

Bridgewater-Raynham Regional High School

Bridgewater, Massachusetts



COURSE SELECTION BOOKLET
2019-2020

"Ask Not What Your Country Can Do For You, Ask What You Can Do For Your Country."

John F. Kennedy

January 20, 1961

Approved: Bridgewater-Raynham Regional School Committee
January 23, 2019

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ADMINISTRATION

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Mr. Thomas Bresnahan, Assistant Principal

Mr. Jeffery Sylvia, Assistant Principal

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Ms. Kimberly Stetz – Adjustment Counselor

Department Heads

Mr. Michael Hayhurst - *English Language Arts*

Mrs. Elizabeth Calef - *Science and Technology*

Mrs. Susan Kinney - *Mathematics*

Mrs. Laura O'Brien – *World Languages*

Mr. Ron Scarbrough - *Social Studies*

Mrs. Louise Horne – *Business*

Mrs. Lorna Hickey – *Physical Education & Health*

Mrs. Natalie Winsor – *Special Education*

Mr. Dan Buron – *Athletic Director*

Please note: This booklet is available on our website at: www.bridge-rayn.org



Founded in 1885

NEW ENGLAND ASSOCIATION OF SCHOOLS & COLLEGES, INC.
COMMISSION ON PUBLIC SECONDARY SCHOOLS

Accreditation Statement

Bridgewater-Raynham Regional High School is accredited by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally recognized organization whose affiliated members include elementary through college institutions offering post-graduate instruction.

Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a rigorous peer review process. An accredited school or college is one which has available the necessary resources to achieve its stated purpose through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also measured through accreditation.

Accreditation by the New England Association is not partial, it applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding the status of an institutions accreditation by the New England Association should be directed to the administrative staff of the high school. Individuals may also contact the Association:

**Commission on Public Schools New England Association of Schools and
Colleges**

**209 Burlington Road
Bedford, MA 01730-1433
1-781-271-0022**



Bridgewater-Raynham
Regional School District
Mt. Prospect Street
Bridgewater, Massachusetts 02324

Dear Parents/Guardians,

On the next two pages you will find our school's Core Values and Beliefs about Learning and our Student Learning Expectations. The core values and beliefs are based on our collective vision and philosophy as a school community. They assert our beliefs about teaching and learning, the priorities of the school, the relationship between the school and parent/guardian, and the curriculum content and method of instruction.

The Student Learning Expectations are broken down into academic and civic/social competencies. After each departmental heading you will find the goals of each individual department and the Student Learning Expectation that is their responsibility. The Administration is responsible for Expectation #7 and #8. Each of our eight Student Learning Expectations are associated with a scoring rubric. These rubrics can be found on our website and I encourage you to review them.

As per the New England Association of Schools and Colleges, BRRHS must "create and implement a formal process to communicate individual student progress in achieving the school's 21st century expectations for learning to students and families."

At the end of the fourth marking period (for full year courses) and second marking period (for semester courses) it is our goal to include a score for your child which will show how they are progressing in regard to our Student Learning Expectations. This score will be based on the above mentioned rubrics and will show in a column on their report card as either "E" for Exemplary, "P" for Proficient, "D" for Developing, or "B" for Beginning.

Please know that these scores, in regard to progress on the Student Learning Expectations, are not associated with the academic performance grade that they receive in their individual academic courses. It is simply our way of communicating with you their progress in achieving BRRHS's expectations for learning.

We continue to analyze and update our Core Values and Beliefs about Learning and our Student Learning Expectations in order to best represent what we feel is imperative for students to know and demonstrate upon graduation.

Sincerely,
Angela M. Watson
Principal

Bridgewater-Raynham Regional High School
“Expect the Best”

Our Core Values and Beliefs about Learning

We Believe in....

Building Readiness

- I. It is our responsibility to prepare students for work and life in the 21st Century. We, therefore, are committed to:
- A diverse curriculum that embraces 21st Century skills and abilities.
 - Instructional strategies that are customized to meet the needs of all learners.
 - Assessments that are fair, authentic and varied.

Building Respect

- II. Students learn best in a safe, positive and welcoming environment. We, therefore, are committed to:
- A disciplinary code that is fair, consistent and appropriate.
 - Maintaining a school climate that encourages tolerance and respect for all.

Building Resiliency

- III. Fostering the development of students’ personal and social growth is essential to our educational mission. We, therefore, are committed to:
- Reflecting and learning from both our successes and our struggles.
 - Providing students with a variety of enrichment and extracurricular activities.

Building Relationships

- IV. Education is the shared responsibility of the community, parents, staff and students. We, therefore, are committed to:
- Effective and respectful communication.
 - Encouraging students to take a leadership role in a wide range of school programs.
 - Including parents and community members in school initiatives, programs and activities.

Approved by the Bridgewater-Raynham Regional High School Stakeholders
February 3, 2010

Reviewed and Re-Approved by the BRRHS Stakeholders
March 2015, September 2015/2016/2017/2018



Student Learning Expectations

Upon graduation all Bridgewater-Raynham Regional High School students will be able to:

Academic

- I. Read effectively.
- II. Write effectively.
- III. Communicate effectively.
- IV. Demonstrate research literacy.
- V. Use independent and critical thinking skills to identify and solve problems.
- VI. Use traditional and electronic resources to analyze, integrate and apply knowledge.

Social & Civic

- VII. Demonstrate personal responsibility.
- VIII. Actively participate in school and/or community.

Approved by the Bridgewater-Raynham Regional High School Stakeholders:
April 7, 2010
Reviewed, Updated and Re-Approved by the BRRHS Stakeholders:
March 2015, September 2015/2016/2017/2018

GENERAL INFORMATION

Required for Graduation:

The policy of our school is to provide each student with an individualized program pattern. The following courses are required and must be successfully completed for graduation:

COURSE	NUMBER OF YEARS	GRADE
English	Four	9 th – 12 th
World History	One	9 th
US History I	One	10 th
U. S. History II	One	11 th
Biology	One	9 th
Science (in addition to Bio)	Two	10 th – 12 th
Physical Education	Two Semesters	9 th & 10 th
Math	Four	9 th – 12 th
Health	One Semester	10 th
Foreign Language	Two	9 th – 12 th
Music/Art/Business	One Semester	9 th
Community Service	15 Hrs. / Year	9 th – 12 th

Additional Requirements:

In addition to the above stated Graduation Requirements, Bridgewater-Raynham Regional High School requires students to complete Summer Reading and Summer Math prior to entering a new school year. Both the Summer Reading list and Summer Math packets can be found on the high school website at: www.bridge-rayn.org . If you need access to a hard copy, please contact the main office at (508) 697 – 6902.

Summer Reading:

Bridgewater Raynham Regional High School requires students to read widely and often during the summer break. Every effort has been made to ensure that assigned texts are appropriate for students at a variety of reading levels, are matched to the school's learning expectations, and are lively and exciting works of literature. Reading is the key to academic and career success. Some would say it is the most important skill that you learn; you will use it your entire life. We hope that you will view this requirement as an opportunity to improve your skills, discover new authors and genres, and expand your knowledge of the world we live in. Your first assignment in English of the new school year will be based on your summer reading. It will be collected, assessed, and reviewed and count toward your first term grade.

Summer Math:

The Math department at BRRHS has put together summer math review packets by course. The math review packets consist of topics that have previously been taught and are expected to be mastered prior to entering the next math course. It is expected that all students complete the summer math packet for the course they are going to be enrolled in during the upcoming year. All summer math packets will be collected at the beginning of the new school year, assessed and reviewed.

COURSE CREDITS

All full year courses earn five credits. Semester courses earn two and one-half credits.

Course Selection and Minimum Credit Requirements - Yearly Basis:

Grade 9 — All ninth grade students must carry a minimum of 30 class periods per week. To enter the tenth grade, a ninth grade student must have earned 30 credits.*

Grade 10—All tenth grade students must carry a minimum of 30 class periods per week. To enter the eleventh grade, a tenth grade student must have earned 60 credits.*

Grade 11—All eleventh grade students must carry a minimum of 30 class periods per week. To enter the twelfth grade, an eleventh grade student must have earned 90 credits.*

Grade 12—All twelfth grade students must carry a minimum of 30 class periods per week. A senior must have earned 115 credits to be eligible for graduation.

*Any student wishing to run for class office must be earning a minimum of 25 credits.

HOMEWORK

Homework is an integral component of one's academic success. No student can expect to do satisfactory work unless adequate time is given to systematic study at home each day. The amount of time necessary for home study varies with the student and the subject. However, a minimum of two or three hours of daily home study is strongly recommended.

COURSE LEVEL PLACEMENT and STANDARDS

Bridgewater-Raynham Regional High School is committed to providing students with a "standards-based education". Our Core Values and Beliefs about Learning and Student Learning Expectations provide the school-wide vision and goals upon which our standards are based. Standards-based learning is based upon both rigorous content and performance outcomes for all students. Within this structure, curriculum which is aligned to state common core frameworks and data from multiple assessments is used to plan and differentiate instruction to insure student learning. The appropriate placement of students in course levels is a critical ingredient for student success in a standard-based school. Recommendations for levels are done by the teachers. Level recommendations will appear on second term report cards and are based on grade requirements as well as the teacher's recommendation. Please refer to Course Level Descriptions for details on the following page.

Level changes will only be permitted on a case by case basis (based upon the established criteria – please see page 11 for details). Students must obtain a minimum final grade of D- or better (60%) in order to pass a course and earn credit.

COURSE LEVEL DESCRIPTIONS

In order to meet the individual needs and learning styles of a wide range of students, Bridgewater-Raynham Regional High School offers a variety of courses taught at three levels. The objectives of the leveling system are to enable as many students as possible to attain a sense of mastery, to maximize success, and to minimize failure. Some students take courses at all three levels.

AP In Advanced Placement (AP) courses, students have a college-level work load, that follows a national curricula and they may earn college credit through an AP Exam. Recommended for students who are able to work independently, who are highly motivated, who have demonstrated ability in the subject area, and have a strong desire to take college-level courses in high school. Due to the expenses involved in the AP Examination, the following regulations pertain to those students who wish to take these courses: **All students taking the course are expected to take the examination in May.** The cost of the exam varies from year to year. Last year, the cost was \$94. The exam cost must be paid in full by October 15, 2019. **Students who do not complete the required Summer Work will be removed from the AP class. All students enrolling in an AP Course, must sign the BRRHS AP Contract. This contract must also be signed by a parent/guardian.**

Accelerated Students have an intensive work load that emphasizes outside reading, writing, and research projects. Their work calls for critical analysis and interpretation. It involves working at an accelerated pace and is recommended for students with (or approaching) advanced reading and writing skills and have a desire to attend a four year college. This would be considered our honors level. **In order to remain in an Accelerated class, students must have a final grade of 80% or better or have the teacher's recommendation.**

Academic Students have a challenging work load that emphasizes outside reading, writing and research projects. Their work calls for critical analysis and interpretation. This level is recommended for students with (or approaching) proficient reading and writing skills and who have a desire to succeed and move on to post-secondary institutions/colleges or careers. This would be considered our college preparatory level. **In order for a student to move from the Academic level to the Accelerated level, they must have a final average of 90% or better in the previous class as well as have their teacher's recommendation.**

Unleveled These courses do not count towards class rank/grade point average.

COURSE AND LEVEL CHANGES

Philosophy

Students may change courses and course levels based on established grade requirements, teacher recommendation, and within established limits:

1. All changes require parental approval, a counselor, a department head and a teacher recommendation.
2. All changes will be reviewed for appropriateness by the administration and department heads.
3. Lateral changes (changes within the same course level) are not allowed.

Types of Change

1. Course changes for a year-long course may be permitted up until the end of the 2nd week of school, based on availability. Course changes for a semester course may be permitted up until the end of the second week of the semester. Students are required to make up work that has been missed. **Course changes are not permitted after that time.**
2. Level changes for a year-long course will only be permitted at the end of first term at the discretion of the teacher, Department Head and administration. No change will occur until the term has ended. The teacher of the new class will use grades from the original level. Level changes for a semester-long course will only be permitted up until the end of the 2nd week of the semester and will be contingent of availability and approval by administration.
3. Any course or level changes are predicated on availability at the next level.

Procedure

Students must see their guidance counselor to review the procedure.

GRADE INTERPRETATION CHART

Letter Grade	Advanced Placement	Accelerated	Academic	Numerical Equivalent
A+	5.3	4.8	4.3	97-100
A	5.0	4.5	4.0	93-96
A-	4.7	4.2	3.7	90-92
B+	4.3	3.8	3.3	87-89
B	4.0	3.5	3.0	83-86
B-	3.7	3.2	2.7	80-82
C+	3.3	2.8	2.3	77-79
C	3.0	2.5	2.0	73-76
C-	2.7	2.2	1.7	70-72
D+	2.3	1.8	1.3	67-69
D	2.0	1.5	1.0	63-66
D-	1.7	1.2	0.7	60-62
F	0.0	0.0	0.0	0-59

CLASS RANK

1. Class rank will be determined by averaging accumulated class rank value points that are weighed according to the level of the subject. The average for each year will be based on the number of courses the student takes or the minimum number of required courses if a student has an abbreviated program.
2. All courses will be included in the class rank determination with the exception of unlevleed courses.
3. Students who have missed one or more full years or who are not enrolled in the prerequisite amount of courses at Bridgewater-Raynham cannot be ranked and therefore cannot be named as the Valedictorian and/or Salutatorian of the graduating class.

PROGRAM SUGGESTIONS

Requirements for admission to colleges and specialized schools frequently change, so it becomes increasingly important for each student to evaluate personally these schools and colleges for specific requirements, in order to plan his or her high school program appropriately. Some typical program plans to follow in high school based on your future desires are outlined for you. These plans represent the **MINIMUM** requirements. College admission requirements may be more or less demanding than these depending on the school or college you choose. See your school counselor for help in planning your high school program and to answer questions you might have.

MASS. STATE COLLEGE AND UNIVERSITY ADMISSION STANDARDS

The new admissions standards for Massachusetts State Colleges and the University emphasize a strong academic high school background so that students enter college ready to learn. These standards represent minimum requirements; meeting them does not guarantee admission, since a wide range of factors are considered in admissions decisions. It is important to note that admissions standards for the state's community colleges have not changed. Community colleges may admit any high school graduate.

DUAL ENROLLMENT

Eligible Junior and Senior students may take undergraduate courses at Bridgewater State University or any other state universities through the Dual Enrollment Program. Eligible Freshman, Sophomore, Junior, and Senior students may take undergraduate courses at Massasoit or Bristol Community College through the Dual Enrollment Program as well. Bridgewater-Raynham Regional High School serves as a site school for some Massasoit classes. Students may earn both college and high school credit. Semester courses taken at the college level will be considered to have the same credit value as a semester course offered at the high school.

To be eligible to take classes at Bridgewater State University or any other 4 year state university, students must have an overall B average and obtain the recommendation of their guidance counselor. To be eligible to take classes at Massasoit or BCC, students must have an overall C average. Parents and students must assume responsibility for transportation to and from the college. You are further responsible for any tuition/fees and books for each course. Accelerated credit will be given to all dual enrollment classes placed on BRRHS's transcript.

For more information regarding the Dual Enrollment program, please contact Mr. Barber in the guidance department at Ext. 11152.

***Please note that availability of some dual enrollment courses is contingent upon appropriate funding for the 2019-2020 school year.**

GENERAL INFORMATION ON YOUR CHOICE OF A HIGH SCHOOL PROGRAM

Students anticipating attending four-year or community colleges, nursing or technical schools should successfully complete:

- 4 years of English
- 2 or more years of one foreign language
- 4 years of mathematics
- 3-4 years of Science
- 3-4 years of Social Studies

This list is merely a suggestion of required courses to be part of the minimum of sixteen or more units submitted for college consideration. Individual schools and colleges may have more specific requirements, and should be referred to for actual course selection. Catalogs are available in the Guidance Library.

PRE-REQUISITES

WORLD LANGUAGE

Students must take foreign language classes in sequence.

MATHEMATICS

<u>In order to take:</u>	<u>You must have successfully passed:</u>
Geometry	Algebra I
Geometry/Algebra II	Algebra/Geometry
Algebra II	Geometry
Algebra II Part B	Algebra II Part A
Pre-Calculus	Algebra II (87% or better)
Trigonometry	Algebra II (or concurrently) or teacher's recommendation
Calculus	Pre-Calculus (77% or better)
AP Calculus AB or BC	Teacher's recommendation
Selected Topics	Algebra II (or concurrently) or teacher's recommendation
AP Statistics or Statistics (Accelerated)	Algebra II or teacher recommendation

BUSINESS

<u>In order to take:</u>	<u>You must have successfully passed:</u>
College Accounting II	College Accounting I
Introduction to Programming JAVA	Algebra I (B- or better)
AP Computer Science A	Introduction to Programming JAVA
AP Computer Science Principles	Algebra I (B- or better)

ART

<u>In order to take:</u>	<u>You must have successfully passed:</u>
Adv. Drawing & Painting	Drawing & Painting or teacher's recommendation
Portfolio	2 years of art classes or teacher's recommendation
AP Studio Art	2 years of art classes or teacher's recommendation

MUSIC

<u>In order to take:</u>	<u>You must have successfully passed:</u>
AP Music Theory	Music Theory and Teacher Recommendation
Accelerated Concert Band	By Audition
Accelerated Concert Chorus	By Audition
Chamber Singers	By Audition

SCIENCE

<u>In order to take:</u>	<u>You must have successfully passed:</u>
AP Biology	Biology, Chemistry, Teacher Recommendation
Academic Chemistry	Biology & Algebra I
Accelerated Chemistry	Biology, Algebra I & Teacher Recommendation
Organic Chemistry	Biology & Chemistry
AP Chemistry	Biology, Chemistry, Teacher Recommendation
Academic Physics	Biology, Chemistry, Algebra I & Geometry
Accelerated Physics	Biology, Chemistry, Algebra I, Geometry & Teacher Recommendation
AP Physics	Biology, Chemistry, Physics, AP Calc. (concurrent)
Academic Anatomy & Physiology	Biology & Chemistry
Accelerated Anatomy & Physiology	Biology, Chemistry, Teacher Recommendation
Technology/Engineering II	Tech/Eng. I
Academic Pre-Engineering	Biology (or concurrent)
Accelerated Pre-Engineering	Biology (or concurrent) & Teacher Recommendation
Pre-Engineering II and III	Previous course and Teacher Recommendation
Academic Astronomy	Biology
Accelerated Astronomy	Biology & Chemistry
Academic Forensics	Biology & Chemistry
Accelerated Forensics	Biology, Chemistry and Teacher Recommendation
Academic Marine Biology	Biology
Accelerated Marine Biology	Biology, Chemistry (concurrent), Teacher Recomm.
Academic Earth Science	Biology
Accelerated Earth Science	Biology & Teacher Recommendation
Academic Zoology	Biology
Accelerated Zoology	Biology & Teacher Recommendation
Biotechnology	Admin/Teacher Recommendation

***Some courses listed in this Course Selection Book may not be offered or run due to staffing or enrollment numbers.**

ART

Department Goals:

1. Students will demonstrate knowledge of the methods, materials, and techniques unique to the visual arts.
2. Students will demonstrate knowledge of the elements and principles of design.
3. Students will demonstrate their powers of observation, abstraction, invention, and expression in a variety of media, materials, and techniques.
4. Students will demonstrate knowledge of the processes of creating and exhibiting their own artwork: drafts, critique, self-assessment, refinement, and exhibit preparation.
5. Students will describe and analyze their own work and the work of others using appropriate visual arts vocabulary. When appropriate, students will connect their analysis to interpretation and evaluation.
6. Students will describe the purposes for which works of visual arts and architecture were and are created, and, when appropriate, interpret their meanings.
7. Students will describe the roles of artists, patrons, cultural organizations, and arts institutions in societies of the past and present.
8. Students will demonstrate their understanding of styles, stylistic influence, and stylistic change by identifying when and where art works were created, and by analyzing characteristic features of art works from various historical periods, cultures, and genres.
9. Students will describe and analyze how performing and visual artists use and have used materials, inventions, and technologies in their work. STEAM (Science, Technology, Engineering, Art and Mathematics) lessons will be included in each course.

All students enrolled in any of the following Art classes will be assessed on Student Learning Expectation #6: Use traditional and electronic resources to analyze, integrate and apply knowledge.

DRAWING & PAINTING – (Academic) - Grade 9 (or teacher’s recommendation) – Semester
This exciting half year course with an emphasis on art making is designed to open one’s eyes to his/her artistic potential. Students in this course will work from direct observation, abstraction, and imagination with a variety of media such as cut paper, ebony pencils, color pencils and watercolor as they develop an understanding of the elements of art and the principles of design in a positive, encouraging environment. STEAM topics such as perspective, proportion, and observation of natural objects will be included in the curriculum.

ADVANCED DRAWING AND PAINTING – (Accelerated & Academic) – 10-12 Grade

A full year course that builds on the visual language and skills learned in Drawing and Painting. Major projects in both drawing and painting will be presented such as self-portrait, still life, landscape, and fantasy. This class focuses on personal artistic growth in a positive supportive environment that encourages student interaction. STEAM projects include the effects of light, anatomy, and direction observation of natural objects. Pre-Requisite: Drawing and Painting or teacher's recommendation.

AP STUDIO ART DRAWING - (AP) – 12th Grade

This course is designed for highly motivated students seriously interested in art. During this course, students will develop an extensive portfolio of work. Three major concerns that will be stressed in the course are (1) a sense of quality in the students work; and (2) the student's concentration on a particular visual interest problem; and (3) the student's need for breadth of experience in the formal, technical, and expressive means of the artist. Included in this class are critiques and museum visits. An intensive amount of work is required by the student in and outside of class. Students send their portfolio digitally to the College Boards for evaluation in the spring. The standard AP fee applies to this course. Pre-Requisite: 2 years of Art classes or teacher's recommendation.

CERAMICS AND CRAFTS - (Accelerated & Academic) – Grades 9-12

An applied course that introduces students to ceramic hand-building and fine craft techniques through a variety of 3D ceramics and craft projects from around the globe. Ceramic projects may include instruments, vessels, Majoica tiles and sculpture. Mixed media projects may include wire and assemblage, sculpture, collage, Batik (fabric dying with imagery), book arts, and more. STEAM concepts are included through the use of electronics/LED's, design thinking, material chemistry, anatomy and environmental study across units. Accelerated students will be required to keep a sketchbook and a process portfolio.

PORTFOLIO - (Accelerated & Academic) – 11 & 12 Grade

This course is for juniors and seniors with a piqued interest in art. Students will hone their skills and develop a personal style through studio work, classroom discussions and visiting college representatives. For each project, an individual choice of media will be encouraged that might include print making, acrylic painting, watercolor painting, or mixed media. This class will create an installation that may be exhibited at the Attleboro Art Museum. A solid background in preparation for AP Studio art, art school and/or college art classes will be provided. Students will receive guidance as they prepare portfolios for submission to the schools of their choice. Pre-Requisite: 2 years of Art classes or teacher's recommendation.

BUSINESS

Department Goals:

1. Business education plays a prominent role in preparing students to become responsible citizens, capable of making the astute economic decisions that will benefit their personal and professional lives.
2. Students will be taught the basics of personal finance, the decision-making techniques needed to be wise consumers, the economic principles of an increasingly international marketplace, and the processes by which businesses operate.
3. Students will be able to use various software applications.
4. Students will know and be able to do basic computer programming.

All students enrolled in any of the following Business classes will be assessed on Student Learning Expectation #4: Demonstrate research literacy.

PERSONAL FINANCE - (Accelerated & Academic) – 11th & 12th Grade - Semester
This course delivers essential money understanding in an easy to grasp and engaging way while meeting the Massachusetts High School Standards for Personal Financial Literacy. It offers up-to-date lessons and activities in personal finance that encourage and enlist participation. Students' discover new ways to maximize their earning potential and spending income, describe the benefits of traditional and mobile banking for saving money, describe the pros and cons of different investment strategies and why young people should invest, understanding their credit score, using credit and how it will impact their ability to borrow and discuss factors that impact insurance costs for protecting and insuring their assets.

INTRODUCTION TO BUSINESS - (Academic) – Grades 10-12
This course provides a comprehensive survey of business knowledge designed to help students understand how our economic systems operate and how they can contribute to the business society as a consumer, employee and entrepreneur. This course is invaluable in helping students develop a career pathway for making future employment and personal decisions.

COLLEGE ACCOUNTING I - (Accelerated & Academic) – Grades 10-12
This course gives the student an opportunity to explore their interests and aptitudes for work in the field of accounting. The student will receive instruction in all areas of the accounting cycle with emphasis in the development of accuracy, business ethics, promptness and independent thinking. The students will be working with computer applications and software in the field of accounting

COLLEGE ACCOUNTING II - (Accelerated & Academic) – 11th & 12th Grade
This course gives students a deeper knowledge of business ownership, management and accounting. It stresses technical competence and aids the students who plan to continue the study of accounting by providing them with a comprehensive foundation in the accounting

field. Business trends, current economic problems, and financial planning, will be covered throughout the year. The students will be working with the latest computer software and equipment.

MARKETING & ENTREPRENEURSHIP – (Accelerated & Academic) – 10th - 12th Grade
Students will take a step by step journey through the entire process of owning your own business. They will select a product or service to sell determine who the customers are, learn how to market their business, obtain financing, manage employees, put together a business plan and more. Students taking this course will recognize the customer-oriented nature of marketing and analyze the impact of marketing on activities on the individual, business and society.

INTEGRATED COMPUTER APPLICATIONS I - (Academic) – Semester Course
This computer application course is aligned with Massachusetts' Computer Literacy Standards and is designed to give students an introduction to different areas of computer applications. The students begin the year with a brief, intensive review of proper keyboarding techniques. Training in the use of the internet and digital literacy and safety will be a focus. Students will complete assignments in word processing (GOOGLE DOCS), spreadsheets (GOOGLE SHEETS) along with presentation, form, and drawing applications. Students will learn 1.) how to open and turn in assignments in a digital learning environment, 2.) file management habits and 3.) how to collaborate effectively and work on assignments simultaneously. This course covers most applications and procedures that will be expected of students in their high school experience. This course is strongly recommended for all students, especially ninth graders.

PROGRAMMING & DESIGN FOR BEGINNERS – (Academic) – Semester – Gr. 9-12
This course is recommended, but not required, for students interested in continued course work in computer science. This course will provide students with an introductory level of programming. Students will explore topics and careers in Computer Science and Software Engineering & Design. Students will work hands-on in the computer lab on a daily basis. Students who have an interest in Computer Science, Mathematics, Engineering or Business are encouraged to take this course.

INTRODUCTION TO PROGRAMMING USING JAVA - (Accelerated) – Grades 10-12
This course is an introduction to computer programming using the Java programming language. The course will be project based using programming to solve problems. Topics include computer logic and components, flow charts and other coding tools, decisions, loops, code structure, arrays, methods, file operations, and object-oriented programming. Students will design, code, test, debug and execute their own computer programs using the Java programming language and the aid of the Eclipse SDK. All software is free and students have the option of downloading a copy at home. This course is recommended for students interested in Computer Science, Mathematics, Engineering, or Business.

AP COMPUTER SCIENCE A – (AP) – 11th & 12th
The curriculum of AP Computer Science in JAVA is based on the syllabus developed by the College Board. Topics include program design and implementation, algorithm analysis, standard data structures, and object-oriented programming desing. AP Computer Science in JAVA emphasizes programming methodology with an emphasis on problem solving and algorithm development. Students must have access to a computer outside of class for

programming projects. This course is intended to serve both as an introductory course for Computer Science majors, and for students who will major in disciplines that require significant involvement with programming and/or computing. At the course's end, students are expected to take the AP Computer Science "A" test. If they pass, they may receive college credit.

AP COMPUTER SCIENCE PRINCIPLES – (AP) – Grades 10 -12

AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity, and global impact. AP Computer Science Principles will give students the opportunity to use technology to address real-world problems and build relevant solutions. Students will learn to create computational artifacts, analyze problems and solutions, and collaborate with others. Recommended (but not required): Java Programming or Programming & Design for beginners

PHOTOSHOP – (Accelerated & Academic) – Semester - Grades 10 – 12

This course is an introductory course where students will explore fundamental techniques in Adobe Photoshop. Students will edit and alter digital photos using layers, color enhancements and photo repair. Students will also create images from scratch using brushes and other tools. Students are not required to have access to the software at home. This course will consist primarily of hands-on classwork, projects and interactive lessons.

WEB DESIGN – (Accelerated & Academic) – Semester – Grades 10-12

Students will acquire the basic skills needed to create web pages using a variety of programs. Participants will learn the basics of designing and creating a web site using the Hyper-Text Markup Language (HTML). Students will use Adobe programs such as Photoshop and DreamWeaver. This course will consist primarily of hands-on projects and interactive lessons/tutorials to enable students produce an assortment of websites.

VIDEO EDITING – (Accelerated & Academic) – Semester - Grades 10-12

This course focuses on maximizing the potential of multimedia as an effective communication and marketing tool through the audio visual design of content and its presentation in the area of business as well as a medium of creative expression. This course will use audio and video to produce hands-on marketing projects such as commercials and other electronic presentations. **Students will also be expected to participate as "actors" in marketing projects. Students will be expected to work in groups outside of the regular school day.**

ENGLISH

Department Goals:

1. Students will read a wide range of print and non-print texts (fiction and non-fiction, classic and contemporary) in order to build an understanding of texts; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment.
2. Students will read a wide range of literature from many periods in many genres to build an understanding of the philosophical, ethical and aesthetic dimensions of human experience.
3. Students will apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts.
4. Students will adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
5. Students will apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language, and genre to create, critique and discuss print and non-print texts.
6. Students will conduct research on issues and interests by generating ideas and questions, and by posing problems. They will gather, evaluate and synthesize data from a variety of sources (e.g., print and non-print texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.
7. Students will use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.
8. Students will develop an understanding of and respect for diversity in language use, patterns, and dialects across cultures, ethnic groups, geographic regions and social roles.

All students enrolled in any of the following English classes will be assessed on Student Learning Expectation #2: Write effectively.

ENGLISH 9 - (Academic)

This is a college preparatory class that offers the student sequenced instruction in vocabulary study, grammar review, composition and literary analysis. Attention is given to the formal study of grammar, to close reading of a variety of literary texts, to vocabulary study, and to instruction in the various forms of writing. Regular preparation for the ELA MCAS exam is also provided. The emphasis in the literature strand is on identifying and analyzing literary genres. There will be frequent writing assignments and regular practice in responding to open-

ended essay questions. Students in Grade 9 will begin to use the library's print and media resources as well as the internet and other electronic resources to gather information for papers, projects and presentations. Major texts may include: *Myths and their Meanings, The Odyssey, Romeo and Juliet, A Tale of Two Cities, Lord of the Flies* and others.

ENGLISH 9 - (Accelerated)

This course is intended for students who read extensively on their own and wish to follow an intense program of studies which will prepare them for AP courses in junior and/or senior year. Critical thinking, discussion, writing, and creativity are integral components of course work and are encouraged in the form of independent research, class projects, oral and written compositions, and writing groups. Formal grammar units are initiated when class-wide problems are detected. Word mastery is stressed with particular attention to verbal reasoning as well as learning words in context. The emphasis in the literature strand is on identifying and analyzing literary genres. Students will begin to use the library's print and media resources as well as the internet and other electronic resources to gather information for papers, projects and presentations. Major texts may include: *The Odyssey, Romeo and Juliet, Mythology*, and others.

ENGLISH 10 - (Academic)

This college preparatory course aims to develop fluency in oral and written expression by stressing vocabulary training, grammar drills, proofreading, theme writing, and literature appreciation through continued analysis of different literary genres. Regular review and focused preparation for the ELA MCAS exam will be emphasized. The focus in the composition strand is on writing and revising the five-paragraph essay in a variety of modes (persuasive, expository, literary). The emphasis in the literature strand is on identifying and analyzing literary themes through a survey of world literature. There will be frequent writing assignments as well as long-term projects and performances. Students will continue to develop their skills using various technologies and library resources in papers and projects. In addition to short story and poetry anthologies, major texts may include: *Julius Caesar, A Separate Peace, Things Fall Apart, To Kill a Mockingbird*, and others.

ENGLISH 10 - (Accelerated)

This course continues to prepare students for AP participation as juniors and seniors. Critical thinking, discussion, writing, and creativity are integral components of an accelerated course and are encouraged in the form of independent research, class projects, oral and written compositions and writing groups. Along with practice recognizing and appreciating the various literary genres, attention is paid to developing skills in verbal reasoning as well as learning words in context. Formal grammar units are initiated when class-wide problems are detected. The emphasis in the literature strand is on identifying and analyzing literary themes through a survey of world literature. Students will continue to use the library's print and media resources as well as the internet and other electronic resources to gather information for papers, projects and presentations. They will demonstrate an understanding of the proper format for attributing outside sources and accept personal responsibility for academic honesty when citing outside sources. In addition to short story and poetry anthologies, major texts may include: *Julius Caesar, Things Fall Apart, To Kill a Mockingbird, Slaughterhouse Five* and others.

ENGLISH 11- (Academic)

This course gives students a foundation in American Literature through a historical survey or thematic approach. Textbooks and readings are selected to broaden students' recognition of various writing styles, improve reading skills, and act as a link between American History and American Literature. There will be frequent writing assignments based on the literature that will require students to build thesis statements into coherent essays. Additionally, attention is given to formal vocabulary study with some preparation for standardized tests. Emphasis in the writing strand is on revising essays and writing research papers. Students will research and write a formal research paper on a topic of their choosing using the library's print and media resources as well as the internet and other electronic resources. They will demonstrate an understanding of the proper format for attributing outside sources and accept personal responsibility for academic honesty when citing outside sources. In addition to the American Literature anthology, supplementary texts may include: *Of Mice and Men*, *The Red Badge of Courage*, *Catcher in the Rye*, *The Great Gatsby*, *The Glass Menagerie*, *A Raisin in the Sun*, *The Crucible* and others.

ENGLISH 11 - (Accelerated)

This course gives qualified students the opportunity to study American Literature from a chronological or thematic approach. Significant demands are placed on students to do supplementary reading and writing. Further, students will practice writing sophisticated essays about the literature they read. Emphasis is placed on making writing exact and stylish as well as effective and logical. Vocabulary study will focus on verbal reasoning with some attention to preparation for standardized testing. Varied assessments will include: oral reports, performance assessments, portfolios, independent research, electronic investigations, as well as traditional quizzes and tests. Students will also research and write a formal research paper on a topic of their choosing using the library's print and media resources as well as the internet and other electronic resources. They will demonstrate an understanding of the proper format for attributing outside sources and accept personal responsibility for academic honesty when citing outside sources. In addition to the American Literature anthology, supplementary works may include: *The Great Gatsby*, *Catcher in the Rye*, *Death of a Salesman*, *Huckleberry Finn* and others.

AP LANGUAGE AND COMPOSITION (AP) - GRADE 11

AP Language is a rigorous course intended for students who enjoy a challenge. It is equivalent to an entry-level college writing course. Students will study a wide variety of prose models (with emphasis on prominent American writers) and practice the major types of expository writing: explanation, analysis, argument, narration, comparison/ contrast, definition, etc. Emphasis will be placed on developing critical thinking and analytical skills in both discussion and essays. Students should understand that this is an intensive reading and writing course with a focus on developing thesis statements into clear, cogent essays. Frequent independent reading and research may be required. Students must be self-motivated, success-oriented, and willing to commit time and energy to the more intense demands of this course. The course will prepare students for the AP exam.

ENGLISH 12 - (Academic)

This course surveys British literature as it developed in narrative, lyric, and dramatic form. Vocabulary growth, language skills, critical analysis, and mastery of the academic essay are emphasized. Frequent writing and analytical reading are practiced in order to assist students in

their preparation for further study. Emphasis in the literature strand is on a historical survey approach to British Literature. Special training in college vocabulary and verbal reasoning is also stressed. Students are required to produce a research paper showing their ability to use outside sources to develop a thesis into a coherent piece of writing. Along with the literature anthology, supplementary works may include: *Beowulf*, *Macbeth*, *Brave New World*, *Oedipus Rex*, *Dubliners*, *The Heart of Darkness* and others.

ENGLISH 12 - (Accelerated)

This course is limited to highly qualified students. It gives students the opportunity to develop an appreciation of British Literature based on an intensive, chronological historical survey approach. Emphasis is placed on mastery in the art of reading, writing, speaking, and critically thinking. Students' essays are based on the literature they read. Further, they are expected to develop clear and coherent essays in which they argue their points of view. Special training in college vocabulary and verbal reasoning is also stressed. In addition, students are required to produce a term paper showing their ability to use outside sources to develop a thesis into an original piece of literary analysis. Along with the literature anthology, supplementary readings may include: *The Canterbury Tales*, *Wuthering Heights*, *Macbeth*, *Animal Farm*, *The Heart of Darkness*, and others.

AP LITERATURE AND COMPOSITION – (AP) GRADE 12

AP Literature is a rigorous course intended for students who enjoy a challenge. It is designed to be a college-level course. As such, it focuses on analyzing prose and poetry from the classics to the contemporary. In addition, students will read a wide variety of literature (novels, plays, short stories). The approach is thematic. Students will focus on developing critical thinking and analytical skills in both class discussions and essays. Students should understand this is a literature and writing course with a focus on developing thesis statements into clear, cogent essays. Students must be self-motivated, success-oriented, and willing to commit time and energy to the more intensive demands of the AP program. Texts may include: *Sound and Sense* as well as works by Shakespeare, Sophocles, Ibsen, Kate Chopin, Emily and Charlotte Bronte, Jane Austen, James Joyce, and others.

CONVERSATIONAL & ACADEMIC ENGLISH FOR ENGLISH LANGUAGE LEARNERS – (Unleveled)

This course is designed to help ELL's understand more of the English that they hear in the various situations they encounter in school and in the community. It is intended for students who have not yet achieved full fluency in English based on their performance on WIDA ACCESS. In this course, students will practice speaking clearly so that others can understand them and so that they will quickly acclimate to a new culture and environment. In a small and supportive environment, they will eventually develop speaking and listening skills that approach those of mainstream learners. Beginning levels will work with conversational English while Intermediate levels will work with advanced conversation skills and academic English. Students will also be introduced to the basic structures of the English language through the skills of reading, writing, speaking, and listening. Students will also learn reading strategies in order to advance their reading skills. Students will expand oral comprehension and write complete sentences, standard paragraphs, and short content-based essays. They will utilize the conventions of grammar and punctuation with a minimum of errors.

ELECTIVES:

JOURNALISM - (Accelerated & Academic) – Grade 10-12

This course will expose students to the broad field of journalism and present a history of journalism in the United States. Coursework will allow students to define who they are as journalists. Furthermore, students will explore how journalists cover the facts, shy away from the dangers of today's "fake news," and work to maintain credibility and integrity as speakers and writers. Careers in print, broadcast, and photo journalism will be explored through frequent interaction with newspapers, film, and guest speakers. Students should expect to read and analyze newspapers on a fairly regular basis. Article writing using the inverted pyramid structure will be the primary writing focus in the course. Students will have the opportunity to publish their work in the school produced student newspaper.

CREATIVE WRITING - (Accelerated & Academic) – Grades 10-12

This course is designed to encourage the exercise of imagination in written expression through the search for personal style and voice. Students will practice a variety of forms and approaches including: developing characters, observing details, writing detailed descriptions of both setting and action, and developing a logical plot. They will practice writing dialogue and explore the use of a wide variety of literary devices. Special projects are also developed either by individuals or in small groups. Feedback in the form of peer and teacher evaluations is frequent. Students will set specific goals for each term and will be assessed on individual effort and progress towards achieving those goals. Students will also keep a portfolio of material written for the class. At the end of each term, students will be asked to select at least one piece from their portfolio to prepare for publication in a class booklet.

PERFORMANCE AND THEATER I - (Academic) - Grades 10-12

This course is an introduction to the many aspects of drama and theater. Students will begin the course with a brief introduction to public speaking. Students will engage with a series of assignments to enhance their ability to orally present information to an audience. The course then shifts to explore acting, writing, directing, and production. Students will take part in improvisational activities as well as learn more formal methods of acting. In addition, students will write original one-act plays, short movie scripts, and play and film reviews. Finally, students will have the opportunity to write, produce, direct, and act in their own one-act plays. Performance and Theater II continues the curriculum of the first course with added, in-depth focus on acting techniques, play and screen writing, and play production.

INTRODUCTION TO COLLEGE WRITING- (Accelerated & Academic) - Grades 11& 12

This course is open to any student who wants to prepare for the rigor of college writing at a two or four year college. The course will cover many forms of writing, including expository, persuasive, and analytic essays, as well as writing business letters and resumes. The focus of the course is at the discretion of the teacher. For example, one writing class may spend the year focused on the short story, while another may be focused on the media. Although the focus is different, each course will cover the same forms of writing. Emphasis will be placed on the writing process, with individual writing conferences, as well as peer editing, as the focal point of revision.

WORLD LANGUAGE

Department Goals:

1. Students will apply a wide range of strategies to comprehend, interpret, evaluate and appreciate text in the target language appropriate to their level.
2. Students will learn to communicate using a balance of reading, writing, speaking and listening.
3. Students will learn and apply knowledge of language structure & language conventions (e.g., spelling, word order, punctuation and pronunciation).
4. Students will use a variety of technological and information resources (e.g., libraries, databases, computer networks, and video available in the language laboratory) to gather and synthesize information in order to improve all forms of communication.
5. Students will develop a respect for diversity in language use, patterns, and dialects across cultures, ethnic groups, geographic regions and social roles.

All students enrolled in the following Foreign Language classes will be assessed on Student Learning Expectation #3: Communicate effectively.

FRENCH I – (Academic) Grade 9

This course introduces students to the study of the French language and helps them develop a basic competency in all four language skills: listening, speaking, reading and writing. Students will be expected to commit to memory essential grammatical structures and vocabulary. An important aim of the course is to make students aware of some basic cultural, historical, and traditional aspects of French and French-speaking countries.

SPANISH I – (Academic) Grade 9

This course introduces students to the study of the Spanish language and helps them develop a basic competency in all four language skills: listening, speaking, reading and writing. Students are expected to commit to memory essential grammatical structures and vocabulary. An important aim of the course is to make students aware of some basic cultural, historical, and traditional aspects of the many Spanish-speaking countries. In addition, through film, documentaries, class discussions and independent research, students will explore all aspects of the global immigration crisis.

FRENCH II - (Academic)

This course continues the work of French I, insuring that students acquire a basic competency in all four language skills. Progressive proficiency in understanding, speaking, reading, and writing is stressed. Students are expected to commit to memory essential grammatical structures and vocabulary. There is a strong emphasis on composition and student presentations in the target language, which is used to the greatest possible extent in class.

FRENCH II - (Accelerated)

This course continues the work of French I, insuring that students acquire a basic competency in all four language skills. Progressive proficiency in understanding, speaking, reading, and writing is stressed. Students are expected to memorize essential grammatical structures and vocabulary. Written composition and student presentations in the target language are frequent. As far as possible, the course is conducted in French with occasional explanations in English when needed.

FRENCH III - (Academic)

In this course the student is expected to complete the acquisition of the four language skills. More advanced language structures are presented and mastered. Oral proficiency is stressed and increased emphasis is placed on reading skills and written expression. As far as possible, the course is conducted in French with occasional explanations in English when needed.

FRENCH III - (Accelerated)

In this course the student is expected to complete the acquisition of the four language skills. More advanced language structures are presented and mastered. Oral proficiency is essential and increased emphasis is placed on reading skills and written expression. As far as possible, the course is conducted in French with occasional explanations in English when needed.

FRENCH IV - (Accelerated and Academic)

This course continues the acquisition and mastery of the four language skills. Grammatical structures and verb tenses are reviewed for mastery. Short stories, plays, poetry and a novel are read. Students are expected to provide oral and written analysis of these works in French. French films are viewed and analyzed, and a major project such as a French newspaper or original play is produced by the class. As far as possible, the course is conducted in French with occasional explanations in English when needed.

SPANISH II - (Academic)

This course continues the work of Spanish I, insuring that students acquire a basic competency in all four language skills. Progressive proficiency in understanding, speaking, reading, and writing is stressed. Students are expected to memorize essential grammatical structures and vocabulary. Written composition and student presentations in the target language are introduced. As far as possible the course is conducted in Spanish with frequent explanations in English. In addition, through film, documentaries, class discussions and independent research, students will explore all aspects of the global immigration crisis.

SPANISH II - (Accelerated)

This course continues the work of Spanish I, insuring that students acquire a basic competency in all four language skills. Progressive proficiency in understanding, speaking, reading, and writing is stressed. Students are expected to commit to memory essential grammatical structures and vocabulary. There is strong emphasis on composition and communication in the target language, which is used to the greatest possible extent in class. In addition, through film, documentaries, class discussions and independent research, students will explore all aspects of the global immigration crisis.

SPANISH III - (Academic)

In this course the student is expected to complete the acquisition of the four language skills. More advanced language structures are presented and mastered. Oral proficiency is stressed and increased emphasis is placed on reading skills and written expression. As far as possible the course is conducted in Spanish with frequent explanations and translations in English. In addition, through film, documentaries, class discussions and independent research, students will explore all aspects of the global immigration crisis.

SPANISH III - (Accelerated)

In this course the student is expected to complete the acquisition of the four language skills. More advanced language structures are presented and mastered. Oral proficiency is essential and increased emphasis is placed on reading skills and written expression. The class is conducted almost entirely in Spanish. In addition, through film, documentaries, class discussions and independent research, students will explore all aspects of the global immigration crisis.

SPANISH IV - (Academic)

This course is designed to carry students further in their development of the four language skills. Insight into the Hispanic culture is deepened through exposure to the works of writers of the Spanish-speaking world. Students are expected to provide oral and written analysis of these works. The development of oral proficiency is emphasized. As far as possible the class is conducted in Spanish with explanations and translations in English when needed. In addition, through film, documentaries, class discussions and independent research, students will explore all aspects of the global immigration crisis.

SPANISH IV - (Accelerated)

This course is designed to carry students further in their development of the four language skills. Insight into the Hispanic culture is deepened through exposure to the works of writers of the Spanish-speaking world. Students are expected to provide oral and written analysis of these works. The development of oral proficiency is essential. The class is conducted almost entirely in Spanish. In addition, through film, documentaries, class discussions and independent research, students will explore all aspects of the global immigration crisis.

MATHEMATICS

Department Goals:

1. Students will achieve mathematical competency through a variety of methods for problem solving.
2. Students will express mathematical ideas coherently.
3. Students will develop reasoning skills by making connections and using various types of representations.
4. Students will make sense of real word data, perform operations with numbers, articulate and justify solutions to problems.

All students enrolled in any of the following Mathematics classes will be assessed on Student Learning Expectation #5: Use independent and critical thinking skills to identify and solve problems.

The Mathematics Department would like to offer students in **Accelerated** Algebra I who have earned their teacher's recommendation and a final grade of 90% or better, an opportunity to double up the following year in **Accelerated Geometry and Accelerated Algebra II**. This is intended to give these students the opportunity to eventually take Calculus (Accelerated or AP). This opportunity is not intended for students earning an A or greater who repeated Algebra I or who received the "A" in summer school or some other remedial program.

GRADE 9 ALGEBRA/GEOMETRY – (Accelerated)

This accelerated course is designed for grade 9 students that have taken Accelerated math in grade 8 and have successfully passed the placement exam and/or received their teacher's recommendation. This course will integrate both Algebra I and Geometry topics with a heavy emphasis on coordinate geometry. Algebra topics that will be covered are a continuation of grade 8 Accelerated math and include linear equations, linear systems, quadratic equations, and factoring. Geometry topics include, but are not limited to, planar geometry, angle relationships, congruent triangles, quadrilaterals, similar polygons, circles, constructions, area of polygons, surface area and volume of 3-D figures, extensive work with two-column, flow, paragraph and indirect proofs, transformation of figures, and history of mathematics. The use of applicable software will assist students with Algebra concepts, vocabulary, and concepts of Geometry along with properties and characteristics of the plane figures.

ALGEBRA I - (Accelerated)

This accelerated course completes the Algebra I course started in grade 8. Topics include, but are not limited to, linear equations, exponents and powers, quadratic equations and square roots, polynomials, linear systems, factoring and functions. Symbolic representation of abstract ideas is a key element. Application of concepts in real life situation will be discusses.

ALGEBRA I – (Academic)

This is a course in modern Algebra. Its emphasis is learning and reinforcing algebraic skills and operations necessary for successful problem solving and subsequent math courses. Topics covered include simplifying expressions, computation, solving equations, inequalities, systems of equations, solving quadratic equations, operations on polynomials, properties of exponents, and probability. Mathematical modeling and integration of calculators are often utilized during the course.

GRADE 10 GEOMETRY/ALGEBRA II - (Accelerated)

This is an intensive course, which is a continuation of the concepts begun in Algebra I/Geometry (Accelerated) with additional topics in trigonometry; quadratic functions and relations; operations of quadratic and polynomial functions; systems of linear equations and inequalities (in two or more variables); rational expressions and equations; complex numbers; equations of circles; polynomial functions and exponential functions. The properties of linear, quadratic, polynomial and rational functions are studied in depth and challenging problems are used to reinforce concepts. Mathematical applications to read world situations are studied when applicable. It is recommended students have graphing calculators for this course. In some cases with specific concepts, students will not be permitted to use their graphing calculators.

GEOMETRY – (Accelerated)

It includes plane and analytical geometry with emphasis on logical reasoning, coordinate geometry and the development of mathematical systems involving the study of angle relationships, perpendicular and parallel lines and planes, congruent triangles, quadrilaterals, similar polygons, circles, constructions, area of polygons, lateral area, surface area, volume of three-dimensional figures, extensive work with proofs including 2-column proofs, flow chart proofs, paragraph proofs and indirect proofs, and right triangle trigonometry. Analytical relationships will be established, as topics from algebra and discrete mathematics are integrated, using transformations of points and figures on the Cartesian Coordinate system. The use of applicable software will assist students in learning the vocabulary and the concepts of geometry along with the properties and characteristics of the plane figures. A brief study of the history of mathematics, famous mathematicians and their contributions to the development of geometry over the centuries will be included in this course

GEOMETRY – (Academic)

This course is for sophomore students who have passed Algebra I (Academic). It includes plane and analytical geometry with emphasis on logical reasoning, coordinate geometry and the development of a mathematical system involving the study of angle relationships, perpendicular and parallel lines and planes, congruent triangles, quadrilaterals, similar polygons, circles, constructions, lateral area, surface area, volume of three-dimensional figures, proofs, and right triangle trigonometry. Analytical relationships will be established, as topics from algebra and discrete mathematics will be integrated, using transformations of points and figures on the Cartesian Coordinate system.

ALGEBRA II – (Accelerated)

This is an intensive course, which extends and develops the topics in Algebra I (Accelerated) with additional topics in quadratic relations and systems, exponential functions, logarithms, complex numbers, and trigonometry. The properties of linear, quadratic, polynomial and rational functions are studied in depth and challenging problems are used to reinforce

concepts. Mathematical applications to real world situations are studied when applicable. It is recommended students have graphing calculators for this course. In some cases with specific concepts, students will not be permitted to use their graphing calculators.

ALGEBRA II – (Academic)

This course extends and develops topics from Algebra I and also covers such concepts as matrices, higher order polynomials, transcendental functions, rational functions and trigonometry. A scientific calculator is required for this course.

ALGEBRA II PART A – (Academic)

This course is offered to those students who have completed Algebra I and Geometry at the academic level. It is a course which extends and develops topics from Algebra I. Topics to be covered include, but are not limited to, systems of equations, quadratic equations, and higher order polynomials. Students are expected to complete the Algebra II course by enrolling in Algebra II Part B the following year. Pre-requisite for this course is teacher or administrator recommendation.

ALGEBRA II Part B – (Academic)

This course is offered to those students who have completed Algebra II Part A. It is a course which extends and develops topics from Algebra I. Topics to be covered include, but are not limited to: higher order polynomials, trigonometry, matrices and statistics. Prerequisite for this course is Algebra II Part A and teacher recommendation.

PRE-CALCULUS – (Accelerated)

This course is offered to students who have successfully completed Algebra II (accelerated) with a final grade of B+ (87%) or better. This course further develops concepts begun in Algebra II. Topics included are polynomial, exponential, and trigonometric functions, quadratic relations, two dimensional vector analyses, and an introduction to limits. Strong emphasis is on graphing and mathematical modeling. The rigor of this course is designed to prepare students to take Calculus in their senior year. Graphing calculator are strongly recommended for this course (TI 83/84 is the department's recommendation).

PRE-CALCULUS – (Academic)

This course is offered to students who have successfully completed Algebra II (academic) with a final grade of B+ (87%) or better. This course further develops concepts begun in Algebra II. Topics included are polynomial, exponential, and trigonometric functions, and statistical analysis. There is a strong emphasis is on graphing and mathematical modeling. A graphing calculator is strongly recommended.

TRIGONOMETRY - (Accelerated) – 11th & 12th

This course is for junior or senior students who would like to learn the fundamentals of trigonometry at greater depth. The course begins with an introduction to the six trigonometric functions with emphasis on the relation to the unit circle, circular functions, and the rectangular coordinate plane. The course continues with applications of trigonometry including right triangle trig., radian measure, and the graphs of the trig functions. The course then introduces the fundamental identities and applies them to solving trigonometric equations. The trigonometry is then expanded to oblique triangles as the law of sines, law of cosines and vectors are covered. The course concludes with complex numbers, polar equations, and parametric equations.

TRIGONOMETRY – (Academic) – 11th & 12th

This course offers students who completed Algebra II (or are taking it concurrently, or have the teacher's recommendation) with an in depth study of trigonometry topics. The course covers trigonometric functions, acute angles and right triangles, radian measure, circular functions and their graphs, trigonometric identities, applications of trigonometry, oblique triangles and vectors.

SELECTED TOPICS IN MATHEMATICS – (Accelerated & Academic) – 12th Grade

This course is designed for senior students who have successfully completed Algebra II (or are taking it concurrently, or have the teacher's recommendation) and who would like to further their understanding of various topics in mathematics. The course includes such topics as problem solving strategies, set theory, logic, mathematical number systems and history of math, representations of relations, graphs and trees, number theory, probability and statistics. A scientific calculator is recommended for this course.

AP CALCULUS AB - (AP) – 12th Grade

This course covers derivatives and anti-derivatives. The included are from the approved Advanced Placement Course of Study. Students must have their own TI 84/84 Plus graphing calculators. The use of graphing calculators is now required on the AP Exam. The AP Calculus AB Exam may be used to determine college placement and/or credit and all students are expected to take the exam in May.

AP CALCULUS BC - (AP) – 12th Grade

This course covers derivatives, anti-derivatives, and analysis of sequences and series. The included are from the approved Advanced Placement Course of Study. Students must have their own TI 84/84 Plus graphing calculators. The use of graphing calculators is now required on the AP Exam. The AP Calculus BC Exam may be used to determine college placement and/or credit and all students are expected to take the exam in May.

CALCULUS – (Accelerated) – 12th Grade

This course begins with an in depth study of limits and continuity. The course then covers topics such as differentiation, concavity, points of inflections and extrema both relative and absolute. The course provides real-life applications of differentiation as related rates and optimization (or maximum and minimum) problems are studied. There is a connection to Physics as the course covers the position function and its relationship to velocity and acceleration. This is followed by topics involving both the definite and the indefinite integral. Applications of the integral will be used in finding the area under and between curves. Applications of integration are studied using the logarithmic and natural logarithmic functions and exponential functions. The prerequisite for this course is a grade of C+ (77%) or better in Pre-Calculus (academic or accelerated).

AP STATISTICS – (Advanced Placement) – 11th & 12th grade

Statistics acquaints students with the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students will frequently work on projects involving the hands-on gathering and analysis of real world data. Ideas and computations presented in this course have immediate links and connections with actual events. All students are expected to take the Advanced Placement Statistics Exam in May. This exam may be used to determine college placement/credit. Graphing calculators will be required for this course (TI 83/84 required).

STATISTICS – (Accelerated) – 11th & 12th Grade

Statistics will cover descriptive statistics and graphical representations at a conceptual level. The major areas to be covered include, but are not limited to describing data with graphs, interpreting graphs, describing distributions with numbers, measuring central tendencies and dispersion, the normal distribution, scatter plots, correlations, regression and tests for significance. All of the areas of study will be motivated by interactive activities which include both verbal and mathematics components. The use of a computer and/or a graphing calculator will be an integral part of this course. A TI 83/84 graphing calculator is required.

STATISTICS – (Academic) – 12th Grade

This course is for senior students and will cover the following topics: numerical and graphical descriptions of data, sampling and surveying methodology, design and analysis of experiments, theoretical and empirical probability, and other statistics in real world areas.

MUSIC GOALS

1. Students will sing, alone and with others, a varied repertoire of music.
2. Students will read music written in standard notation.
3. Students will play instruments, alone and with others, to perform a varied repertoire of music.
4. Students will improvise, compose, and arrange music.
5. Students will describe and analyze their own music and the music of others using appropriate music vocabulary. When appropriate, students will connect their analysis to interpretation and evaluation.
6. Students will describe the purposes for which works of dance, music, theatre, visual arts, and architecture were and are created, and, when appropriate, interpret their meanings.
7. Students will describe the roles of artists, patrons, cultural organizations, and arts institutions in societies of the past and present.
8. Students will demonstrate their understanding of styles, stylistic influence, and stylistic change by identifying when and where art works were created, and by analyzing characteristic features of art works from various historical periods, cultures, and genres.
9. Students will describe and analyze how performing and visual artists use and have used materials, inventions, and technologies in their work.
10. Students will apply their knowledge of the arts to the study of English language arts, foreign languages, health, history and social science, mathematics, and science and technology/engineering.

All students enrolled in any of the following Music classes will be assessed on Student Learning Expectation #1: Read effectively.

MUSIC EXPLORATION – (Academic) – Grade 9 – Semester

Music Explorations is a half-year academic level music class for ninth graders interested in learning about a wide variety of music styles, instruments, disciplines. The class will cover units on jazz, rock, and hip hop, beginning guitar and drums, musical theater and opera, film and video game music, and will end with a survey of music business and careers. Students will get a chance to listen to and learn about their own music, as well as play instruments and explore music from a variety of styles and time periods.

CHAMBER SINGERS - (Accelerated) – Grades 10-12

Chamber Singers is an audition-only vocal ensemble for experienced, motivated singers. Evaluation and grades are based on performance participation and musical proficiency. This is a performance-based class and concert participation is mandatory. Auditions for this class will take place after school in the spring of the prior school year. This course may be repeated each year for credit, and students must re-audition each year. Upon successful completion of this course, students should be able to 1) effectively perform their part in rehearsal and concerts, 2) work cooperatively to create a balanced musical ensemble, 3) interpret and execute standard music notation through reading and writing, 4) acquire appropriate music skills related to vocal performance and apply these skills to concert repertoire, 5) demonstrate personal, social, and civic responsibility through school and community performances.

CONCERT CHOIR - (Academic & Accelerated) – Grades 9-12

Concert Choir is a full-year vocal ensemble. Evaluation and grades are based on performance participation and musical proficiency. This is a performance-based class and concert participation is mandatory. Appropriate concert attire consisting of a white shirt and black pants or skirt is required. This course may be repeated each year for credit. Upon successful completion of this course, students should be able to 1) effectively perform their part in rehearsal and concerts, 2) work cooperatively to create a balanced musical ensemble, 3) interpret and execute standard music notation through reading and writing, 4) acquire appropriate music skills related to vocal performance and apply these skills to concert repertoire, 5) demonstrate personal, social, and civic responsibility through school and community performances.

CONCERT BAND - (Academic & Accelerated) – Grades 9-12

Prerequisite: Proficiency in instrumental playing and reading music

Concert Band is a full-year instrumental ensemble. The band will provide students with an excellent opportunity for musical expression in a variety of surroundings. The band performs at school events, community events, and seasonal concerts. This is a performance-based class and participation at all events is mandatory. Appropriate concert attire consisting of a white shirt and black pants or skirt is required. Upon successful completion of this course, students should be able to 1) effectively perform their part in rehearsal and concerts, 2) work cooperatively to create a balanced musical ensemble, 3) interpret and execute standard music notation through reading and writing, 4) acquire appropriate music skills related to instrumental performance and apply these skills to concert repertoire, 5) demonstrate personal, social, and civic responsibility through school and community performances.

ENROLLMENT IN CONCERT CHOIR/BAND AT THE ACCELERATED LEVEL REQUIRES THE FOLLOWING: 1. Successful audition for the director. 2. Attendance at all rehearsals and performances. 3. Periodic playing/singing evaluations throughout the course of each semester. 4. Preparation and performance of a solo for mid-term and/or final examination, plus a written assessment. 5. Completion of assigned homework including practice and preparation of chamber music, ensemble music, and technical studies. 6. Participation in a small chamber group as assigned by the director. 7. Preparation and audition for SEMSBA and District music festivals is encouraged and recommended, although not mandatory. 8. Private instruction recommended, but not mandatory.

ENROLLMENT IN CONCERT CHOIR/BAND AT THE ACADEMIC LEVEL REQUIRES THE FOLLOWING: 1. Attendance at all rehearsals and performances. 2. Preparation and performance of a solo chosen from a list of acceptable selections for mid-term and/or final examination. 3. Completion of assigned homework including practice and preparation of choral music, ensemble music, and technical studies. 4. Preparation and audition for SEMSBA and District music festivals is encouraged and recommended, although not mandatory. 5. Private instruction is recommended, but not mandatory.

MUSIC THEORY - (Accelerated) – Grades 10-12

This course is intended for students who have a serious interest in music, and it is a necessity for students planning to pursue music in college and beyond. Students will develop an understanding of the fundamentals of music theory through analyzing, composing, playing, listening, and singing. Students will be given the opportunity to create and compose through the use of music software. This course may be repeated for credit. Upon successful completion of this course, students should be able to 1) communicate effectively with other musicians by demonstrating a working knowledge of traditional music theory and notation, 2) use music practices effectively to compose pieces, 3) analyze their own compositions and the works of other composers, 4) develop basic theory skills through effective work and study, 5) develop listening skills to identify intervals and chord qualities.

AP MUSIC THEORY - (Advanced Placement) – Grades 11 & 12

AP Music Theory corresponds to one or two semesters of a typical introductory college music theory course that covers topics such as musicianship, theory, musical materials, and procedures. Musicianship skills, including dictation and other listening skills, sight singing, and harmony, are an important part of the course. Through this course, students will develop the ability to recognize, understand, and describe basic materials and processes of tonal music that are heard or presented in a score. Development of aural skills is a primary objective. Performance is also part of the curriculum through the practice of sight singing. Students understand basic concepts and terminology by listening to and performing a wide variety of music. Notational skills, speed, and fluency with basic materials are also emphasized. Pre Requisite: Successful completion of Music Theory I and teacher's recommendation. Also, students should be able to read and write musical notation, and it is strongly recommended that the student has acquired at least basic performance skills in voice or on an instrument.

WELLNESS

Department Goals:

1. Students will familiarize themselves with the body systems and human anatomy through participation in team and individual sport and also fitness/wellness activities and instruction.
2. Students will develop competence and proficiency in motor skills in Team and individual sport and fitness/wellness activities.
3. Students will utilize their acquired knowledge of the components of fitness and exercise including strength training, cardiovascular exercise and flexibility in order to design and implement a personally developed physical fitness program.
4. Students will be able to apply safe practices, rules, procedures and sportsmanship etiquette while participating in team and individual sport and fitness/ wellness activities.
5. Students will enhance their health literacy by learning approaches for positive decision making as well as engaging in health conscious behaviors.

PHYSICAL EDUCATION – (Unleveled) – 9th & 10th Grade - Semester

Team/Individual Sports, Recreation and Lifetime Activities:

An instructional program designed to promote competence in a variety of sport and lifetime activities. Emphasis will be placed on skill development, rules and strategies. Students will learn in an environment that appreciates individual differences and good sportsmanship. Areas to be covered may include but are not limited to: football, hockey, tennis, basketball, badminton, volleyball, track and field, softball, golf, soccer, speedball and new games.

Fitness/Personal Development:

A wide range of activities will provide students with information in a way that may influence them to make sound decisions and take positive actions about their health. Students will explore methods of achieving fitness/wellness goals in order to establish their own personal plan for an active life style. Areas to be covered may include but are not limited to: aerobics, dance, power walking, weight training, yoga, pilates, self-defense, athletic conditioning, circuit training, and fitness testing.

HEALTH – (Unleveled) – 10th Grade - Semester

This course is designed to assist students in obtaining accurate information, developing lifelong positive attitudes and behaviors, and making wise decisions related to personal health. Areas within the course encompass environmental health, physical health and social/emotional health. Emphasis will be placed on learning appropriate communication skills which will include refusal skills and how to handle peer pressure. Course of study to be covered may include but is not limited to: human anatomy, fitness and exercise, injury prevention, nutrition, drugs and alcohol, bullying, conflict resolution, and human sexuality.

SCIENCE/TECHNOLOGY/ENGINEERING

Department Goals:

1. All students should have a comprehensive science/technology/engineering program based on a minimum of three full-year laboratory based science/technology/engineering courses. It is recommended that all students take Biology, Chemistry and Physics to develop a strong core in STE. Students are encouraged to investigate areas of science through the growing list of electives and to take advantage of the opportunity to participate in advanced study through advanced placement courses.
2. An effective science/technology/engineering program builds students' understanding of the fundamental concepts of each domain of science and the connections across these domains and to basic concepts in engineering and technology. Students understand that much of the scientific work that is done in the world draws on multiple disciplines.
3. Science/technology/engineering is integrally related to mathematics. Students understand that mathematics is an essential tool for scientists and engineers because it specifies in precise and abstract (general) terms many attributes of natural phenomena and manmade objects. Mathematics facilitates precise analysis and prediction.
4. Students are innately curious about the world and wonder how things work. An effective program in science/technology/engineering addresses students' prior knowledge and misconceptions.
5. Investigations introduce students to the nature of original research, increase students' understanding of scientific and technological concepts, promote skills development, and provide entry points for ALL learners. Investigation, experimentation, and problem solving are central to science/technology/engineering education.
6. Reading, writing and communication skills are necessary elements in learning and engaging in science/technology/engineering. Therefore, an effective science/technology/engineering program builds upon and develops student' literacy skills and knowledge.

All students enrolled in any of the following Science classes will be assessed on Student Learning Expectation #6: Use traditional and electronic resources to analyze, integrate and apply knowledge.

BIOLOGY - (Academic) – Grade 9

The basis of this course is an understanding of the basic unit of life (the cell) as it applies to all living things. This course includes, but is not limited to, discussions of the following topics: chemistry, ecology, evolution, genetics/heredity, anatomy & physiology and taxonomy. Each student will develop skills such as microscopy, critical thinking, group work and scientific writing.

BIOLOGY – (Accelerated) – Grade 9

A cellular and biochemical approach to life. Students will develop an understanding of biological concepts and terminology through active participation, use of technology and laboratory activities. Scientific literacy is the ultimate goal for the students. Students may take this course if recommended by their eighth grade science teacher.

AP BIOLOGY – (AP) Grades 11& 12

This course is designed to provide you with a solid introduction to biological principles. It is a college-level course. This course includes a significant laboratory component where students are required to demonstrate, both in technique and analysis, their thorough understanding of major course concepts. Students are required to register for a Biology Lab class which will meet two times per cycle. Integral to certain lab exercises is interdependent experiment design and data analysis.

CHEMISTRY - (Academic) Grades 10 – 12

This course provides a strong foundation of chemical principles for the college-bound student. Considerable time is spent on problem solving emphasizing the mole concept. Laboratory experiments are performed in association with class instruction.

CHEMISTRY - (Accelerated) Grades 10 – 12

This course offers the student a more rigorous study of chemical principles than the standard chemistry program. The laboratory experiments performed illustrate the various principles discussed. The mole concept is stressed throughout the course.

AP CHEMISTRY - (AP) Grades 11 – 12

Advanced Placement Chemistry is a 2nd year course in chemistry. The curriculum is based on the freshman chemistry course followed at any four-year college. Students will explore the major concepts of chemistry in depth with the ultimate goal of applying and understanding concepts of Chemistry at the college level. The laboratory will be a major component of the course. Students will be expected to do independent work in both theory and lab. Students are required to register for a Chemistry Lab class which will meet two times per cycle. All students must take the AP exam in the spring in order to potentially receive AP college credit.

ORGANIC CHEMISTRY – (Accelerated) - Grades 11 – 12

This course studies organic molecules, the carbon based molecules of life. Students will work extensively with the properties, structures, and reactions of these molecules while developing a strong understanding of the different classes of organic molecules. Significant time will be dedicated to laboratory experiments showing the interactions of various organic molecules as well as essential organic chemistry laboratory skills. This course will be valuable to any student interested in careers in biology, chemistry, medicine, and nursing as it will help prepare you for college level organic chemistry.

PHYSICS - (Academic) Grades 11 – 12

This course provides an analytic treatment of natural laws with a focus on physics concepts coupled with moderate use of mathematics. Students are expected to conduct research individually as well as in a group setting and will discover relationships between different quantities through a variety of methods such as demonstrations, labs, and group projects. Topics covered will include linear, rotational, and simple harmonic motion, force, energy, momentum, gravitation, sound, light electricity and magnetism.

PHYSICS - (Accelerated) Grades 11 – 12

This course provides an analytic treatment of natural laws with a focus on physics concepts coupled with moderate use of mathematics. Students are expected to conduct research individually as well as in a group setting and will discover relationships between different quantities through a variety of methods such as demonstrations, labs, and group projects. Topics covered will include linear, rotational, and simple harmonic motion, force, energy, momentum, gravitation, sound, light electricity and magnetism.

PHYSICS - (AP-Mechanics C) - Grade 12

Advanced Placement Physics is a 2nd year course in physics. The curriculum is based on the introductory Mechanics course followed at any four-year college. Students will explore calculus based mechanics in depth with the ultimate goal of using Calculus in an applied science setting. Students are expected to take the Mechanics C Advanced placement exam when taking this course. The laboratory will be a major component of the course. Students will be expected to do independent work in both theory and lab.

ANATOMY & PHYSIOLOGY - (Academic) Grades 11 – 12

This course will provide an overview of the systems of the human body, including the structures (anatomy) and functions (physiology) of the organs in those systems. Students will be exposed to hands-on activities, laboratory simulation, and dissections. The focus of this course will be on —form vs. function and the development of our body systems from an evolutionary viewpoint. The interaction of all body systems to maintain homeostasis will be a core theme. The course is recommended for students who wish to better understand their own bodies.

ANATOMY & PHYSIOLOGY - (Accelerated) Grades 11 – 12

This course is designed to give an intensive examination of the development (Embryology), structure (Anatomy) and function (Physiology) of the human body. Students will develop a working knowledge of anatomy and physiology that is based on conceptual understanding, medical terminology and clinical applications to broaden their knowledge beyond the core biological principals. The level and depth of this course will challenge those students who wish to pursue a career in the medical or research fields.

TECHNOLOGY/ENGINEERING - (Academic) Grades 11 & 12

Technology/Engineering involves practical problem solving, research, development and invention and requires students to design, build, test and evaluate quality systems and products that meet human needs. Focus in this course is on the implementation and understanding of the engineering design process. Students will be challenged to develop creative solutions to a number of engineering problems through prototypes/model building activities in our Technology Lab. A variety of engineering occupations will be explored throughout the course. The use of simple hand tools and machines will be a fundamental component of the course.

This course is one of two courses offered that will provide students preparation to succeed in the Technology/Engineering portion of the MCAS exam.

TECHNOLOGY/ ENGINEERING II - (Academic) Grades 12

This course gives qualified students a more advanced and in-depth study in practical problem solving, research, development, and invention and requires students to design, build, test, and evaluate quality systems and products that meet human needs. Topics covered, but not limited to include robotics, hydraulics, pneumatics, electro-pneumatics and biology -related fields. Focus in this course is on the implementation and understanding of the engineering design process. Students will be challenged to develop creative solutions to a number of engineering problems through prototypes/model building activities and professional training labs. A variety of engineering occupations will be explored throughout the course. The safe and proper use of simple hand tools and machines will be a fundamental component to this course.

PRE-ENGINEERING I - (Academic) Grades 9 – 12

Pre-Engineering I involves the implementation of STEAM (Science, Technology, Engineering, Art, and Math) topics to problem solve by designing systems and products that meet human needs. Students will design solutions to a series of real-world engineering problems, using 3D design software (CAD). A variety of software applications including Google Apps and Microsoft Office will be used throughout the course. A continuous focus of the course will be the Design Process as described in the Massachusetts State frameworks for Science and Engineering Grades 9 – 12.

PRE-ENGINEERING I - (Accelerated) – Grades 9 – 12

Pre-Engineering I involves the implementation of STEAM (Science, Technology, Engineering, Art, and Math) topics to problem solve by designing systems and products that meet human needs. Students will design solutions to a series of real-world engineering problems, using 3D design software (CAD). A variety of software applications including Google Apps and Microsoft Office will be used throughout the course. A continuous focus of the course will be the Design Process as described in the Massachusetts State frameworks for Science and Engineering Grades 9 – 12. Students will be required to present selected completed projects using a variety of digital media.

PRE-ENGINEERING II – (Accelerated) Grades 10 – 12

This course offers students an opportunity to experience —real world engineering situations and build on the skills learned in Pre-Engineering I. Students will solve engineering problems using advanced CAD techniques while completing a series of hands-on projects. A continuous focus of the course will be the Design Process as described in the Massachusetts State frameworks for Science and Engineering Grades 9 – 12. Specific topics include: Advanced engineering design, Energy and Power Technology, and basic residential and commercial architecture.

PRE-ENGINEERING III – (Accelerated) Grades 11 - 12

This course offers students an opportunity to experience real-world engineering situations and build on the skills learned in Pre-Engineering II. Students will be required to identify a problem in their local community that has an engineering solution and make a proposal for solving that problem. Students will use 3D design software (CAD) and a variety of other resources for problem solving. An electronic portfolio created by the student will be used for assessment.

ASTRONOMY – (Academic) – Grades 11 & 12 - SEMESTER

This course focuses on the processes operating in the universe. Topics include charting and observing the night sky, celestial mechanics, radiation and spectroscopy, stellar evolution, neutron stars and black holes. The research behind Galaxies and quasars, planetary interiors, surfaces and atmospheres, and theories of the origin and evolution of the solar system and the universe.

ASTRONOMY – (Accelerated) – Grades 11 & 12 - SEMESTER

This course focuses on the physics behind the processes operating in the universe. Topics include charting and observing the night sky, celestial mechanics, radiation and spectroscopy, stellar evolution, neutron stars and black holes. The research and physics behind Galaxies and quasars, planetary interiors, surfaces and atmospheres, and theories of the origin and evolution of the solar system and the universe will be discussed.

FORENSIC SCIENCE – (Accelerated & Academic) – Grades 11 & 12 – SEMESTER

This class will be an introductory course that focuses on practices and analysis of physical evidence found at crime scenes. Accelerated students will be responsible for detailed Chemistry principles in fingerprint powders, DNA and hair analysis, an additional outside research project focusing on different applications, blood spatter and splatter, and crime scene analysis.

MARINE BIOLOGY – (Accelerated) Grades 10-12

This course is designed to provide an intensive investigation between the physical, chemical, and biological aspect of aquatic habitats. Students will investigate the role of technology used to study the world's oceans and analyze the impact of human society on the marine environment. Students will perform an in depth laboratory examination of aquatic organisms of each major taxonomic group. Students will be responsible for designing and carrying out laboratory investigations and independent research projects.

MARINE BIOLOGY – (Academic) Grades 10 - 12

This course is designed to foster an appreciation of marine and freshwater environments. Discussions of the nonliving (physical and chemical) and living (biological) aspects of each environment will be included. In depth laboratory examination of the microbiological organisms, Plant and Animal Kingdoms will be highlighted. Relevant current critical issues will be explored.

EARTH SCIENCE – (Accelerated & Academic) - Grades 10 – 12

This course offers an in-depth understanding of Earth system history and the process of determining the age of rocks, fossils and the universe. Students will explore the causes and implications of earth system phenomena, to include seismic activity, the study of volcanoes, mountain building, plate boundary movement, mineralogy and petrology. Students will also study Earth's oceans, lakes and river systems as well as the atmosphere, weather and climate systems.

ZOOLOGY – (Accelerated & Academic) – Semester - Grades 10 – 12

This course is a one semester course that focuses on the study the animal kingdom. Topics will include comparative anatomy and physiology, classification and taxonomic relationships, animal behavior, and ecological role. Special attention will be given to natural selection,

evolution of species, and adaptation. Laboratory exercises include microscope observations and dissections to reinforce topics discussed in lecture.

BIOTECHNOLOGY – (Academic) – Grade 9

A full year course that is an introduction to the world of Biotechnology. Students will be introduced to the four major fields in Biotechnology: biochemistry, cell biology, energy, health and agriculture. Students will learn through the use of laboratory techniques, multimedia, and hands-on projects. Development and presentation of a project is required.

TOPICS IN BIOLOGY & CHEMISTRY – (Academic) – Grades 10-12

Students will engage in laboratory activities designed to improve their understanding of essential biology concepts. Focus areas may include molecular and cellular biology, evolution, ecology, human physiology, genetics and biotechnology. MCAS Biology test questions and strategies will be practiced. Students then will engage in laboratory activities designed to improve their understanding of essential chemistry concepts. Focus area may include nuclear chemistry, organic chemistry, electron configurations, energy and matter, the mole, thermodynamics and stoichiometry.

Pre Req: Successful completion of Biology course, Biology MCAS score of W or teacher's recommendation.

HISTORY

Department Goals:

1. Our history and social studies courses are designed to prepare students to live in a modern global economy and cope with the complexities of life in the 21st century.
2. By understanding historical events, students will gain an understanding of the forces that guide our world.
3. Students will understand how varied government systems operate and will critically examine what each offers to its citizenry.
4. Students will understand how the issues of one time period can impact the experiences and decisions of subsequent generations.
5. Students will learn how re-evaluations of the past continue to shape the way historians see the world.

All students enrolled in any of the following History classes will be assessed on Student Learning Expectation #1: Read effectively.

MODERN WORLD HISTORY – (Accelerated) - Grade 9

This course is a challenging and intensive examination of turning points in world history since 1350 AD. It requires that students have the requisite skills and motivation to succeed at this level. This course makes extensive use of primary source materials as both instructional and assessment tools. It is expected that students entering this accelerated course have advanced skills in reading comprehension and written expression.

MODERN WORLD HISTORY – (Academic) - Grade 9

Through the utilization of primary and secondary source materials, and from a multicultural and interdisciplinary perspective, students in this college preparatory course will enhance their note taking, independent research, analytic, geographic, and cooperative learning skills. Modern World History emphasizes epochal revolutionary and evolutionary turning points that have shaped both Western and non-Western civilization since 1350 AD.

U.S. HISTORY I – (Accelerated) - Grade 10

U.S. History I is the first course in a two-year sequence of American history. This course is for students ready to be challenged by extensive reading and analysis of historical events and primary sources. Through class discussion and written work, students will strengthen their critical thinking and analytic skills. Successful completion of this course, in conjunction with other determining factors, may indicate a readiness for Advanced Placement U.S. History in the junior year.

U.S. HISTORY I – (Academic) - Grade 10

U.S. History I is the first course in a two-year sequence of American history. This course is college preparatory and demanding. Reading and research objectives are commensurate with grade level expectations. Class activities are designed to increase students' knowledge while connecting them to their American heritage.

AP U.S. HISTORY – (Advanced Placement) - Grade 11

This course will examine the economic, political, cultural, and social factors that have transformed the United States from its colonial roots to the present day. Students will analyze and assess the significance of historical events, issues, and experiences which led to the development of modern America. This reading and writing-intensive course will include a summer assignment. The class will culminate with students taking the Advanced Placement (AP) exam in the spring. A passing score may earn credit at many colleges and universities.

U.S. HISTORY II – (Accelerated) - Grade 11

U.S. History II is the second course in a two-year sequence of American history. This course is for students ready to be challenged by extensive reading and analysis of historical events and primary sources. Through class discussion and written work, students will strengthen their critical thinking and analytic skills.

U.S. HISTORY II – (Academic) - Grade 11

U.S. History II is the second course in a two-year sequence of American history. This course is college preparatory and demanding. Reading and research objectives are commensurate with grade level expectations. Class activities are designed to increase students' knowledge while connecting them to their American heritage.

FULL YEAR ELECTIVE COURSES

SOCIOLOGY – (Academic & Accelerated) - Grades 11 & 12

In this course students will learn concepts that help them understand how people interact with each other. It consists of a study of what makes up the individual person in society, how that person affects society, and what effect society has on the individual. The broad-based objective of Sociology is to have students better understand themselves, other people and the problems they face. Building on these concepts, students will look at different issues in society from a sociological perspective. Among the issues studied and discussed are personality types (Enneagram), family, marriage, divorce, sexuality and harassment, relationships, and gender roles.

PSYCHOLOGY – (Academic & Accelerated) - Grades 11 & 12

The first half of this course will emphasize the use of the scientific method to understand human behavior and mental processes. The course will explore human sensation and perception and analyze how humans navigate and understand the world around them. Students will participate in various experiments that test the limits of memory and demonstrate how humans and animals learn. A focus on social psychology will help students understand the difference in how people think and behave alone, as compared to in group settings. The second half of the course will focus on normal and abnormal human development, from childhood to the creation of an individual's personality and identity. Other topics may include: sleep and the interpretation of dreams, psychoactive drugs and addiction, stress identification and reduction, or problem solving. The course culminates with the opportunity for students to research, design and conduct their own psychological experiments.

PSYCHOLOGY – (Advanced Placement) – 11th and 12th grade

The AP Psychology course is a college level course that is designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena

associated with each of the major subfields within psychology. They also learn about the ethics and methods psychologists use in their science and practice. Themes of the course include the debate over the influence of nature and nurture on behavior as well as the presence of psychological theories in everyday life. This is a reading intensive class that will include summer assignments. The class will culminate with students taking the Advanced Placement (AP) exam in the spring. A passing score may earn credit at many colleges and universities.

SEMESTER ELECTIVE COURSES

PRINCIPLES OF ECONOMICS – (Accelerated & Academic) – Semester - Grades 9-12
A general introduction to the subject matter and analytical tools of economics, this course provides an overview of economic issues and an understanding of the economic choices that individuals, businesses, and governments face. It also introduces the concept of scarcity and the working process of a market economic system. Additionally, this course examines the different market structures, the role of business and the impact of government intervention on markets.

CRIMINAL LAW – (Accelerated & Academic) – Semester - Grades 11 & 12
This course is designed to provide practical information and problem-solving opportunities that develop in students the knowledge and skills necessary for survival in our society. The curriculum includes case studies, mock-trials, role plays, small group exercises and visual analysis activities. This course draws upon the expertise of local attorneys and law enforcement officials. The goal of this course is to have students become more aware of their rights and responsibilities as adult citizens.

CATASTROPHES IN MODERN HIST. – (Accel. & Academic) – Semester - Grades 11 & 12
This course is an in-depth examination of many shocking, tragic, and lurid events that have altered the course of politics and history. Emphasis will be placed on the unique character of the U.S. Constitution and its ability to guide our nation through its most difficult times. Student work will include a variety of written and hands-on projects, as well as independent outside reading assignments.

CONTEMP. EVENTS & ISSUES – (Academic) – Semester - Grades 9-12
This course will focus on world, national, state, and local events and issues that impact modern life. The course will stress knowledge of these events and their impact, as well as critical thinking, investigation, examination, and analysis of the events and issues. The treatment of these events and issues by various media outlets will also be examined. Course content varies according to major current events and issues. Student work will include many presentations of knowledge gained through research.

PROBLEMS OF DEMOCRACY - (Academic) – Semester – Grades 11 & 12
This course introduces students to the structure of American government and politics. The institutions and processes by which public policy is created, the strengths and weaknesses of our political systems, and the importance of active involvement of citizens will be points of emphasis.

SPEECH & DEBATE – (Accelerated & Academic) – Semester – Grades 9-12
This course is designed to give each student the opportunity to acquire the skills of public speaking, with an emphasis on debate. Sophisticated oral as well as written communication

and argumentation skills will be taught, empowering students to take a well-substantiated position on current and historic issues. Critical thinking, research, writing, oral presentation and teamwork will all come together in this course, making students more aware of the world around them and how to expertly convey and substantiate their opinions on issues facing our world.