



North Brookfield  
Junior-Senior High School

***Program of Studies***

***2018-2019***

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## CORE VALUES STATEMENT

The North Brookfield Public Schools are guided by the belief that all students can become life-long learners and productive members of society when provided with a challenging curriculum and individualized support in a safe, tolerant, and diverse learning environment.

### NBHS School-Wide Learning Expectations

1. Communication: Graduates will be able to communicate effectively in a variety of ways to a range of audiences.
2. Critical Thinking: Graduates will be able to reach reasonable and meaningful conclusions through analysis of given information.
3. Problem Solving: Graduates will be able to assess a given problem, and then develop or choose and implement a strategy for resolving it.
4. Literacy: Graduates will be able to extrapolate meaning from a variety of media, including text, visual, and auditory within a given context.
5. Creativity: Graduates will be able to demonstrate originality and inventiveness in work and thought.
6. Self-Directedness: Graduates will be able to plan, prioritize, and manage their own efforts to achieve an intended result.
7. Resilience: Graduates will be able to incorporate critical feedback and overcome obstacles in order to meet a specified expectation.
8. Collaboration: Graduates will be able to collaborate with others to accomplish a group goal.
9. Civility: Graduates will be engaged, respectful members of their community, that are able to adhere to a variety of behavioral norms.
10. Self-Advocacy: Graduates will be able to identify their needs and take appropriate actions to address them.

## COURSE LEVEL DESCRIPTIONS

### Standard Courses (non-college preparatory)

These courses have no level designation preceding the course name, i.e. Physical Education. Selected courses are standard level in order to accommodate students at a variety of learning levels.

### College Preparatory

These courses use the College Preparatory (CP) designation. All major courses carry the CP weight. Courses are required for acceptance into all public colleges and universities.

### Honors Courses

These courses use the Honors (HN) designation. These courses are designed for the student who is motivated and able to work at an advanced level. Students can expect challenging material and substantial homework assignments. Honors courses carry a greater weight than CP courses, and meet additional four-year college requirements.

### Advanced Placement

These courses use the Advanced Placement (AP) designation. Advanced Placement is a program offered by the Educational Testing Service of the College Board. An expectation of the AP courses is to take the AP exam provided by the College Board in May. AP courses require very high motivation and outstanding academic ability. The academic standard for these courses will be most demanding. AP courses carry a greater weight than Honors courses. Students may earn college credit or placement in more advanced college classes based on their AP test results.

## WEIGHTED CLASS RANK/GRADE POINT AVERAGES

Class ranks and Grade Point Averages (GPA) are useful in the college admissions process and as a measure of relative academic achievement within the high school. A weighted system recognizes the range of difficulty, study time, and learning outcomes inherent in the high school curricula. The weighted system adopted for use at North Brookfield High School is as follows:

- All **Advanced Placement Courses** will have a weighted factor beginning at 5.20
- All **Honor Courses** will have a weighted factor beginning at 4.80
- All **College Preparation Courses** will have a weighted factor beginning at 4.40
- All **Standard** courses will have a weighted factor beginning at 4.00

Weighted averages are used to determine class rank. Class ranks will be updated each quarter. The GPA may be calculated to infinity as required for class-rank purposes.

It is important to know that colleges calculate GPAs differently than the Guidance department at North Brookfield High School. This means that a student's college GPA will be less than their North Brookfield High School GPA.

## COURSE REGISTRATION

Students and parents should choose courses carefully during the registration period. Students will receive a course request form during the spring. Students and families will be asked to carefully review their course selections for the following year and contact Guidance if they have questions. Course change requests should be brought to the student's guidance counselor as early as possible during the school year. The earlier the form is returned, the greater the likelihood the change(s) will be made. All schedule changes must be requested before the end of the or during the first two weeks of school. We appreciate your help in following the above guidelines and for helping the scheduling process run smoothly.

### POLICY RELATIVE TO CREDITS, PROMOTION, AND GRADUATION

1. All students must take a minimum of 30 course credits.
2. To accomplish the minimum requirements, freshmen and sophomores must take the required half-year courses.
3. To be eligible for graduation, all students must have passed the English, science, and math requirements of the MCAS. Students must have earned 125 credits by the end of their senior year.
4. The following course credits are required for graduation:

<u>Subject Area</u>	<u>Number Of Credits</u>
English	20 (4 years)
Social Studies (includes 10 credits US History I & II)	15 (3 years)
Mathematics	20 (4 years)
Lab Science (includes 5 credits of Biology)	15 (3 years)
Foreign Language	10 (2 years of same FL)
Fine Arts	5 (1 year)
Physical Education	8 (4 years)
Health (.5 year)	2 credits

5. All seniors are to provide a minimum of 15 hours of community service prior to graduating (a minimum of 7 hours are to be completed in the junior year.)
6. Graduation for certain MGL 71b and 603 CMR students will depend upon their individual educational programs.

### PROMOTION/RETENTION POLICY – GRADES 7 & 8

All junior high students will take and pass three (3) of the four (4) major courses each year in order to qualify for promotion to the next grade. If a course is failed in the 7<sup>th</sup> grade and the student is promoted to grade 8, the failed course must be passed in the 8<sup>th</sup> grade or the student will not be promoted to the 9<sup>th</sup> grade. Major subjects are as follows:

**Major Courses**  
English/Languages Arts  
Math (as Placed)  
Social Studies  
Science

### FAILURES/CREDIT RECOVERY POLICY - HIGH SCHOOL

This policy applies to students who receive a failing grade (64 or below) in one or more academic subjects. A student who fails a subject required for graduation must recover the credits in one of the following ways:

- Retake the course in a subsequent school year
- Retake the course through another accredited source (fee paid by parents)
- Enroll in an on-line Credit Recovery (CR) program through NBHS
- Enroll in Summer School

It is strongly recommended that failing grades in English and math courses be made up at summer school or through the CR option, as it is extremely difficult for any student to successfully complete two English or math courses during the academic year. Complete Summer School and Credit Recovery program details are available in the guidance office. The guidance department or the administration must give approval for such programs before enrollment.

If a student has failed a course required for graduation and does not opt to enroll in Summer School, Credit Recovery, or another accredited source, he or she should see a counselor and arrange to have their fall schedule changed in order to meet all course and credit requirements.

A 55 average is needed to attend summer school. The grade received in summer school will be averaged into the final grade received in the failed course in the following manner: 1) final year end grade multiplied by three; 2) add the

summer school grade; 3) divide by four and the mark will be entered into the permanent record. Tuition and transportation to summer school each day is the responsibility of the student.

### SUMMER SCHOOL POLICY – JUNIOR HIGH SCHOOL

Junior high students must pass three (3) of the core subjects in order to be promoted. If a student is promoted to grade 8 having failed a course in grade 7, the student must pass that course in grade 8 to be promoted to grade 9. If a student fails a course for the school year, he/she may attend a summer school program at an approved school. A passing final grade in the summer school course(s) will replace the failing grade on the permanent record.

Summer school begins shortly after the close of the school year. Applications and information about summer school are available in the Guidance Office. Tuition and transportation to and from summer school each year is the responsibility of the student/parent.

### PUBLIC FOUR-YEAR COLLEGES AND UNIVERSITIES

The Massachusetts Department of Higher Education (DHE) has established minimum coursework requirements for high school students to successfully complete, in order to be eligible for admission in its four-year colleges and universities. The chart below outlines the minimum requirements.

#### DHE Admission Standards-College Preparatory Courses

CP English Required Courses: 4	Four years college preparatory English
CP Mathematics Required Courses: 4	Four years of college preparatory mathematics, including Algebra I and II, Geometry or Trigonometry or comparable work.
CP Science Required Courses: 3	Three years of college preparatory science, including two courses with a laboratory (Biology and Chemistry).
CP Social Studies Required Courses: 3	Three years <b>minimum</b> including two years of U. S. History
CP World Languages Required Courses: 2	Two years <b>minimum</b> of one language. More years of study is strongly recommended.
CP Electives Required Courses: 2	

Private colleges and universities, as well as certain majors at public schools, have different admission standards and should be investigated by the student when planning his/her high school course selection.

Additionally, the Massachusetts Board of Higher Education has set a sliding scale for SAT I test scores for any student whose average is below 3.0 (85).

<u>High School GPA</u>	<u>Public University Sliding Scale SAT I (V + M Combined)</u>
2.51 – 2.99	950
2.41 – 2.50	990
2.31 – 2.40	1030
2.21 – 2.30	1070
2.11 – 2.20	1110
2.00 – 2.10	1150

  

<u>High School GPA</u>	<u>Public College Sliding Scale SAT I (V + M Combined)</u>
2.51 – 2.99	920
2.41 – 2.50	960
2.31 – 2.40	1000
2.21 – 2.30	1040
2.11 – 2.20	1080
2.00 – 2.10	1120

Students' college applications will not be considered if their GPA falls below a 2.0 (approximately 75).

## HIGH SCHOOL COURSE DESCRIPTIONS

### ENGLISH

#### **CP English 9**

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

English provides a variety of opportunities whereby students can become proficient in reading, writing, speaking, listening, and presenting. Major literary units include, but are not limited to:

1. the short story, with emphasis on mechanics and terminology;
2. the novel, with a focus on building off elements learned in the short story unit;
3. poetry, intending to foster appreciation through understanding of relevant terms;
4. drama, emphasizing the use of the stage as an art form; and
5. non-fictional writing, with the focus on the components of quality essays.

The critical thinking skills necessary to relate to major concepts expressed in literature are an integral part of the English curriculum. Writing assignments are intended to further develop the skills and ideas encountered in reading literature. The assignments can vary from short, in-class writings to longer, multiple draft essays, and the resulting assortment creates an impressive portfolio by year's end. Grammar, vocabulary, and spelling skills are intrinsically reviewed and reinforced, so students may feel comfortable that their skills enable the expression of their thoughts.

CP English Genres I utilizes a world literature approach to achieve the stated goals. Units are presented by genre as shown above. More material is covered in greater depth and advanced writing assignments are given to begin to prepare the student for college level work.

#### **Honors English 9**

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**Requirements: Grade of B+ or better AND recommendation of English 8 teacher.**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

The Honors English Genres I course is designed for students who have demonstrated exceptional skill in English 8 and are prepared for an intensive course. Novels and selections from literature anthologies are used to examine various genres of literature in great detail, placing an emphasis on examining works of literature in great depth. The course includes a comprehensive writing curriculum with a focus on critical analysis of literary works. It is meant to challenge students while preparing them for the Honors English Genres II course, the Honors American Literature course, the AP English Literature and Composition course, and ultimately for college.

This course will be different from the CP course because of the more in-depth look at the various genres of literature. More time will be spent examining the works in detail, learning to create essays focused on the critical analysis of literature. More material will be covered and more independent work will be expected from the students. Students will be required to complete summer reading assigned by the teacher.

#### **CP English 10**

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

English provides a variety of opportunities whereby students can become proficient in reading, writing, speaking, listening, and presenting. Major literary units include, but are not limited to:

1. the short story, with emphasis on mechanics and terminology;
2. the novel, with a focus on building off elements learned in the short story unit;
3. poetry, intending to foster appreciation through understanding of relevant terms;
4. drama, emphasizing the use of the stage as an art form; and
5. non-fictional writing, with the focus on the components of quality essays.

The critical thinking skills necessary to relate to major concepts expressed in literature are an integral part of the English curriculum. Writing assignments are intended to further develop the skills and ideas encountered in reading literature. The form of each can vary from short, in-class writings to research papers, and the resulting assortment creates an impressive portfolio by year's end. Grammar, vocabulary, and spelling skills are intrinsically reviewed and reinforced, so students may feel comfortable that their skills enable the expression of their thoughts.

CP English Genres II utilizes a world literature approach to achieve the stated goals. Units are presented by genre as shown above. The course is meant to expand upon the skills and terminology acquired in CP English Genres I. More material is covered in greater depth and advanced writing assignments are given to begin to prepare the student for college level work.

### **Honors English 10**

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**Requirements: Grade of B or better in CP English 9 AND recommendation of CP English 9 teacher.**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

The Honors English Genres II course is designed for students who have demonstrated exceptional skill in Literature Genres I and are prepared for an intensive course. Novels and selections from literature anthologies are used to examine various genres of literature in great detail, placing an emphasis on examining works of literature in great depth. The course includes a comprehensive writing curriculum with a focus on critical analysis of literary works. It is meant to challenge students while preparing them for college, the Honors American Literature course, and the AP English Literature and Composition course. This course will be different from the CP course because of the more in-depth look at the various genres of literature. More time will be spent examining the works in detail, learning to create essays focused on the critical analysis of literature. More material will be covered and more independent work will be expected from the students. Students will be required to complete summer reading assigned by the teacher.

### **CP American Literature**

**Credits: 5**

**Grade: 11**

**Length: Full Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

The critical thinking skills necessary to relate to major concepts expressed in literature are an integral part of the English curriculum. Writing assignments are more often intended to further develop the skills and ideas encountered in reading. The form of each can vary from short, in-class writings to research papers, and the resulting assortment creates an impressive collection by year's end. Grammar, vocabulary, and spelling skills are intrinsically reviewed and reinforced, so students may feel comfortable that their skills enable the expression of their thoughts.

CP American Literature covers early American literature to modern American literature. Included in this is Native American literature. A wide variety of authors and themes are explored throughout the course. The course will either be organized by theme or chronology, depending on instructor preference. CP American Literature is meant to expand upon the skills and terminology acquired in CP English Genres II. More material is covered in greater depth and advanced writing assignments are given to prepare the student for college level work. A research project is a component of this course.

### **Honors American Literature**

**Credits: 5**

**Grade: 11**

**Length: Full Year**

**Requirements: Grade of B+ or better in CP English 10 OR Grade of C or better in Honors English 10 AND recommendation of Honors English 10 teacher**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

The American Literature Honors course is designed for students who have demonstrated exceptional skill in Literature Genres II and are prepared for an intensive course. Novels and selections from literature anthologies are used to examine American literature from a historical and chronological perspective. The course includes a comprehensive writing curriculum focusing on critical analysis of literary works, and is meant to challenge students, preparing them for both college and the AP English Literature and Composition course. Students will be required to complete summer reading assigned by the teacher.

### **CP Dystopian Literature & Film**

**Credits: 2.5**

**Grades: Suggested for 11 & 12**

**Length: Half Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Students will be required to read several dystopian texts (novel, short story, graphic novel). The class will discuss the socio-economic and political aspects of these futuristic texts, as well as compare and contrast text-to-film. The course also includes essay writing.

### **CP Greek Mythology**

**Credits: 2.5**

**Grades: 11, 12**

**Length: Half Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course will serve as an introduction to Greek Mythology. We will explore the oral tradition of literature, the ancient Greek's polytheistic beliefs, and the hierarchy of all the Gods on Mount Olympus. Our readings will focus on many of the seminal Greek myths and may also include an epic poem and / or Greek drama, should time permit. This is a literature course, so students should be prepared to do a large amount of reading. However, there will be both some informal and formal writing also required.

### **CP British/World Literature**

**Credits: 5**

**Grade: 12**

**Length: Full Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

The critical thinking skills necessary to relate to major concepts expressed in literature are an integral part of the English curriculum. Writing assignments are more often intended to further develop the skills and ideas encountered in reading. The form of each can vary from short, in-class writings to research papers, and the resulting assortment creates an impressive portfolio by year's end. Grammar, vocabulary, and spelling skills are intrinsically reviewed and reinforced, so students may feel comfortable that their skills enable the expression of their thoughts.

CP British/World Literature focuses mostly on a survey of British literature starting with the Anglo-Saxon epic poem, Beowulf, and deals with major authors including Chaucer, Shakespeare, and Wordsworth. Supporting world literature, including the novel Things Fall Apart by Chinua Achebe, is brought in to complement various themes found in British work. The course is organized either by theme or chronology depending on instructor's choice. More material is covered in greater depth and advanced writing assignments are given to prepare the student for college level work.

Note: As British/World Literature is a culmination of all previously learned English skills it must be passed for students to be eligible for graduation. However, the AP Literature and Composition course can be used as a substitute for British/World Lit.

### **AP English Language and Composition**

**Credits: 5**

**Grade: 11, 12**

**Length: Full Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

This course is designed to be the equivalent in rigor of a college course in rhetoric, literature studies, and composition. The focus of AP Language and Composition is intensive analysis of literature – fiction, poetry, drama, and most significantly, nonfiction. This focus on nonfiction will require students to recognize rhetorical, stylistic, and literary devices and strategies that can be used to enhance their own writing. Special attention in this course will be devoted to preparing students for the AP Language and Composition examination, which tests students reading and writing abilities by asking them to recognize and analyze how an author shapes a piece of writing to serve the overall purpose or themes.

### **AP English Literature and Composition**

**Credits: 5**

**Grade: 12**

**Length: Full Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

This course includes an intensive study of representative works of various genres and periods, concentrating on works of recognized literary merit. Each student will be required to complete summer reading prior to the start of the course. Coursework will refine students' abilities in areas of literature and composition. AP English is both demanding and intellectually stimulating. It requires one's best effort and emphasizes independence of thought and mature habits of critical thinking. Students taking this course are required to take the AP exam in May. Students who successfully complete the AP English exam (students are required to pay for this) may qualify for college level credit.

### **CP MCAS English**

**Credits: 2**

**Grade: 10**

**Length: Quarter Course**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This is a quarter course designed to provide supplementary support to small groups of students as they prepare for the English portion of the MCAS test.

## MATHEMATICS

### CP Algebra I

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course is designed to be the standard college preparatory first year of Algebra. This course will cover such topics as: laws of exponents, solving equations and inequalities, operations with polynomials, solving word problems, factoring, and algebraic fractions. It will also emphasize precision of language.

### Honors Geometry

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**Prerequisite: 8<sup>th</sup> graders who have successfully completed CP Algebra I with at least a B- average OR permission of Math Department.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Honors Geometry will be a more rigorous study of geometry than the CP course. Students will be expected to do more individual work and projects.

### CP Geometry

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**Prerequisite: Algebra I OR at least a C- average in CP Algebra I**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course is designed to be the standard college preparatory second year of Mathematics. Students will be introduced to deductive reasoning by doing formal proofs throughout the course. Some of the basic principles discussed are: congruence, similarity, triangles, polygons, circles, and area. Vocabulary and theorems will be stressed.

### Honors Algebra II

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**Prerequisite: Grade 10 students who have successfully completed Honors Algebra I AND Honors Geometry with at least a B- average OR permission of Math Department.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Honors Algebra II will be a more rigorous and in-depth study of algebraic concepts than the CP course. Students will be expected to do more individual work and projects.

### CP Algebra II

**Credits: 5**

**Grade: 11**

**Length: Full Year**

**Prerequisite: C- Average in CP Algebra I**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course is designed to be the standard college preparatory second year of Algebra. This course refines the techniques of elementary Algebra. Topics to be discussed include the following: properties of real numbers, equations and inequalities, applications, factoring, the coordinate plane, relations and functions, sequences and series, complex numbers, and variations. This course is essential for those who intend to further their education after high school.

### CP Math 12

**Credits: 5**

**Grade: 12**

**Length: Full Year****LE 4: Demonstrate problem solving and critical thinking skills.****LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course will focus on everyday applications of mathematics in the strands of numerology, geometry, statistics, measurement, and algebra. Students will use hands-on lessons and projects to explore the ways that mathematics impact and are used in a variety of applications.

**CP Trigonometry****Credits: 5****Grade: 11, 12****Length: Full Year****Prerequisite: CP Algebra II****LE 4: Demonstrate problem solving and critical thinking skills.****LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course will cover SAT preparation, a review of Algebra II topics, an indepth study of trigonometry, conic sections, exponential and logarithmic functions, and statistics and probability.

**CP Statistics****Credits: 5****Grade: 11, 12****Length: Full Year****Prerequisite: CP Algebra II****LE 4: Demonstrate problem solving and critical thinking skills.****LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.****Honors Pre-Calculus****Credits: 5****Grade: 11, 12****Length: Full Year****Prerequisite: At least a B- average in CP Algebra II OR permission of Math Department****LE 4: Demonstrate problem solving and critical thinking skills.****LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course completes the four-year college preparatory sequence in mathematics. A thorough treatment of the concepts of plane trigonometry is provided. In addition, an introduction to plane analytic geometry is presented including the equation of the straight line and the conic sections. Topics in advanced Algebra are also to be considered.

**Honors Statistics****Credits: 5****Grade: 12****Length: Full Year****Prerequisite: At least a B- average in Pre-Calculus OR permission of Math Department****LE 4: Demonstrate problem solving and critical thinking skills.****LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.****AP Calculus****Credits: 6****Grade: 12****Length: Full Year (may not be offered every year)****Prerequisite: Permission of Math Department****LE 4: Demonstrate problem solving and critical thinking skills.****LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

The Advanced Placement Calculus outline established by the College will determine the topics of Advanced Placement Calculus outlined by the College Board in Princeton. It will parallel the first semester of College Calculus. Students taking this course are required to take the AP exam in May. Students who successfully complete the AP Calculus exam (students are required to pay for this) may qualify for college level credit.

**CP MCAS Math****Credits: 2****Grade: 10****Length: Quarter Course****LE 4: Demonstrate problem solving and critical thinking skills.****LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This is a quarter course designed to provide supplementary support to small groups of students as they prepare for the mathematics portion of the MCAS Mathematics test.

## SOCIAL STUDIES

### **CP World History II**

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

**LE 5: Conduct research effectively using various media.**

Students will study the rise of the nation state in Europe, the French Revolution, and the economic and political roots of the modern world. They will study the origins and consequences of the Industrial Revolution, 19<sup>th</sup> century political reform in Western Europe, and imperialism in Africa, Asia, and South America. They will explain the causes and consequences of the great military and economic events of the past century, including World War I, the Russian Revolution, the Great Depression, World War II, the Cold War, the Chinese Revolution, Korean War, Vietnam War, the Middle East, and the Information Revolution. Finally, students will study the rise of nationalism and the continuing persistence of political, ethnic, and religious conflict in many parts of the world. The use of primary and secondary sources is continued throughout this course.

### **HN World History II**

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

**LE 5: Conduct research effectively using various media.**

Honors World History II is fast-paced, rigorous, and designed for the student with a true interest in World History. Exceptional reading, writing, and analytic skills are expected from all students who enroll. The ability and motivation to work independently and undertake in-depth research projects will be required. In this course students will study the nation state in Europe, the French Revolution, and the economic and political roots of the modern world. Major events to be studied include; World War I, the Russian Revolution, the Great Depression, World War II, the Cold War, the Chinese Revolution, Korean War, Vietnam War, the Middle East, and the Information Revolution.

### **CP US History I**

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

**LE 5: Conduct research effectively using various media.**

The students will proceed chronologically through this course, analyzing the economic, social, and political events that are found in the American past from the Pre-Columbian era through the Civil War and Reconstruction period. Students will learn both the causes of events and their effects on history. The problems and benefits created by these events will be traced to our present time, and the students will learn to project these problems to some logical conclusions. The use of primary and secondary sources is continued throughout this course.

### **Honors US History I**

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

**LE 5: Conduct research effectively using various media.**

Honors United States History is fast-paced, rigorous, and designed for the student with a true interest in history. Exceptional reading, writing, and analytic skills are expected from all students who enroll. The ability and motivation to work independently and undertake in-depth research projects will be required. United States political, cultural, and economic history will be studied from the post-Civil War era to the present. Primary and secondary sources will be mandatory, in addition to the textbook. Emphasis will be placed on analysis and interpretation of data, events, and philosophies.

### **CP US History II**

**Credits: 5**

**Grade: 11, 12**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

**LE 5: Conduct research effectively using various media.**

The students will proceed chronologically through this course, studying and analyzing the economic, social, and political events that are found in the American past from the Civil War period to the present, forming their own interpretations of both the causes of events, and their effects on history and present time. The problems created by these events will be traced to our present time, and the students will attempt to project these problems to some logical conclusions. The use of primary and secondary sources is continued throughout this course.

**HN US History II****Credits: 5****Grade: 11, 12****Length: Full Year****LE 2: Read and interpret varied texts accurately and insightfully.****LE 3: Effectively deliver oral presentations.****LE 5: Conduct research effectively using various media.**

Honors United States History is fast-paced, rigorous, and designed for the student with a true interest in history. Exceptional reading, writing, and analytic skills are expected from all students who enroll. The ability and motivation to work independently and undertake in-depth research projects will be required. United States political, cultural, and economic history will be studied from the post-Civil War era to the present. The reading of primary and secondary sources will be *mandatory*, in addition to the textbook. Emphasis will be placed on written and oral analysis and interpretation of data, events, and philosophies.

**AP US History****Credits: 5****Grade: 11, 12****Length: Full Year****LE 2: Read and interpret varied texts accurately and insightfully.****LE 3: Effectively deliver oral presentations.****LE 5: Conduct research effectively using various media.**

The AP U.S. History course is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with the problems and materials in U.S. history. This course will prepare students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. Students should learn to assess historical materials-their relevance to a given interpretive problem, reliability, and importance-and to weigh the evidence and interpretations presented in historical scholarship. Students taking this course should thus develop the skills necessary to arrive at conclusions on the basis of an informed judgment and to present reasons and evidence clearly and persuasively in essay format.\*

*\*The College Board*

**CP Current Events****Credits: 2.5****Grade: 11, 12****Length: Semester****LE 2: Read and interpret varied texts accurately and insightfully.****LE 3: Effectively deliver oral presentations.****LE 5: Conduct research effectively using various media.**

This course introduces students to local, national, and world events through various forms of media. Students will also be introduced to the various forms of media and will examine the many biases found within today's media.

**CP The Holocaust****Credits: 2.5****Grade: 11, 12****Length: Semester****LE 2: Read and interpret varied texts accurately and insightfully.****LE 3: Effectively deliver oral presentations.****LE 5: Conduct research effectively using various media.**

This course will examine the reasons behind the systematic destruction of European Jews by the Nazis during World War II. Students will be introduced to the rise of anti-Semitism prior to World War I and explore its roots in Nazi Germany. Students will be introduced to the camp system, the willing participants, the righteous ones, and the victims themselves through literature and other forms of media.

**CP Introduction to Psychology****Credits: 5****Grade: 11, 12****Length: Full Year****LE 2: Read and interpret varied texts accurately and insightfully.****LE 3: Effectively deliver oral presentations.****LE 5: Conduct research effectively using various media.**

This course is a general introduction to the study of human behavior as defined by major conceptual approaches, theories, principles, and research domains of contemporary psychology. The course covers a broad range of topics, including learning processes, the development of personality, psychological development and dysfunction, the psychology of group behavior, and social attitudes. The study of these topics helps students develop awareness and an understanding of the many forces that influence thought and behavior.

## FOREIGN LANGUAGES

### CP Spanish I

**Credits: 5**

**Grades: 9, 10, 11, 12**

**Length: Full Year**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

¡Viva el español! This first year Spanish course opens the door to experiences in the language and cultures of the Spanish-speaking world. Language skills are developed through a variety of activities, including: videos, audio segments, paired communicative activities, group work, language-related projects, and other classroom strategies. Cultural material is introduced through readings, songs, and other cultural activities. Emphasis is placed on daily speaking and writing of basic language structures. At the completion of this course, students are expected to read, write, speak, and comprehend simple Spanish.

### CP Spanish II

**Credits: 5**

**Grades: 10, 11, 12**

**Length: Full Year**

**Prerequisite: Minimum grade of C in Spanish I OR permission of the instructor**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Spanish II continues to develop and expand the skills introduced in the first year. Oral proficiency continues to be stressed, but the skills of reading and writing are now given increased attention. Students continue to learn about and experience Hispanic culture. By the end of this course, students start to use the language to learn the language. Emphasis is placed on making increasingly personalized use of spoken and written Spanish with a high degree of accuracy. Many notes, explanations, and activities are given in Spanish and a significant amount of the language used during the class period is Spanish. Students are encouraged and expected to speak Spanish in the classroom. A supplemental reader is introduced through additional reading assignments.

### CP Spanish III

**Credits: 5**

**Grades: 11, 12**

**Length: Full Year**

**Prerequisite: Successful completion of Spanish II AND teacher recommendation**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

In Spanish III listening and speaking skills are emphasized while the student maintains and develops his or her reading and writing skills, including the study and use of more advanced grammar and additional vocabulary. Emphasis is placed on accuracy and control of a wide range of language structures in increasingly creative and personalized communication. Students use Spanish to enhance their knowledge of the history, geography, traditions, perspectives, and significant persons of Spanish-speaking cultures. Basic grammatical and structural knowledge should be sound when beginning this level in order to advance linguistic skills, although a grammar review is part of the course.

### Honors Spanish IV

**Credits: 5**

**Grades: 11, 12**

**Length: Full Year**

**Prerequisite: Successful completion of Spanish III AND teacher recommendation.**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

In the Honors Spanish course, grammar study becomes secondary to the actual use of the Spanish language to explore, investigate, and experience Hispanic life and culture. Included in this course is exposure to Spanish literature through short stories and portions of larger works. Discussions and writing assignments are often centered on readings; however, topics initiated by students and dealing with contemporary issues are freely discussed. The course places emphasis on oral work.

### CP French I

**Credits: 5**

**Grades: 9, 10, 11, 12**

**Length: Full Year**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Students are introduced to the French language and culture. Through the study of French pronunciation, grammar, and vocabulary using a variety of materials and instructional activities, students will gain the foundation necessary to successfully read, write, and speak in simple French.

### **CP French II**

**Credits: 5**

**Grades: 10, 11, 12**

**Length: Full Year**

**Prerequisite: Minimum grade of C in French I OR permission of the teacher**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Building on skills acquired in French I, students will expand their vocabulary, begin to learn more advanced grammatical concepts, and become more adept at understanding and communicating in French. Emphasis is placed in making increasingly personalized use of accurate spoken and written French.

### **CP French III**

**Credits: 5**

**Grades: 11, 12**

**Length: Full Year**

**Prerequisite: Successful completion of French II AND teacher recommendation**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Advanced pronunciation, grammar, and conversation are the focus of this course. Students are expected to begin engaging in spontaneous conversation on a variety of topics. Vocabulary categories are diverse. Students will also research an influential francophone individual of their choice.

### **Honors French IV**

**Credits: 5**

**Grade: 11, 12**

**Length: Full Year**

**Prerequisite: Successful completion of French III AND teacher recommendation**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Emphasis in this course is placed on conversation and on becoming skilled in the translation and analysis of intermediate level French classics, such as *Le Petit Prince* and *Les Trois Mousquetaires*. After developing strong skills in written expression, students will also explore a major figure in French history, producing a 3-4 page research paper entirely in French. Full class participation is essential to be successful in this course.

### **Honors French V**

**Credits: 5**

**Grade: 12**

**Length: Full Year**

**Prerequisite: Successful completion of French III AND teacher recommendation**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Emphasis in this course is placed on conversation and on becoming skilled in the translation and analysis of intermediate level French classics, such as *Le Petit Prince* and *Les Trois Mousquetaires*. After developing strong skills in written expression, students will also explore a major figure in French history, producing a 3-4 page research paper entirely in French. Full class participation is essential to be successful in this course.

## **SCIENCE**

### **CP Biology**

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course (or HN Biology) is required for all 9<sup>th</sup> grade students in preparation for the MCAS Science exam. Subject matter includes a background in biological techniques and methods, life functions, plants, animals, the human body, viruses, fungi, and environmental interactions. Basic laboratory skills, reading skills, and vocabulary are developed during the progress of the course. Several written reports and projects are required.

### **HN Biology**

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course (or CP Biology) is required for all 9<sup>th</sup> grade students in preparation for the MCAS Science exam. It centers on ecology, cell biology, genetics and evolution. These topics are covered in a thorough manner with emphasis on laboratory work and projects. Expectations are high in this course as it is a pre-cursor for AP Biology, Anatomy and Physiology, and Honors Chemistry.

### **CP Concepts in Biology**

**Credits: 5**

**Grade: 10, 11**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course is for students that have not taken or passed the Biology MCAS exam and is designed to provide hands-on direct instruction and remediation of all Biological concepts necessary to understand and pass the Biology MCAS exam. The instructor will emphasize the six strands of Biological study covered on the MCAS, examining life systems from the molecular level through cell biology and genetics in addition to all basic aspects of the evolutionary process. The course will also study the various branches of life and how the ecological interrelationships drive organic evolution and population changes within those branches. Lastly the class will have a strong focus on the human biological system, human disease, and the genetic underpinning of the human biological process.

### **CP Environmental Science**

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**Prerequisite: Successful completion of Biology**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course is designed to show the interconnected nature of the Earth systems and builds a foundation for life-long learning. The critical component of environmental science is the focus on how earth systems interact with human society. The subject ties the physical sciences with social sciences, constituting a unique opportunity to demonstrate the widest application of science to life. Within this context of human interaction is the need to address concepts of risk and cost-benefit. Projects, labs, and field trips will be emphasized, along with lectures and other activities.

### **HN Environmental Science**

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**Prerequisite: Successful completion of Biology**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course is designed to show the interconnected nature of the Earth systems and builds a foundation for life-long learning. The critical component of environmental science is the focus on how earth systems interact with human society. The subject ties the physical sciences with social sciences, constituting a unique opportunity to demonstrate the widest application of science to life. Within this context of human interaction is the need to address concepts of risk and cost-benefit. Projects, labs, and field trips will be emphasized, along with lectures and other activities.

### **CP Chemistry**

**Credits: 5**

**Grades: 11, 12**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course is designed to give the student a broad understanding of the principles of Chemistry and an exposure to related experiments. The approach and content presents a very traditional preparation for post-secondary education. The major topics relate to the structure and behavior of matter, formula and equation writing skills, and heavy emphasis is placed on problem solving, particularly word problems. Included will be a unit surveying the structure, naming, and behavior of organic compounds.

### **HN Chemistry**

**Credits: 5**

**Grades: 11, 12**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course is designed to give the student a more in depth understanding of the principles of Chemistry and an exposure to related experiments. The approach and content presents a very traditional preparation for post-secondary education. The major topics relate to the structure and behavior of matter, formula and equation writing skills, and heavy emphasis is placed on problem solving, particularly word problems. Included will be a unit surveying the structure, naming, and behavior of organic compounds.

### **HN Anatomy and Physiology**

**Credits: 5**

**Grade: 11, 12**

**Length: Full Year**

**Prerequisite: Successful completion of CP Biology and CP Chemistry**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course is designed for students who plan to enter any field where an extensive knowledge of the human body is helpful. Stress is placed on vocabulary comprehension in the terminology applying to human anatomy and physiology. Identification of cells, tissues, organs and organ systems and their functions are the major portions of the course. Microscopy and research skills are improved by assignments requiring their use. A strong knowledge of Chemistry and Biology is recommended.

### **CP Physics**

**Credits: 5**

**Grade: 12**

**Length: Full Year**

**Prerequisite: Trigonometry (may be taken concurrently with permission of the Science Department)**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course is essential for anyone intending to pursue science or mathematics and highly desirable for any student who intends to further his or her education beyond high school. Topics in classical physics are stressed: mechanics, thermodynamics, waves, and electromagnetism.

### **HN Physics**

**Credits: 5**

**Grade: 12**

**Length: Full Year**

**Prerequisite: Trigonometry (may be taken concurrently with permission of the Science Department)**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course is essential for anyone intending to pursue science or mathematics and highly desirable for any student who intends to further his or her education beyond high school. Topics in classical physics are stressed: mechanics, thermodynamics, waves, and electromagnetism.

### **AP Environmental Science**

**Credits: 5**

**Grade: 11, 12**

**Length: Full Year**

**Prerequisite: Successful completion of Biology**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

The AP Environmental Science course is designed to be the equivalent of a one semester, introductory college course in environmental science. The goal of this course is to provide students with a solid background in the scientific principles involved in Environmental Science and the laboratory skills necessary to succeed in more advanced science courses once in college. The AP Environmental Science course will require students be proficient with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. All students are expected to take the A.P. Examination in Environmental Science at the conclusion of the course.

## **ENGINEERING TECHNOLOGY**

The Engineering Technology program is designed for students who plan to matriculate to a competitive technical college or institute in the field of engineering upon graduation from high school. Based on United States Labor Department studies, engineering fields will have a deficit of technicians and engineers due to the expanding technological work force base. The NBHS Engineering Technology program was created to address this need by promoting engineering to high school students.

Areas of potential employment:

- Engineering Technician • Aerospace Engineering and Operations Technician
- Chemical Engineering Technology • Bioengineering Technology
- Civil Engineering Technician • Environmental Engineering Technician

### **Introduction to Engineering**

**Credits: 5**

**Grade: 9**

**Length: Full Year**

**Prerequisite: None**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

In this vocational course, students use a problem-solving model to improve existing products and invent new ones. They learn how to apply this model to solve problems in and out of the classroom. Using sophisticated three-dimensional modeling software, students communicate the details of the products. Emphasis is placed on analyzing potential solutions and communicating ideas to others. The curriculum also utilizes the strengths of each team member to accomplish the goals of a project, while offering students learning challenges at all ability levels. This year long course will enhance critical thinking skills through project based learning.

### **Process Engineering**

**Credits: 5**

**Grade: 10**

**Length: Full Year**

**Prerequisite: Introduction to Engineering**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

Process Engineering is the second year class in the Engineering and Technology curriculum. It will deepen students' understanding of the world of mechanical engineering, specifically in the areas of industrial health, safety, engineering/technology career options, force distribution, manufacturing systems, basic electronics, thermodynamics, fluidics, and robotics. It strengthens the strong connections engineering has to physics and mathematics, literacy (particularly non-fictional reading and writing), and its impact on history and society. In this course, students will participate in hands on activities that connect directly to functional applications, and experience how engineering is connected to every day life and our environment around us.

### **Exploring Technology and Engineering**

**Credits: 5**

**Grades: 10-12**

**Length: Full Year**

**Prerequisite: Introduction to Engineering**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

Exploring Technology and Engineering is a vocational course that will deepen students' understanding of the world of technology, specifically in the areas of engineering/technology career options, force distribution, manufacturing systems, basic electronics, thermodynamics, fluidics, and robotics. This is a continuation of student experience started in their prior Introduction to Engineering course. It strengthens the strong connections engineering has to physics and mathematics, literacy (particularly non-fictional reading and writing), and its impact on history and society. In this course, students will participate in hands on activities that connect directly to functional applications and experience how engineering is connected to everyday life and our environment around us. Students will be required to develop and apply cross-curricular skills in physics, chemistry, mathematics, and literacy that will promote their involvement in the creation and application of technical solutions to specific problems and applications.

### **Electrical Engineering**

**Credits: 5**

**Grade: 11**

**Length: Full Year**

**Prerequisite: Process Engineering**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

Electrical Engineering, the third course in the vocational engineering program, will deepen students' understanding of the world of electrical engineering, specifically in the areas of electrostatics, analog electronics, digital electronics, and power generation systems. It strengthens the strong connections engineering has to physics and mathematics, literacy (particularly non-fiction reading and writing), and its impact on history and society. In this course, students will participate in hands on activities that connect directly to functional applications and experience how electrical engineering is connected to everyday life and our environment around us. Students will be required to develop and apply cross-curricular skills in physics,

mathematics, and literacy that will promote their involvement in the creation and application of engineering solutions to specific problems and applications.

### **Engineering Design and Fabrication**

**Credits: 5**

**Grades: 11, 12**

**Length: Full Year**

**Prerequisite: None**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

Engineering Design & Fabrication (EDF) is a vocational high school level survey course of engineering. The course exposes students to some of the major concepts they will encounter in a postsecondary engineering course of study. Students have an opportunity to investigate engineering and high-tech careers. EDF gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB learning challenges students to continually hone their interpersonal skills, creative abilities, and problem solving skills based upon engineering concepts. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education. To be successful in EDF, students should be concurrently enrolled in college preparatory mathematics and science. Students will employ engineering and scientific concepts in the solution of engineering design problems. Students will develop problem solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

### **Practical Engineering**

**Credits: 5**

**Grade: 12**

**Length: Full Year**

**Prerequisite: Electrical Engineering**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

Practical Engineering (PE) is the vocational capstone course at the high school engineering program. It is an engineering research course in which students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams of students will design, build, and test their solution. Finally, student teams will present and defend their original solution to an outside panel. While progressing through the engineering design process, students will work closely with experts and will continually hone their organizational, communication and interpersonal skills, their creative and problem solving abilities, and their understanding of the design process. Practical Engineering is a high school level course that is appropriate for 12th grade students.

### **Engineering Design and Manufacturing**

**Credits: 5**

**Grade: 12**

**Length: Full Year**

**Prerequisite: Engineering Design & Fabrication**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This course will deepen students' understanding of the world of engineering product design and automated manufacturing techniques and practices. We will review the history of manufacturing, including the methodologies developed for high volume, Lean Manufacturing, and the role of robotics in manufacturing. This is a continuation of student experience started in their prior Engineering Design and Fabrication course. It strengthens the strong connections engineering has to physics and mathematics, literacy (particularly non-fiction reading and writing), and its impact on history and society. In this course, students will participate in hands on activities that connect directly to functional applications and experience how engineering and manufacturing is connected to everyday life and our environment around us. Students will be required to develop and apply cross-curricular skills in physics, mathematics, and literacy that will promote their involvement in the creation and application of engineering solutions to specific problems and applications.

## **ART**

### **Art I**

**Credits: 5**

**Grades: 9, 10, 11, 12**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

The course will be open to any student in grades 9 through 12 who has not taken art at the High School level. It will be an introductory course for the following areas of study: drawing, painting, printmaking, and clay and/or sculpture. It will be primarily a hands-on studio course, and the content of the Art I course will introduce and reinforce the requirements of the Massachusetts Arts Frameworks.

## **Art II**

**Credits: 5**

**Grades: 10, 11, 12**

**Length: Full Year**

**Prerequisite: Successful completion of Art I**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course will be open to any student in grades 10 through 12 who has successfully completed the Art I course. No students will be assigned this course without this prerequisite. The areas of study will include drawing, painting, printmaking, and clay and/or sculpture, but the content will reflect an increase in difficulty and breadth of instruction and skill from those introduced in Art I. The content of the Art II course will continue introducing and reinforcing the requirements of the Massachusetts Arts Frameworks.

## **Art III**

**Credits: 5**

**Grades: 11, 12**

**Length: Full Year**

**Prerequisite: Successful completion of Art I AND successful completion of Art II**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

The course will be open to any student in grades 11 and 12 who has successfully completed Art I and Art II. Drawing, painting, printmaking, and clay and/or sculpture projects will all reflect an increase in difficulty and breadth of instruction and skill from those introduced in Art II. The content of the Art III course will continue to reinforce the requirements of the Massachusetts Arts Frameworks.

## **Art IV**

**Credits: 5**

**Grades: 12**

**Length: Full Year**

**Prerequisite: Successful completion of Art I, Art II, AND Art III**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

The course will be open to any student in grade 12 who has successfully completed Art I, Art II and Art III. The art 4 course is designed to teach museum curator-ship. Students would take on some of the job responsibilities of museum curators as well as to continue to generate their own body of artwork. A goal would be to provide the art 4 students the opportunity to develop a level of confidence and understanding of the adult working world in the area of art. The content of the Art III course will continue to reinforce the requirements of the Massachusetts Art Framework.

## **MUSIC**

### **Band**

**Credits: 2**

**Grades: 9, 10, 11, 12**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Band students will experience music of the past and present through the exploration of band literature that is available and playable. They will enhance their understanding of music primarily through group rehearsal, individual practice, and small ensemble work. Key concepts will include personal excellence, section excellence, and group excellence. All band students will experience the thrill and rigors of public performance. Assessment will be achieved through teacher evaluation, tests, and public performance. Prior instrumental music experience is mandatory and the teacher will determine entry into the course. All band students must attend all band performances unless a written and approved excuse is provided to the teacher. All students are expected to be aware of the behavioral expectations set forth in the Student Handbook and conduct themselves accordingly.

## **PHYSICAL EDUCATION**

### **Physical Education**

**Credits: 2.5**

**Grades: 9, 10**

**Length: Full year, every-other-day**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Physical Education is the development of physical fitness and gross motor skills through individual, dual and team sports and activities. Units included in Physical Education are as follows: soccer, softball, basketball, table tennis, adventure education, fitness training, weight/strength training, badminton, fitness testing, tennis, volleyball, track and field, floor hockey, flag football, climbing wall, lacrosse, cross-country skiing, snowshoeing, and D.D.R.

**Fitness**

**Credits: 5.00**

**Grades: 11, 12**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

The fitness class is open to any eleventh or twelfth grade student. Each student will develop and implement an individualized fitness plan including cardio-vascular endurance, muscle strength, muscle endurance, and flexibility.

## HEALTH

**CP Health 9**

**Credits: 2**

**Grade: 9**

**Length: Full year, every-other-day**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

The mission of the NBHS Health curriculum is to promote healthy behaviors and a healthy lifestyle. As a discipline, Health is designed to augment the student's knowledge, awareness, and ability to demonstrate good judgment through informed decision making. Students will focus on topics such as Violence and Injury, and Sexuality and Relationships. During the term students will also have the opportunity to participate in the "Baby Think It Over" program, which is designed to help students understand the responsibilities that go along with parenting.

## ACADEMIC SUPPORT

**Academic Support**

**Grade: 9, 10**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This full year course is designed to provide students with the necessary study skills and academic guidance in order for them to move successfully through high school. Students will receive instruction in basic academic skills such as organization, effective study habits, note taking, time management, and critical thinking skills. Each student will explore his or her own unique learning strengths and weaknesses and be exposed to strategies that will help them to be successful in their academic courses.

## DUAL ENROLLMENT THROUGH MOUNT WACHUSETT COMMUNITY COLLEGE

**Honors Introduction to Criminal Justice**

**Grade: 11, 12**

**Length: One Half Year**

**Credits: 5 High School, 3 College**

Students survey the criminal justice system in the United States including its main components: law enforcement, courts, and corrections. Special emphasis is placed on the sequence of events and decision points within the system, as well as historical and societal influences. The functions of federal, state, county, and local agencies are examined. A brief overview of the juvenile system is included. Prerequisites: ENG098, FYE101, RDG098, or placement.

**Honors Psychology of The Self**

**Grade: 11, 12**

**Length: One Half Year**

**Credits: 5 High School, 3 College**

**LAW 101**

**Grade: 11, 12**

**Length: One Half Year**

**Credits: 5 High School, 3 College**

### **EDUCERE (ON-LINE CLASSES)**

Educere allows high school students to accelerate their studies by accessing on-line courses that are not offered at NBHS, including honors and AP level courses. Educere classes are fully accredited and taught by fully credentialed teachers. Students interested in taking a course through Educere should speak with the Guidance Counselor. A cost is associated with Educere courses.

A list of courses available can be found here: <https://sis.edtell.com/program/default.asp?pageID=10790.4756>

## JUNIOR HIGH SCHOOL COURSE DESCRIPTIONS

### JHS ENGLISH

#### English/Language Arts

**Grade: 7**

**Length: Full Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

Seventh grade English/Language Arts stresses the basic skills necessary for reading, writing, and speaking Standard English. It offers students the means by which those basic communication skills can be learned and put to use. Students will develop inferential reading skills, as well as introductory literary skills and techniques. Emphasis is placed on grammar, spelling, proper usage, composition and utilizing the reading text, as well as additional materials. Poetry, non-fiction and an individualized independent reading program will also be included in this course. Course objectives are as follows:

1. To provide the student with the ability to identify the parts of speech and use them effectively in writing;
2. To help the student write clear, concise, grammatically correct sentences and paragraphs;
3. To help the student learn to spell and increase vocabulary knowledge and comprehension;
4. To aid the student in using appropriate sentence structure, logical sequence, and punctuation;
5. To help the student recognize and correct problems in usage;
6. To provide the student with an opportunity to write in a variety of styles;
7. To provide the student with advanced reading skills and introductory literary skills and techniques.

#### English/Language Arts

**Grade: 8**

**Length: Full Year**

**LE 1: Communicate effectively in writing.**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

Eighth grade English/Language Arts stresses the skills necessary for reading, writing, and speaking Standard English. The course begins with a review of grammar and usage and continues with sentence structure, mechanics, paragraph formation, practical and creative composition, research techniques and utilizing the reading text, as well as additional material. Students will develop inferential reading skills, as well as introductory literary skills and techniques. Poetry and non-fiction units will also be included in this course. Course objectives are as follows:

1. To expand and refine oral and written communication skills;
2. To reinforce knowledge of correct usage skills;
3. To increase the student's awareness of audience understanding by sharing and editing other compositions;
4. To further develop the student's ability to write in a variety of styles;
5. To provide the student with advanced reading skills and introductory literary skills and techniques.

### JHS MATHEMATICS

#### Pre-Algebra

**Grade: 7**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Pre-Algebra revisits and expands upon topics studied in Math. Increasing importance is given to algebraic thinking in readiness for 9<sup>th</sup> grade Algebra courses.

#### Algebra 8

**Grade: 8**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Algebra 8 is an introduction to algebraic concepts, and is designed to bridge Pre-Algebra and HS Algebra 1. Emphasis is also placed on preparing students for the 8<sup>th</sup> grade MCAS exam.

#### Honors Algebra I

**Grade: 8**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course is designed to be the standard college preparatory first year of Algebra. This course will cover such topics as: laws of exponents, solving equations and inequalities, operations with polynomials, solving word problems, factoring, and algebraic fractions. It will also emphasize precision of language.

*Note: Students who successfully complete this course with a minimum passing grade for the course and on the Final Exam are eligible to receive 5 credits toward high school graduation requirements. There will be a Midterm and a Final Exam in this course.*

## **JHS SOCIAL STUDIES**

### **Geography**

**Grade: 7**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

**LE 5: Conduct research effectively using various media.**

Students will study a broad range of topics in Geography. The major landforms and waterways of the world will be examined, as well as the major nation states. Basic economic process, physical and cultural geography, map skills, and current events will all be used to help further the students' knowledge about the world.

### **World History I, A.D. 500--1800**

**Grade: 8**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 3: Effectively deliver oral presentations.**

**LE 5: Conduct research effectively using various media.**

This course is designed to help students understand today's world by studying world cultures since the end of the Western Roman Empire (A.D. 476) to the French Revolution & Napoleonic Wars (1789—1815). Special emphasis is given to the growth of nationalism and shifting alliances among various countries. The intent is to familiarize students with the cultural, economic, philosophical, and political characteristics that qualify such alliances. Several political structures will be described and compared, as the interplay of modern nations unfolds. Finally, students will study the rise of nationalism and the continuing persistence of political, ethnic, and religious conflict in many parts of the world. The use of primary and secondary sources is introduced throughout this course.

## **JHS SCIENCE**

### **Integrated Science**

**Grade: 7**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This is an inquiry approach for Life, Earth and Physical sciences. With emphasis on the human heredity, ecology, Earth over time and its place in the universe, chemistry of matter, motion, forces and energy, and physical interactions.

### **Integrated Science**

**Grade: 8**

**Length: Full Year**

**LE 2: Read and interpret varied texts accurately and insightfully.**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 5: Conduct research effectively using various media.**

This is a continuation of an inquiry approach to Life, Earth and Physical sciences. The emphasis is on Earth's minerals and atmosphere, the basics of life, human body systems, the interdependence of life and matter and energy.

## **JHS ART**

### **Junior High Art Exploratory**

**Grade: 7 and 8**

**Length: One Quarter Course**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This course is designed, in part, to familiarize the students with five areas of art study available in the high school art curriculum (drawing, painting, printmaking, pottery, and sculpture). It will provide students the opportunity to experience a variety of areas and techniques which will potentially help them to determine which area of concentration at the high school level would be most beneficial.

## **JHS BAND**

### **Junior High Band**

**Grades: 7 and 8**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Band students will experience music of the past and present through the exploration of band literature that is available and playable. An understanding of music will occur primarily via group rehearsals, individual practice, and small ensemble work. Key concepts will include personal excellence, section excellence, and group excellence. All band students will experience the thrill and rigors of public performance. Student assessment will be achieved through teacher evaluation, tests, and public performance. Prior instrumental music experience is mandatory and the teacher will determine qualifications for entry into this course. All band members must attend all band performances unless a written and approved excuse is provided to the teacher. All students are expected to be aware of the behavioral expectations set forth in the Student Handbook and conduct themselves accordingly.

## **JHS PHYSICAL EDUCATION**

### **Physical Education**

**Grade: 7 and 8**

**Length: Full year, every-other-day**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Physical Education in grades 7 and 8 focuses on the development of physical fitness and gross motor skills through individual, dual, and team sports. The following units are included: soccer, fitness testing, basketball, volleyball, track and field, adventure education, badminton, softball, tennis, fitness training, weight/strength training, flag football, table tennis, step aerobics, lacrosse, climbing wall, roller blades, and D.D.R.

## **JHS HEALTH**

### **Health 7**

**Grade: 7**

**Length: Full year, every-other day**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

The mission of the North Brookfield Health Education Curriculum is to promote healthy behaviors and a healthy lifestyle. As a discipline, Health is designed to augment the student's knowledge, awareness, and ability to demonstrate good judgment through informed decision making. Seventh grade students will focus on topics such as Self-Esteem, Drugs, and Puberty and Reproduction.

### **Health 8**

**Grade: 8**

**Length: Full year, every-other day**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

The mission of the North Brookfield Health Education Curriculum is to promote healthy behaviors and a healthy lifestyle. As a discipline, Health is designed to augment the student's knowledge, awareness, and ability to demonstrate good judgment through informed decision making. Eighth grade students will focus on topics such as Violence Prevention, HIV and STIs, and Consumer Health.

## JHS FOREIGN LANGUAGE

### 8th Grade Spanish I

**Grade: 8**

**Length: Full Year**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

Students are introduced to the Spanish language and culture as well as a review of English grammar in order to facilitate the study of another language. Through the study of Spanish pronunciation, grammar, and vocabulary using a variety of materials and instructional activities, students will build the foundation necessary to successfully read, write, and speak in basic simple Spanish.

*Note: Students who successfully complete this course with a minimum passing grade for the course and on the Final Exam are eligible to receive 5 credits toward high school graduation requirements, and are also eligible to take Spanish II in their freshman year of high school. There will be a Midterm and a Final Exam in this course.*

### 8th Grade French I

**Grade: 8**

**Length: Full Year**

**LE 3: Effectively deliver oral presentations.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

In this class, students are introduced to the French language and culture. Through the study of French pronunciation, grammar, and vocabulary using a variety of materials and instructional activities, games, and songs, students will gain the foundation necessary to successfully read, write, and speak in basic simple French.

*Note: Students who successfully complete this course with a minimum passing grade for the course and on the Final Exam are eligible to receive 5 credits toward high school graduation requirements, and are also eligible to take French II in their freshman year of high school. There will be a Midterm and a Final Exam in this course.*

## JHS ACADEMIC SUPPORT

### Academic Support

**Grades: 7 and 8**

**Length: Full Year**

**LE 4: Demonstrate problem solving and critical thinking skills.**

**LE 7: Be a caring, informed, and active citizen who demonstrates respect, responsibility and readiness.**

This full year course is designed to provide 7<sup>th</sup> and 8<sup>th</sup> grade students with the necessary study skills and academic guidance in order for them to move successfully through junior high and high school. Students will receive instruction in basic academic skills such as organization, effective study habits, note taking, time management, and critical thinking skills. Each student will explore his or her own unique learning strengths and weaknesses and be exposed to strategies that will help them to be successful in their academic courses.