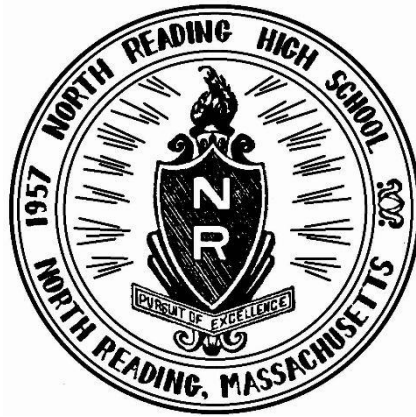


# **NORTH READING HIGH SCHOOL**



## **PROGRAM OF STUDIES**

**2023 – 2024**

## ***Administration***

Anthony J. Loprete  
*Principal*

BarriAnn Alonzo  
*Assistant Principal*

Michael E. Rosa  
*Coordinator of School Counseling Services*

## ***Guidance Counselors***

Ashley Attura

Kelsey Coughlin

John Giuliotti

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This “Program of Studies” booklet is intended only to guide students and parents in the process of selecting courses of study. The “North Reading High School Handbook for Students and Parents” is the policy manual for North Reading High School and serves as a reference regarding the policies and practices that govern North Reading High School. Please note that changes to this “Program of Studies” booklet may be made at the discretion of the school administration and without advanced notice. Individual changes or waivers may be granted by the principal for compelling educational reasons.

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*CITIZENSHIP*

*LEADERSHIP THROUGH SERVICE*

*LIFELONG LEARNING*

## *A Message from the Principal*

Dear Parents and Students:

The information contained in this “Program of Studies” booklet is designed to assist you in the selection of courses for the next school year. I encourage you to review carefully the information on the “Course Selection Process,” outlined herein, as well as the course descriptions for all of the courses offered at North Reading High School. In addition, please take heed of teacher recommendations for the level placement (that is, “Advanced Placement,” “Honors,” and “Academic” levels), as well as the Course Level Expectations information as defined on page 13. Teachers and counselors have a very good perspective on students’ ability levels and potential for success in given classes. It is in your best interest to understand fully all of the requirements for each class, particularly as they relate to such things as homework, class preparation, long-range assignments, independent research, and reading assignments.

Please know that the guidance counselors and administrators at both the middle school and the high school are available to answer questions and assist you in the process of selecting courses that will challenge students, broaden their academic experiences, and provide them with the skills that they will need in order to be successful in future endeavors.

Sincerely,



Anthony J. Loprete, *Principal*

*The North Reading School Committee supports Title IX and Chapter 622 and its policy is not to discriminate either in employment or in educational programs and activities on the basis of race, color, sex, religion, national origin, or sexual orientation.*

# *North Reading High School's*

## **Core Values, Beliefs, and Twenty-first Century Learning Expectations**

### **Core Values and Beliefs**

At the core of North Reading High School is the common belief that effective *citizenship* in the twenty-first century begins with a commitment to *leadership through service* and *lifelong learning* that is fostered in an environment that includes all students. We are a dynamic community of students, teachers, parents, and administrators with shared beliefs and values committed to developing capable, knowledgeable twenty-first century citizens. It is our mutual responsibility to be actively involved in a learning process that fosters higher-order thinking, problem solving, healthy risk-taking, and innovation combined with academic rigor. We believe that an environment of collaboration, mutual respect, caring, and trust is the foundation for establishing a commitment to lifelong learning. We believe that students learn best when they are connected to their community and can share in the obligations and duties of citizenship. North Reading High School embraces its opportunity to reach beyond its walls and is dedicated to preparing its students to be successful contributors to their local and global communities in the twenty-first century.

### **Twenty-first Century Learning Expectations**

#### **Academic Expectations:**

#### **1: THE STUDENT READS ACTIVELY AND CRITICALLY.**

LEARNER OUTCOME: *The student is able to read varied materials with both literal and analytical comprehension for a variety of purposes.*

#### **2: THE STUDENT COMMUNICATES CLEARLY IN SPEECH.**

LEARNER OUTCOME: *The student is able to verbally communicate ideas and information effectively for a variety of purposes and audiences.*

#### **3: THE STUDENT WRITES EFFECTIVELY.**

LEARNER OUTCOME: *The student is able to communicate ideas and information coherently in writing using standard English for a variety of purposes and audiences.*

#### **4: THE STUDENT IDENTIFIES, ACCESSES, AND UTILIZES A VARIETY OF RESOURCES FOR OBTAINING INFORMATION.**

LEARNER OUTCOME: *The student is able to locate, analyze, and synthesize appropriate materials for a variety of purposes.*

#### **5: THE STUDENT EMPLOYS MULTIPLE STRATEGIES IN REASONING AND PROBLEM SOLVING BOTH INDEPENDENTLY AND COLLABORATIVELY.**

LEARNER OUTCOME: *The student is able to effectively identify, evaluate, and creatively solve problems in addition to evaluating the process utilized.*

**6: THE STUDENT LISTENS EFFECTIVELY AND CRITICALLY.**

LEARNER OUTCOME: *The student is able to listen with literal and analytical comprehension in a variety of situations.*

**7: THE STUDENT DEMONSTRATES KNOWLEDGE AND SKILLS IN A VARIETY OF FORMS.**

LEARNER OUTCOME: *The student is actively engaged in his/her education. The student shows initiative, self-direction and productivity.*

**Civic and Social Expectations:**

**8: THE STUDENT DEMONSTRATES RESPECT AND TOLERANCE.**

LEARNER OUTCOME: *The student is able to interact effectively with others and work effectively in diverse teams, in both the local and global community.*

**9: THE STUDENT ACTS RESPONSIBLY AND DISPLAYS GOOD CITIZENSHIP.**

LEARNER OUTCOME: *The student participates in the school community both positively and ethically while finding constructive opportunities to influence its direction.*

***Accreditation Statement***

North Reading High School is accredited by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction.

Accreditation of an institution by the New England Association of Schools and Colleges indicates that the institution meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes 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 addressed through Accreditation.

Accreditation by the New England Association of Schools and Colleges is not partial but 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 institution's accreditation by the New England Association should be directed to the administrative staff of the school or college. Individuals may also contact the Association at:

New England Association of Schools and Colleges, Inc.  
3 Burlington Woods Drive, Suite 100  
Burlington, Massachusetts 01803-4514  
781-425-7700  
[www.neasc.org](http://www.neasc.org)

## *Graduation Requirements for Students*

North Reading High School offers an academic curriculum. Curriculum planning is focused on students' needs. Students may choose courses that meet their personal and career goals. It is the intent of North Reading High School to meet the educational needs of each student in order for him/her to develop his/her academic, social, cultural, and physical potential.

Students must enroll in eight courses per year. All courses are valued at one credit unless otherwise noted. Graduation requirements for all students are outlined below:

Total Credits for Graduation: 28

Subject Area Credits:

English	4	World Language	2
Social Studies	4	Health/Physical Education	2
Mathematics	4	Fine Arts/Digital Learning and Entrepreneurship*	3
Science & Technology	4	Electives	5

Students are required to complete, with a grade of 60 or higher, the following courses: English 9; English 10; American Literature or Advanced Placement English Language and Composition; in the senior year any one of the courses identified as satisfying the senior English course requirement; Biology; Chemistry or Physical Science; United States History I; United States History II or Advanced Placement United States History; Modern World History; Civics and Government or Advanced Placement United States Government and Politics; Physical Education/Health Education (two years: course numbers 910 and 911).

Students must participate in a physical education program each year of high school (MGL, Chapter 71: Section 3). Freshman and Sophomore Requirements: Students in grades 9 and 10 are required to successfully complete the "Health/Physical Education" course in each of the respective school years. Junior and Senior Requirements: Junior and senior students have a variety of options by which they may complete the physical education program requirement. Please see the "Physical and Health Education" section of this Program of Studies booklet for additional details on this requirement.

Waivers of the requirements outlined in this section may be granted at the discretion of the high school principal and only for compelling reasons.

\*Students are required to enroll in courses totaling three credits between the Fine Arts and the Digital Learning and Entrepreneurship Departments. Prior to the 2018-2019 school year, the Digital Learning and Entrepreneurship Department was titled the Business Department.

Important considerations when choosing courses include the following:

1. specific course requirements for each subject area;

2. students who have received credit for passing a course will not be given additional credit for repeating the same course with the exception of Academic Support, Band, Chorus, Fitness in the 21<sup>st</sup> Century, Piano, Stage Band, and Technical Theater Production;
3. students should understand the prerequisites for courses before enrolling in them;
4. transfer students must satisfy North Reading High School's graduation requirements in order to receive a diploma as determined at the time of enrollment;
5. in order to keep as many post-secondary options open as possible, students should refer to the Admission Standards for The Massachusetts State University System and the University of Massachusetts when choosing courses.

***When a student has come to a decision about his/her/their program of study and has indicated the choice of courses on the course selection form, the decisions are to be considered the final course selections. Only when unforeseen situations develop to alter the appropriateness of a student's course selection will a request for a change be honored. Decisions regarding the dropping of courses are subject to final approval by the principal consistent with the guidelines noted in the "North Reading High School Handbook for Students and Parents."***

### ***Northeast Metropolitan Regional Vocational High School***

An opportunity is available for a limited number of students who may wish to enroll in the Northeast Metropolitan Regional High School. Most of those accepted are students who are leaving grade eight and who show an interest and aptitude in vocational studies.

### ***Postsecondary Education***

Students seeking a college education or postsecondary training need to recognize the importance of performing well throughout their academic careers. Admissions to a two or four year institution requires proper selection of courses, academic achievement, and participation in activities outside of the classroom. Admission policies and requirements vary depending on the institution. However, the Massachusetts Department of Higher Education has established standards for admission to the public institutions of higher learning in the Commonwealth. Private colleges and universities and public institutions in other states may have more or less stringent standards than the standards established by the Massachusetts Department of Higher Education. The Massachusetts state institutions' requirements may be used as one example of an admissions policy. These requirements may also be helpful in guiding a student's course selections.

Students planning to enter the University of Massachusetts or one of the Massachusetts state universities will need to meet the following minimum requirements:

### ***Admissions Standards for all Massachusetts State Universities and the University of Massachusetts***

Admissions standards for freshman applicants have two parts:

- 17 required academic courses for matriculating students



- Minimum grade point average, calculated using the methodology mandated by the Massachusetts Department of Higher Education, earned in these required courses (see below).

### Academic Course Requirements

Seventeen college preparatory courses are required distributed as follows\*:

- English 4 courses
- Mathematics 4 courses (Algebra I and Algebra II, Geometry or Trigonometry or comparable coursework) including a mathematics course during the final year of high school
- Sciences 3 courses (drawn from Natural Science, Physical Science and/or Technology and Engineering) including 3 courses with a laboratory component
- Social Studies 2 courses (including 1 course in U.S. History)
- World Language 2 courses (in a single language, sequentially)
- Electives 2 courses (from the above subjects or from the arts and humanities or computer science areas)

### Minimum Grade Point Average (G.P.A.)

The minimum G.P.A. of 3.0, calculated at the end of the seventh semester, or at the time of the application, must be achieved in the required academic courses. The G.P.A. will be calculated by the institution to which the student is seeking admission using the methodology mandated by the Massachusetts Department of Higher Education. While the interpretation of the methodology may differ slightly from campus to campus it is likely that the G.P.A. calculation will only include the final grades from the seventeen required college preparatory courses or only the final grades from courses in English, mathematics, science, social studies and world language. The G.P.A. is a “weighted G.P.A.” as additional “points” are given to final grades earned in accelerated courses (i.e. Honors and Advanced Placement courses).

If a student’s G.P.A. falls below the minimum required G.P.A of 3.0, the following sliding scale will apply.

<u>Grade Point Average</u>	<u>State University* Minimum SAT Score (Combined Math &amp; EBRW)</u>	<u>State University* Minimum ACT (Composite Score)</u>
3.0 or higher	Not Applicable	Not Applicable
2.51-2.99	990	19
2.41-2.50	1030	20
2.31-2.40	1070	21
2.21-2.30	1110	22
2.11-2.20	1140	23
2.00-2.10	1180	24
Less than 2.0	Not Admissible	Not Admissible

\*Sliding scale requirements for the University of Massachusetts campuses (Amherst, Boston, Lowell, Dartmouth) are slightly higher than those for the state universities. It is

important to reiterate that the G.P.A. standard listed above refers to a G.P.A. calculated using the methodology set forth by the Massachusetts Department of Higher Education, not the G.P.A. calculated by North Reading High School. If you have questions on G.P.A. calculations, please contact the guidance office or contact the state university or the University of Massachusetts directly.

Students who meet the minimum G.P.A. requirement do not have to use the sliding scale for admission, but still may have to submit SAT or ACT test scores for consideration if they are applying to a state university or University of Massachusetts campus within three years of high school graduation. It is important to note that a few state colleges and universities have adopted test optional policies; therefore, applicants to these institutions may not be required to submit SAT/ACT test scores.

Many colleges and universities continue to review the role of standardized tests, such as the SAT or ACT, in the admissions process. Meeting the minimum requirements for courses or SAT or ACT scores does not guarantee admission. Similarly, if students seek admission to highly selective institutions, they would need a more rigorous course of study.

Students and parents are advised to explore all possibilities. More colleges and postsecondary institutions are providing greater flexibility in the programs and degrees they offer, as well as the types of financial aid packages offered.

Students and parents should consider recommendations from school counselors, teachers, and administrators regarding the best possible choices for high school and postsecondary planning.

### ***Grading and Grade Point Average (G.P.A.)***

Information regarding Grading and Grade Point Average (G.P.A.) can be found in the “North Reading High School Handbook for Students and Parents.”

### ***Summer Reading Program***

Participation in the Summer Reading Program is required of all students each year. All students will be formally assessed on the summer reading assignments.

### ***Honor Roll Policy***

Students receiving all grades of “90 or above” on their report card are awarded “high honors.” Students receiving all grades of “80 or above” on their report card are awarded “honors.”

### ***Advanced Placement Courses***

Advanced Placement (A.P.) courses are rigorous and are designed to provide a challenging educational environment for students who have demonstrated exceptional aptitude and work ethic. Advanced Placement courses indicate the greatest degree of difficulty and comply with the prescribed curriculum of the College Board. Advanced Placement courses provide students

with the opportunity to participate in college-level work and potentially to obtain college credit on the basis of their performance on the Advanced Placement examination. Given the high degree of rigor and expectations associated with Advanced Placement courses, enrollment in these courses is limited with respect to a student’s overall academic course load. As defined in the course descriptions, sophomore students may enroll in one A.P. course, junior students may enroll in no more than four total A.P. courses, and senior students may enroll in no more than five A.P. courses. Students seeking to enroll in more than two Advanced Placement level courses in the same school year may be required to review their course requests with an administrator.

Students seeking enrollment in an Advanced Placement course(s) must complete and submit an “Advanced Placement Course Contract” by June 1st of the school year prior to enrollment. After passing in an A.P. contract, students can contact their guidance counselor if they wish to make a change related to an A.P. course(s); however, please remember that changes to A.P. courses cannot be made after June 1<sup>st</sup> without the student completing a “Request to Change A.P. Course Enrollment” form and having it approved by the principal or his/her designee. All students who plan to enroll in an Advanced Placement level course must attend/view the course-specific informational meeting/video. Details about said meetings and/or videos are typically released in the late winter or early spring.

Summer assignments are issued for all Advanced Placement courses. It is the responsibility of each student to obtain the respective summer assignments prior to leaving school in June of the school year prior to enrollment in the desired Advanced Placement course(s). Student’s performance on their summer assignments will become a part of their Term One assessment.

Students who enroll in Advanced Placement courses must understand that there is a high level of academic rigor associated with the courses that includes, but is not limited to, extensive reading and writing, a significant amount of nightly homework, and independent study and research. Further, all students who enroll in Advanced Placement courses are required to participate in the appropriate content area Advanced Placement Examination(s); there is a cost associated with each exam. The estimated cost for each exam, which is subject to change, is \$100.00

<b>Advanced Placement Course Offerings</b>			
<b>Grade</b>	<b>Column A (3)</b>	<b>Column B (8)</b>	<b>Column C (8)</b>
<b>Grade 10:</b> <i>may choose 1 from Column A</i>	<ul style="list-style-type: none"> <li>• U. S. History</li> <li>• Environmental Science</li> <li>• Computer Principles</li> </ul>	<ul style="list-style-type: none"> <li>• Biology</li> <li>• Chemistry</li> <li>• English Language</li> <li>• World History: Modern</li> <li>• Statistics</li> <li>• Music Theory</li> <li>• Computer Programming</li> <li>• 2D Art &amp; Design Portfolio</li> </ul>	<ul style="list-style-type: none"> <li>• Physics</li> <li>• Spanish</li> <li>• French</li> <li>• U.S. Government</li> <li>• Psychology</li> <li>• English Literature</li> <li>• Calculus AB</li> <li>• Calculus BC</li> </ul>
<b>Grade 11:</b> <i>may choose up to 4 from Columns A &amp; B</i>			
<b>Grade 12:</b> <i>may choose up to 5 from Columns A, B, &amp; C</i>			

### ***The Seal of Biliteracy***

The Seal of Biliteracy is an award given to graduating seniors who have attained complete proficiency in English and a partner language. The awarded student will have fluency in all four domains of language (reading, writing, speaking and listening, when all exist) of both languages. This program is designed to both motivate and recognize students who have pursued and attained bilingualism during their academic career in North Reading.

Junior and Senior students attending North Reading High School are eligible to apply for this award. Students will need to demonstrate proficiency in English and in a partner language on district-selected standardized tests, as well as commit to engaging in a minimum of five hours of community service for the North Reading Public Schools. Students are encouraged to speak with a school administrator for more information. Exam costs are the responsibility of the student, approximately \$25 per test.

### ***Student Support Services***

North Reading High School recognizes the individualized needs of students who have been identified through the Special Education TEAM process as requiring specialized instruction. Students who are on Individualized Education Programs (IEP) may be supported in co-taught general education classrooms or through small group instruction. All co-taught classrooms are staffed with a general education teacher and licensed special education teacher. Small group specialized instruction can be provided during the school day and/or through Reading instruction with a focus on specific goals and objectives as indicated on the student's IEP.

### ***English Language Learners***

Direct ESL instruction is offered to English Learners. Students identified as English Learners are also enrolled in Sheltered English Immersion (SEI) classes taught by SEI endorsed educators. Classes are designed to promote the development of necessary skills to meet North Reading High School's learning expectations in the English language.

### ***Transition Planning***

Transition planning course is afforded to students identified through the Special Education TEAM process and provides a comprehensive overview of the post-secondary school opportunities available to students including college, vocational/technical training, independent life skills, employment, and community participation with a focus on self-advocacy and self-determination skills. High school transition planning may include connecting with the adult service agencies that may provide the student with services when he or she graduates or turns twenty-two years of age.

### ***Massachusetts Education Reform Law***

The Massachusetts Education Reform Act of 1993 designated the following as core subject areas of study: Science, Technology & Engineering; Mathematics; English/Language Arts; Social

Studies; Fine Arts; World Language. High academic learning standards that detail what our students should know and be able to do, are detailed in each core subject area Curriculum Framework. The North Reading High School Program of Studies lists with each core subject course the particular learning standard(s) that each course meets. Please note, it is not intended that each course of a core subject area meet all of the curriculum framework standards. It is intended that each standard be met through the sum of the individual student's core academic experiences.

All students are required to pass the Massachusetts Comprehensive Assessment System (MCAS) in order to receive a North Reading High School diploma. This requirement is mandated by the Massachusetts Education Reform Act of 1993. Students will be assessed in the core subject areas as designated by the Massachusetts Department of Education.

### ***Freshman Seminar***

Freshman Seminar is designed to enhance each student's learning experience. This seminar is required of all ninth graders and provides them with an exploratory learning experience in the following areas: extensions in mathematics, study skills, digital literacy skills including Microsoft applications, Google applications, and public speaking/communications. The Freshmen Seminar exploration will be taught within a rotating quarterly schedule. Students will receive numeric grades for their performance in the Freshmen Seminar consistent with the grading practices of all other courses.

### ***Accelerated Support in English and Mathematics***

Courses and curricula are designed to establish and promote a sound foundation for continued educational growth. At times, it becomes evident that additional time in the core content areas of English and Mathematics will greatly benefit some students. To that end, accelerated support in these areas is available during the school day as a component of tiered support strategies for students. This instructional time may be implemented to ensure a qualifying competency determination for the Massachusetts Comprehensive Assessment System (MCAS) or by teacher recommendation.


### ***The Course Selection Process***

The course selection process is an opportunity for both parents and students to plan a program of study designed to meet the needs of the individual student. Guidance counselors, teachers, curriculum specialists and the administration will assist students in this process. In planning your course selections from year to year, keep in mind higher education academic requirements as well as North Reading High School graduation requirements.

The goal of the course selection process is to provide students with the necessary academic credentials to enhance their success in a postsecondary educational experience, and/or in the workplace. Parents and students are encouraged to respect the recommendations of teachers as they relate to course level placement. Classroom teachers are in the best position to predict a student's potential for success in a course.

*Once the school year has begun, changes in a student’s course schedule may not be possible due to a variety of reasons including class size and scheduling conflicts, to name but two examples. Students and parents should plan carefully when selecting courses and must understand that changes in courses, once the school year has begun, will not be made capriciously nor without input from and approval of teachers and the school administration. Any student requesting a course/level change will be required to follow the required process as outlined in the “North Reading High School Handbook for Students and Parents.” In the rare instance when a change in a student’s schedule is made during the school year, the grade(s) earned in the previous course will be advanced to the new course as a means of providing a comprehensive assessment of the student’s performance.*

The following information is designed for parents and students in selecting appropriate course levels. Please note that these expectations are intended to provide clear examples of general course level guidelines. Additional expectations of students may be required by individual teachers. *Student expectations as identified in this table serve to work in coordination with the 21 <sup>st</sup> century learning expectations as outlined in North Reading High School’s statement of Core Values and Beliefs.
<b>Standard expectations for all students:</b>
Student is organized and prepared for class with proper materials and all necessary assignments.
Student is able to read, comprehend, and interpret material that is at or near grade level.
Student’s writing is generally organized and focused; student is able to write essays of varying length; the writing also exhibits an appropriate knowledge of grammar, mechanics, and vocabulary.
Student exhibits problem solving skills in order to pursue the answer to a challenging idea even when the solution is not obvious on first try.
Student is an active member and self-advocate within the classroom community.

<b>In addition to expectations for all students, Honors level course expectations are:</b>		<b>In addition to expectations for all Honors level courses; Advanced Placement level course expectations are:</b>
Student takes an active role in class discussions on a daily basis.		Student possesses the intellectual curiosity and self-motivation to be in a highly rigorous, college-level class.
Student possesses motivation and work-ethic to be in a high-level class and manage a demanding workload both in and out of class.		Student has the ability to handle multiple assignments at the same time.
Student demonstrates a high level of critical thought in order to analyze and interpret complex texts and problems		Student possesses and demonstrates a thorough understanding of content from Prerequisite courses and is able to manage a demanding work load both in and out of class.
Student is able to demonstrate the ability to be an independent reader, thinker, and conduct independent research.		Student completes summer assignments when given prior to the start of the course.

The following are recommended subject areas and/or requisite courses of study by grade level:

**Grade 9**

- \*Math (Algebra I or Geometry)
- \*Biology
- \*United States History I
- \*English 9
- \*World Language
- \*Physical Education/Health Education
- \*Freshmen Seminar
- Elective

**Grade 10**

- \*Math
- \*Chemistry or Physical Science
- \*United States History II  
or A.P. United States History
- \*English 10
- \*World Language
- \*Physical Education/Health Education
- Elective
- Elective

**Grade 11**

- \*Math
- \*Science
- \*Modern World History or A.P World History: Modern
- \*American Literature or AP English Language
- †† Physical Education program
- Elective
- Elective
- Elective
- Elective

**Grade 12**

- \*Math
- \*Science
- \*Civics and Government or AP Government
- \*† Any one of the courses identified as satisfying the Senior English course requirement
- †† Physical Education program
- Elective
- Elective
- Elective
- Elective

**Grade 9 Electives**

- Fine Arts
- Digital Learning & Entrepreneurship
- Technology

**Grade 10 Electives**

- English
- Science
- Social Studies
- Fine Arts
- Digital Learning & Entrepreneurship
- Technology
- Math

**Grade 11 Electives**

- Math
- Science
- English
- Social Studies
- Fine Arts
- World Language
- Digital Learning & Entrepreneurship
- Technology
- Physical Education

**Grade 12 Electives**

- Math
- Science
- Social Studies
- Fine Arts
- World Language
- Digital Learning & Entrepreneurship
- Technology
- Physical Education
- \*\*Senior Internship

\* required subject area and/or course of study; see section entitled “Graduation Requirements for Students” for additional information

\*\* students must meet all graduation requirements and receive permission from the school administration and the student’s guidance counselor.

† the courses that satisfy the senior English requirement are (1) Advanced Placement English Language and Composition; (2) Advanced Placement English Literature and Composition; (3) British Literature: Honors; (4) Modern World Literature: Honors; (5) Modern World Literature: Academic; (6) Contemporary Dramatic Literature: Honors; (7) Contemporary Dramatic Literature: Academic; (8) Journalism: Academic.

†† Junior and Senior Requirements: Junior and senior students have a variety of options by which they may complete the physical education program requirement. Please see the “Physical and Health Education” section of this Program of Studies booklet for additional details on this requirement.

Students must participate in a physical education program each year of high school. Freshman and Sophomore Requirements: Students in grades 9 and 10 are required to successfully complete the “Health/Physical Education” course in each of the respective school years. Junior and Senior Requirements: Students should review the information in the Physical and Health Education Section of the Program of Study.



# ENGLISH

A minimum of four English Language Arts courses are required for graduation. Students are encouraged to select additional electives. The English Language Arts curriculum emphasizes the importance of effective communication through critical thinking, speaking and writing. Therefore, students participate in a balanced program designed to refine their skills in reading, grammar usage, and vocabulary and to foster their appreciation of literature. In each course, students are engaged in a variety of activities that will provide them with the necessary knowledge and resources to continue personal and intellectual development throughout their lives.

## *The English Language Arts Content Standards: Massachusetts Curriculum Framework*

### Grades 9–10

#### **Reading Standards for Literature**

- Key Ideas and Details
- Craft and Structure
- Integration of Knowledge and Ideas
- Range of Reading and Level of Text Complexity

#### **Writing Standards**

- Text Types and Purposes
- Production and Distribution of Writing
- Research to Build and Present Knowledge
- Range of Writing

#### **Reading Standards for Informational Text**

- Key Ideas and Details
- Craft and Structure
- Integration of Knowledge and Ideas
- Range of Reading and Level of Text Complexity

#### **Speaking and Listening Standards**

- Comprehension and Collaboration
- Presentation of Knowledge and Ideas

#### **Language Standards**

- Conventions of Standard English
- Knowledge of Language
- Vocabulary Acquisition and Use

### Grades 11–12

#### **Reading Standards for Literature**

- Key Ideas and Details
- Craft and Structure
- Integration of Knowledge and Ideas
- Range of Reading and Level of Text Complexity

#### **Writing Standards**

- Text Types and Purposes
- Production and Distribution of Writing
- Research to Build and Present Knowledge
- Range of Writing

#### **Reading Standards for Informational Text**

- Key Ideas and Details
- Craft and Structure
- Integration of Knowledge and Ideas
- Range of Reading and Level of Text Complexity

#### **Speaking and Listening Standards**

- Comprehension and Collaboration
- Presentation of Knowledge and Ideas

#### **Language Standards**

- Conventions of Standard English
- Knowledge of Language
- Vocabulary Acquisition and Use

**English 9: Honors**

#110

English Honors is taught at a challenging pace using a wide range of curriculum materials. Students should possess a sound knowledge of grammar and a high degree of writing ability. Writing in the course will be analytical exposition with some variations in form and style. Literature study will be culled from ninth grade reading selections plus a comprehensive supplementary list. Rigorous spelling and vocabulary study will augment the writing and literature.

**MCF Grades 9-10--RL: 1-10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6****English 9: Academic**

#111

Students participate in an integrated course comprised of vocabulary study, grammar, writing, and literature. Composition will focus on various styles including narrative, descriptive, and persuasive, among others. Literature study will be comprised of selected works. Developmental reading skills may be included as needed.

**MCF Grades 9-10--RL: 1-10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6****English 10: Honors**

#120

This rigorous course is designed for accelerated students who can work independently. A selection of novels and plays are studied in depth. Writing assignments concentrate on critical analysis, but in addition, students are expected to keep a journal. Major emphasis is placed on the writing process and completion writing assignments of various types. Advanced grammar and vocabulary study supplement course work.

**MCF Grades 9-10--RL: 1-10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6****English 10: Academic**

#121

Students participate in an integrated course involving crucial communication skills. The writing focus is expository, highlighting fundamental forms: analytical, descriptive, narrative, and persuasive. Literature study concentrates on the genres: novel, poetry, drama, short story, and essay. Vocabulary development and grammar skills receive emphasis in the course.

**MCF Grades 9-10--RL: 1-10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6****American Literature: Honors**

#130

Major American authors will be the focus of this in-depth survey course. A thematic scheme will be maintained as students examine writings in the context of culture from Puritan beginnings to modern times. Historical perspective will provide background for the writings. Students should expect a rigorous reading load as well as frequent analytical papers and journal assignments to develop and refine critical judgments. Superior reading and writing skills are necessary for success in this course.

**MCF Grades 11-12--RL: 1-10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6****American Literature: Academic**

#131

Students examine the literature of America from Puritan times to the present. This survey course requires reading major American writers in an historical framework. Important literary movements such as Romanticism, Transcendentalism, and Realism are analyzed with appropriate readings to ascertain how they reflect American life in past eras. Critical essays, journal assignments, research papers, and vocabulary development augment the literature component.

**MCF Grades 11-12--RL: 1-10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6**

**Communications and Media: Academic**

#143

The focus of this course is media literacy and understanding. By studying and analyzing the various ways in which we communicate with each other, students will be better able to synthesize the vast amounts of information they come across each and every day. Units of study include journalism, advertising and marketing, radio, television, film, popular music, publishing, and Internet content. Students will take an in-depth look at the history and development of each of these areas in order to better understand them in their modern forms. Students will learn and practice journalistic writing, film and music criticism, script writing, public speaking, television and radio broadcasting, and other important elements of communication. Projects include newspaper publishing, filmmaking, music reviewing, etc. The goal of this course is to achieve a greater understanding of the many forms of media that wield such power over our modern world.

**Junior/Senior Elective; Sophomore Elective with teacher recommendation only****MCF Grades 11-12--RI: 1-7, 10; W: 1, 2, 5-9; SL: 1-6; L: 1-6****Journalism: Academic**

#147

The central focus of the Journalism course will be to expose students to the practices and applications of reporting and writing. The course will also provide students with the skills that they will need to interview and communicate effectively as “student journalists.” The course will largely be experiential in that students will report on current topics, trends, and people of interest. In addition, students will be expected to cover and report on various local news events such as municipal meetings, school sporting events, and theatre productions. The course will include discussion and study of the ethical concerns and responsibilities that journalists face in the field. Students will also receive a broad understanding of the history of journalism as well as the new approaches and methods journalists employ in our online age. Students will also learn various models of editing and layout so that they can produce profiles and stories that are publication-ready. **This course is available only to senior students and serves to satisfy the senior English course requirement.**

**MCF Grades 11-12--RI: 1-7, 10; W: 1-2, 4-10; SL: 1-6; L: 1-6****Contemporary Dramatic Literature: Academic**

#148

The focus of this course is to study contemporary plays, performance works and reviews. The plays studied in this course, by authors such as Williams, O’Neil, Wilson, Shepard, Stoppard, Brecht, Churchill and Ionesco, deal with characters who wrestle with struggles which are personal yet universal. In an effort to understand the unique qualities of each play, students will examine the social implications of various readings. Additionally, students will also develop original issue-oriented dramatic material and their own critical views in order to encourage awareness and acceptance among fellow students and citizens. Students will examine issues of particular relevance to the school and the world including, but not limited to, family conventions, hate crimes, revolution, gender bias, cultural and social privilege and questions about identity. Students will have the opportunity to continue their education in English Language Arts (reading, writing and critical thinking) and improve their social awareness and public speaking abilities. **This course is available only to senior students and serves to satisfy the senior English course requirement.**

**MCF Grades 11-12--RL: 1-8, 10; RI: 1-7; W: 1-10; SL: 1-6; L: 1-6**

**Contemporary Dramatic Literature: Honors**

#149

The focus of this course is to study contemporary plays, performance works and reviews. The plays studied in this course, by authors such as Williams, O’Neil, Wilson, Shepard, Stoppard, Brecht, Churchill and Ionesco, deal with characters who wrestle with struggles which are personal yet universal. In an effort to understand the unique qualities of each play, students will examine the social implications of various readings. Additionally, students will also develop original issue-oriented dramatic material and their own critical views in order to encourage awareness and acceptance among fellow students and citizens. In depth study of authors’ intention, historical setting and literary criticism as well as the study of additional dramatic works and research/writing assignments will set this class apart from its academic counterpart. Students will examine issues of particular relevance to the school and the world including, but not limited to, family conventions, hate crimes, revolution, gender bias, cultural and social privilege and questions about identity. Students will have the opportunity to continue their education in English Language Arts (reading, writing and critical thinking) and improve their social awareness and public speaking abilities. **This course is available only to senior students and serves to satisfy the senior English course requirement.**

**MCF Grades 11-12--RL: 1-8, 10; RI: 1-7; W: 1-10; SL: 1-6; L: 1-6****Advanced Placement English Literature and Composition**

#150

This intense and rigorous English course prepares students for the Advanced Placement test for which they may receive college credit. Content includes short stories, poetry, plays, and novels by American, British, and world authors. Students will write numerous papers as well as a major research paper. They will read two assigned novels from a summer reading list and submit reports at the start of the course. The course is designed to reflect the academic expectations and rigor of a college-level course as delineated by the College Board. Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. **This course is available only to senior students only and serves to satisfy the senior English course requirement. Students will be expected to take the Advanced Placement English Literature and Composition exam.**

**Prerequisites: successful completion of English 9 (Honors strongly recommended), English 10 (Honors strongly recommended), and American Literature (Honors strongly recommended) or Advanced Placement English Language and Composition.**

**MCF Grades 11-12--RL: 1-10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6****The Writer’s Workshop: Academic**

#152

The Writer’s Workshop is an elective course for junior students who would like to reinforce their writing skills to prepare for senior year and college-level work. The course will focus on instruction and practice in expository, persuasive, and informational writing with an emphasis on 21st century skills such as communication and collaboration, and information literacy. Assignments and units of study will include in-depth work with five-paragraph essays, research papers, and standardized test essays (SAT and ACT). The fourth quarter will include an introduction to the college essay. Students will review and regularly practice grammar usage, mechanics, and revising and editing strategies. As much as possible, students will do their writing and revising in a computer lab at school. At the end of the year, students should see significant improvement in their confidence and competence as writers. This course is not recommended for students electing to enroll in Advanced Placement English Language and Composition. **Junior Elective**

**MCF Grades 11-12--RL: 3, 4; RI: 5-10; W: 1-10; L: 1-6**

**Creative Writing: Poetry, Stories, & the American Novel: Academic #154**

Creative Writing: Students are required to write in the creative mode. During this semester, the course has two main objectives: to introduce students to various types of creative writing and to encourage independent work on their creative pursuits. Students study and then create writings from the major categories of creative writing: poetry, prose, and plays. The course is structured as a writing studio where students work at their own pace and receive one-on-one instruction from the teacher.

Novel Writing: This semester-long portion focuses on identifying obstacles to writing a novel and eliminating them as well as establishing an intimacy with characters and creating a solid outline to guide students through their story. Weekly assignments, group interaction, and instructor feedback support students as they explore various methods of writing their first novel while learning key craft points of plot, structure, point-of-view, sense of place, and voice. Participants receive intensive instructor and peer critiques of manuscript chapters and their relation to the overall work, including a review as needed of the effective use of voice, tone, mood, imagery, and metaphor. One of the major goals of this course is to give students all the self-editing skills they need to polish and revise their entire novel--within and beyond the course itself.

**Junior/Senior Elective; Sophomore elective with teacher recommendation**

**MCF Grades 11-12--RL: 1-7; RI: 1-7; W: 1-6, 10; SL: 1, 3; L: 1-3**

**Advanced Placement English Language and Composition #155**

The Advanced Placement English Language and Composition course engages students in becoming skilled readers of prose written in a variety of rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes. Through reading and writing students will gain knowledge of the interactions among a writer's purposes, audience expectations, and subjects, as well as the way genre conventions and the resources of language contribute to effectiveness in writing. Students write in both informal and formal contexts to gain authority and learn to take risks in writing. In addition, the informed use of research materials and the ability to synthesize varied sources are integral parts of the course. Students evaluate the legitimacy and purpose of sources used and learn to sort through disparate interpretations to analyze, reflect upon, and write about a topic. The course is designed to reflect the academic expectations and rigor of a college-level course as delineated by the College Board. Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. **This course is available to junior and senior students only and serves to satisfy the junior English requirement (American Literature) or the senior English course requirement. Students will be required to take the Advanced Placement English Language and Composition exam.**

**Prerequisites: successful completion of English 9 (Honors strongly recommended) and English 10 (Honors strongly recommended)**

**MCF Grades 11-12--RL: 1-10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6**

**Literature and the Human Experience: Academic #156**

This elective course is for junior and senior students interested in broadening their literary experience across four genres; Epics, Fairy Tales, Poetry, and the works of Shakespeare. These literary styles are approached quarterly with a year-long focus on how literature is both a mirror

and a window into the human experience, regardless of the genre or time period. Along with an emphasis on writing, additional course objectives include improving critical thinking and analytical skills and improving close reading **Junior/Senior Elective; MCF Grades 11-12--RL: 1-10; W: 1-10; SL: 1-4, 6; L: 1-6**

**British Literature: Honors**

**#160**

The honors level British Literature course is in-depth and fast-paced requiring more extensive reading and writing than outlined for the academic level course. Seniors electing this course will refine their critical reading and thinking skills through the analysis of classic to contemporary British works from all genres. An emphasis is placed on demonstrating above-average communication skills in the areas of speaking, listening, reading, viewing, writing, and presenting. Continued emphasis on developing stylistic maturity assists students in the writing of college essays and a required research paper. **This course is available only to senior students and serves to satisfy the senior English course requirement.**

**MCF Grades 11-12--RL: 1-8, 10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6**

**Modern World Literature: Honors**

**#165**

The honors level Modern World Literature course is in-depth and accelerated requiring more extensive reading and writing than outlined for the academic level course. (See Honors Level Course Expectations as identified on page 14.) Seniors electing this course will refine their critical reading and thinking skills through the analysis of modern literature (1960-present) from all genres and from across the world. An emphasis is placed on demonstrating above-average communication skills in the areas of speaking, listening, reading, viewing, writing, and presenting. Continued emphasis on developing stylistic maturity assists students in the writing of college essays and a required research paper.

**This course is available only to senior students and serves to satisfy the senior English course requirement.**

**MCF Grades 11-12--RL: 1-7, 10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6**

**Modern World Literature: Academic**

**#166**

This course includes the refinement of critical reading and thinking skills through the analysis of modern literature (1960-present) from all genres and from across the world. An emphasis is placed on demonstrating mastery of communication skills in the areas of speaking, listening, reading, viewing, writing, and presenting. Continued instruction in grammar usage and vocabulary assists students in the writing of post-graduate and college essays and a required research paper.

**This course is available only to senior students and serves to satisfy the senior English course requirement.**

**MCF Grades 11-12--RL: 1-7, 10; RI: 1-10; W: 1-10; SL: 1-6; L: 1-6**

**Standardized Test Preparation: Reading and Writing: Academic**

**#820**

This course is designed to help students maximize their performance on the verbal portion of standardized tests. The focus of the course will be on providing students with skills that they can utilize to maximize their performance on the SAT and ACT examinations. Students will be introduced to test-taking strategies that will assist them with taking a standardized test, and practice questions will be introduced and reviewed. Students will also be familiarized with the testing

experience by taking sample tests and writing sample essays under circumstances that simulate those of an actual standardized test. Enrollment in this course may not be used toward the fulfillment of the graduation requirement that each student successfully complete four years of English. The course will be taught in an alternating semester format with “Standardized Test Preparation - Mathematics.” **Junior Elective**  
**MCF Grades 11-12--RL: 1-6; RI: 1-6, 10; W: 1-10; SL: 1-6; L: 1-6**

# MATHEMATICS

A minimum of four Mathematics courses are required for graduation. Upon entering the high school, students who have successfully completed Grade 8 Mathematics will take Algebra I in grade 9. If a student has successfully completed Algebra I in grade 8, then the student is eligible to take Geometry in grade 9. Any questions concerning individual course sequence or selecting more than one math course in a year should be discussed with the student's guidance counselor.

It is strongly recommended that each student purchase a graphing calculator for use in his/her mathematics course. The Mathematics Department currently uses the TI-84 PLUS in classroom demonstrations and activities. A graphing calculator is necessary for Calculus and Statistics courses and building a familiarity with the calculator earlier is important.

## *The Mathematics Content Standards: Massachusetts Curriculum Framework Standards*

The following content learning standards reflect the Massachusetts Curriculum Frameworks for Mathematics (March 2017). It is intended that all students will increasingly use the processes and develop the proficiencies of the Standards of Mathematical Practice as they study each learning standard and grow in mathematical maturity and expertise.

The Massachusetts Curriculum Frameworks for Mathematics can have a significant impact in planning your academic program in mathematics. Identified prerequisites in mathematics courses are included to establish a foundation for learning. As such, for current freshman students, the following recommendations are made if the student desires to enroll, during his/her sophomore year, in Geometry CCSS Honors #223 and Algebra II CCSS Honors # 218 concurrently:

- an Algebra I CCSS Honors grade of 87 or higher
- Algebra I CCSS Honors Teacher recommendation
- an 8<sup>th</sup> grade MCAS/9<sup>th</sup> PARCC performance rating of Advanced

## *The Standards for Mathematical Practice*

The mathematical practice standards, based on processes and proficiencies, are:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for an express regularity in repeated reasoning.



## *The Standards for Mathematical Content*

### **Number and Quantity**

- The Real Number System
- Quantities
- The Complex Number System
- Vector and matrix Quantities

### **Algebra**

- Seeing Structure in Expressions
- Arithmetic with Polynomials and Rational Expressions
- Creating Equations
- Reasoning with Equations and Inequalities

### **Functions**

- Interpreting Functions
- Building Functions
- Linear, Quadratic, and Exponential Functions
- Trigonometric Functions

### **Modeling**

### **Geometry**

- Congruence
- Similarity, Right Triangles, and Trigonometry
- Circles
- Expression Geometric Properties with Equations
- Geometric Measurement and Dimension
- Modeling with Geometry

### **Statistics and Probability**

- Interpreting Categorical and Quantitative Data
- Making Inferences and Justifying Conclusions
- Conditional Probability and The Rules of Probability
- Using Probability to Make Decisions

### **Algebra I CCSS: Honors**

**#214**

This course consists of a deep and rigorous experience with all the topics in a first year college preparatory Algebra course consistent with the Massachusetts Common Core frameworks for Algebra I. Units of study include: Relationships Between Quantities and Reasoning with Equations, Linear and Exponential Relationships, Descriptive Statistics, Expressions and Equations, and Quadratic Functions and Modeling. This course consists of the same units of study as Algebra I: Academic, in greater depth and at an accelerated pace. Mastery of Grade 8 Mathematics is required. Students can expect a demanding workload both in and out of class.

**Content Standards: 1,2,3,4,6**

### **Algebra I CCSS: Academic**

**#215**

This course consists of all the topics in a first year college preparatory Algebra course consistent with the Massachusetts Common Core frameworks for Algebra I. Topics include: basic properties of the rational numbers, solving equations and inequalities, operations with real numbers, graphing and solving linear equations in one and two variables, operations with polynomials and rational expressions, and exponents. In addition, concepts of data analysis, statistics, and probability will be introduced.

**Content Standards: 1,2,3,4,6**

### **Geometry CCSS: Honors**

**#223**

The purpose of this course is to formalize and extend students' geometric experiences from the middle grades in a deep and rigorous way. Students explore more complex geometric situations and deepen their explanations of geometric relationships by presenting and hearing formal mathematical arguments. Important differences exist between this course and the historical

approach taken in geometry; for example, transformations are emphasized in this course. Students can expect a demanding workload both in and out of class.

**Prerequisite: Algebra I CCSS (Honors recommended)**

**Students considering enrolling in this class and Algebra II CCSS Honors concurrently should review the recommendations on page 25. Content Standards: 1,4,5,6**

**Geometry CCSS: Academic**

**#224**

The purpose of this course is to formalize and extend students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships by presenting and hearing formal mathematical arguments. Important differences exist between this course and the historical approach taken in geometry; for example, transformations are emphasized in this course. Algebra I CCSS skills will be utilized throughout this course.

**Prerequisite: Algebra I CCSS. Content Standards: 1,4,5,6**

**Algebra II CCSS: Honors**

**#218**

This course consists of a deep and rigorous experience with all the topics in a second year college preparatory Algebra course consistent with the Massachusetts Common Core frameworks for Algebra II; building on students' work with linear, quadratic, and exponential functions, and extending their repertoire of functions to include logarithmic, polynomial, rational, and radical functions. Students can expect a demanding workload both in and out of class.

**Prerequisites: Algebra I CCSS (Honors recommended); Geometry CCSS (Honors recommended) or currently taking Geometry CCSS (please see recommendations on page 25). Content Standards: 1,2,4,5,6**

**Algebra II CCSS: Academic**

**#219**

This course consists of all the topics in a second year college preparatory Algebra course consistent with the Massachusetts Common Core frameworks for Algebra II; building on students' work with linear, quadratic, and exponential functions, and extending their repertoire of functions to include logarithmic, polynomial, rational, and radical functions.

**Prerequisites: Algebra I CCSS (Honors recommended); Geometry CCSS (Honors recommended) or currently taking Geometry CCSS (please see recommendations on page 25). Content Standards: 1,2,4,5,6**

**Pre-Calculus CCSS: Honors**

**#232**

This course consists of all the topics in a college preparatory Pre-Calculus course consistent with the Massachusetts Common Core frameworks for Pre-Calculus; combining the trigonometric, geometric, and algebraic techniques needed to prepare students for the study of calculus, and strengthening students' conceptual understanding of problems and mathematical reasoning in solving problems

**Prerequisite: Geometry CCSS; Algebra II CCSS; Algebra II CCSS (Honors recommended)  
Content Standards: 1,2,3,4,5,6**

**Pre-Calculus CCSS: Academic**

# 233

This course is a study of advanced algebra and trigonometry. Topics include: an algebra review, matrices, and functions such as, inverse, polynomial, exponential, logarithmic, circular and trigonometric. In addition, some basic calculus skills will be introduced.

**Prerequisite: Geometry CCSS; Algebra II CCSS. Content Standards: 1,2,3,4,5,6**

**Calculus: Honors**

#240

This course is designed as an introduction to topics generally comprising first semester college calculus. Topics include: analytic geometry and introductory calculus through the study of limits, derivatives, and integrals. Frequent use of graphing calculators requires each student to have access to a graphing calculator for this course.

**Prerequisite: Pre-Calculus CCSS. Content Standards: 1,2,3,4,5,6**

**Advanced Placement Calculus AB**

#251

This course is a college-level Advanced Placement course meeting the requirements for the AB level examination in Calculus as administered by the College Entrance Examination Board. Topics of study include: functions, limits, derivatives, anti-derivatives, and definite and indefinite integrals. Prior expertise is required in working with radian measure and transcendental functions (exponential, logarithmic, trigonometric, etc.) The course is designed to reflect the academic expectations and rigor of a first semester college level course as delineated by the College Board. Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. **Students will be required to take the Advanced Placement Calculus AB Exam. This course is available to senior students only.**

**Prerequisite: Pre-Calculus CCSS (Honors recommended)**

**Content Standards: 1,2,3,4,5,6**

**Advanced Placement Calculus BC**

#252

This is a college-level, Advanced Placement course meeting the requirements for the BC level examination in Calculus as administered by the College Entrance Examination Board. Advanced Placement Calculus BC will address advanced integration techniques, advanced applications of integration to different types of functions, and polynomial series approximations. Advanced Placement Calculus BC is an extension of Advanced Placement Calculus AB rather than an enhancement; common topics require a similar depth of understanding. Prior expertise is required in working with radian measure and transcendental functions (exponential, logarithmic, trigonometric, etc.) The course is designed to reflect the academic expectations and rigor of two college level courses in Calculus as delineated by the College Board and is most recommended for students who would have more than a one course mathematics requirement in college (for example, students intending to be mathematics, science, and engineering majors.) Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. **Students will be required to take the Advanced Placement Calculus BC Exam. This course is available to senior students only.**

**Prerequisite: Pre-Calculus CCSS (Honors recommended). Content Standards: 1,2,3,4,5,6**

**Probability and Statistics: Academic**

#253

This course is designed to provide senior students with knowledge of elementary probability and statistics. Students will learn the basic concepts of: descriptive statistics, data collection, probability and random variables. Topics include: distributions, relationships, data collection, probability, inference concepts, inference for distributions, proportions, two-way tables and regression, the relationship between probability and inference, and regression. Students will be able to develop a working understanding of a variety of inferential techniques and explore further methods of statistical analysis using statistical software. Students will participate in group projects where a statistical problem is solved using the methods learned. *Students enrolled in this course are not eligible to enroll in the Advanced Placement Statistics course (#255) at any point in their high school career.*

**Prerequisite: Algebra II CCSS. Content Standards: 1,2,4,5,6**

**Advanced Placement Statistics**

#255

The Advanced Placement Statistics course is designed to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students will learn and implement fundamental concepts of probability and random variables. Students will develop a working understanding of the use of a variety of inferential techniques and explore further methods of statistical analysis emphasizing statistical reasoning and data analysis using statistical software such as the built-in software in the TI-84 graphing calculators, R, and Excel. Students will also participate in collaborative projects where a statistical problem is solved using the methods learned in the course. The course is designed to reflect the academic expectations and rigor of a college-level course as delineated by the College Board. Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. *Students enrolled in this course are not eligible to enroll in the Probability and Statistics: Academic course (#253) at any point in their high school career.* **Students will be required to take the Advanced Placement Statistics Exam. This course is available to junior and senior students only.**

**Prerequisite: Algebra II CCSS (Honors recommended). Content Standards: 1,2,4,5,6**

**Senior Integrated Mathematics: Academic**

#260

This course is intended to expand students' critical thinking skills, mathematical proficiency, and mathematical reasoning related to functions and algebraic concepts. It is designed to develop the ideas, computational techniques, and methods of reasoning and problem solving used in college mathematics. There is an emphasis on the algebra necessary to solve first and second degree equations, constructing models using linear, quadratic and polynomial functions and concepts of coordinate geometry and trigonometry.

**Prerequisite: Algebra I CCSS; Geometry CCSS; Algebra II CCSS**

**Content Standards: 1,2,3,4,5,6**

**Advanced Algebra with Financial Applications: Academic**

#262

This course is a mathematical modeling course that is algebra-based, applications oriented, and technology dependent for senior students. The course addresses college preparatory mathematics topics from advanced algebra, statistics, probability, pre-calculus, and calculus under seven financial umbrellas: banking, investing, credit, employment and income taxes, automobile ownership, independent living, retirement planning, and household budgeting. In addition, this

course allows students to experience the interrelationships of mathematical topics, find patterns, make conjectures, and extrapolate from known situations to unknown situations as they employ a variety of problem-solving skills and strategies in real-world contexts and learn to question outcomes using mathematical analysis and data to support their findings. The curriculum is aligned to the standards presented within the conceptual categories of the Massachusetts Curriculum Framework for Mathematics as well as relevant standards found in Personal Financial Literacy from the Massachusetts History and Social Science Framework. This course is available to senior students only.

**Prerequisites:** Algebra I CCSS; Geometry CCSS; Algebra II CCSS

**Content Standards:** 1,2,3,4,6

### **Computer Programming: Academic**

**#273**

The Computer Programming course is designed to develop the student's understanding of computer programming through class discussion, written programs, and hands-on computer usage. Students will be required to create and develop original solutions to problems that can be solved by computer programs. Topics include syntax and semantics, input/output commands, looping, functions, subroutines, string processing, arrays, recursion, reading from and writing to files, object-oriented programming, and graphics. Contemporary programming languages such as C# and Java will be incorporated. Enrollment in this course can be applied toward satisfying *either* a Mathematics Department graduation requirement *or* a Digital Learning and Entrepreneurship Department graduation requirement, but not both.

**Prerequisite:** Algebra I CCSS

### **Advanced Placement Computer Science Principles**

**#274**

AP Computer Science Principles is an introductory college-level computing course. Students cultivate their understanding of computer science by working with data, collaborating to solve problems, and developing computer programs. Throughout the course, students will explore concepts like creativity, abstraction, data and information, algorithms, programming, the internet, and the global impact of computing. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will learn a range of programming languages and skills to support problem solving and course project outcomes. The course culminates in a performance task and multiple choice AP exam assessment. Enrollment in this course can be applied toward satisfying *either* a Mathematics Department graduation requirement *or* a Digital Learning and Entrepreneurship Department graduation requirement, but not both. **Students will be required to take the Advanced Placement Computer Science Principles Examination. This course is available to sophomore, junior and senior students only.**

**Prerequisite:** Web Design, Robotics I, or Computer Programming.

### **Advanced Placement Computer Science A**

**#275**

Advanced Placement Computer Science A is the equivalent of a college-level course aligned with the curriculum established by the College Board. In addition to extending students' understanding of the basic topics studied in the prerequisite Computer Programming course such as objects, syntax and style, algorithms, loops, strings, classes, and arrays, the Advanced Placement Computer Science A course will cover additional topics including both hardware and software study, and

searching and sorting algorithms. Students are expected to be familiar with and be able to use standard Java. Study of these topics will be supported by Advanced Placement level practice problems from previously administered Advanced Placement Computer Science A examinations. Summer assignments are to be completed for this course. It is the responsibility of the student to obtain the summer assignments prior to leaving school in June. Enrollment in this course can be applied toward satisfying *either* a Mathematics Department graduation requirement *or* a Digital Learning and Entrepreneurship Department graduation requirement, but not both. **Students will be required to take the Advanced Placement Computer Science A Examination. This course is available to junior and senior students only.**

**Prerequisite: Computer Programming: Academic or Advanced Placement Computer Science Principles**

**Standardized Test Preparation/Mathematics: Academic**

**#820**

This course is designed to help students maximize their performance on the mathematics portion of standardized tests. The focus of the course will be on providing students with skills that they can utilize to maximize their performance on the SAT and ACT examinations. Students will be introduced to test-taking strategies that will assist them with taking a standardized test, and practice questions will be introduced and reviewed. Students will also be familiarized with the testing experience by taking sample tests under circumstances that simulate those of an actual standardized test. An emphasis will be placed on learning mathematical concepts; learning to read mathematics; and strengthening test-taking, critical thinking, and problem solving skills. Enrollment in this course may not be used toward the fulfillment of the graduation requirement that each student successfully complete four years of mathematics. The course will be taught in an alternating semester format with “Standardized Test Preparation – Verbal.”

**Junior Elective**

**Content Standards: 1,2,3,4,5,6**

# SCIENCE, TECHNOLOGY, & ENGINEERING

A minimum of four Science, Technology & Engineering courses are required for graduation. All grade nine students are required to take and successfully complete Biology. The course selections for students in grades 10-12 may vary and should be discussed with a guidance counselor.

## *The Science and Engineering Content Standards: Massachusetts Curriculum Framework Standards*

The practices in grades 9–12 build on pre-K–8 experiences and progress to more technical and sophisticated applications to the natural and designed world we live in. The integration of science and engineering practices in high school science courses gives students dynamic and relevant opportunities to refine and communicate science understandings to be well prepared for civic life, postsecondary education, and career success. Essential competencies for students by the end of grade 12 include reading and comprehending relevant issues in science to be informed decision makers. Accurately using mathematics and computation as it applies to daily life and engaging in the practice of modeling to solve real-world problems enables all students to understand and analyze key scientific and technical issues they will be asked to address throughout their lives. Communicating explanations coherently, with evidence from credible sources, is critical to engaging in public discourse.

By the end of high school, students should have an understanding of and ability to apply each science and engineering practice to understand the world around them. Students should have had many opportunities to immerse themselves in the practices and to explore why they are central to the applications of science and engineering.

## *The Standards for Science and Engineering Practice*

1. Asking questions and defining problems
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations and designing solutions
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

### **Biology Content Standards**

- From Molecules to Organisms: Structures and Processes:
- Ecosystems: Interactions, Energy, and Dynamics
- Heredity: Inheritance and Variation of Traits

### **Physics Content Standards**

- Matter and Its' Interactions
- Motion and stability: Forces and Interactions
- Energy
- Waves and their Application in Technologies for Information Transfer

- Biological Evolution: Unity and Diversity

**Chemistry Content Standards**

- Matter and Its' Interactions
- Motion and Stability: Forces and Interactions
- Energy

**Earth and Space Sciences Content Standards**

- Earth's Place in the Universe
- Earth's Systems
- Earth and Human Activity

**Technology / Engineering Content Standards**

- Engineering Design
- Materials, Tools, and Manufacturing
- Technological Systems
- Energy and Power Technologies

**Biology: Honors**

**#300**

This course is offered as the first year Science course upon entering high school and investigates more complex phenomena related to genetics, the functioning of organisms, and interrelationships between organisms, populations, and the environment. Topics include molecular and organismal structures and processes; ecosystem interactions, energy dynamics; inheritance and variation of traits; and unity and diversity through evolution. This course will include the same topics of study as Academic Biology in more depth and at an accelerated, rigorous pace. Additional projects and research papers will be assigned.

**Learning Standards: Biology 1,2,3,4**

**Biology: Academic**

**#301**

This course is offered as the first year Science course upon entering high school and investigates more complex phenomena related to genetics, the functioning of organisms, and interrelationships between organisms, populations, and the environment. Topics include molecular and organismal structures and processes; ecosystem interactions, energy dynamics; inheritance and variation of traits; and unity and diversity through evolution.

**Learning Standards: Biology 1,2,3,4**

**Comparative Anatomy & Physiology: Honors**

**#312**

This course is an in-depth study of the form and function of the human body. The anatomy, physiology, and pathology of each organ system in humans will be examined. Comparison of the organization of other animal phyla and chordate classes will enrich the curriculum. The class will focus on hands-on activities and laboratories. It will meet the needs of students preparing for higher education in an area of biological science or for those seeking to enter a health-related profession. Students will have an opportunity to dissect a small mammal.

**Junior/Senior Elective**

**Prerequisite: Biology (Honors strongly recommended); Chemistry (Honors strongly recommended); Learning Standards: Biology 1,2,3,4**

**Human Anatomy & Physiology: Academic**

**#313**

This course is a study of the human body. The structure and function of each human system will be investigated. In addition, students will learn about diseases related to body systems. The class will focus on hands-on activities and laboratories. This course will meet the needs of someone



interested in exploring questions related to our body systems or for those seeking to enter a health-related profession. Students will have an opportunity to dissect a small mammal.

**Junior/Senior Elective**

**Prerequisite: Biology; Chemistry strongly recommended**

**Learning Standards: Biology 1,2,3,4**

**Advanced Placement Biology**

**#315**

This course is designed to be the equivalent of a college introductory biology course. The curriculum is composed of four areas of study called Big Ideas: (1) The process of evolution drives the diversity and unity of life; (2) Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis; (3) Living systems store, retrieve, transmit, and respond to information essential to life processes; and (4) Biological systems interact, and these systems and their interactions possess complex properties. There is an emphasis on student inquiry in the labs and using math in conjunction with biological principles. The course is designed to reflect the academic expectations and rigor of a college-level course as delineated by the College Board. Summer assignments will be given prior to leaving school in June. **Students will be required to take the Advanced Placement Biology Exam.**

**Prerequisites: Biology (Honors strongly recommended), Chemistry (Honors strongly recommended); Prerequisite or Corequisite: Comparative Anatomy and Physiology:**

**Honors. Learning Standards: Biology 1, 2, 3, 4**

**Biochemistry: Honors**

**#317**

This course, an alternative to Advanced Placement Science courses, is a study of the fundamental concepts of chemistry as well as topics of chemistry as they relate to living systems. This course is similar to a course found at the college level for students entering the health sciences and related fields. An in-depth study of medical applications of the topics is a common theme of the course. Topics covered include: chemistry of foods and their effects on the body, ocean life and marine chemistry, health and medical applications such as drug and alcohol use, environmental and societal issues such as poisons and pollution due to organic compounds and products emitted into our atmosphere. This course is very useful for students interested in majoring in medicine, nursing, pharmacology, marine biology, chemistry, pharmacy, biology, physical therapy and any of the other health-related areas. **Junior/Senior Elective**

**Learning Standards: Biology 1,2,3,4; Chemistry 2,4. Prerequisite: Biology; Chemistry**

**Physical Science: Academic**

**#320**

This course is designed to afford students with the opportunity to improve their scientific intuition and to develop confidence in dealing with science-related topics. Students will be provided an opportunity to develop and hone their skills in scientific principles to prepare them for the study of higher level sciences such as chemistry and physics. The course will survey the principles of physical science with some integration of life science concepts. Students will explore several traditional divisions of classical physics, including motion and force and also gain an appreciation of the nature and properties of matter, energy transformations, matter cycles, and astronomy. The course will provide an inquiry-based approach which focuses on hands-on laboratory investigations, individual studies, and group activities.

**Prerequisite: teacher recommendation**

**Learning Standards: Chemistry 1,3,4,; Physics 1,2,3,4, Technology and Engineering 1, 2**

**Forensic Science: Academic**

#327

Forensic science is the application of basic biological, chemical, and physical science principles and technological practices to the purpose of justice in the study of criminal and civil issues. Major themes of study in this course are microscopy of hair and fibers, voice and facial recognition, pathology, ballistics, arson investigations, anthropology, odontology, trace evidence, biological fluids, DNA, fingerprints, impression evidence, questioned documents, and forensic psychiatry/psychology. The class is student and inquiry-centered and uses an experimental approach to investigate the practical applications of technology in the field of forensic science.

**Senior Elective****Prerequisite: Biology****Learning Standards: Biology 1,2,3,4****Environmental Science: Understanding and Protecting Our Home in the Universe****Academic**

#328

This course will introduce students to Environmental Science, which involves two interconnected sciences: Earth and Biology. Students will investigate how Earth's systems are interconnected and what role humans play in changing Earth's systems. Major questions will be explored, such as the following: What makes our planet unique in the solar system and possibly the universe? How has our planet changed over time? How have humans changed our planet? Can humans live on Mars?

**Junior/Senior Elective****Prerequisite: Biology****Learning Standards: Earth Science 1,2,3; Biology 2,4****Chemistry: Honors**

#330

This course will include the same topics of study as academic chemistry, along with oxidation-reduction and electrochemistry, however, in more depth and at an accelerated, rigorous pace. In addition, there will be an emphasis on topics that require more extensive mathematical skills.

**Learning Standards: Chemistry 1,2,3****Prerequisite: Biology, Algebra I****Chemistry: Academic**

#331

This course is a year-long study of the quantitative and descriptive principles of chemistry. Topics include: structure of matter, physical and chemical changes, atomic structure, periodic law, chemical bonding, chemical equations, acid-base theory, and gas laws.

**Learning Standards: Chemistry 1,2,3****Prerequisite: Biology, Algebra I****Advanced Placement Chemistry**

#335

The Advanced Placement Chemistry course is structured around the six big ideas articulated in the AP Chemistry Curriculum Framework provided by the College Board. These ideas emphasize the structure and properties of matter, chemical reactions, rates of reaction, thermodynamics, and equilibrium. A special emphasis will be placed on the seven science practices with learning objectives that combine content with inquiry and reasoning skills. One goal of the science practices is for students to develop a deeper understanding of chemistry by linking ideas to other science disciplines. The course provides students with the opportunity to connect their knowledge of chemistry and science to technological advances, innovations, and to the concerns of society.

Advanced Placement Chemistry is open to all students who have completed a year of chemistry and who wish to take part in a rigorous, challenging course. Laboratory work is integrated throughout the year. A summer review assignment is required, and it is the responsibility of each student to obtain the summer assignment prior to leaving school in June. **Students will be required to take the Advanced Placement Chemistry Exam. This course is available to junior and senior students only.**

**Prerequisites: Biology (Honors strongly recommended) and Chemistry (Honors strongly recommended)**

**Pre or Corequisite: Algebra II**

**Learning Standards: Chemistry 1,2,3**

**Physics: Honors**

**#340**

This course will include the same topics of study as academic physics, however in more depth and at an accelerated, rigorous pace. Additional topics include: vector addition using law of sines and cosines, component forces on incline planes, elastic and inelastic collisions, and relative intensities of sound waves.

**Prerequisite: Chemistry; Algebra I; Algebra II; Prerequisite or corequisite: Pre-Calculus**

**Learning Standards: Physics 1,2,3,4**

**Physics: Academic**

**#341**

Students will study topics such as motion and forces, conservation of energy and momentum and energy, heat and heat transfer, waves, electromagnetism, and electromagnetic radiation. Students will learn how to solve basic problems involving vector and scalar quantities, velocity, acceleration, force, momentum, energy, (potential, kinetic and heat), wavelength and frequency, voltage, electric current, and electrical resistance. Students will learn how these topics are applied to everyday situations during the course of study with the aid of laboratory experiments.

**Prerequisite: Chemistry or Physical Science; Algebra I; Algebra II;**

**Learning Standards: Physics 1,2,3,4**

**Advanced Placement Physics C: Mechanics**

**#344**

This course is a year-long calculus-based physics course designed to be equivalent to an introductory university-level physics course. By the end of the school year, students will be prepared to take the Advanced Placement Physics C: Mechanics exam, though the scope of the course is not limited exclusively to the Advanced Placement curriculum. This course covers mechanics, including study of kinematics, force, circular motion, momentum, energy, rotation, gravitation, and simple harmonic oscillation. By completing laboratory work (a mixture of at-home labs, on-site labs, and virtual labs), students will reinforce their understanding of concepts, gain hands-on experimentation experience, and develop their written communication skills. **Students will be required to take the Advanced Placement Physics C: Mechanics exam. This course is available to senior students only.**

**Prerequisites: Biology (Honors strongly recommended), Chemistry (Honors strongly recommended), and Physics (Honors strongly recommended); Corequisite: Calculus Honors or Advanced Placement Calculus AB or Advanced Placement Calculus BC**

**Learning Standards: Physics 1,2,3,4**

**Advanced Placement Environmental Science**

#347

This course is designed to be the equivalent of a college-level introductory environmental science course. The course content is organized into nine major units: ecosystems; biodiversity; populations; earth systems and resources; land and water use; energy resources and consumption; atmospheric pollution; aquatic and terrestrial pollution; and global change. Students will focus on seven practices that extend beyond the course: concept explanation, visual representations, text analysis, scientific experiments, data analysis, mathematical routines, and environmental solutions. Emphasis is placed on laboratory and field work. The course is designed to reflect the academic expectations and rigor of a college-level course as delineated by the College Board. Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. **Students will be required to take the Advanced Placement Environmental Science exam. Sophomore/Junior/Senior Elective**

**Learning Standards: Earth Science 2,3; Biology 2,4**

**Sophomores: Prerequisite: Biology (Honors strongly recommended); Co-requisite: Chemistry (Honors strongly recommended)**

**Juniors and Seniors: Prerequisites: Biology (Honors strongly recommended); Chemistry (Honors strongly recommended)**

**Genetics & Bioethics: Honors**

#352

Students will continue their study of biology by delving deeper into the study of genetics and applying critical thinking in the realm of bioethics. The genetics focus of this course offers an in-depth study of genetics including but not limited to the following topics: inheritance, genetic disorders, DNA technology, and the future of genetics in medicine, agriculture, and one's life. Mathematical analysis of laboratory activities and inquiry-based work will guide students through the material. An emphasis will be placed on problem solving and decision-making skills. The bioethics focus will provide students the skills necessary to deliberate and consider the medical, scientific, societal, and political factors faced by individuals and societies in the scientific and biomedical field. Students will use ethical inquiry to develop thoughtful positions on complex bioethical issues including, but not limited to: drug enhancement; vaccination policies; organ transplantation; genetic testing; human experimentation; end of life care and animal ethics. This course is designed for students who are planning to pursue further study in biology and are interested in exploring ethical questions related to the life sciences.

**Junior/Senior Elective****Prerequisite: Biology (Honors recommended); Chemistry strongly recommended****Learning Standards: Biology 1,2,3,4**

*The following Technology & Engineering courses may fulfill a science credit toward meeting a student's graduation requirements.*

**Computer Aided Design: Academic**

#361

This project-based course brings technical drawing into today's high-tech computer world. Techniques and concepts of technical drawing will be translated using AutoCAD software. This course introduces students to the accepted standard of technical drawing, but also allows for the development of their own preferences in methodology when it comes to Computer Aided Drafting. Students will produce technically correct working drawings which will include information necessary for the manufacture, assembly, or construction of an object design. Projects will include

2D and 3D implementations. Enrollment in this course can be applied toward satisfying *either* a Science Department graduation requirement *or* a Digital Learning and Entrepreneurship Department graduation requirement but not both.

**Prerequisite: Introduction to Engineering Design**

**Learning Standards: Technology & Engineering 1,2,3,4,5; Digital Tools 1**

**Introduction to Engineering Design: Academic**

**#363**

Introduction to Engineering Design is a project-based elective that focuses on the innovative nature of Engineering. Highlighted topics include mechanical engineering, structural engineering, and professional communication. Students will progress from hand drafting simple geometric shapes to applying a modeling software package for Computer-Aided Drafting. Students will investigate problem-solving processes and their applications in design and manufacturing. This course is a prerequisite for those students seeking to enroll in the Principles of Engineering course, as well as the AutoCAD drafting course.

**Learning Standards: Technology and Engineering 1, 2, 3**

**Principles of Engineering: Academic**

**#365**

This course is intended for students in grades eleven and twelve who have an interest in engineering and wish to explore the different types of engineering available for study in college. Students will apply principles learned in math and science courses to topics including surveying, stress and strain, strength of materials, environmental considerations, thermal and fluid dynamics, circuit design, manufacturing, and robotics. A strong math background is highly recommended for students enrolled in this course.

**Prerequisite: Introduction to Engineering Design; Prerequisite or Corequisite: Pre-Calculus (Honors strongly recommended).**

**Learning Standards: Technology and Engineering 1,2,3,4**

**Architectural Design: Academic**

**#370**

This course is intended for students who have an interest in the field of architecture. The course focuses on board drafting (i.e. hand drafting), visualization, and understanding architecture's integration into society. Students will be expected to learn and apply critical and creative thinking skills in design projects. Enrollment in this course can be applied toward satisfying *either* a Fine Arts graduation requirement *or* a Science, Technology, and Engineering graduation requirement but not both.

**Learning Standards: Technology & Engineering 1,2, Visual Art Foundations 1, 3, 6, 8**

# ***SOCIAL STUDIES***

A minimum of four courses in Social Studies is required for graduation. All students must pass the required courses for grades 9, 10, 11, and 12. Students may elect additional courses in the Social Studies Department as class their schedule allows. The varied course offerings in social studies are designed to provide students opportunities for gaining historical, cultural and global perspectives for developing personal qualities of tolerance, integrity, responsibility, and citizenship.

The Massachusetts DESE adopted new frameworks for social studies in June of 2018. Those standards have a clearly listed set of Guiding Principles, as well as three pillars for standards in social studies classrooms. The three pillars are: Practice Standards, Literacy Standards, and Content Standards.

## ***The Standards for History and Social Science Practice***

1. Demonstrate civic knowledge, skills, and dispositions
2. Develop focused questions or problem statements and conduct inquiries
3. Organize information and data from multiple primary and secondary sources
4. Analyze the purpose and point of view of each source; distinguish opinion from fact.
5. Evaluate the credibility, accuracy, and relevance of each source.
6. Argue or explain conclusions, using valid reasoning and evidence.
7. Determine next steps and take informed action, as appropriate.

## ***Literacy Standards for History and Social Science***

### **Reading**

- Key Ideas and Details
- Craft and Structure
- Integration of Knowledge and Ideas
- Range of Reading Level and Text Complexity

### **Speaking and Listening**

- Comprehension and Collaboration
- Presentation of Knowledge and Ideas

### **Writing**

- Text Types and Purposes: discipline-specific argument; expository; narrative
- Production and Distribution of Writing
- Research to Build and Present Knowledge
- Range of Writing

## ***Content Standards for History and Social Science***

Content Standards will be incorporated into course descriptions as the curriculum for each year's required course is rewritten between 2019 and 2023.

## ***Civics Action Projects and Community Service***

Included in the 2018 *Massachusetts History and Social Science Framework* is a provision requiring all 8th graders and high school students to complete one non-partisan student-led Civics

Action Project. The project is designed for students to gain an awareness of issues facing their community and to ultimately craft a plan that attempts to meaningfully address the causes of one of those issues. Toward that end, students in their junior year will complete 24 hours of community service for the purpose of exposing them to various needs and issues present in the community. Students in their senior year will engage in a full Civics Action Project as part of their Civics and Government course in order to address one of those issues. More information on these requirements for juniors and seniors is available on the high school website.

**Modern World History: Honors**

**#408**

Students will complete an intensive study of the history of the modern world from 1200 to the present. This honors course is an in-depth treatment of major events and trends of the world. Students cultivate their understanding of world history from c. 1200 CE to the present through analyzing historical sources and learning to make connections and craft historical arguments as they explore concepts like humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. Students will participate in community service to engage with the community in an effort to discover possible topics for their senior Civic Action Project.

**Modern World History: Academic**

**#409**

Students will study the history of the modern world from 1200 to the present. Students cultivate their understanding of world history from c. 1200 CE to the present through analyzing historical sources and learning to make connections and craft historical arguments as they explore concepts like humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. Students will participate in community service to engage with the community in an effort to discover possible topics for their senior Civic Action Project.

**United States History I: Honors**

**#415**

Students in this accelerated course will study the history of the United States from 1763-1920. Topics will be presented through a chronological and thematic approach. Political, economic, cultural, and geographical influences will be discussed. Students selecting this course should expect numerous supplemental readings and extensive analyses of primary historical sources.

**United States History I: Academic**

**#416**

Students will study the history of the United States from 1763-1920. Topics will be presented through a chronological and thematic approach. Political, economic, cultural, and geographical influences will be discussed. Supplemental readings and primary source documents will be examined.

**United States History II: Honors**

**#420**

Students in this accelerated course will study topics in American history from 1920-present. Topics will include the Great Depression, World War II, the Cold War, the Civil Rights Movement, the Reagan Revolution and the Post-Cold War. The study of these topics is intended to help students develop a better sense of the factors that have helped to shape modern America. Students selecting this course should expect numerous supplemental readings and extensive use of both primary and secondary sources.

**United States History II: Academic**

#421

Students will study topics in American history from 1920-present. Topics will include the Great Depression, World War II, the Cold War, the Civil Rights Movement, the Reagan Revolution, and the Post-Cold War. The study of these topics is intended to help students develop a better sense of the factors that have helped to shape modern America. Students will be required to examine primary and secondary sources to help enrich their understanding of American history.

**American Civics and Government: Honors**

#430

This course is designed for seniors with a serious interest in the political and economic structures of American society. Special attention will focus on the evolution of American government from the framework outlined in the founding documents to the government and politics of today. Extensive reading of supplementary materials, analysis of documents and issues, and participation in community service are required. Students enrolled in this class will be required to complete twenty-four hours of community service and complete the requisite paperwork.

**American Civics and Government: Academic**

#431

All seniors will examine the various theories and influences that guide American political and economic systems. Special attention will be paid to the evolution of American government from the framework outlined in the founding documents to the government and politics of today. Current issues and trends will be analyzed and discussed. The rights and responsibilities of citizenship on global, national, state, and local levels will be explored. A community service component will be required. Students enrolled in this class will be required to complete twenty-four hours of community service and complete the requisite paperwork.

**Economics: Honors**

#441

Economics is the study of how individuals and societies satisfy their unlimited wants with limited resources, and understanding economics is an essential skill for students in the 21<sup>st</sup> century. This course examines the principles of microeconomics and macroeconomics. Basic economic concepts, key economic models, the nature of supply and demand, market structures, the role of financial institutions, measuring and monitoring economic performance, fiscal policy, monetary policy, and international issues will be major components of this course. Current events, economic challenges, and the performance of the United States economy will be analyzed through projects, documentaries, and classroom debates.

**Junior/Senior Elective; this course may fulfill a Digital Learning and Entrepreneurship Department credit toward meetings the student's graduation requirement**

**American Legal System: Academic**

#445

This course will provide an in-depth perspective of the legal systems of both the United States and the Commonwealth of Massachusetts. The learner will identify, research, and analyze legal issues ranging from the civil rights guaranteed in the constitution to punishments for civil and criminal deviations from the norm. After establishing a solid foundation in the basic elements of constitutional, criminal, civil, contract, tort, marital, and family law, the learner will apply that knowledge to various case studies and precedents. This course will end with a mock trial that will require the application of all previously mastered material. **Junior/Senior Elective**



**Cultures, Religions, and Reason: Academic**

#451

This course is split into two semesters. Cultures & Religions will take a geographic approach to contemporary cultures. In addition to learning about the customs and institutions of selected groups in each part of the world, students will focus on understanding the religions and values of the people. Students will learn about each of the world's major religions, as well as selected African and Native American religious traditions. Philosophy/Reason is designed for students with an interest in exploring general and fundamental questions concerning human understanding. The branches to be examined are metaphysics/ontology (reality), epistemology (knowledge), political philosophy (justice), ethics (morality), aesthetics (beauty) and existentialism (the meaning of life). The overarching goal of the course is to develop students who will possess skills in critical-thinking, language use, self-reflection, and an understanding of the world.

**Sophomore/Junior/Senior Elective****Modern History through Film: Academic**

#457

In Modern History through Film, students will engage with both the events of the past and the differences in the ways that we understand the past over time. As a practical component of the course, students will be expected to watch a number of films, be they excerpted or entire, and may be expected to watch films outside of class. Additionally, students will read scholarly essays, commentaries, book excerpts, and primary sources/historical documents in order to understand the historical setting of the films and evaluate their historical accuracy. Students will also be provided with the vocabulary, concepts and approaches needed to discuss both the cinematic conventions and how they support a filmmaker's underlying purpose in making the film. Participants will ultimately assess films as sources of historical information and consider filmmakers as popular historians. Additionally, students will interact with films that have proven historical significance and appraise the ways in which film can be used as cultural commentary. These activities will ultimately help students to evaluate the influence of context on historical understanding and popular storytelling. **Senior Elective**

**Contemporary Affairs: Academic**

#459

This course will serve to expose students to contemporary affairs at the local, state, national, and international level. Students will use various types of media (newspapers, internet sites, YouTube®, television, radio, blogs, podcasts, etc.) to gain an understanding of current issues that have a relevance to society. Classes will consist of investigation, discussion, journaling, debates, and presentations/projects. Each day's class will begin with a discussion of current news from various sources and a journal entry. Classes will then progress into understanding the vocabulary, context, history, geography and other interdisciplinary topics regarding the contemporary affairs of the week through both student discovery and teacher-based instruction. Particular areas of study may include current elections, human rights, local issues, foreign affairs, understanding/evaluating the news media, pop culture, and pertinent news stories as they happen. **Junior/Senior Elective**

**Psychology: Academic**

#465

This course concentrates on the historic, scientific, and practical aspects of psychology. Students will identify, research, and analyze numerous psychological theories and their theorists. The application of this knowledge will be demonstrated through the practice of introspection and the development of psychological experiments. **Junior/Senior Elective**

**Introduction to Sociology & Anthropology: Academic**

#466

Students will study cultures, institutions, and customs of the United States and other traditional societies around the world. This course will use sociology and anthropology to understand human development and behavior, family influence, education, gender roles, race, social class, and sports in society, as well as exploring how social groups, communities, institutions, and the media greatly influence individual behaviors. Social experiments conducted by students both in class and outside of class will further demonstrate various sociological concepts and theories. Throughout the course, students will also examine and discuss issues such as prejudice and discrimination, wealth and poverty, and crime and violence in the United States. **Junior/Senior Elective**

**Advanced Placement United States Government & Politics**

#470

AP U.S. Government and Politics provides a college-level, nonpartisan introduction to key political concepts, ideas, institutions, policies, interactions, roles, and behaviors that characterize the constitutional system and political culture of the United States. Students will study U.S. foundational documents, Supreme Court decisions, and other texts and visuals to gain an understanding of the relationships and interactions among political institutions, processes, and behavior. They will also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications, and develop evidence-based arguments. In addition, they will complete a Civics Action Project on a unique timeline. Students will be expected to read and synthesize information from a college textbook, interpret primary sources, and analyze articles from academic journals. This course fulfills the senior social studies requirement. As such, community service will be one of the grading components. In addition, all enrolled students will be expected to take the A.P. exam in United States Government and Politics.

**Students will be required to take the Advanced Placement United States Government and Politics exam. Senior Elective (may be taken to replace the required course Civics and Government)**

**Prerequisite: United States History I (Honors strongly recommended); United States History II (Honors strongly recommended) or A.P. United States History.**

**Advanced Placement World History: Modern**

#475

This is an introductory college-level modern world history course. Students cultivate their understanding of world history from c. 1200 CE to the present through analyzing historical sources and learning to make connections and craft historical arguments as they explore concepts like humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. **Students will be required to take the Advanced Placement World History: Modern examination. Junior students will participate in community service to engage with the community in an effort to discover possible topics for their senior Civic Action Project. This Course may be taken junior year in place of Modern World History or as a Senior Elective and does not replace the senior year social studies course requirement (American Civics and Government or AP Government).**

**Advanced Placement United States History**

#480

Advanced Placement United States History is designed to be the equivalent of a college-level course. Through a rigorous and demanding curriculum, students will further their study of United

States history from pre-Columbian societies to the present. The course is designed to develop students' critical thinking skills and overall factual knowledge of the subject. Students will utilize information gathered from a variety of sources including a college-level textbook, primary sources, and academic journals. Themes of the course include American diversity, American identity, culture, demographic changes, economic transformations, the environment, globalization, politics and citizenship, reform, religion, slavery and its legacies, and war and diplomacy. The course is designed to reflect the academic expectations and rigor of a college-level course as delineated by the College Board. Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. **Students will be required to take the Advanced Placement United States History examination. This Course may be taken sophomore year in place of United States History or as a Junior or Senior Elective. If taken as a junior/senior elective, it does not replace either the junior or senior year social studies course requirement (Modern World History; Civics and Government, respectively).** **Prerequisite: United States History I Honors strongly recommended; United States History II Honors strongly recommended (if applicable).**

### **Advanced Placement Psychology**

**#485**

This course is designed to meet the requirements of the Advanced Placement Psychology curriculum and to prepare students for success on the Advanced Placement Psychology examination. The course will further prepare students with a thorough foundation of the scope and fundamentals of psychology. Careful examination and analysis of psychological experiments will be a major feature of the course. Students will also be required to prepare and execute their own psychological experiments under the direction of the teacher. Particular attention will also be directed to the overwhelming evidence linking biology and psychology. To this end, specific areas of study will include the cognitive (nervous system; sensory processes; perception; learning; consciousness; memory; thought; and language), as well as the psychological (motivation, emotion, and stress; growth and development; psychological assessment; personality; psychological disorder; and social psychology). Students will be expected to write extensively and critically on these and other issues, participate in class discussions, read extensively, and make presentations in class. Summer assignments are required to be completed. It is the responsibility of the student to obtain this summer work prior to leaving school in June. **Students will be required to take the Advanced Placement Psychology examination. This course is available to senior students only.**

**Prerequisite: Psychology**

# DIGITAL LEARNING & ENTREPRENEURSHIP

The Digital Learning and Entrepreneurship Department provides adaptive and responsive learning experiences for students to meet 21st century technology and innovative mindsets required in today's business and entrepreneurial environments. The department provides students a framework of learning to meet the demands of fast-moving technology and the support for students to design and develop the next big idea. The course offerings address the key digital learning, business and technology skills and digital competencies to support college and career readiness outlined by The Partnership for 21st Century Learning (P21.org), The Massachusetts Digital Literacy and Computer Science (DLCS) Curriculum Framework, and The National Standards for Business Education.

## *The Standards for Digital Literacy and Computer Science Practice*

1. Creating
2. Connecting
3. Abstracting
4. Analyzing
5. Communicating
6. Collaborating
7. Researching

## *Digital Literacy and Computer Science Strands*

### **Computing and Society (CAS)**

- Understand safety and security concepts, security and recovery strategies, and how to deal with cyberbullying and peer pressure.
- Analyze the impact and intent of new technology laws.
- Interpret license agreements and permissions.
- Examine the impact of technology, assistive technology, technology proficiencies, and cybercrime in people's lives, commerce, and society.

### **Digital Tools and Collaboration (DTC)**

- Select and use 'best' digital tools or resources to create an artifact or solve a problem.
- Communicate and publish online.
- Advance research skills including advance searches, digital source evaluation, and synthesis of information.

### **Computing Systems (CS)**

- Select and use 'best' computing devices to accomplish a real-world task.
- Understand how computing device components work.
- Use troubleshooting strategies to solve routine hardware and software problems.
- Decompose tasks/problems into sub-problems to plan solutions.
- Understand how networks communicate, their vulnerabilities and issues that may impact their functionality.
- Evaluate the benefits of using a service with respect to function and quality.

### **Computational Thinking (CT)**

- Create a new representation through generalization and decomposition.
- Write and debug algorithms in a structured language (pseudocode).
- Understand how different data representation effects storage and quality.
- Create, modify, and manipulate data structures, data sets, and data visualizations.
- Use an iterative design process to create an artifact or solve a problem.
- Create models and simulations to formulate, test, analyze, and refine a hypothesis.

### *The National Standards for Business Education*

Standards are based on the belief that Business Education competencies are essential for all students because:

- all students will participate in the economic system;
- all students will encounter a business environment that is characterized by diversity;
- all students will use technology as a tool;
- technology has accelerated the pace and frequency of change.

Students must earn at least one Digital Learning & Entrepreneurship/Business Education credit toward the requirements for graduation. The course offerings in the North Reading Digital Learning and Entrepreneurship Department provide a foundation for success for all students.

### **Web Design & Development: Academic**

**#507**

Using a project-based approach this course introduces students to the development of websites using HTML5 and CSS3. By the end of the course, students will know how to create a website from scratch including positioning and styling text, images, and video. From the start of the course, projects evolve from basic, fixed web elements and layouts to more “responsive” and dynamic websites. Students will use Responsive Web Design frameworks and Javascript to ensure that websites look good on any screen (desktops, tablets, and phones). Throughout the course students will learn to plan their website projects with a proof of concept which includes the objectives of the website, the target audience, wireframes and sitemaps. Additional topics to be covered include how the internet works, the fundamentals of programming, privacy and security, web standards and integrated development environments (IDE).

### **Business Management in the 21<sup>st</sup> Century: Academic**

**#509**

Business Management in the 21<sup>st</sup> Century is about fulfilling the American Dream. The course provides future entrepreneurs with an introduction to the spirit of enterprise encouraged by the free enterprise system. Students will learn the fundamental principles of business and economics and how the interaction of these factors affects everyday life. Topics will include the mechanics of starting a business, the components of managing a business, globalization and international business, economics, finance, technology, ethics, and other topics associated with managing a business. The course will stress vocabulary as well as higher level reasoning in the solving of both mathematical and situational problems. By exploring the local and global markets as well as government influence on business, students will focus on their individual business plan modeled on a business of their choice. **Junior/Senior Elective; Sophomore Elective with a prerequisite of Introduction to Business strongly recommended**

**Personal Financial Management: Academic**

#510

This course is designed to provide the student with specific knowledge of personal finance and prepare the student to operate in an appropriate financial and professional manner as an adult. The subject matter will focus on career decision/planning, business professionalism, personal and resource management, money management and budgeting, credit management, financial security, taxation, insurance, and comprehensive investing. This class is designed to be driven by the participation of the student in all class activities. Students will compete in an investment competition during this class. The curriculum is reflective of the standards found in Personal Financial Literacy from the 2018 Massachusetts History and Social Science Framework.

**Junior/Senior Elective; Sophomore Elective with a prerequisite of Introduction to Business strongly recommended**

**Introduction to Business: Academic**

#514

This course is designed to provide instruction in the basic skills required for success in today's challenging business environment. Through hands-on student activities including group problem-solving and presentations the course will cover the topics of communication, business math, economics, and theory of the firm. Communication will include business writing, effective presentation, and negotiation. Business math will include currency conversions and financial statement analysis. The economics module will provide an overview of how prices and values are determined and how financial markets work. Theory of the firm will introduce the various types of businesses, how they are structured, and how they are managed. It is highly recommended that this course be taken in preparation for "Business Management in the 21<sup>st</sup> Century" and "Personal Financial Management." **Freshman/Sophomore Elective**

**Accounting I: Academic**

#515

Accounting is a crucial component of academic background for students who will pursue higher levels of education in the business field and for those students who will pursue entrepreneurial ventures. The course covers the entire accounting cycles for a service business and for a merchandising business. Although students master accounting concepts and principles by preparing documents and reports manually, the introduction of computerized systems has resulted in technology skills becoming an integral part of our curriculum. Automated procedures eliminate many repetitious tasks and permit the inclusion of individual and group activities, which involve high-level thinking skills.

**Accounting II: Academic**

#516

This is a financial accounting course that continues and expands upon the organizations and procedures of the first year Accounting course. Much of the material covered will be the same material that students would cover in a beginning college Accounting course. A large component of the course will be computerized with a special Accounting Excel Spreadsheet section offered.

**Prerequisite: Accounting I**

**Sports and Entertainment Marketing: Academic**

#520

This course introduces students to the world of Sports and Entertainment Marketing with an exciting overview designed to give students the basic skills for the sports and entertainment marketing industry. The subject matter for the course builds from the ground up with basic marketing skills, to understanding the sports and entertainment market, then to promoting sports and entertainment products, marketing research and data collection, branding and licensing, and

ultimately mapping out a career in the Sports and Entertainment Marketing industry. **Junior/Senior Elective; Sophomore Elective with a prerequisite of Introduction to Business strongly recommended**

**International Business: Academic**

**#525**

Companies operate on a global scale. Core business functions like manufacturing, management, finance, and sales and marketing for one organization are often distributed across the globe. The economy requires employees to be well versed in how businesses need to operate to be competitive and ultimately successful in a global environment. This course will address the trend of globalization and its effect on how businesses must function to meet the needs of its partners, suppliers, customers, shareholders, and employees. Challenges of dealing with international government, culture and custom, law, infrastructure, currency exchange, and technology will be studied. US corporate and foreign corporate perspectives will be analyzed. Specific country or regional studies will be undertaken throughout the year. **Junior/Senior Elective; sophomore elective with a prerequisite of Introduction to Business strongly recommended**

**Marketing and Sales: Academic**

**#530**

This course defines marketing and gives a detailed view of the role of marketing in today's economy. It emphasizes the need for quality data, understanding consumer behavior and competition, the importance of technology, and segues into how to develop and implement a successful marketing plan. The course also parlays economic principles from basic "Supply and Demand" laws to a more comprehensive account of product pricing and pricing based on market conditions. Students will also learn about marketing in a global economy, how to manage marketing risks and what financial tools are necessary for success in marketing. Also discussed will be the value of selling, preparing for effective selling, the selling process, the role of marketing in sales, and sales support. Ultimately, students will be able to map out an education and career path if they decide that they are interested in pursuing a career in Sales and/or Marketing. **Junior/Senior Elective; sophomore elective with a prerequisite of Introduction to Business strongly recommended**

**Robotics Academy: Academic**

**#540**

In Robotics Academy, students design, fabricate, program, and use task-oriented robots. Students demonstrate mastery by building robots utilizing a variety of sensors and combine them with a controller to build a complete system designed to accomplish a task. The fundamentals of problem-solving, program design, algorithms, and programming using a high-level language are central to this course. This course includes the study of current industrial, commercial, governmental, and competitive robotics. Students are expected to keep a web-based notebook at every phase of the design process. Upon the completion of each project, students present their results in a formal presentation. No previous experience in robotics, electronics, or mechanics is necessary.

**Sophomore/Junior/Senior Elective**

**Robotics Academy II: Honors**

**#542**

Robotics Academy II expands students' experiences with robotics building and programming and prepares students to complete more advanced teacher-led as well as self-directed robotics challenges. Students will deepen their electromechanical design and building experience and build fluency with the Arduino C-Based programming language. Students will be expected to monitor

and log their process of fabrication, debugging, and incremental tests and testing which will culminate in multiple demonstrations seeking to meet design objectives. Students will be expected work collaboratively in small teams and successfully complete challenges which will include the relationships between power, voltage and current, mechanical linkages, levers, and torque. The completion of these advanced interdisciplinary robotics challenges is the project based capstone to the robotics curriculum at North Reading High School. Additional requirements will include working as part of a team to synthesize a physical system to operate in a random environment through an iterative design procedure that will justify the students' selection of critical design decisions.

**Prerequisite: Robotics Academy, and Web Design & Development, Introduction to Engineering Design, or Computer Programming**  
**Junior/Senior Elective**

**Video Production: Academic**

**#171**

Video Production is a hands-on course designed to demonstrate the interdisciplinary nature of television as a medium for communication. Students will learn about the principles of communication, the history of television, techniques of effective audio/visual communication, terminology, technical setup and operation of television equipment, as well as the basic concepts and technical aspects of television studio production. Students will begin to learn how to plan, write, shoot, produce, direct, and edit basic video projects on professional cameras and editing software. Students will develop pre-production planning and production management skills. Students should be self-motivated, creative, and able to work in groups. The studio is a highly cooperative, project-based setting. Participation in the course will involve after school hours that will be used to video tape various school, community, and sporting events. Students will be required to participate in one remote studio production per term that will take place after regular school hours. Enrollment in this course can be applied toward satisfying *either* a Fine Arts graduation requirement *or* a Digital Learning and Entrepreneurship Department graduation requirement but not both. **Junior/Senior Elective**

**Learning Standards: Fine Arts Learning Standards: 1, 2, 3, 4, 5, 6, 8, 9**

**Senior Internship**

**#590**

This program will be offered to North Reading High School seniors who are in good academic standing. These internships will be unpaid and will run for the entire school year. The last block of each school day will be utilized for the program and upon successful completion of the internship the student will earn one or two credits depending upon whether the internship meets every other day or every day. The program will give students the opportunity to learn about potential careers by performing daily duties associated with that career, use current technology, and have direct contact with work supervisors. It will reveal to the students those areas of skill and knowledge that are required to attain particular career goals. The students will be able to evaluate career options based on their interests and abilities through direct exposure to the workplace.

Before embarking on the internship the student will research, identify, and contact potential internship sites. In addition, students are required to complete a Student Application for Senior Internship/Co-op. The application must be accompanied by all required permissions and authorizations (see form). The student will keep workplace journals (daily logs), which will be presented to the school-based coordinator. At the end of the experience, a written report on the



student's workplace experience will be provided to the school-based coordinator. Students will be encouraged to maintain a Massachusetts Work-Based Learning Plan.

Enrollment in a senior internship is subject to the approval of the high school principal or his/her designee. In order to remain in an internship, students must maintain satisfactory progress in all their courses. In school and at the work site, students must maintain acceptable attendance and display acceptable conduct. **This course is a senior elective and will not meet graduation requirements in Digital Learning and Entrepreneurship.**

### **Co-operative Work Experience**

**#595**

The Co-operative Work Experience is an educational program for senior students that combines learning and practical work experiences. This program assists students in making career choices, preparing for careers, developing a vocational identity, and making the transition to the world of work. Co-operative Work-Experiences are typically paid positions.

Co-operative Work-Experiences should take place at a company or organization at which the student is likely to seek full-time employment after high school or in a vocational/career area directly related to the student's postsecondary plans. Students are required to complete a Student Application for Senior Internship/Co-op. The application must be accompanied by all required permissions and authorizations (see form). The student will keep workplace journals (daily logs), which will be presented to the school-based coordinator. At the end of the experience, a written report on the student's workplace experience will be provided to the school-based coordinator. Students will be encouraged to maintain a Massachusetts Work-Based Learning Plan.

In order to receive credit for this course, students must maintain good attendance, receive passing grades in all courses, and maintain good job performance and good conduct in school as well as at their work site. Enrollment in a Co-operative Work Experience is subject to the approval of the high school principal or his/her designee. **This course is a senior elective and will not meet graduation requirements.**

### **Additional courses in this area of study include:**

#### **Mathematics Department**

**Computer Programming: Academic**

**#273**

**Advanced Placement Computer**

**#274**

**Principles**

**Advanced Placement Computer**

**#275**

**Science A**

#### **Science, Technology, & Engineering Department**

**Computer Aided Design: Academic**

**#361**

# *WORLD LANGUAGES*

The goal of the World Languages Department is to prepare the North Reading High School graduate to live, work and lead in a complex, diverse, interconnected global society. Through the study of languages and interculturality, students will be ready to thrive as they pursue college and/or career opportunities after they leave North Reading High School. They will feel comfortable meeting new friends, observing and learning about new cultures, and taking a leadership role to enact change. To prepare for this, all language courses are conducted with limited use of English. This involves initiating, understanding and responding to what is communicated while using culturally appropriate language and behavior. Upon successful completion of each course, students will expand their level of proficiency in the interpersonal (through speaking and writing), presentational (through speaking and writing), interpretive (through listening, viewing and reading), and intercultural modes of communication. Please visit the World Languages Website to learn more.

Two years of sequential course and language study of a World Language at the high school level are required for graduation but students are encouraged to take many language courses. Students who have studied French or Spanish in Middle School should begin their language study at Level 2 when they enter High School. Students may also switch to a new language by selecting French or Spanish, Level 1. Students are also welcome to enroll in both French and Spanish as elective slots open in their schedule.

Below is a description of a communicator in the target language, when enrolled in a particular course. This is aligned to Massachusetts Curriculum – 2021.

<b>Description of student and how they communicate.</b>	<b>Courses that will help reach this goal</b>
<b>Novice High</b>	
This student expresses self in conversations on very familiar topics. This student is also able to understand others, doing the same. Characteristics of a novice student is someone who communicates using lists and depends on visual support when interpreting through viewing or reading. This student also depends heavily on knowledge	Level 1  Level 2, Academic Level

<p>of their own culturally appropriate gestures and expressions but shows awareness of the most obvious cultural differences.</p>	<p>Level 1 is a point of entry for students with limited or interrupted study of language at the Middle School.</p> <p>Level 2 is a point of entry for students who have studied French or Spanish in Middle School and show characteristics of a Novice communicator.</p> <p>Students who wish to study a new language as an elective may also begin here.</p>
<p><b>Intermediate 1 (Low)</b></p>	
<p>This student can converse about a variety of familiar, everyday topics. This student may not understand each word when listening, viewing or reading but can interpret main ideas. A characteristic of this student is someone who is starting to use full sentences to communicate in a more natural way. Mistakes will be made, but the communicator can be understood. The student will use some memorized culturally appropriate gestures, expressions and writing conventions. This student also recognizes that differences exist in cultural behaviors and perspectives.</p>	<p>Level 2, Honors</p> <p>Level 3, Academic</p> <p>Contemporary Hispanic Culture and Traditions</p> <hr/> <p>Level 2 honors is a point of entry for students who have studied French or Spanish in Middle School.</p> <p>A highly motivated student with strong skills in another World Language could begin their new language study in level 2 honors.</p>
<p><b>Intermediate 2 (Mid)</b></p>	

<p>This student is able to communicate by understanding and creating personal meaning. The student also has the tools needed to access information, such as the news, in the target language. When listening, viewing or reading, the student is able to fully understand non-complex texts on familiar topics. A characteristic of this student is someone who is keeping the conversation going and handles familiar social situations well. This person has partial control of language functions and can therefore be understood easily. This student is able to reflect some knowledge of cultural differences related to communication but still heavily relies on their own culture to increase knowledge. It is recommended that students spend 2 academic years practicing and perfecting their skills at the Intermediate Mid-level to ultimately achieve full proficiency in a World Language.</p>	<p>Level 3, Honors Level 4, Honors</p>
	<p>Level 3 and 4 Honors are the best courses for sophomore and junior students who wish to be candidates for the Seal of Biliteracy and/or take Advanced Placement Language and Culture their senior year.</p> <p>Note: a student must complete Spanish 3 before enrolling in Contemporary Hispanic Culture and Traditions.</p>
<p><b>Intermediate 3 (High)</b></p>	
<p>This student is able to engage in conversation with both familiar and spontaneous themes in a variety of tenses and moods. The student comprehends information-rich texts and is able to make inferences. Full control of language functions allows this person to communicate fluidly. This student is able to self-correct or circumlocute so that use of own language or culture is not heavily relied upon. Student is also able to use knowledge of the target culture to conform linguistically and behaviorally in most formal and informal situations.</p>	<p>Level 5</p> <p>Advanced Placement Language and Culture</p> <p>These are the best courses for seniors who wish to be candidates for the Seal of Biliteracy. A student must show they have reached the target of Intermediate Mid to enroll in one of these courses.</p>

**French I: Academic****#600**

This course is appropriate for students who have had minimal exposure to the French language. Upon successful completion of the course, students will ask questions, express likes/dislikes, and describe themselves and families while focusing on the cultural gestures and practices of these topics. Students will also learn about and participate in celebrations that bring together family and friends as well as celebrate one's unique culture. The teacher will model the target language and students will be expected to take risks, make mistakes, and practice using the target language. Students will always be encouraged to compare their own unique culture and lived experiences to the cultures studied in class. The target level for this course is Novice High.

**Spanish I: Academic****#611**

This course is appropriate for students who have had minimal exposure to the Spanish language. Upon successful completion of the course, students will ask questions, express likes/dislikes, and describe themselves and families while focusing on the cultural gestures and practices of these topics. Students will also learn about and participate in celebrations that bring together family and friends as well as celebrate one's unique culture. The teacher will model the target language and students will be expected to take risks, make mistakes, and practice using the target language. Students will always be encouraged to compare their own unique culture and lived experiences to the cultures studied in class. The target level for this course is Novice High.

**French II: Honors****#602**

This course is the sequential continuation of French 1. Students will explore several diverse and unique cultures of the French-speaking world through novels, interviews, activities and authentic video clips. Students will be able to engage in a variety of tasks such as discussing and comparing cross-cultural summer activities, art and architecture, daily routines, and describing events in the past. Students will focus on the French-speaking cultures of the world, including France, Québec, Luxembourg, Cameroon, Ivory Coast, and Senegal while making connections to their own language, culture and community. As they emerge into the intermediate level of proficiency, students will engage in all modes of communication. They will have conversations, give presentations, listen, view, write, and tell stories. Investigating their own and other cultures as well as interacting in French will be highlights of the course. Both teacher and student will converse primarily in the target language. The target level of this course is Intermediate Low.

**Prerequisite: French I/Novice High ability**

**French II: Academic****#603**

This course is the sequential continuation of French 1. Students will explore several diverse and unique cultures of the French-speaking world through novels, interviews, activities and authentic video clips. Students will be able to engage in a variety of tasks such as discussing and comparing cross-cultural summer activities, art and architecture, daily routines, and describing events in the past. Students will focus on the French-speaking cultures of the world, including France, Québec, Luxembourg, Cameroon, Ivory Coast, and Senegal while making connections to their own language, culture and community. As they emerge into the intermediate level of proficiency, students will engage in all modes of communication. They will have conversations, give presentations, listen, view, write, and tell stories. Investigating their own and other cultures as well as interacting in French will be highlights of the course. Both teacher and student will converse

primarily in the target language. The target level of this course is Novice High. **Prerequisite: French I/Novice Mid ability**

### **French III: Honors**

**#605**

This course is the sequential continuation of French 2 and for students who are beginning the Intermediate level of proficiency. Students will be able to engage in a variety of themes such as exploring North African art, how the past shapes us, traveling domestically and internationally, and how each culture enriches the lives of its citizens, making requests and recommendations, and supporting opinions. Students will focus on the French-speaking cultures of France and northern Africa while making connections to their own language, culture and community. Both teacher and student will converse primarily in the target language and students will be expected to use the target language with each other. The target level of the course is Intermediate Mid.

**Prerequisite: French II/Intermediate Low ability**

### **French III: Academic**

**#606**

This course is the sequential continuation of French 2 and for students who are beginning the Intermediate level of proficiency. Students will be able to engage in a variety of themes such as exploring North African art, how the past shapes us, traveling domestically and internationally, and how each culture enriches the lives of its citizens, making requests and recommendations, and supporting opinions. Students will focus on the French-speaking cultures of France and northern Africa while making connections to their own language, culture and community. Both teacher and student will converse primarily in the target language and students will be expected to use the target language with each other. The target level of the course is Intermediate Low.

**Prerequisite: French II/Novice High ability**

### **French IV: Honors**

**#607**

This course is the sequential continuation of French 3 and for students who achieved the target proficiency level of Intermediate Mid. Students will become comfortable stating preferences and viewpoints in the target language about familiar themes, cultural topics and current events in both whole-class and small group activities. Students will also be interacting with each other, with culturally appropriate language and culture, and asking follow-up questions. Students will have authentic cultural experiences by reading books & novels, watching films, and interacting with various forms of media to investigate the products and practices of other cultures. This course is the best choice for students who are preparing to earn the Seal of Biliteracy or take AP French.

**Prerequisite: French III/Intermediate Mid ability**

### **French V: Honors**

**#625**

This course is for students who have achieved the target level of Intermediate Mid. Students must be comfortable communicating in the target language about a variety of themes and current events in both whole-class and small group activities. Students will continue to discover, learn and use the language in meaningful, creative, and engaging contexts surrounding current events and literary themes. Students will be able to build on their intercultural communication skills by telling their own stories and listening to the unique stories of others. This course is a good choice for students who want to earn the Seal of Biliteracy. Students will take the STAMP assessment to test their proficiency level for the Seal of Biliteracy as their mid-year exam.

**Prerequisite: French IV/Intermediate Mid ability**

**Advanced Placement French Language and Culture****#610**

This course is for students who have achieved the target level of Intermediate Mid and wish to take the Advanced Placement French Language and Culture Exam. Students will engage in a variety of tasks in French, surrounding the themes of global challenges, science and technology, contemporary life, personal and public identities, families and communities, and beauty and aesthetics. The course is designed to reflect the academic expectations and rigor of a college-level course as delineated by the College Board. Summer assignments are required to be completed and students must obtain this summer work prior to leaving school in June.

**Students will be required to take the Advanced Placement French Language and Culture Exam. Students are also invited and encouraged to test for the Seal of Biliteracy.**

**Prerequisite: French IV/Intermediate Mid ability**

**Spanish II: Honors****#612**

This course is the sequential continuation of Spanish 1. Students will explore several diverse and unique cultures of the Spanish-speaking world through novels, interviews, activities and authentic video clips. Students will read a book about the Mexican interpretation of the Day of the Dead and make comparisons with their own holidays and traditions. Then, they will study the Mayan cultures by transporting themselves to markets in Panajachel, Guatemala through books, videos and stories from Mayan young people. Students will also engage in a variety of tasks aligned to the themes of planning a vacation and leading a healthy lifestyle. These topics will be tied to the Costa Rican mantra of “The Pure Life” and ecotourism. As they emerge into the intermediate level of proficiency, students will engage in all modes of communication. They will have conversations, give presentations, listen, view, write, and tell stories. Investigating their own and other cultures as well as interacting in Spanish will be highlights of the course. Both teacher and student will converse primarily in the target language. The target level of this course is Intermediate Low.

**Prerequisite: Spanish I/Novice High ability**

**Spanish II: Academic****#613**

This course is the sequential continuation of Spanish 1. Students will explore several diverse and unique cultures of the Spanish-speaking world through novels, interviews, activities and authentic video clips. Students will read a book about the Mexican interpretation of the Day of the Dead and make comparisons with their own holidays and traditions. Then, they will study the Mayan cultures by transporting themselves to markets in Panajachel, Guatemala through books, videos and stories from Mayan young people. Students will also engage in a variety of tasks aligned to the themes of planning a vacation and leading a healthy lifestyle. These topics will be tied to the Costa Rican mantra of “The Pure Life” and ecotourism. As they emerge into the intermediate level of proficiency, students will engage in all modes of communication. They will have conversations, give presentations, listen, view, write, and tell stories. Investigating their own and other cultures as well as interacting in Spanish will be highlights of the course. Both teacher and student will converse primarily in the target language. The target level of this course is Novice High.

**Prerequisite: Spanish I/Novice Mid ability**

**Spanish III: Honors**

#614

This course is the sequential continuation of Spanish 2 and for students who are beginning the Intermediate level of proficiency. Students will communicate about a variety of themes such as nature and the environment, volunteering and social awareness, making requests and recommendations, describing people and professions, supporting opinions, and expressing positive and negative emotions. Students will focus on the Spanish-speaking cultures of Mexico, The United States, Central America and The Caribbean while practicing cultural competence and understanding and making connections to their own language, culture and community. Both teacher and student will converse primarily in the target language. The target level for this course is Intermediate Mid.

**Prerequisite: Spanish II/Intermediate Low ability**

**Spanish III: Academic**

#615

This course is the sequential continuation of Spanish 2 and for students who are beginning the Intermediate level of proficiency. Students will communicate about a variety of themes such as nature and the environment, volunteering and social awareness, making requests and recommendations, describing people and professions, supporting opinions, and expressing positive and negative emotions. Students will focus on the Spanish-speaking cultures of Mexico, The United States, Central America and The Caribbean while practicing cultural competence and understanding and making connections to their own language, culture and community. Both teacher and student will converse primarily in the target language. The target level for this course is Intermediate Low.

**Prerequisite: Spanish II/Novice High ability**

**Spanish IV: Honors**

#618

This course is the sequential continuation of Spanish 3 and for students who achieved the target level of Intermediate Mid. Students will become comfortable stating preferences and viewpoints in the target language about familiar themes, cultural topics and current events in both whole-class and small group activities. Students will also be interacting with each other, with culturally appropriate language and culture, and asking follow-up questions. Students will have authentic cultural experiences by reading books & novels, watching films, and interacting with various forms of media to investigate the products and practices of other cultures. This course is the best choice for students who are preparing to earn the Seal of Biliteracy or take AP Spanish.

**Prerequisite: Spanish III/Intermediate Mid ability**

**Spanish V: Honors**

#619

This course is for students who have achieved the target level of Intermediate Mid. Students must be comfortable communicating in the target language about a variety of themes and current events in both whole-class and small group activities. Students will continue to discover, learn and use the language in meaningful, creative, and engaging contexts surrounding current events and literary themes. Students will be able to build on their intercultural communication skills by telling their own stories and listening to the unique stories of others. This course is a good choice for students who want to earn the Seal of Biliteracy. Students will take the STAMP assessment to test their proficiency level for the Seal of Biliteracy as their mid-year exam.

**Prerequisite: Spanish IV/Intermediate Mid ability**



**Advanced Placement Spanish Language and Culture**

#620

This course is for students who have achieved the target level of Intermediate Mid and wish to take the Advanced Placement Spanish Language and Culture Exam. Students will be able to engage in a variety of tasks, in Spanish, surrounding the themes of global challenges, science and technology, contemporary life, personal and public identities, families and communities, and beauty and aesthetics. The course is designed to reflect the academic expectations and rigor of a college-level course as delineated by the College Board. Summer assignments are required to be completed and students must obtain this summer work prior to leaving school in June.

**Students will be required to take the Advanced Placement Spanish Language and Culture Exam. Students will take the STAMP assessment to test their proficiency level for the Seal of Biliteracy as their mid-year exam.**

**Prerequisite: Spanish IV/Intermediate Mid ability**

**Contemporary Hispanic Culture & Traditions: Academic**

#636

This course is for students who are at the Intermediate Low level of proficiency and wish to reinforce their skills before moving to an Intermediate Mid or High Course. It is recommended that a student has completed Spanish 3 before taking this course. Intercultural communication will be the focus of this course as students investigate the products and perspectives of topics relevant to hispanic adolescents. Students will also have the opportunity to interact with hispanic cultures through contemporary movies, *telenovelas* (TV dramas), music, books and art. They will use these stories and artifacts to build vocabulary as well as create more complex sentences, ask follow up questions, give opinions and state their point of view. After the completion of course, students will be ready to move on to Spanish 4. Students may also take this course while dual enrolled in Spanish 4 for better preparation for Spanish 5 or AP Spanish.

**Prerequisite: Spanish III/Intermediate Low ability**

**Spanish in Career and Community: Academic**

#638

This course is for students who have an Intermediate Mid level of proficiency and want to learn more about using Spanish to communicate in the community and careers. It is recommended that students take Spanish 3 before his course. Intercultural communication will be the focus of this course as students investigate the products, practices and perspectives of topics relevant to different careers that serve the community. The thematic units of healthcare (nutrition and nursing), business (marketing and accounting), engineering and education (including psychology) could be explored (depending on the interest of the students) by studying relevant vocabulary, grammatical structures and cultural competency. Students may take this course while dual enrolled in Spanish 4, 5, Hispanic Cultures and Traditions, or AP. Both teacher and student will converse primarily in the target language. The target level for this course is Intermediate Mid.

**Prerequisite: Spanish 3 or Hispanic Cultures and Traditions or Intermediate Mid ability**

# FINE ARTS

## Visual Arts

“*The Arts are Important to a Well-Rounded Education*” is a belief that the North Reading Visual Arts Department endorses as a core belief and is borrowed from the Department of Education’s 2019 Arts Curriculum Frameworks. An arts education prepares students to be adaptive learners and creative problem-solvers. These skills are vital in preparing children for their future in an ever-evolving global economy.

The Visual Arts Department serves as a gateway to the expansive world of visual arts, both past and present. Through curricula that focuses on artistic literacy and intent, the faculty strives to exhibit to the North Reading community both the rigorous creative processes students participate in as well as their often stunning artwork. *The 8 Studio Habits of Mind* are embedded in the art studio classroom. They are the overarching skills that are continuously applied throughout the curriculum. These principles highlight the significance of artwork and the creative process. They parallel many essential *21st Century Learning Skills*, requiring extensive critical thinking, problem solving, creativity, innovation, communication, collaboration, visual literacy and cross disciplinary thinking, to name a few.

The North Reading Visual Arts Department focuses to maintain a highly enriching and rewarding studio arts program that aligns with the 2019 DESE Visual Arts Framework’s core beliefs. Students are required to earn at least one Fine Arts credit to satisfy NRHS’s graduation requirements. The faculty encourages students to participate in an array of visual arts courses which reflects the breadth of course offerings.

### *Massachusetts Curriculum Frameworks Standards The Standards for Artistic Practice*

#### **Creating**

- Generate and conceptualize artistic ideas and work.
- Organize and develop artistic ideas and work.
- Refine and complete artistic work.

#### **Performing**

- Select, analyze and interpret artistic work for presentation.
- Develop and refine artistic techniques and work for presentation.
- Convey meaning through the presentation of artistic work.

#### **Responding**

- Perceive and analyze artistic work.
- Interpret intent and meaning in artistic work.
- Apply criteria to evaluate artistic work.

#### **Connecting**

- Synthesize and relate knowledge and personal experiences to make art.
- Relate artistic ideas and works with societal, cultural and historical context to deepen understanding.

**Foundations of Art: Academic**

#710

This course is an introduction to the *Elements of Art and Principles of Design* as a basis of visual communication. Students will learn about *Artistic Literacy* which can be measured by the ability to understand, create, and reinterpret artwork within various contexts. Students will explore a variety of 2D and 3D media and develop their own creative aesthetic through creating art (Artistic Intent), studying art (past through present), and following self and peer evaluation processes. The integration of the 2019 DESE Visual Arts Frameworks will be explored and integrated into the curriculum.

**Ceramics I: Academic**

#702

This course introduces clay activities involving basic hand-building techniques, such as coil method, slab method, and pinch method. Glazing techniques will be taught as well as techniques of clay preparation, storing of unfinished clay pieces, and firing. Electric wheel throwing will be demonstrated. Students will eventually be responsible for reloading the kiln and choosing the proper cone. The final project will be of the students' choosing and will involve a written description of the project.

**Drawing and Painting: Academic**

#712

Drawing and Painting builds on many art concepts and practices taught in Foundations of Art. Students will create 2D artwork that demonstrates an understanding of a variety of materials. Students will explore a variety of art making processes with the goal of developing their own creative voice (Artistic Intent). Technical drawing and painting skills will be built through compositional planning and observational work from nature, sometimes supplemented with photographs. In addition, students will gain an understanding of one and two point perspective, the effect of light, color theory, and the historical relevance of one's own art as well as contemporary and fine art throughout history (Artistic Literacy). The integration of the 2019 DESE Visual Arts Frameworks will be explored and integrated into the curriculum.

**Prerequisite: Foundations of Art**

**Anatomy & Figure Drawing: Academic**

#716

Anatomy & Figure Drawing explores the structure and mechanics of the human figure through sculpture, drawing, and painting. Students will learn strategies for drawing and sculpting the human figure. The skeleton and muscles are the focus of study in constructing the human form in clay and various 2D media. Master copies and memory drawings are incorporated as aids to the process of visualizing movement and understanding surface forms.

**Prerequisite: Foundations of Art**

**Stories: Illustrating Art: Academic**

#706

Illustration visually clarifies an idea, theme, or concept. Students will learn techniques used in illustrating books, magazines, and promotional materials. Visualization exercises that expand imagination are explored. Students will keep an aesthetic journal and learn to expand their ideas into finished works of illustrative art.

**Prerequisite: Foundations of Art, Drawing and Painting**

**Graphic Design: Academic**

#713

This course is art at its most fundamental level. Shape, line, and color will be used to master composition. This course is non-figurative art. Typography, Advanced Color Theory and Computer Graphics will be covered. Techniques and media specific to graphics will be utilized. Drawing skill is not mandatory. Mastering the utilization of shape, line, color, and value to form a dynamic composition will be emphasized.

**Prerequisite: Foundations of Art****Advanced Graphic Design: Academic**

#714

As the field of Graphic Design grows as both a course of study at the college level and as a career option, the Advanced Graphic Design course serves to extend the skills and concepts learned in Graphic Design. The “Elements and Principles of Design” will serve as the foundation for the concepts studied in order to gain mastery. Students will be introduced to digital photography as well as the manipulation of their digital photos to produce original, high-quality digital media. Graphic design applications and careers in Graphic Design will be explored. There will be a survey of additional digital art programs and the concepts and scope of digital media will be studied.

**Prerequisite: Graphic Design****Digital Photography: Academic**

#715

This course serves to introduce students to photographic concepts with a concentration on the digital realm. The fundamentals of camera controls as well as rudimentary photographic composition will be the focus of study in this course. Students will be familiarized to digital photography, as well as the manipulation of their digital photos. Photographic applications and career opportunities will be explored. Display of student work will also be of overriding significance. Students will be encouraged to find applications for their newly learned skills within their academic community.

**Prerequisite: Graphic Design****Industrial Design: Academic**

#718

Industrial Design focuses on developing ideas for products that can be used in today’s world. Students will examine the history of product design for such items as furniture, cars, and lighting. Students are presented with an array of challenges they must solve through solutions requiring planning and research to address form, function, ergonomics, cost and practicality. Designs begin with schematic sketches and brainstorming which then help plan final rendering and three-dimensional models. Manipulation of sculptural materials such as clay, metal, paper and other objects are explored. Industrial Design will appeal to the student who enjoys art as well as engineering and promotes careers that meld the arts and sciences such as industrial designers and anyone who likes to work with their hands.

**Prerequisites: Foundations of Art and Ceramics or Architectural Design****Art Portfolio Preparation: Honors**

#721

Art Portfolio Preparation is a rigorous studio art course which calls upon seasoned student artists to build, critique, and revise their art portfolio. The course is essential for students with a strong interest in developing a portfolio to showcase to colleges or use in independent art business endeavors. In pursuit of a comprehensive, strong portfolio, existing artwork is analyzed and several new art projects are developed to convey clear artistic intent. Students will gain an understanding

of how to hone their time management skills and establish rigorous, yet attainable goals. Regularly engaging in self and peer critiques will serve to build technical, conceptual, and aesthetic mastery in the artist's medium of choice. The artist statement becomes the theme for the content presented in the portfolio. Students are required to participate in the end of year junior/senior art show. Students applying to art schools should plan to take this course in the junior year. This course is a Junior/Senior elective and requires an informal portfolio review by the instructor. **Junior/Senior elective.**

**Prerequisites: Foundations of Art and one of the following Graphic Design, Drawing and Painting or Ceramics**

### **Advanced Placement 2D Art and Design Portfolio**

**#722**

Advanced Placement 2D Studio Art and Design Portfolio is the most advanced visual arts course and is designed for junior and senior students planning to major or minor in visual arts in college. Assignments are rigorous, resembling those of a typical undergraduate art program and are part of the *Studio Art Advanced Placement Exam*. Students are responsible for creating a portfolio of original works with a concentration on quality, depth, and specific themes with limited instructional assistance. Presentation methodology is also covered as course requirements include that selected final works are formally exhibited. Summer assignments are required to be completed; physical examples of the work must be presented on the first day of class.

**Prerequisites: Foundations of Art and one of the following: Graphic Design, Drawing and Painting, Ceramics, or Art Portfolio Preparation**

**Additional courses related to this area of study include:**

### **Digital Learning and Entrepreneurship Department**

**Video Production: Academic**

**#171**

### **Science, Technology, & Engineering Department**

**Architectural Design: Academic**

**#370**

## **Performing Arts**

Students must earn at least one Fine Arts credit toward the requirements for graduation. Music and Theater courses qualify for this requirement. To this end, the Performing Arts Department offers courses appropriate to all students regardless of ability.

### ***Music Learning Standards for the Novice to Advanced Student:***

#### **Creating: (skills to be mastered)**

- Improvise short melodic and rhythmic ideas that reflect characteristics of different genres, to generating instrumental or vocal interpretations that integrate aesthetic principles with personal style.
- Record decisions about accuracy of written music, to arranging pieces of music for multiple instruments or voices in an array of genres and styles.

- Refine musical interpretations exploring different elements, to identifying musical challenges and reflect upon the advantages and disadvantages of different solutions.

**Performing: (skills to be mastered)**

- Identifying basic strategies musicians use to practice and employ them in readying a musical work for performance, to organizing and leading a small group performance.
- Performing with accuracy and expression works from the vocal or instrumental literature with a level of difficulty of 2-5, on a scale of 1 to 6;
- Matching a musical performance with expressed intent, to performing musical works designed to elicit audience reflection because of its style or viewpoint.

**Responding: (skills to be mastered)**

- Analyzing how cultures are reflected in a diverse range of musical works, to identifying ways a contemporary musical piece pushes boundaries of the genre and discipline.
- Explaining how a musical work is connected to a particular cultural, historical context where it was created, to analyzing the ways one's own cultural and personal perspectives and biases affect understanding of a musical work.
- Developing criteria for a rubric for evaluating musical works, to identifying how bias, culture, and privilege can affect the criteria one uses to evaluate musical performance.

**Connecting: (skills to be mastered)**

- Describing the influences of one's personal musical style and preferences, to explaining the development of the group's aesthetic vision as an ensemble and how it is represented in a performance.
- Identifying musical ideas from different cultures studied in history and social science, to identifying the historical and cultural contexts that caused shifting of stylistic elements between musical movements.

*Theater Learning Standards for the Novice Student:*

**Creating: (skills to be mastered)**

- Creating theatrical ideas (e.g., plot, setting, character) that reflect characteristics of different artistic movements, to generating original ideas in one theatrical area (e.g. acting, production) that integrate aesthetic principles with personal style.
- Creating an outline for an original scene or short play, including details such as costumes or scenery, to documenting strategies used regularly to organize artistic ideas.
- Refining and revising character dialogue, stage directions and sensory details of imagined worlds, to identifying theatrical challenges and reflect upon the advantages and disadvantages of different solutions.

**Performing: (skills to be mastered)**

- Identifying historical sources that explain drama/theatre terminology and conventions to synthesizing ideas from research, script analysis, and context to create a performance that is believable, authentic, and relevant in a drama/theatrical work.
- Identifying theatrical staging conventions in a scripted theatrical work, to organizing and lead the production of a theatrical work.
- Describing how decisions about a performance are connected to what the student wants to express, evoke, or communicate, to performing roles that present a range of moods and emotions and causes audience reflection by presenting different styles or viewpoints.

**Responding: (skills to be mastered)**

- Analyzing the style of a playwright and how it manifests in a given theatrical work. For example, examine how a playwright uses character relationships to assist in telling the story, to identifying ways a contemporary theatrical work pushes boundaries of a theatrical genre.
- Identifying theatrical decisions from a work that connect it to a specific genre or style, to analyzing the ways one's own cultural and personal perspectives and biases affect understanding of a theatrical work.
- Comparing and contrasting different rubrics or criteria for evaluating theatrical, to identifying how bias, culture, and privilege can affect the criteria used to evaluate theatrical work.

**Connecting: (skills to be mastered)**

- Describing what has influenced changes in one's own dramatic style and preferences in theatre, to explaining the development of one's aesthetic vision as an actor and how that is represented in a current role.
- Identifying the connections between historical and cultural contexts and defining stylistic elements of theatrical movements, to identifying the historical and cultural contexts that caused a shifting of stylistic elements between theatre movements.

**Music History: Academic****#750**

Students will study the history of various styles of music from early man through the contributions to Greece and Rome, Christianity, Medieval, Renaissance, Baroque, Classic, Romantic, Impressionism, Neo-Classical and Twentieth Century. Students will study composers and their most famous works as they pertain to periods of history, music and art. Students **MUST** have the ability to read and notate music in both Treble and Bass clef. Students should be able to perform on piano and an instrument. **Prerequisite: One year of Chorus, Band, or Piano**

**The American Musical Theatre: Academic****#751**

The American Musical Theatre is a course of study for the serious student interested in expanding skills and knowledge in the study of theater as an art form and understanding the historical significance and cultural reflection theater has had on society. This class will examine how past events have contributed to the content and structure of a show's overarching storyline and students will understand how modern Musical Theatre forms have evolved. As a practical component of the course students will be expected to watch a number of films to emphasize the visual and contextual depth performance provides. Particular areas that will be analyzed may include lighting, sets, sound, script writing, pop culture, musical phrases and writings and evaluating pertinent stories and issues of the day. Through discussion, vocabulary, research and projects students will understand how American Musical Theater has been used as a cultural commentary and storytelling resource throughout history.

**Prerequisite: Introduction to Theater and one of the following classes: Band, Chorus, and/or Piano**

**Technical Theater Production: Academic****#752**

Technical Theater Production is primarily a "hands on" course exploring the organizational demands, creative ingenuity, and collaborative methods essential for good theater production.

Students will study the history and types of theater and the scope of our own theater. In this course students are introduced to the fundamentals of set design, scenic art design, prop construction, set construction, light rigging and operation, sewing and costume design, make-up design and application, theater business management, and sound design and operation. Students enrolled in this class will be expected to take an active part in the school's theatrical productions, including a minimum of 20 after-school hours. While students may enroll in this course for more than one year, successful completion of the course will satisfy only one credit toward the Fine Arts course requirement for graduation.

**Prerequisite: Introduction to Theater or Architectural Design,  
Junior/Senior Elective**

**Advanced Technical and Design Production: Honors #762**

This course is modeled after a Performing Arts Conservatory format. It is a project-based course exploring the organizational demands, creative ingenuity, and collaborative methods essential for all genres of theater production. Students will continue to build and develop skills associated with Technical Theater Production by concentrating on improving technique, expanding their exposure to different types of theatrical techniques and traditions, and increasing their chances of succeeding in leadership roles. Targeted areas for advanced skill development include design, scenic art design, prop construction, set construction, light rigging and operation, sewing and costume design, make-up design and application, theater business management, and sound design and operation. This course allows students the ability to participate in discussions centered on career opportunities in the theater. There is a required minimum of 30 hours of applicable, hands-on experience each semester.

**Prerequisite: Technical Theater Production  
Senior Elective**

**Piano: Academic #753**

Piano is open to all students in grades 9-12. Students will be tested at the beginning of the year and placed on an appropriate course of study based upon their piano skills and music theory ability. All students will work on two-handed scales. Literature for students will get progressively more challenging throughout the year. Through independent and small-group work, students will learn to listen critically, analyze, compare, assess other pianists, and develop ear training and critical listening skills. Students will learn pieces of music chosen to match their personal level, applying appropriate expressive tools such as dynamics and articulation. Sight reading will also be an integral part of Piano. Theory work will depend on a student's current ability. The basic foundations of theory notation, major and minor modes, rhythmic structure, key signatures, triads, analysis, transposition, and chord construction will be addressed. Students will advance progressively throughout the year and may continue past these levels. Activities of the class include a mandatory recital in the winter and spring recitals. While students may enroll in this course for more than one year, successful completion of the course will satisfy only one credit toward the Fine Arts course requirement for graduation. **Students must have a keyboard or piano at home on which to practice. Class Size limit: 15**

**Music Theory: Academic #755**

This course is only available to students who have an intermediate knowledge of musical notation and can play piano with some proficiency. Students should have proficiency on an additional



instrument as well. Theory will offer detailed work in scale construction, major and minor modes, triads, score analysis, chord construction, harmonic functions, types of choral accompaniment as well as composition and transposition. Records and sight singing are also a component of this class.

**Prerequisite: One year Band, Chorus and/or Piano, plus Keyboard Skills and access to keyboard at home**

**Introduction to Theater: Academic**

**#756**

This course is designed as a survey course and provides the student with an intense sampling of all facets of theater. The subject matter will range from stage terminology, structure of plays, and early theatrical history to vocal and movement training for the actor. Also included will be acting (improvisation, character analysis, and duet/group acting) as well as stage design and construction, lighting, costuming and makeup. Active participation involving memorization and outside rehearsals is mandatory. This first level course explores the fundamentals of acting as an art. Students are encouraged to explore their creativity while developing skills and taking theatrical risks. Activities include theater games geared toward achieving focus, improvisation, observation journals, and scene study. Students enrolled in this class will be expected to take an active part in the school's theatrical productions, including a minimum of 10 after school hours.

**Advanced Acting and Stagecraft: Honors**

**#757**

Advanced Acting is a course of study for the serious student interested in expanding skill and knowledge in the area of acting technique and the study of theater as an art. Students will continue their journey toward creating characters, taking theatrical risk and exploring motivation through the theories of Stanislavski, Viola Spooling, Sanford Eisner, David Mamet and others. Improvisation and pantomime, scene work and study of Shakespeare will be primary activities. Actors are required to create and maintain a professional acting portfolio. This course will address the evolution of Theatre as an art form by examining its relationship to other styles and historical periods of drama. More importantly, it will address the unique challenges of the genre for the performer through work with scenes, songs, characterizations, vocal work and choreography.

**Prerequisite: Introduction to Theater**

**Junior/Senior Elective**

**Band: Academic**

**#760**

Band is open to all qualified instrumentalists in grades 9-12. Beginners on certain instruments will be accepted on a trial basis at the discretion of the director. In addition to football games, rallies, assemblies, Veterans Day, Memorial Day and concerts in and outside of school, the Band competes in both marching and concert band festivals. Students in band must study with an adjunct faculty lesson instructor. These lessons will assist the student in technique, pedagogy, and facilitation of embouchure and fingerings. Band will perform a wide range of period music in addition to marches, patriotic, classic, concert materials, musical comedy, holiday selections, modern and pop. While students may enroll in this course for more than one year, successful completion of the course will satisfy only one credit toward the Fine Arts course requirement for graduation. **Students intending to participate in Band District Auditions must be a member of the Band class in the current school year.**

**Chorus: Academic**

#765

Chorus is open to all students in grades 9-12. Choral performance is in an ensemble setting. Training is in basic music writing and musicianship. The study includes proper nomenclature, major and minor scales, some keyboard experience, diction, ear training, research and listening to outstanding artists and some small ensemble singing. Sight singing (solfeggio) is an integral part of chorus. The chorus performs all types of choral music from early Renaissance to the present including quality show and contemporary pop music. Activities of the chorus include concerts both in and out of school, assemblies, musical comedies and music festivals. While students may enroll in this course for more than one year, successful completion of the course will satisfy only one credit toward the Fine Arts course requirement for graduation.

**Students intending to participate in Choral District Auditions must be a member of Chorus class in the current school year.**

**Advanced Placement Music Theory**

#771

This course is a college-level course, the goal of which is to develop a student's ability to recognize, understand, and describe the basic materials and processes of music that are heard or presented in a score. This goal is accomplished through the integration of the development of such skills as aural skills, written skills, compositional skills and analytical skills. The course is only available to students who have an intermediate knowledge of musical notation and can play piano with some proficiency. Students should have proficiency on an additional instrument as well. Advanced Placement Music Theory will offer detailed work in scale construction, major and minor modes, triads, score analysis, chord construction, harmonic functions, types of choral accompaniment as well as composition and transposition. Recordings and sight singing are also a component of this class. **Students will be required to take the Advanced Placement Music Theory Exam. Junior/Senior Elective**

**Prerequisite: Minimum of two years in Band, Chorus, or Piano. Successful completion of Academic Music Theory**

**Jazz Band: Academic**

#780

Jazz Band is a small ensemble, which performs a wide variety of music. The instrumentation consists of saxophones, trumpets, trombones, drums, string bass, guitar and piano. Admission is by **audition only**, and class is held outside of the normal school hours. This group also participates in jazz festivals, competitions, and out-of-state concerts. While students may enroll in this course for more than one year, successful completion of the course will satisfy only one credit toward the Fine Arts course requirement for graduation. **Students intending to participate in Jazz &/or Band District Auditions must be a member of the Jazz &/or Band class in the current school year.**

**Co-requisite: Band (exception for bass, guitar, and piano)**

# ***PHYSICAL & HEALTH EDUCATION***

## ***National Health Education Standards (NHES)***

The National Health Education Standards (NHES) are the framework for health instruction in schools. The NHES were designed to support schools in meeting the essential goal of enabling students to acquire the knowledge and skills needed to promote personal, family and community health. The eight standard statements enable education professionals to align health education curriculum, instruction and assessment practices. Following are the eight standards:

1. Students will comprehend concepts related to health promotion and disease prevention to enhance health.
2. Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
3. Students will demonstrate the ability to access valid information and products and services to enhance health.
4. Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
5. Students will demonstrate the ability to use decision-making skills to enhance health.
6. Students will demonstrate the ability to use goal-setting skills to enhance health.
7. Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
8. Students will demonstrate the ability to advocate for personal, family, and community health

## ***Physical Education/Health Education Learning Standards: Massachusetts Curriculum Frameworks***

1. Students will understand current concepts of health promotion, disease prevention, and risk assessment in relationships to lifelong growth and development.
2. Students will develop individual competence and versatility in movement skills, understand movement concepts, and relate physical activity to lifelong health.
3. Students will analyze the impact of social, cultural, economic, and environmental factors on health.
4. Students will acquire the knowledge and skills necessary to make effective personal decisions that promote their emotional, sexual, and reproductive health.
5. Students will assess health beliefs, attitudes, and behaviors in order to set achievable goals, monitor progress, and evaluate outcomes.
6. Students will demonstrate the ability to assess risk, consider potential consequences, and make health-enhancing decisions.
7. Students will manage resources and practice behaviors that protect and enhance their physical, intellectual, emotional, and social health.
8. Students will communicate health information clearly and accurately.
9. Students will promote health and collaborate to build safe and supportive social environments.

*National Association for Sport and Physical Education Content Standards (NASPE)*

1. The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.
2. The physically literate individual applies knowledge of concepts, principles, strategies, and tactics related to movement and performance.
3. The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.
4. The physically literate individual exhibits responsible personal and social behavior that respects self and others.
5. The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

**All high school students must participate in a physical education program each year of high school.**

Freshman and Sophomore Requirements: Students in grades 9 and 10 are required to successfully complete the “Health/Physical Education” course in each of the respective school years.

Junior and Senior Requirements: Junior and senior students have a variety of options by which they may complete the physical education program requirement.

To fulfill the requirement for physical education in the junior and senior years, all students must select one of the following options each year:

- Elect to take the “Fitness in the 21<sup>st</sup> Century” course at North Reading High School.
- Participate in a school-based yoga, mind, and body program at North Reading High school.
- Play on an inter-scholastic team at North Reading High School for at least one season. Documentation reflecting full completion of the sports season must be provided by the student and documented as appropriate. Please note that the requirement of an “Athletic User Fee” applies.
- Participate in a school-based intramural weight training and conditioning program at North Reading High school. A North Reading High School weight room supervisor will verify participation and attendance. The time commitment must be a minimum of forty (40) total hours in the given school year. At the conclusion of the forty (40) hour requirement, the student must provide school administrators written documentation of completion of the intramural weight training and conditioning program using the requisite form.
- Participate in a fitness/exercise program at an off-campus fitness/exercise facility at personal expense. This may include weight training, general fitness, dance, yoga, skating, gymnastics, karate, judo, or other similar activity. The time commitment must be a minimum of forty (40) total hours. At the conclusion of the forty (40) hour

requirement, the student must provide school administrators written documentation of completion of the fitness/exercise program as requested.

### **Health/Physical Education Grade 10: Academic**

**#910**

This is a full year course divided equally into two semesters; one semester will be focused on Health Education while the other semester will focus on Physical Education. The National Health Education Standards, the Massachusetts Health Curriculum Frameworks, and the standards of the National Association for Sport and Physical Education (NASPE) will govern the direction of this course. The planned, sequential curriculum addresses the physical, mental, emotional and social dimensions of one's health using a variety of learning experiences with an emphasis on participatory methods. This course is designed to motivate and assist students to maintain and improve their health, prevent disease, and reduce health-related risk behaviors. Health/Physical Education for Grade 10 students further serves to continue the foundation laid in the Health/Physical Education course offered in grade nine. Students are provided the opportunity to continue their development of knowledge and skills needed to live a healthy and fit lifestyle. Movement and fitness activities, individual and team sports with a focus on positive peer interaction, and the development of strong social skills and citizenship are at the core of this 21<sup>st</sup> century course.

**NHES Standards: 1,2,3,4,5,6,7,8; Learning Standards: 1,2,3,4,5,6,7,8,9; NASPE Standards: 1,2,3,4,5**

### **Health/Physical Education Grade 9: Academic**

**#911**

This is a full year course divided equally into two semesters; one semester will be focused on Health Education while the other semester will focus on Physical Education. The National Health Education Standards, the Massachusetts Health Curriculum Frameworks, and the National Association for Sport and Physical Education standards will govern the direction of this course. The planned, sequential curriculum addresses the physical, mental, emotional and social dimensions of one's health using a variety of learning experiences with an emphasis on participatory methods. This course is designed to motivate and assist students to maintain and improve their health, prevent disease, and reduce health-related risk behaviors. Health/Physical Education Grade 9 serves as a foundation for the development of health-related fitness, goal setting for future development of a fitness plan, and individual and group problem-solving.

**NHES Standards: 1,2,3,4,5,6,7,8; Learning Standards: 1,2,3,4,5,6,7,8,9; NASPE Standards: 1,2,3,4,5**

### **Fitness in the 21st Century**

**#915**

This course is designed to provide two distinct opportunities for authentic, educationally rich fitness experiences for students in the context of the school's Physical Education and Health Department. One semester will create the foundation for lifelong fitness knowledge and skills. This portion will reinforce and enhance the concepts of fitness through a wide variety of learning experiences that may include, but are not limited to, fitness games and activities. Students will develop standard skills, strategies, and protocols to increase their confidence when seeking team or club-based fitness options in their adult years. The second semester of this course will guide students through the understanding and implementation of information with respect to fitness and purposeful physical movement. Students will utilize fitness equipment including exercise machines, TRX straps, free weights, and barbells on a daily basis. Students may enroll in, and

receive credit for this course in both their junior and/or senior years. This course serves to satisfy the Junior/Senior Physical Education Requirement.

**Junior/Senior Elective**

**NASPE Content Standards Standards: 1,2,3,4,5; Learning Standard: 2**