activity and fitness, sexuality and risks and consequences of using tobacco, alcohol and other drugs.

Upon completion of this course, students should demonstrate the ability to:

- Explain the relationship between positive health behaviors and the prevention of injury, illness and disease
- Evaluate strategies to manage stress

- Analyze the short-term and long-term consequences of safe, risky and harmful behaviors
- Explain healthy ways to express needs, wants and feelings
- Implement a fitness plan for attaining a personal health goal
- Demonstrate competency in many movement forms
- Participate in a variety of sport-related activities

**90612 Adapt PE 9 1.0**

**Prerequisite: Team Leader approval**

**907**

**90712 Advanced Physical Education 1.1**

**Grade 11-12 Full Year 1 credit**

**Prerequisite: Successful completion of Wellness Cycle I and II and teacher recommendation.**

This elective course is offered to grade 11 and 12 students. It is designed for the student who enjoys a challenge at all levels of play. Students are required to be active participants in the following areas: individual/dual sports, team sports, fitness/weight training, aerobics/step aerobics and lifetime sports. At the conclusion of this course, the student will:

- Achieve and maintain a healthy level of physical fitness
- Apply movement concepts and principles to the development of motor skills
- Demonstrate proficiency in some movement forms
- Exhibit a physically active lifestyle
- Demonstrate respect for differences among people in physical activity settings
- Demonstrate responsible, personal and social behavior in physical activity setting

**910 1.0**

**91012 Food and Nutrition Part A 1.05**

**Grades 10-12 One Semester ½ credit**

Students will learn the nutritional value of various food groups, demonstrate safety and sanitation practices and develop skills needed to prepare: Quick breads, Fruits, Vegetables, Pies, Cookies and Soups. Students will gain practical skills for independent living and possible employment in the food industry through participation in food labs, demonstrations, class work and projects.

Successful completion of this course will guide the student to:

- Adopt a healthy dietary lifestyle

- Plan, prepare and serve nutritious meals
- Identify conditions and practices that promote safe food handling

**911 1.0**

**91112 Food & Nutrition Part B 1.05**

**Grade 10-12 One Semester ½ credit**

Students will learn the nutritional value of various food groups, demonstrate safety and sanitation practices and develop skills needed to prepare: Salads, Casseroles, Yeast Breads, Cakes and Candies, Pasta, Rice, Dairy and Eggs.

Students will gain practical skills for independent living and possible employment in the food industry through participation in food labs, demonstrations, class work and projects. Students will also:

- Adopt a healthy dietary lifestyle
- Plan, prepare and serve nutritious meals
- Identify conditions and practices that promote safe food handling

**912 1.0**

**91212 Culinary Arts 1.05**

**Grade 10-12 One Semester ½ credit**

**Prerequisite: Food & Nutrition – Parts A & B**

Students will investigate employment opportunities in food related careers and develop a portfolio as a means to secure employment. Students will gain additional practice in the selection, preparation, serving and storing of food with an emphasis on dining out and entertaining. Food labs, demonstrations, guest chefs, class work and projects will be central components of the course.

Successful completion of this course will guide the student to:

- Recognize qualifications needed to work in a food related career
- Demonstrate skills needed in the food industry
- Complete practical applications by catering various events

**917 1.0**

**91712 Children & You 1.05**

**Grades 10-12 One Semester ½ credit**

How did you become who you are? What were you like as a child? What parenting styles did your parents use? What kind of parent do you want to be? This is a discussion and project-oriented class. Come take the journey and learn about child development from infancy to school age.

Successful completion of this course will guide the student to:

- Analyze expectations, roles and responsibilities of parenthood
- Choose nurturing practices that support human growth and development
- Identify physical, social, intellectual and emotional growth of children from infancy to school age
- Evaluate external support systems that provide services for families

## **Notes...**