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Dear Parents and Students,

The Program of Studies provides a complete listing of vocational programs and academic course offerings for the upcoming school year. Please take the opportunity to review the Program of Studies. Blue Hills continues to add a variety of academic elective course options. As a result, students and parents are asked to consult with administration, faculty members, guidance counselors and the BHR website (www.bluehills.org) in order to seek information and/or advice before making course selections.

The Program of Studies, as well as additional forms and procedures will be available to you through our website (listed above).

Please keep the following in mind:

- The ability to accommodate requests for schedule changes is minimal once the school year begins. Careful consideration should be exercised when selecting courses.

- The determination of which courses will run is based upon the number of students selecting each course, and the constraints of the school’s master schedule.

- All students will have their Vocational Program (Exploratory for Freshmen), as well as other programs such as supplementary classes, added to their schedule as needed or as necessitated through testing results and/or IEP requirements.

Blue Hills has a tradition of preparing students for future technical employment and continued education. We invite you to be part of that tradition.

Regards,

Mr. Geoffrey Zini
Principal

The Blue Hills Regional Technical School District is an equal opportunity educational institution. All programs, courses of study and activities are open to all students without regard to race, color, gender, gender identity, sexual orientation, religion, national origin or disability. The School District is in full compliance with Massachusetts Law, Chapter 622 of the Acts of 1971, and Title IX of the Education Amendments of 1972 (U.S. Code), and section 504 of the Rehabilitation Act of 1973. Individuals may make inquiries relative to Chapter 622 and Title IX from the coordinator, at the school address or by phoning 781-828-5800.
PLAN FOR SUCCESS

VISION
To continue Blue Hills history of academic achievement, technical training, and character development through a curriculum which emphasizes the integration of cutting-edge technical programs and challenging academic courses; enabling its students to become competent, caring, and productive people in a diverse and changing world.

MISSION STATEMENT
Blue Hills Regional Technical School's mission is to continue its history of academic achievement, technical training and character development through a curriculum, which emphasizes the integration of cutting-edge technical programs and challenging academic courses; enabling its students to become competent, caring and productive people in a diverse and changing world.

CORE VALUES
Blue Hills is committed to:

Community
- Creating an atmosphere of mutual respect through collaboration, inclusion, and relationships.

Opportunity
- Offering various diverse opportunities where ALL students can reach their full potential both in and out of the classroom.

Relevance
- Providing a relevant, high quality, cutting-edge, and innovative education that promotes individual growth for the future.

Employability
- Uniquely preparing our students for the many possible college and career pathways.

PILLARS OF SUCCESS
- Dynamic and Equitable Teaching and Learning
- Positive and Supportive Climate and Culture
- Proactive and Responsive Communication
- Relevant and Personalized Professional Development
BLUE HILLS REGIONAL DISTRICT SCHOOL COMMITTEE

AVON          Mr. Francis J. Fistori,  Class of 1975
BRAINTREE     Mr. Eric C. Erskine,  Vice Chairman,  Class of 1981
CANTON        Mr. Aidan G. Maguire,  Jr.,  Class of 1979
DEDHAM        Mr. Thomas R. Polito,  Jr.,  Chairman
HOLBROOK      Ms. Taryn M. Mohan,  Class of 1996
MILTON        Mr. Clinton Graham
NORWOOD       Mr. Kevin L. Connolly
RANDOLPH      Ms. Rachelle Jeanty
WESTWOOD      Ms. Sheila C. Vazquez

DISTRICT ADMINISTRATION
Jill Rossetti, Superintendent-Director
Michelle Resendes, Business Manager

HIGH SCHOOL ADMINISTRATION
(781) 828-5800

<table>
<thead>
<tr>
<th>Administrator</th>
<th>Position</th>
<th>Administrative Assistant</th>
<th>Ext.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geoffrey Zini</td>
<td>Principal</td>
<td>Cindy Fama</td>
<td>2256</td>
</tr>
<tr>
<td>Thomas Cavanaugh</td>
<td>Dean of Students</td>
<td>Julie Pica</td>
<td>2250</td>
</tr>
<tr>
<td>Angelo Dimitriou</td>
<td>Student Services Director</td>
<td>Tracey Monti</td>
<td>2240</td>
</tr>
<tr>
<td>Paul Bavuso</td>
<td>Academic Director</td>
<td>Courtney Wall</td>
<td>2670</td>
</tr>
<tr>
<td>Michelle Sylvia</td>
<td>Vocational Director</td>
<td>Deb Beane</td>
<td>2200</td>
</tr>
<tr>
<td>Marybeth Joyce</td>
<td>Director of Admissions</td>
<td>Carole Martins</td>
<td>2270</td>
</tr>
<tr>
<td>Kim Poliseno</td>
<td>Co-op Coordinator</td>
<td></td>
<td>2272</td>
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GUIDANCE DEPARTMENT
(781) 828-5800

<table>
<thead>
<tr>
<th>Counselor</th>
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<tbody>
<tr>
<td>Laura O’Reilly, Lead Counselor</td>
<td>2263</td>
</tr>
<tr>
<td>Emily Burns, Counselor</td>
<td>2264</td>
</tr>
<tr>
<td>John-Henry Davis, Counselor</td>
<td>2261</td>
</tr>
<tr>
<td>Sarah Titus, Counselor</td>
<td>2262</td>
</tr>
<tr>
<td>Laurie Driscoll, Guidance Secretary</td>
<td>2260</td>
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</tbody>
</table>
PROMOTION - GRADUATION REQUIREMENTS

All Blue Hills students will spend approximately half of their time in vocational-technical programs and the other half in academic classes, alternating on a weekly basis. In order to satisfy our local graduation requirements, students must earn a prescribed number of credits (p. 5-6) in their vocational program and in academic classes. Students and their families will have the opportunity to select courses in English, Mathematics, Science, Social Studies, Physical Education/Health, and Electives. The chosen courses should be interesting, challenging, and should meet the students’ needs and goals for higher education and/or future employment. Guidance counselors, teachers, and administrators all work to help students make well informed choices regarding which classes will build a strong foundation for college and career readiness.

Promotion and graduation requirements are as follows:

- Year-long academic classes that meet for two periods each day are worth TWO (2) credits
- Year-long academic classes that meet for one period each day are worth ONE (1) credit
- Half-year academic classes that meet for one period each day (or any one-period classes that meet on an alternating day schedule) are worth HALF (.5) of one credit
- Full participation in the career vocational technical education program, as well as its technical/related class, is worth EIGHT (8) credits.
- All students must earn a minimum of 17 credits at Blue Hills in order to be promoted to the next grade.
- MCAS Competency Determination (CD) Mandated by the DESE
  - Students must either earn a scaled score of at least 240 on the grade 10 MCAS ELA and Mathematics tests or earn a scaled score between 220 and 238 on these tests and fulfill the requirements of an Educational Proficiency Plan (EPP).
  - Students must also earn a scaled score of at least 220 on one of the high school MCAS Science and Technology tests: Biology, Chemistry, Introductory Physics or Technology/Engineering.
- All students seeking to earn a high school diploma must meet the Competency Determination (CD), in addition to meeting all local graduation requirements.

Please note:

- A yearly average of a 60 or above is required to pass a course.
- If a student fails a course for the year, they must have a minimum final average in that course of a 49 in order to be eligible for summer school.
- Students who have questions pertaining to these credits and grading requirements should contact their guidance counselor.
- A student will be required to attend summer school upon the accumulation of sixteen (16) absences in order to fulfill BHR attendance requirements. An additional course will be required for every five (5) absences accumulated after sixteen (16). All such courses must be taken at the Blue Hills Regional Summer School. All course subjects must be approved by the (ARB) Academic Review Board.
- An Academic Review Board meets at the end of the school year to review individual students’ eligibility for promotion or graduation.
COURSE REQUIREMENTS FOR GRADUATION

While at Blue Hills, you will have many opportunities to make choices about the academic classes and vocational programs that best meet your needs as a student. However, in order to be eligible for graduation, you must earn the following credits over your four years as a student:

<table>
<thead>
<tr>
<th>Department/Subject</th>
<th>Maximum Credits Earned Toward Graduation</th>
<th>Required Credits for Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8*</td>
<td>8*</td>
</tr>
<tr>
<td>Science</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Social Studies</td>
<td>6**</td>
<td>6**</td>
</tr>
<tr>
<td>PE/Health (alternate – P.A.S.S.)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Career Vocational Technical Education Program (9-12, including Exploratory)</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

- *9 credits required if enrolled in Math Skills 2303 during sophomore year
- **5 credits required if enrolled in Math Skills 2303 during sophomore year
- **Summer Reading and academic enrichment packets are required for all grades. Please see the school website for selections in the spring.
- Additional selections in any of the core academic areas may be taken for elective credit, subject to availability of the course and room in a student’s schedule.

GRADING/UNWEIGHTED GPA SCALE

The grading system for Blue Hills Regional Technical School consists of numerical grades. Numerical grades are rounded to the nearest whole number. Grades are converted to letter grades for transcripts. Blue Hills uses the following system in determining letter grades:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numerical Grade</th>
<th>Grade Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93-100</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>68-69</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>63-67</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>60-62</td>
<td>0.7</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
<td>0.0</td>
</tr>
</tbody>
</table>
CLASS RANK

Quality points are applied to a student’s grade point average in order to determine a Weighted GPA. Many of the core academic classes are offered at different levels:

- AP* = 4.25QP
- Honors* = 4 QP
- College Preparatory and All Vocational = 3 or 3.5 QP
- Standard or Team = 2 QP
- Resource/Other = 1 QP

* Honors level courses (4 Quality Points) may require Lead Teacher approval.
* AP courses require Lead Teacher and Academic Director approval.

Grade point averages (GPA) and class rank are important to students seeking scholarships, financial assistance, and other post-secondary endeavors. GPA and class rank are calculated using a system of levels and credits.

HONOR ROLL REQUIREMENTS

Students are placed on the Honor Roll after each quarter, provided they have earned the following grades:

- Students receive **high honors** when they receive A’s in all subjects listed on the report card.
- Students receive **honors** when they receive A’s and B’s in all subjects on the report card.
- Honor Roll certificates will be issued electronically through the X2 portal.

PHYSICAL EDUCATION REQUIREMENTS

Physical education, consisting of gym, wellness, pool and health, **is required of all students** unless a physician’s letter is on file stating that participation in physical education would be injurious to the student’s health. One credit towards promotional/graduation requirements will be earned each year for passing physical education/health. Credit adjustments due to special programs may alter some of the above requirements.

INCOMPLETE GRADES

An INC (incomplete) appearing on a report card in any given subject will indicate that a student has failed to make up missed work by the end of the term due to extended, documented absences. It is expected that students will complete make-up work within three (3) weeks of returning from an extended absence (3 consecutive days) unless other arrangements are made with school officials. **Instructors must obtain permission prior to giving an incomplete to a student from their appropriate Director.** This applies to all technical classes and academic classes.
A student receiving an incomplete grade is responsible for making arrangements with his/her teacher(s) to make up the work within the next three-week period. Failure to make up work within the prescribed time will result in a grade of zero for the missed work and will be factored in the determination of a numerical grade point average. **Incompletes may not be given fourth term.**

**FINAL EXAMS**

Final exams will be given in all academic classes to all students in grades 9, 11, and 12. This will assist in validating that students have demonstrated mastery of key concepts and standards. Final course grades are calculated by factoring in the four marking period grades and the final exam. The final exam is worth 10% of the final grade.

**PROGRESS REPORTS**

An academic and a vocational progress report will be issued at the middle of each term for all students. These reports indicate student performance on academic course/technical program assignments, homework and tests. Progress reports will be issued electronically through the X2 portal.

**REPORT CARDS**

Report cards will be issued to students four times during the school year on a quarterly basis. Report cards are issued electronically through the X2 portal.

The grades for students who have transferred in from another school will be averaged into the final grade for identical courses. The district will determine grade and credit transfer status for students entering the Blue Hills Regional Technical School District from non-identical courses. Credits for vocational-technical classes will be waived. A transfer student must be present for at least four (4) weeks at Blue Hills in order for an instructor to average the grades together for the report card.

**EXTRA HELP/MAKE-UP WORK**

Students are encouraged to seek support for their classes by attending extra help sessions after school with their instructor. Instructors are typically available two days per week (Monday – Thursday) after school. It is the student’s responsibility to take the initiative in making arrangements to see teachers for extra help or make-up work.

**COURSE SELECTION—ONLINE REGISTRATION**

Each spring, instructors make recommendations for students’ core subjects in Aspen X2. Following these recommendations, students meet with guidance counselors to select courses.

Students should review course descriptions, as laid out in the Program of Studies, by going to [www.bluehills.org](http://www.bluehills.org), Program of Studies Link, and clicking on Program of Studies (PDF format). Guidance counselors will be visiting technical programs in the spring to guide students through the course selection process. Careful consideration should be exercised when selecting courses. The number of students selecting each course, as well as the constraints of the school’s master schedule, determine which courses will run and the number of sections needed to accommodate student requests. **There is no guarantee that students will be assigned to courses that they have selected.**
Course Selection Process

1. Teacher Recommendations
2. Counselor approves teacher recommendations
3. Students review course descriptions in the Program of Studies found at www.bluehills.org.
4. Students make course selection after meeting with guidance counselor.
5. Counselors and Special Education liaisons review individual student selections and counselor approves course selection

COOPERATIVE EDUCATION

The Co-op program provides students the opportunity to apply their technical training and develop additional skills in a paid work environment while earning credit toward their vocational program. The Cooperative Education program is available to eligible students in the third quarter of their junior year and the entire senior year, pending certain requirements. See the Parent/Student Handbook for details.

ROTATING SCHEDULE

All Blue Hills students will spend approximately half of their time in vocational-technical programs and the other half in academic classes, alternating on a weekly basis. For example, students will spend five days (one week) in academics and five days (one week) in their vocational-technical program. There are nine days in the schedule (Day 1 – Day 9) and eight periods per day (one period is dropped each day). Grades 9 & 11 are in academics during X Week and grades 10 & 12 are in their vocational program. Grades 10 & 12 are in their academics during Y Week and 9 & 11 are in their vocational program. Please see the rotating academic schedule template below:
**ODD AND EVEN DAYS ON THE SCHOOL CALENDAR**

Grade 9-12 Special Education students who are enrolled in the P.A.S.S. course will alternate between odd and even calendar days, and will share every other day of their academic week cycles with PE/Health. Therefore, they will receive 0.5 credits for P.A.S.S. and 0.5 credits for PE/Health.

**ADD/DROP PERIOD**

The Add/Drop period ensures the District’s compliance and eligibility to meet the Massachusetts curriculum frameworks. Students may only add/drop classes with the permission of their parents, subject instructors, guidance counselors, lead teachers, and the Academic Director before the first Friday in October. Students must see their guidance counselor to obtain a “Class Change Request” form. Course changes for electives are not allowed on the basis of preference once the school year begins. **All signatures are required before any changes are implemented.**

**POST-SECONDARY LINKAGE ACTIVITIES and SERVICES**

In accordance with the definition of an articulation agreement found in the Carl D. Perkins Career and Technical Education Improvement Act of 2006, Blue Hills Regional Technical School’s vocational programs are linked with multiple public and private two-and four-year colleges through articulation agreements. The intent of these agreements is to establish and foster the linkages by which admission, college credit and advanced standing may be awarded to vocational students who meet articulation criteria. Students who successfully complete selected vocational programs at the secondary level may be offered advanced standing and/or college credits in these post-secondary schools, seamlessly continuing their education from one level to another without delay or duplication.
## ARTICULATION AGREEMENTS (As of March 2017):

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<th>BHR Vocational Area</th>
<th>College</th>
<th>Course(s)</th>
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<tr>
<td>Automotive Technology</td>
<td>Mass Bay CC</td>
<td>AB100, AY 100, or AT100, plus TESPAI101</td>
</tr>
<tr>
<td></td>
<td>UTI</td>
<td>Challenge Test (up to 4 courses)</td>
</tr>
<tr>
<td></td>
<td>Central Maine CC</td>
<td>AUT 110, AUT120, AUT200</td>
</tr>
<tr>
<td></td>
<td>UNOH</td>
<td>AU126, AU127</td>
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<td></td>
<td>BFIT</td>
<td>AT-259</td>
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<td></td>
<td>All MA CC</td>
<td><a href="http://masscc.org/articulation">http://masscc.org/articulation</a></td>
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<tr>
<td>Auto Collision/Refinishing</td>
<td>UTI</td>
<td>Challenge Test (up to 4 courses)</td>
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<td>Construction Technology</td>
<td>Central Maine CC</td>
<td>BCT133, BCT101, BCT134</td>
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<td>Computer Information Systems</td>
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<td>Quincy College</td>
<td>CSI 101, CSI 116</td>
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<td>Culinary Arts</td>
<td>Central Maine CC</td>
<td>CUA 121, CUA 171</td>
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<td>Bristol CC</td>
<td>CUL 113, CUL 140</td>
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<td></td>
<td>CIA</td>
<td>$2500 grant, $2000 if SAT&gt;550, ServSafe credits, $500 alumni referral letter, waive application fee</td>
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<td>Johnson &amp; Wales</td>
<td>CUL1345, CUL1355, CUL1385 (credited via 3 hour practical exam)</td>
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<td>Quincy College</td>
<td>CSA225, CSA228</td>
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<td>Early Education &amp; Care</td>
<td>All MA CC</td>
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<td>EDU101, PSY103</td>
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<td>Electrical</td>
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<td></td>
<td>Bristol CC</td>
<td>EGR131, EGR151, EGR 190</td>
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<td>Massasoit CC</td>
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<td>Graphic Communication</td>
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<td></td>
<td>Bristol CC</td>
<td>ART 260 (req. portfolio prereq)</td>
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<td>Legal and Protective Services</td>
<td>Quincy College</td>
<td>CJS101, CJS202</td>
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**DUAL ENROLLMENT**

Dual Enrollment is a cooperative program with the Massachusetts Universities and Community Colleges enabling high school students to enroll in tuition-free or reduced-tuition college courses while still in high school. After successful completion of a Dual Enrollment course, students will receive college credit. These credits cannot replace required high school credits. Enrollment is on a space-available basis. Classes may be taken only after regular school hours.

**SUMMER SCHOOL**

A student who fails their career/technical program is **not** eligible for summer school. If a student fails an academic course for the year, he/she must have a minimum final average in that course of at least a 49% in order to be eligible for summer school.

**SUMMER SCHOOL CREDITS**

A student must achieve a minimum grade of 60% in summer school in order to receive credit and a recordable grade of 60% on his/her transcript. All summer school or alternate program placement must be pre-approved by the summer school administrator, however, students who have exceeded
the annual attendance limit must attend Blue Hills' summer school and they will not receive academic credit for the class.

**CREDIT RECOVERY PROGRAM**

Students who fail one term in an academic subject may be eligible to earn credit for that term with the digital curriculum credit recovery program that is aligned with the MA Curriculum Frameworks. This program provides students with the opportunity to recover curriculum knowledge and skills for which they were unsuccessful. Students may be referred to the program by teachers, counselors and administrators. _Credit recovery may run during the school year on an as needed basis. Student eligibility will be determined by the high school administrative team. This program has a registration fee at a cost to the student or family._

**APPRENTICESHIPS**

Registered apprenticeships must be completed for many occupations known as “apprenticeable occupations.” For example, students in Chapter 74-approved vocational technical education programs in electrical must complete an apprenticeship after completion of their Chapter 74-approved vocational technical education program in order to become licensed as journey worker electricians. Students receive credit from the State Board of Examiners of Electricians for their in-school electrical shop and related instruction work as well as for their cooperative education.

It is important for the cooperative education to be aligned with apprenticeship programs so that students will be eligible for credit transferred from the high school vocational technical education program to the apprenticeship program and that non-essential duplication of learning is avoided in favor of new learning.

Many Joint Apprenticeship and Training Committees (JATCs) of apprenticeship programs registered with the Massachusetts Department of Labor and Workforce Development, Division of Apprenticeship Training are developing articulation agreements with Chapter 74-approved vocational technical education programs.

For more information on registered apprenticeship programs the Directory of Joint Apprenticeship Training Centers in MA at [http://massbuildingtrades.org/directory-apprenticeship-programs](http://massbuildingtrades.org/directory-apprenticeship-programs)

**CAREER VOCATIONAL TECHNICAL EDUCATION PROGRAMS**

All students at the Blue Hills Regional Technical School use half of their time for learning in a specific career vocational technical program. In addition to the practical application education that takes place in the technical area or laboratory, all programs include the updated technology and theory classes, necessary for understanding the operations and functions of the vocational area. SkillsUSA Professional Development Program (PDP) is integrated into the curriculum to develop professional and occupational skills.
NINTH GRADE EXPLORATORY PROGRAM

The Exploratory Program enables students to gain exposure to a variety of programs and career choices. While exploring the different programs students will obtain valuable career information about the industry represented in the vocational program being explored. Students will complete several projects that give them a sense of what is required should they select the program as a career choice.

MINI-EXPLORATORY Two days only (one in September and one in November)

Ninth grade students will be introduced to all of the career vocational technical programs over two separate days They will visit nine programs in one day at the beginning of the school year and an additional eight programs on a second day at the midpoint of the first semester. These short exploratory sessions give students the opportunity to understand the basic requirements of each program, and to learn the aspects of the many occupations and industries that the program represents.

EXPLORATORY 4 credits

All ninth grade students will spend the first semester, during each vocational week, exploring a different program weekly. One non-traditional-by-gender program will be assigned if a student has not chosen one that he/she would like to explore. Each Exploratory session typically runs for one week on the vocational schedule. Once the entire Exploratory cycle is completed, students will select three programs (a first choice, second choice, and third choice) in which they would like to enroll. Students will find out within approximately one week where they have been placed. Although we highly discourage a student changing programs after final placement, with counselling and parental permission, a student may change their vocational program only once by the end of Term I of Sophomore year. Any such change is contingent upon space in the desired program.

SAFETY

BELOW IS AN OUTLINE OF MEASURES TAKEN TO ASSURE THAT STUDENTS LEARN AND MAINTAIN SAFE WORK HABITS.

- During the first mini exploratory, each freshman is given a ‘General Safety Rules for Vocational Programs’ booklet and takes a 27-question test on the information in the booklet. A score of 100% is required, and the completed test sheets are kept in the vocational office.
- Each freshman student is provided a pair of safety glasses. If a student loses this pair of glasses, a replacement pair can be purchased in the Vocational office for a small fee.
• Once the Exploratory Program is over and students are placed in a career vocational technical program they review safety. In the tenth grade, students take a 10-hour online OSHA course. This course guides students through a series of audio and visual tutorial sessions on general industry safety. At the end of each section, students must take a test on the information. Successful completion of this program results in the student receiving an OSHA 10-hour certification card.

• Students in the construction trades are required to take a 10-hour class given by one of Blue Hills’ certified OSHA trainers. This training usually occurs during the sophomore year, and provides each student with an OSHA 10-hour construction safety card, which is a requirement in all construction industries.

• Each of the seventeen vocational technical programs has their own set of safety tests specific to the equipment and materials used in their programs. Students are re-tested annually to assure comprehension and understanding of all safety rules within their program. Vocational technical teachers maintain these safety tests in their own student record folders.

• Each vocational technical program has a “Standard Shop Procedures” manual which covers safety requirements for all vocational technical programs. This manual is revisited annually to assure compliance with any new safety rules and regulations.

• The Cooperative Education Coordinator uses the Massachusetts Department of Elementary & Secondary Education generated safety checklist prior to sending students out on Co-op. This document is entitled “Cooperative Education Site Safety Checklist” and it assures the worksite is safe.

• Blue Hills has a Comprehensive Health & Safety Plan, which outlines the goals and requirements for safety throughout the building. This document is reviewed annually.
AUTOMOTIVE COLLISION REPAIR & REFINISHING

Automotive Collision Repair & Refinishing trains students with the latest technology through hands-on experience in a NATEF (National Automotive Technicians Education Foundation, Inc.) Certified shop. The curriculum is I-Car (Inter-Industry Conference on Automotive Repair) based in accordance with established national standards. Graduates are prepared to take the ASE (Automotive Service Excellence) tests in Auto Body Repair.

Career Opportunities (Entry Level):
Collision Repair Technician
Automotive Detailer
Automotive Painter/Painter’s Helper

With Experience or Advanced Training:
Auto appraiser
Auto collision frame specialist
Auto collision shop manager or owner

Related Occupations:
Auto salvage person
Auto supply store salesperson
Metal Fabrication, Electrical, HVAC, Auto Repair, Frame Repair

AUTOMOTIVE COLLISION REPAIR & REFINISHING I (8141) 4 credits
The first year Collision Repair student is exposed to safety in their program, the safe and proper use of basic hand tools and the phases of metal repair, and the contours of sheet metal. Developing good safety habits is stressed during introduction to soldering and basic fundamentals of plastic filling and refinishing. Students develop the ability to identify, care for and safely use power tools such as the electric and air grinder, electric and air buffer, hydraulic jacks, and electric and air drills. Orientation to paint mixing systems is also covered.

AUTOMOTIVE COLLISION REPAIR & REFINISHING II (8143) 8 credits
In the second year, a Collision Repair student gains experience in different methods of sheet metal repair. Skills are developed in spot welding, grinding and MIG welding, as well as selecting the right refinishing product for a given job, mixing paint, applying paint, spot refinishing a body panel and analyzing paint problems. Removing and filling dents, removing and replacing bumpers, interior and exterior door handles, door glass, hood hinges and door lock cylinders are also included. Students also will complete their OSHA 10 certificates.

AUTOMOTIVE COLLISION REPAIR & REFINISHING III (8145) 8 credits
Building on skills previously developed, the Collision Repair students in grade eleven gain experiences in fiberglass methods, plastic repairs, and introduction to conventional and unitized body frame correction. Students remove dents using resistance welding, remove and replace a door lock assembly, replace a door glass regulator, remove and replace a fender, tailgate and deck lid. Removing and installing a hood panel, a door and a radiator support, including the follow-up
replacement of antifreeze, are covered. Also covered are plastic repairs and panel bonding, and an introduction to auto damage appraisal.

**AUTOMOTIVE COLLISION REPAIR & REFINISHING IV (8147) 8 credits**
The senior Collision Repair student masters fundamental skills that include replacing outer door panels, inner and outer rocker panels, and frame rail sections. They also fabricate panels, replace rear body sections and replace rear quarter panels. Students learn to repair fiberglass and SMC panels and install decals. The business aspects of the auto body trade are also part of the curriculum. Students learn about labor relations and how to conduct appropriate customer relations. Emphasis is also placed on the skills required of an auto appraiser as required for licensing as a motor vehicle damage appraiser in the State of Massachusetts. Aluminum dent repair and welding are also covered in this course.

**AUTOMOTIVE TECHNOLOGY**
Students in the Automotive Technology Program will study the eight major automotive categories as outlined in the ASE certification program enabling them to become Master ASE certified Automotive Technicians. Students will be exposed to a real-world automotive experience working in a live, school automotive shop. Students as freshmen will study small engine repair. Automotive Technology students will have the opportunity to explore industry businesses including automotive museums, automotive restoration companies and car shows. The program goal is to produce graduates who can enter the industry as apprentice technicians in a repair facility or factory dealership upon graduation.

*Career Opportunities (Entry Level):*
- Dealership Lot Technician
- Apprentice Small Engine Technician
- Service Appointment Scheduler

*With Experience or Advanced Training:*
- Race Car Team Manager
- Dealership Owner
- Automotive Museum Curator

*Related Fields/Occupations:*
- Automobile sales
- Auto parts sales
- Marine technician

**AUTOMOTIVE TECHNOLOGY I (8111) 4 credits**
The ninth grade student in the Automotive Technology program after completing the exploratory segment is introduced to the gasoline engine and its function, design and construction. The student will have a working knowledge of various types of engines, shop safety practices, and the proper usage of automotive tools and equipment. During the second half of the ninth grade, students will be introduced to automotive service procedures. These services will include under hood
inspection, routine care and maintenance, along with tire, wheel and brake service.

AUTOMOTIVE TECHNOLOGY II (8113) 8 credits
The tenth grade student in the Automotive Technology program gains the needed experience in multi-cylinder gasoline engine support systems, such as cooling system, minor tune-up procedures and service. The curriculum also includes extensive brake system, steering system and suspension system service.

AUTOMOTIVE TECHNOLOGY III (8115) 8 credits
In the first half of the year the eleventh grade student in the Automotive Technology program becomes experienced in engine diagnosis and repair. In the second half of the year the course of study includes wheel alignment techniques for front and rear-wheel drive vehicles. Also included are the diagnosis, servicing and repairing of charging, starting, ignition, lighting, and the accessory systems. Finishing this exciting year is the study and repair of fuel systems, which covers fuel storage, delivery systems, and fuel injection systems.

AUTOMOTIVE TECHNOLOGY IV (8117) 8 credits
The twelfth grade student in the Automotive Technology program has a chance to build on learned skills and is given the opportunity to develop independent judgment skills while servicing and repairing today’s vehicles. The curriculum includes servicing and diagnosis of HVAC systems, transmissions, axles, transaxles, and computer diagnostics. Exhaust pollution control systems will be covered extensively, along with engine tune-up and preventative maintenance. An introduction to all business aspects of the industry is also incorporated into the curriculum and includes ordering and billing, entrepreneurship, employability, and mentoring new technicians.

COMPUTER INFORMATION SYSTEMS
Computer Information Systems trains students in the use and maintenance of computer systems in today’s high-tech environment. Students become proficient in applications including data base management, desktop publishing, and presentation. Training occurs in computer repair, hardware and software maintenance, local area network setup and maintenance, client/server setup and maintenance, and web page design. Students also receive training in Basic, Visual Basic, and C programming.

Licensing/Certifications:
10-hour OSHA Credential

Career Opportunities (Entry Level):
Data Communication Technician
Junior Content Specialist
Computer Support Technician

With Experience or Advanced Training:
Social Media Specialist
Call Center Support Manager
Microsoft Solutions Expert

Related Fields/Occupations:
Web Designer
Computer Programmer
Computer Design Engineer

**COMPUTER TECHNOLOGY I (8661) 4 credits**
The ninth grade student is enrolled in the HP IT Essentials I course in order to obtain skills for the 21st century. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands-on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. In addition, an introduction to networking and computer programming is included. Students are introduced to computers, Windows, word processing applications, database management programs, spreadsheet applications, presentation processing applications, desktop publishing, multimedia, and web design using industry standards. The student will learn how to create sites, both manually and with website development software. This course helps students prepare for CompTIA’s A+ certification, Microsoft Office Specialist (MOS), and Internet Core and Computing (IC3) certification.

**COMPUTER TECHNOLOGY II (8663) 8 credits**
All tenth grade students will complete the HP IT Essentials course and will be enrolled in the Cisco Networking Academy I. The tenth grade students further develop their proficiency in computer technology in the areas of basic networking, programming, animation, multimedia, Microsoft Office, and web design. The course uses a blended learning model to integrate face-to-face teaching with challenging web-based curricula, hands-on lab exercises, realistic network simulations and an internet-based assessment tool. Networking basics includes Ethernet technologies, cabling of LANs and WANs, TCP/IP, and routing fundamentals. Students are also encouraged to become certified at our on-site testing center in MOS or IC3. All tasks align with the CVTE Frameworks.

**COMPUTER TECHNOLOGY III (8665) 8 credits**
Junior year students learn the proper method of preparing, schedule posting, and balancing the results of all computer input and output processing. Writing, compiling, debugging and execution of higher-level programming languages such as C++ and DHTML are further developed using personal computers. Emphasis is also stressed on students becoming proficient in database management, spreadsheet software, and desktop publishing using Microsoft Office package. Students also continue training in A+ gearing toward their certification. Cisco II continues building upon the concepts learned in semester I.

**COMPUTER TECHNOLOGY IV (8667 or 8668) 8 credits**
In the senior year the students are encouraged and guided to utilize the previously learned skills with proficiency and accuracy. State-of-the-art technology in industry is stressed during the senior
year utilizing business case studies and other software applications. Advanced technical skills in computer programming are developed. An introduction to various network systems is offered to the students to familiarize them with future industry practices. Preparation for the A+ exam is completed. Semester III of Cisco CCNA is offered by student choice and builds on semesters I and II. Semester IV of Cisco CCNA curriculum is also offered to students by choice gearing the student toward the CCNA exam. The Cooperative Education Program is encouraged for those students who qualify and meet the requirements.

**AP COMPUTER SCIENCE PRINCIPLES (8669)  
2 credits**

Seniors in the computer technology program may also take AP Computer Science Principles upon the recommendation of their instructor. (Please note: Students taking this course will receive 6 credits instead of 8 credits for Computer Technology IV, and will be required to pass both courses in order to graduate.)

**CONSTRUCTION TECHNOLOGY**

*This course teaches the basics of house carpentry and millwork. Students train in framing, interior carpentry, and finish work. Each year, juniors and seniors participate in outside construction projects which consist of home additions, renovations, and building various other structures within the district.*

*Career Opportunities (Entry Level):*
- Apprentice carpenter
- CNC Computer Network Machine Operator
- Lumber Yard Associate

*With Experience or Advanced Training:*
- Jobsite Foreman
- Lead Carpenter
- Assistant Building/Construction Inspector

*Related Fields/Occupations:*
- Structural Engineer
- Facilities Manager
- Occupational Health and Safety Specialist

**CONSTRUCTION TECHNOLOGY I (8211)  
4 credits**

Students will be introduced to the basic fundamentals and principles of the construction trades, with a main focus on safety and general carpentry. Tech theory will cover potential careers within the field, general soft skills necessary to find and maintain or advance a career, safety, and tool identification/function/use. In the program area, students will learn about the properties of specific wood species and what certain types of wood should be used for specific projects. In the program area, learning will primarily be project-based. Projects will include a tools box and a side table. Through these projects, students will learn how to accurately read a tape measure to the
nearest 16th of an inch, read and interpret a plan drawing, create a stock list, understand the shop milling procedure, layout, cut and shape pieces with hand tools (tape measure, squares, saws, chisels, etc.). Students will be introduced to the stationary power tools in the program area. Safety procedures will be the primary focus throughout the first year of Construction Technology.

**CONSTRUCTION TECHNOLOGY II (8213) 8 credits**
In the second year of Construction Technology, students will continue to reinforce the safe use of all of the stationary power tools and advance development and proficiency on each tool. Through project-based learning, students will be given plans for a project with which they will be able to interpret, make a stock list, mill the rough sawn lumber to dimension, cut to size, shape accordingly, then assemble the finished product. Focus will then shift to the fundamentals of wood framing. Students will be given a plan of a wood framed structure (dog house, tool shed, etc.). Framing concepts will be taught in the program area and reinforced in the tech classroom. Proper and safe use of portable power tools will be emphasized throughout the project. Students will gain knowledge of the different types materials used in home building including framing stock, sheet goods, roofing and siding material, exterior trim, and fasteners. Students will also become proficient in the safe use of circular saws, jigsaws, reciprocating saws, pneumatic nailers, and other tools commonly found in wood framing careers. The majority of the second part of the year is dedicated to students learning the skills necessary to be successful on the outside crew.

**CONSTRUCTION TECHNOLOGY III (8215) 8 credits**
Students are introduced to a dynamic educational experience through the off-campus outside projects. Students integrate what they learn in the classroom and directly employ those skills into the live work projects. Students use hand and portable power tools to perform framing, roofing, siding, installation of doors and windows, thermal and moisture protection, and interior finishes on the projects. This concept develops 21st century problem solving skills as well as requiring all of the safety skills the students have learned and developed.

**CONSTRUCTION TECHNOLOGY IV (8217) 8 credits**
In addition to the experience the students develop as a junior on the outside project, the seniors develop their own stretch learning through their individualized senior project. The instructor mentors and guides them through a self-directed study of their own choosing within the construction trade. The students also learn how to estimate the cost of a project, they develop project management skills through the off-campus project, and develop a better understanding of the building code.

**COSMETOLOGY**
The Cosmetology program is designed to provide comprehensive training in all aspects of hair care, skincare and nail care. The curriculum includes health and safety practices related to cosmetology, technical skills and knowledge of practical applications in cosmetology and related content including customer service, marketing, employability and business finance and management.
In addition to gaining proficiency in the MA CVTE frameworks for cosmetology, students will attain 1000 hours of training from the MA Board of Cosmetology. Completion of 1000 hours qualifies a student to sit for the MA State Board of Cosmetology Operator Exam. Students who pass this exam may qualify to participate in The Blue Hills Cooperative Education Program (COOP).

Career Opportunities (Entry Level):
Nail Technician
Hairstylist/Licensed Operator
Salon Software Sales Representative
Salon Owner

With Experience or Advanced Training:
Esthetician
Massage Therapist
Hair Extension Specialist

Related Fields/Occupations:
Beauty Industry Marketing
Online Beauty Editor
Dermatologist

COSMETOLOGY I (8621) 4 credits
Students will be introduced to the basic fundamentals of hair care, skin care and nail care. Safety and sanitation will be made a priority and student dexterity and creativity will be enhanced by class assignments. Topics covered will include history and careers in cosmetology, life skills, professional image, and communication. Students will be able to explain how hair grows and falls out and perform basic design and hairstyling techniques.

COSMETOLOGY II (8623) 8 credits
Students will continue to learn fundamentals of hair care, skin care, and nail care, and will review infection control. They will learn salon responsibilities such as receptionist duties and dispensary cleanliness, order, and sanitation. Students will be introduced to basic haircutting techniques, hair removal, electricity, chemistry, anatomy, skin and nail structure and growth, facial makeup, and diseases and disorders of the skin and nails. Students will become OSHA certified in order to be eligible for Co-op at the end of junior year.

COSMETOLOGY III (8635) 8 credits
Students will continue with fundamentals branching into entry level of the cosmetology industry. They will continue haircutting, hairstyling, and basic manicuring. Students will learn pedicuring, chemical texture services, and haircoloring. They will do theory work consisting of nail enhancements and the salon business chapters. Students will be introduced to the types of salons, appropriate workplace behaviors, how to get and keep a job, and the basics of salon business. Students will also work on their professional portfolios, and complete a research paper. Students 16 years of age and older will accumulate State Board Hours and begin the process of working on live models in the student salon clinic. Chemical services are practiced after 400 hours.
**COSMETOLOGY IV (8637)** 8 credits
Upon the completion of 1000 hours, students will take their state board exam. Prior to this, students will prepare for and practice state board tests, written and practical. Students will also practice their skills on live models in the student salon clinic. They will continue their training in haircutting, hair color, hairstyling, chemical texture services, nail care, and skin care. Students who pass the state board exam will be encouraged to apply for co-op job positions.

**CRIMINAL JUSTICE**
Through the Criminal Justice program, students learn legal theory and its application in real world scenarios. Students gain insight into the philosophies and disciplines of a variety of criminal justice and protective service areas such as effective communications, crime scene processing, criminal law and procedure, disaster preparedness, ethics, law enforcement, private investigations, and surveillance practices.

*Career Opportunities (Entry Level):*
- Corrections Officer/Police Officer
- Federal Emergency Management Agency Worker
- Military

*With Experience or Advanced Training:*
- Private Investigator
- Court Reporter
- Computer Forensic Specialist

*Related Fields/Occupations:*
- US Customs and Border Patrol Agent
- Bureau of ATF Agent
- US Marshall Service

**Criminal Justice I (8711)** 4 credits
Students in ninth grade will gain an understanding of all aspects of the criminal justice industry. The curriculum includes the beginning knowledge and application of the laws, rules, regulations and other influences that govern the operation of our nation’s criminal justice system. Students will be introduced to the history of law, bill of rights, process of American justice, corrections, and emergency preparedness. Students will be offered certification by FEMA in “Leadership in Emergency Preparedness”. Field trips, guest speakers from law enforcement, class projects, and possible job shadowing will be part of the program. Students will also develop fitness readiness standards as required by the profession to promote employability in the field of criminal justice.

**Criminal Justice II (8713)** 8 credits
Students in tenth grade will continue to study emergency preparedness, the court system, sentencing, and constitutional law on local, state, and federal level. Students will also be introduced to several new subjects such as civil law, ethics, crimes scene investigation, report writing, crimes against people, and crimes against property throughout the year. Students will have the opportunity to participate in mock trials, field trips, Skills USA, and have several guest speakers from the local, state, and federal law enforcement community to help advance their
technical skills and employability. Students will be offered certification by the American Heart Association in adult, child and infant CPR, AED, and First Aid. They will also have the opportunity to earn several FEMA certifications to add to their employability portfolio. Students will use role-playing, reporting, interviewing and communication techniques to help develop their skills. They will also continue developing fitness readiness standards as required by the profession to promote a healthy lifestyle.

Criminal Justice III (8715)  8 credits
Students in eleventh grade will be introduced to private security, private investigations, technology security, entrepreneurship and environmental safety. Resume and portfolio will be updated for employability. Students can earn a national certification in Emergency Telecommunications (E911) from the National Academies of Emergency Dispatch. Students will continue to have several guest speakers from the law enforcement community to help advance their technical skills and employability. They will also have the opportunity to continue the FEMA independent study certifications to add to their employability portfolio. Students will continue to developing fitness readiness standards as required by the profession to promote a healthy lifestyle.

Criminal Justice IV (8717)  8 credits
Students in grade 12 will finalize their resume and portfolio for employability. They will learn interviewing techniques to help prepare them for mock interviewing with local law enforcement. Students will develop a “Senior Project” during this year. Seniors may have the opportunity for internships, co-op, or job shadowing as well. They will also have the opportunity to continue the FEMA independent study certifications (NIMS, ICS) to add to their employability portfolio. Students will be recertified by the American Heart Association in Basic Life Support (BLS) adult, child and infant CPR, AED, and First Aid, from the American Heart Association in Basic Life Support (BLS) adult, child and infant CPR, AED, and First Aid. Students will continue to developing fitness readiness standards as required by the profession to promote a healthy lifestyle.

CULINARY ARTS
Blue Hills offers a comprehensive cooking and baking program where students become involved in the entire spectrum of the food industry including planning, preparation, and presentation. The "Chateau de Bleu" restaurant is located within the school where meals and bakery items are served to the public.

Career Opportunities (Entry Level):
Cake Decorator
Restaurant Server
Prep Cook

With Experience or Advanced Training:
Executive Chef
Corporate Culinary Leader
Cruise Ship Food Staff

Related Fields/Occupations:
Registered Dietitian
Nutritionist
Food Scientist

**CULINARY ARTS I (8641) 4 credits**
The first year, Culinary Arts students are given full orientation to classroom and program rules and regulations. This includes an introduction to industry standards of safety, personal hygiene and sanitation. They are taught to identify, maintain and safely use hand tools and equipment in the service kitchens, production areas and dining room. They are exposed to all areas of the Culinary Arts department, including the à la carte and prep/catering kitchen, as well as the student operated restaurant/bakery counter. Students are placed on a rotating schedule allowing them to develop the basic food preparation skills of knife handling, soups and basic sauces, vegetables and starches, hot food service and elementary Garde Manger techniques. In the bake shop, students are introduced to basic decorating skills, including the use of a pastry bag. Basic experience in the dining room includes introduction to American, buffet and function service, customer and co-worker relations, and the tasks associated with the safe and sanitary operation of a restaurant.

**CULINARY ARTS II (8643) 8 credits**
Second year Culinary Arts students are given a review of previous work to firm up basic skills and move on to a broader range of skills and techniques. In the kitchens, students are exposed to breakdown (meat cutting) techniques with wholesale cuts of meat and poultry. They are taught identification and uses of seafood, shellfish, herbs and spices - both fresh and dried. Students acquire more experience on the roasting, broiling and sauté stations. Bakery students begin production of various breads, cakes, and pastries. Culinary students will take part in the production of various catering orders for the school system and general public. Students will also be exposed to the retail area of the industry by working at the bakery counter. In the dining room, students work more independently in arranging the dining area for service, taking and coordinating food orders, preparing beverages, serving guests and completing side work.

**CULINARY ARTS III (8645) 8 credits**
Third year Culinary Arts students move into the advanced phase of culinary arts training. Peer tutoring is introduced to assist with orientation and training of other culinary students. In the kitchens, students begin intermediate techniques of Garde Manger, including creation of fruit and vegetable decorations and centerpieces. Students are given independent responsibility for setting up and running kitchen stations with emphasis on the positions of expeditor, sous-chef, and chef. In the production areas, students will produce advanced items such as party platters and catering specials. Bakery students learn advanced techniques such as roll production, bread loaf productions, and braiding. Students also begin to work independently on previously learned skills. In the dining room students take on more responsibility in serving progressively larger numbers of tables/guests, communicating with special customers and handling complaints. They receive training on our point of sale system as cashiers along with the bookkeeping skills of reconciling cash and completion of the daily cash report.
**CULINARY ARTS IV (8647) 8 credits**

Fourth year Culinary Arts students are exposed to other industry related facilities and cooperative education. They are given added responsibility and accountability for all phases of restaurant and bakery operations with specific focus on development of management and supervision skills. Emphasis is placed on the development of job procurement skills. Senior bakery students learn advanced laminated dough production including puff pastry, croissants, and Danish dough. In the dining room, students are trained as host/hostess with the direct responsibility for scheduling reservations, inspections of the dining area, seating customers, directing student servers, ensuring quality and speed of service, and maintaining a safe and sanitary environment for guests.

**DESIGN & VISUAL COMMUNICATIONS**

Design & Visual Communications students’ training begins with a basic foundation in visual communications. Areas of concentration include drawing with various media, color theory, painting, two and three-dimensional design, photography, digital art and desktop publishing. Skills are taught and practiced manually with paper and pencil, as well as computer-aided design and software competency. Emphasis is placed on conceptualizing ideas and translating them into electronic and digital imaging using industry related software. Weekly portfolio projects are a major part of the curriculum.

Career Opportunities (Entry Level):
- Graphic Design Assistant
- Web Design Assistant
- Freelance Photographer

With Experience or Advanced Training:
- Photojournalist
- Textile Designer
- Portrait Artist

Related Fields/Occupations:
- Game Designer
- Character Animator
- Advertising Agency Owner

**DESIGN & VISUAL COMMUNICATIONS I (8511) 4 credits**

In the ninth grade, Design & Visual Communications students’ professional training begins with a pre-foundation visual communications program. Areas of concentration include drawing with various media, understanding color theory, painting, two and three-dimensional design, photography and an introduction to digital art and desktop publishing. All skills will be taught and practiced as manual exercises, as well as computer-aided design problems and software. Emphasis will be placed on conceptualizing ideas and translating them into electronic and digital imaging using industry related software. Weekly portfolio projects and written essays are emphasized.
DESIGN & VISUAL COMMUNICATIONS II (8513)  8 credits
In the tenth grade, students are taught a problem-solving approach to the study of drawing, the elements of design, the seven principles of design, the nature and use of color, the structure and logic of pictorial space, the design and function of type, the tools and technique of painting, the design and production of visual communication using computers, and the study of commercial, news and product photography. Visual design and mechanical preparation are an essential part of the course. Creative problem-solving projects will teach students how to resolve consumer communication needs visually and how to prepare creative art for reproduction in all printed media. Such a diversified background is in direct response to the tendency in industry to hire the well-rounded graduate rather than one trained, however well, in one specified area. Computer-aided design and production of computerized art and digital imaging will be an integral part of this course. Weekly portfolio projects and completed written essays are emphasized.

DESIGN & VISUAL COMMUNICATIONS III (8515)  8 credits
In the eleventh grade, students continue to build a strong foundation in the traditional studio. Additional disciplines will advance to creating projects such as CD cover design, web development, multi-media design, digital video and marketing strategies. This flexible and contemporary curriculum, coupled with judicious faculty advising, assures artistic growth and self-realization of the individual, thus students are advancing through many skills toward professionalism in visual communications. This is achieved by in-depth involvement in theory and practice, principle and technique, understanding and skill. The student’s professionalism is reflected in his/her time management skills, portfolio development and an understanding of employment interviewing skills. To meet the standards of business and industry, each student will continue to add observational drawing examples, websites, and video productions to their portfolios. Weekly portfolio projects and written essays are emphasized.

DESIGN & VISUAL COMMUNICATIONS IV (8517)  8 credits
By senior year, students are expected to have the maturity, direction and desire to have more choices and control over their lives and career education. With this in mind, we encourage each student to pursue his/her individual career goals and specialize in commercial art, photography, web design, digital video production, computer graphics, desktop publishing, graphic design and illustration, or any combination of these disciplines. Since the students have been designing, preparing mechanicals and maintaining quality control of live jobs for three years, they now possess an array of printed, online and digital pieces for their portfolios as testimony to their professionalism. To meet the increasingly technical demands of the advertising industry, priority has been given to training students in computer-aided design, website development and digital imaging. By mid-year, students are encouraged to write resumes, interview for positions in visual communications, and actually practice their profession under our Cooperative Education Program. By graduation all seniors are required to participate in the Senior Art Show as well as write and design a “senior project” based on materials and information provided by the instructors.
DRAFTING /CAD
The Drafting/CAD program provides students with an overview of the Mechanical and Architectural design industry. Students are introduced to sketching, geometric construction, orthographic projection, 3D solid modeling, shading/rendering, architecture, interior design and the building construction trades. Career paths in design, architectural and mechanical fields are explored throughout the curriculum. Instruction incorporates presentation, demonstration, and hands-on performance testing with the opportunity to utilize multiple 3D printers.

Career Opportunities (Entry Level):
Civil Drafter
Detail Draftsperson
Technical Illustrator

With Experience or Advanced Training:
Project Cost Estimator
Urban Planner Designer
Structural Engineering Technician

Related Fields/Occupations:
Architectural Engineer
Research & Development Director
Electrical Engineer

DRAFTING/CAD I (8771) 4 credits
This half year course provides students with an introduction to the basic skills and theory related to design and drafting technology. Students receive instruction in career opportunities, personal and shop safety, geometric construction, orthographic views, auxiliary views, sectional views, dimensioning, isometrics and an introduction to parametric solid modeling using the latest “state of the art” computer software. Instruction incorporates presentation, demonstration and hands-on performance testing. Reading, writing and math assignments related to drafting and engineering technology are an integral part of this class.

DRAFTING/CAD II (8773) 8 credits
This course provides students with an introduction to the components and theory relating to mechanical and architectural design. The expansion of basic drawing techniques is continued from the previous year while providing a foundation for mechanical design including an introduction to the product design process. Students will be utilizing both 2D and 3D solid modeling CAD applications and will begin developing model making skills. Presentation drawings such as shading, perspective, and exploded assembly drawings will be used as methods of instruction. An introduction to residential architecture drawing and design will be implemented teaching students the skills required to generate plot plans, floor plans, foundation plans, framing plans and exterior elevations. Instruction incorporates demonstrations and applied performance testing in the areas of drafting and engineering technology utilizing advanced CAD software, mechanical detailing, and design. Reading, writing and math assignments related to the drafting and engineering professions are integrated with academic frameworks during this course.
DRAFTING/CAD III (8775) 8 credits
This course provides in-depth training in the fields of residential architecture, interior design, landscape design, engineering design and mechanical drawing and design. The first half of the year students gain the skills required in room and space planning, interior elevations, roof plans, wall sections and detail drawings along with landscape development design. The second half of the course focuses on reinforcing the students’ skills in mechanical drawing and design and introduces them to the engineering design process. Students will continue to develop their CAD skills throughout the year using the latest 2D and 3D CAD software while utilizing the rapid prototype machines and further developing model making skills.

DRAFTING/CAD IV (8777) 8 credits
This course is comprised of two half-year segments providing students with advanced studies and theories related to both residential architectural design and mechanical drawing and design. The architectural segment covers a thorough look into the design and configuration of building trades incorporated within residential house construction including plumbing plans, electrical plans, and HVAC plans required for the building permit process. During the second half of the year, students are required to design, draw, engineer and present a complete set of working drawings for a residential house or to design, draw, engineer and present a mechanical project of their choosing. Assistance is provided to help students determine career or college choices after graduation.

EARLY EDUCATION AND CARE

Early Education and Care
Early Education and Care students study child development, teaching methods and educational theory. These technical skills and knowledge are introduced, developed, and put into practice as student teachers conduct practicum hours in community childcare programs and the on-site Early Education Center at Blue Hills. After meeting the requirements set by the Massachusetts Department of Early Education and Care (EEC) along with Blue Hills, students will be recommended for infant/toddler and/or preschool EEC teacher certification.

Career Opportunities (Entry Level):
- Infant/Toddler Teacher
- Preschool Teacher
- Public School Paraprofessional

With Experience or Advanced Training:
- Massachusetts EEC Lead Teacher
- Massachusetts EEC Center Director
- Early Intervention Developmental Specialist

Related Fields/Occupations:
- Social Worker
- Elementary/Special Education Teacher
- Guidance/Adjustment Counselor
Early Education and Care 1 (8601) 4 credits
Students will be introduced to technical skills and career options in the field of Early Education and Care. Throughout their first year, students will learn about industry health and safety protocols as well as specific Massachusetts Department of Early Education and Care Regulations. Additionally, students will learn about human growth and development from birth to age five and basic infant care using the RealCare Infant Doll simulation. Students will work with peer mentors and instructors to learn professionalism, ethics, and communication in the workplace.

Early Education and Care II (8603) 8 credits
Students will study and observe the progression of the four developmental domains (physical, social, emotional, and cognitive). Students will maintain health and safety protocols and receive American Heart Association (AHA) CPR and First Aid Certification. Sophomores also discover and implement classroom design, daily routines, positive guidance skills and supervision techniques. Students begin understanding Massachusetts Guidelines for Preschool Learning Standards, curriculum mapping, and lesson planning.

Early Education and Care III (8605) 8 credits
Juniors create and implement Massachusetts Guidelines for Preschool Learning Standards, maintain health and safety protocols, guidance skills and supervision techniques in the on-site Early Education Center at Blue Hills. Knowledge of classroom management expands to include conducting preschool observations, writing progress reports, and engaging in parent-teacher conferences. Students focus on the daily responsibilities of the classroom teacher by communicating with families, applying administration policies and procedures, and strengthening teamwork skills. Other topics of study include special education and mandated reporter training. Students who qualify may be eligible to participate in the Cooperative Education Program.

Early Education and Care IV (8607) 8 credits
Student teacher’s independence and responsibilities increase in off-site practicum experience at community childcare programs. Seniors will focus on applying skills learned in their previous three years to acquire dual licensure. Students will focus on expanding their skill set to include infant/toddler curriculum, infant/toddler guidance skills, and writing infant/toddler progress reports. Students will reinforce their professionalism and communication skills through teacher collaboration with current educators working in industry at off-site community childcare programs. Students who qualify may be eligible to participate in the Cooperative Education Program.

ELECTRICAL TECHNOLOGY
Students learn residential, commercial, and industrial wiring in accordance with the Massachusetts Electrical Code and the theory of the trade, plus the basic skills necessary to become an electrician.

Career Opportunities (Entry Level):
Electrical Apprentice
Computer Network Cable Installer
Security Systems Technician

With Experience or Advanced Training:
Elevator Repair Technician
Licensed Electrician
Electronic Designer

Related Occupations:
Communications Engineer
Electrical Design Engineer
Aircraft Engineer

Apprentice Information
IBEW Local 103 JATC
Students earn 1,575 work experience hours and 300 classroom hours toward the requirements of the Commonwealth of Massachusetts Journeyman Electrician License.

ELECTRICAL TECHNOLOGY I (8431)  4 credits
In grade nine, students are introduced to the hand tools and basic manipulative skills required in the electrical industry. Integrated into every lesson is job and program (lab) safety. Students learn essential splicing techniques, device wiring, basic circuitry and common wiring methods in a structured shop environment that allows students to progress at their own pace. Material management and circuit, line and schematic diagrams are taught. Electrical code, DC circuit theory, magnetism and Ohm’s Law are included in the related instruction.

ELECTRICAL TECHNOLOGY II (8433)  8 credits
Grade ten electrical is a continuum of the ninth grade program. Safety and the use of safety equipment are emphasized. Building on the basic foundation of the electrical industry previously learned, students are given more complex and challenging circuitry. Raceway wiring methods are expanded to include complex conduit bending, installation of PCV raceways, and surface metal raceways. Related instruction includes a continuation of the electrical code, advanced DC circuit theory, batteries, DC motors and generators. Students will also earn the OSHA ten hour certification.

ELECTRICAL TECHNOLOGY III (8435)  8 credits
Technical program time in the eleventh grade is divided between experiences in the school lab and on construction projects away from school. Students performing wiring away from school are called the outside crew and are supervised by an outside crew teacher. They do wiring jobs on new houses, residential additions and small commercial projects. They function as an electrical contracting business. School program (lab) experiences include motor and motor control wiring, and telecommunication wiring. Motor control circuit wiring and job management is accomplished using computers. Related instruction includes electrical code, AC theory and AC circuitry.

ELECTRICAL TECHNOLOGY IV (8437)  8 credits
The outside crew program and school program (lab) experiences are continued in the twelfth grade. School lab experiences include hydraulic and electric conduit bending, transformer wiring and
lighting installations. Related instruction includes electrical code, three phase systems and
transformers. Students are required to do a senior project that integrates academic and technical
learning.

ELECTRONICS

The Electronics program is designed to develop students with industry recognized skills necessary
for electronics installers, designers, technicians, and for continued study at college and
universities to enter into electronic, electrical or computer engineering. Students are educated
with professional tools, test equipment, lab experiments, PC based circuit simulations,
prototyping, manufacture, troubleshooting, design and construction of a wide variety of electronic
projects. Students also study alternative energy systems and are involved in a solar-electric car
competition by Electrathon America (electrathonamerica.org or ctelectrathon.org)

Career Opportunities (Entry Level):
Wireless Device and Communications Technician
Smart Home Technology Integrator
Commercial Audio Technician

With Experience or Advanced Training:
Instrumentation Technician
Biomedical Equipment Technician
Alternative Energy Systems Designer

Related Fields/Occupations:
Avionics Systems Design Engineer
Industrial Control Systems Engineer
Computer Science Engineer

ELECTRONICS I (8411)         4 credits
Upon the completion of the exploratory program, the grade nine curriculum consists chiefly of two
sections: DC Circuits and Measurements, and Project Manufacturing. In the Circuits and
Measurements area, component identification and specifications, DC circuit construction and
testing, diagnostics, test equipment, software, PC based circuit simulation, proper documentation
methods, and analyzing electronics diagrams are learned. The Project Manufacturing portion of
the program covers the use of appropriate tooling, a variety of soldering techniques, wiring
procedures and project construction. These skills are taught in the classroom and prototyped
through the construction of many projects. Some include: voice activated lighted systems, portable
audio amplifiers and other student constructed projects. Students will become well versed in
computer usage and a variety of software critical to this field of study.

ELECTRONICS II (8413)         8 credits
The sophomore program includes AC Circuits and Measurements, and Project Manufacturing and
Testing. The circuits and measurements segment consists of construction and testing of AC
waveform circuits, reactance, filters, relay, control, and transformer circuits. The students will
learn the proper use of technical equipment such as power supplies, function generators,
oscilloscopes, and frequency counters. Fabrication consists of circuit board layout, design and
manufacture using T-Tech circuit prototyping system, systems testing, technical manuals, and troubleshooting techniques required to completely construct and test projects. Some projects of a more advanced nature include wireless FM radio transmitter, strobe lights, power supplies, and high output audio amplifiers.

**ELECTRONICS III (8415) 8 credits**
The eleventh grade program is divided into Analog Devices and Circuits I, Digital Devices and Circuits I and Project Development. The Analog Devices area covers the testing and troubleshooting of diode circuits, power supplies, SCR, transistor circuits and linear IC circuits. Digital subjects include logic gates, combinational logic and simplification, sequential logic, counters, shift-registers, binary adder/subtractor, Programmable Logic Devices, introduction to microcontrollers, personal computer and laptop, setup and diagnostics towards A+ Certification training, MS Windows OS, Office, computer networks (wired and wireless), introduction to computer-aided design and manufacturing, and spreadsheet software. Projects that demonstrate and reinforce these skills are constructed. Project Development projects include: Electronic Delay Timer, Laser Light show, Digital Electronic Combination Lock, design and assembly; and setup of personal computers, laptops, and Apple products such as iPhone and iPad.

**ELECTRONICS IV (8417) 8 credits**
The senior level program consists chiefly of Analog Devices and Circuits II, Digital Devices and Circuits II, and Project Development II. The Analog Devices area covers the testing and troubleshooting of amplifiers, power supplies, oscillators, wave shaping circuits, active filters and operational amplifiers are covered in the Analog Circuits Lab area. These circuits are also studied in systems used in telecommunications, computers, and popular consumer electronic equipment. The digital lab covers D/A and A/D converters, memories, microprocessors, embedded systems, A+ computer support preparation, computer networking and programming language(s). Microcontroller programming is emphasized using Parallax systems BOE Bots and Arduino microcontrollers. These will include Lab and project construction. Students will explore the areas of lasers and fiber optics, advanced circuit design, alternative energy study and consumer electronics servicing. Some of these are enrichment in nature and are offered on a voluntary basis.

**ENGINEERING TECHNOLOGY**
The Engineering Technology program is rigorous and designed for high-achieving, technically oriented students who plan to matriculate to a competitive technical college or university upon graduation from high school. The Engineering program combines national frameworks from NGSS and PLTW to best encourage qualified high school students to continue their college studies in the field of engineering. Students are introduced to Electrical Engineering, Mechanical Engineering, Automated Systems Engineering, and Civil Engineering / Architecture. The Blue Hills Engineering program is designed to push students beyond the rigor of the state's academic and vocational frameworks in Engineering Technology.

**Career Opportunities (Entry Level):**
Quality Control Assistant
Survey Technician
Remotely Operated Vehicle (ROV) Operator
With Experience or Advanced Training:
Electrical, Mechanical, Civil, (etc.) Engineer
CAD Designer
Robotics Technician

Related Fields/Occupations:
Senior Project Manager
Environmental Engineer
Automotive Engineer

ENGINEERING I (8221)  
**4 credits**
The second half of freshmen year begins the Engineering Technology program. The beginning stages of the program is meant to develop the student’s understanding of the engineering design process primarily through an introduction into engineering design principles and topics. Students also will be introduced to the basic skills and theories related to engineering. They will begin the usage of introductory level CAD (computer-aided drafting) software to develop 2-D and 3-D designs. Upon completion of year one, students will have developed strong problem solving skills through computer simulations and hands-on laboratory work. These components provide a solid foundation as they move into the second year of the Engineering Technology program.

ENGINEERING II (8223)  
**8 credits**
The second year of the Engineering Technology program begins a higher level of understanding of the fields of Electrical Engineering, Mechanical Engineering, Automated Systems Engineering, and Civil Engineering / Architecture. Scientific and mathematical principles that are rooted in engineering design are taught to support academic frameworks. Skills introduced in year one are now being built upon to introduce professional level CAD (computer-aided drafting) software and skills. Civil engineering will introduce the students to architecture and structural design analysis. Electrical engineering covers the fundamentals of analog and digital electronics. Mechanical Engineering and Automated Systems Engineering are begun by introducing students to basic robotics and computer science. Year two is about getting students comfortable learning how to design and solve open-ended problems, simulate solutions or assemble solutions, analyze and troubleshoot, and present solutions thoughtfully.

ENGINEERING III (8225)  
**8 credits**
The third year of the Engineering Technology program covers principles of engineering which includes different types of engineering systems: mechanisms, thermodynamics, fluid systems, electrical systems and control systems. These principles are taught through lecture, hands-on activities and projects. Mechanical Engineering and Automated Systems Engineering becomes a larger focus in year three. Introduction to Computer Integrated Manufacturing, 3-D printing and CNC machining and design of the part are all introduced. This course also familiarizes students with the industrial side of engineering. Year three students tackle complex tasks and break problems down to more manageable solutions.

ENGINEERING IV (8227)  
**8 credits**
The fourth year of the Engineering Technology program introduces the student to **Aerospace Engineering (AE) and Engineering Design and Development (EDD).**
Aerospace engineering will expand horizons by introducing astronautics, systems engineering, space-life sciences and aerodynamics. Engineering Design and Development is the capstone research development course. Students working as individuals or on teams draw from all their previous three years of engineering experiences to solve a yearlong complex project. Students select a problem, design a solution, conduct patent research, build a prototype, conduct testing and present their results to an engineering panel.

**Mechatronics III (Mecha III)** is a continuation of Mechatronics II with an emphasis on more advance robotic controls. In this course, topics such as vision, GPS, and compass navigational sensors will be introduced and utilized in robot design. Students will design a mobile robotic platform using knowledge gained during the previous three years.

**GRAPHIC COMMUNICATIONS**

*Training in Graphic Communications includes skills in the areas of layout, design, printing and binding. Preparation for printing production is learned through the use of desktop publishing software, scanners, and digital as well as analog output devices. Printing, binding and finishing machines convert the pages into books, posters and catalogs etc. Screen printing technology enables students to learn to print multi-color designs on garments.*

**Career Opportunities (entry level):**
Copy Center Machine Operator
Screen Printer
Apparel Designer

**With Experience or Advanced Training:**
Digital Equipment Repair Technician
Technical Illustrator
Packaging Designer

**Related Fields/Occupations:**
3D/Multimedia Designer
Brand Identity Designer
Marketing Manager

**GRAPHIC COMMUNICATIONS I (8541) 4 credits**
The ninth grade Graphic Communications student explores the various occupational areas that represent the complex printing industry. The student is introduced to the wide variety of printing products used by consumers and industry, and the materials and machines used to manufacture these products. The student prepares and produces individual projects that incorporate all the basic printing and finishing operations available in the Graphics Communications program, using offset, screen printing, dye sublimation, and digital technologies. Students will also learn how to operate bindery machines including paper cutters, folders, drills, and stitchers. Individual and machine safety procedures are strongly emphasized. Economy of materials, quality standards, and school and industrial safety are stressed in all areas.

**GRAPHIC COMMUNICATIONS II (8543) 8 credits**
In the tenth grade, a Graphic Communications student will learn to develop the knowledge and skills necessary for the graphic communications industry. Electronic composition, digital imaging and desktop systems are utilized to prepare students for printing jobs. Jobs are output directly to plate material with our state-of-the-art digital plate-setter. Production jobs are finished and prepared for delivery through the use of various printing, folding, stitching, cutting and binding machines. Emphasis is placed on the development of quality standards and safe operation procedures. Economy of materials, quality standards, and school and industrial safety are stressed in all areas.

**GRAPHIC COMMUNICATIONS III (8545) 8 credits**
Emphasis in the third year is placed on expanded experience with manipulative skills aimed at qualifying the student for entry-level jobs. Skills are developed through work on student projects and actual production jobs that include electronic composition and desktop publishing systems, digital imaging, variable data, scanning, and color printing on high-speed precision offset and screen presses. Bindery and finishing operations such as cutting, folding and stitching are included in the practical curriculum geared to the production of high quality printed products. Emphasis is placed on continuing the development of quality standards and safe operating procedures. Economy of materials, quality standards, and school and industrial safety is stressed in all areas.

**GRAPHIC COMMUNICATIONS IV (8547) 8 credits**
Emphasis in the fourth year is placed on advanced technical skills. These skills include, but are not limited to, advanced desktop publishing systems, Internet, cross-platform utilization, computerized color separation techniques with automated film processing, precision electronic image assembly techniques for text, multi-color and full-color reproduction and multi-color and full-color printing on precision offset and screen presses using quality control instrumentation. Economy of materials, quality standards, school and industrial safety are stressed in all areas. Production jobs are prepared and produced using offset, screen printing, and digital technologies. Students will complete printed jobs utilizing bindery machines including paper cutters, folders, drills, stitchers and binders.

**HEALTH ASSISTING**
Students develop specific skills in areas of nursing and medical assisting. Students work toward meeting both classroom and clinical requirements to be eligible for state and/or national certification testing. The Certified Nurse Assistant component focuses on the care of the resident or patient in an in-patient setting. Students sit for the Massachusetts Nurse Aide Certification exam. The Medical Assistant component of the program focuses on clinical procedures needed to work in an outpatient setting such as a doctor’s office.

Career Opportunities (Entry Level):
Certified Home Health Aide
Electrocardiograph Technician
Pharmacy Assistant

With Experience or Advanced Training:
Licensed Practical Nurse
X-ray Technician
Dental Hygienist

*Related Fields/Occupations:*
Registered Nurse
Physician
Physical/Occupational Therapist

**HEALTH ASSISTING I (8611)** 4 credits
Students in grade 9 are provided with a variety of basic hands-on skills and theory in areas associated with health and child care careers. Courses include Basic Nursing, Values, and Human Growth and Development. These skills are utilized when the students participate in an externship experience at local hospitals. Related theory includes current health issues and exploring careers in the field of health.

**HEALTH ASSISTING II (8613)** 8 credits
Students in grade 10 continue to learn theory and develop skills in the field of health. Courses include Basic Nursing II, Health Issues, Foods and Nutrition. The students continue in the externship experience at local hospitals. Related theory includes human growth and development and career planning.

**HEALTH ASSISTING III (8615)** 8 credits
Students in grade 11 students have the opportunity to increase their medical assistant and home care aide skills as well as medical office skills through classroom work and externship experiences. Students are eligible to meet the Massachusetts Department of Public Health requirements for Nursing Assistant Certification (CNA) by participating in an externship program at a long-term care facility and completing the theoretical requirements. They are able to take the state certification exam at Blue Hills in the spring of their junior year. The exam is administered by an outside agency and includes both a written and skills test. Courses they study during this year include Advanced Nursing Skills, Medical Terminology, Home Care Aide, Medical Assistant, and Anatomy and Physiology. The students continue with their externship experience at long-term care facilities.

**HEALTH ASSISTING IV (8617)** 8 credits
Health Assisting students in grade twelve enhance and add to the skills for the nursing assistant, medical assistant, medical office and home care aide with course work and externship programs with home care agencies and local health care facilities. Students are eligible to take certification tests for EKG and Home Care Aide. Courses during the 12th grade include Medical Assistant, Medical Manager, Anatomy and Physiology, Diet Therapy, Geriatrics, and Home Care Aide. The students who qualify may participate in the Cooperative Education Program

*All seniors in Health Assisting will complete a research project that includes a research paper, Power Point, poster, and an oral presentation.

**HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION (HVAC&R)**
The HVAC&R program provides students with the knowledge and entry-level skills in service, installation and maintenance on all types of residential, commercial and industrial heating, ventilation, air conditioning and refrigeration equipment. Air Conditioning and heating technicians who understand the intricate operations of commercial, industrial and residential heating, and air conditioning equipment are needed around the country.

Career Opportunities (Entry Level):
Duct Cleaner
Gas Fitter Mechanic
Control Systems Installer

With Experience or Advanced Training:
HVAC & R Mechanic
Sheet Metal Journeyman
Home Energy Consultant

Related Fields/Occupations:
Mechanical Engineer
Manufacturing Engineer
Ship Engineer

HVAC&R I (8451)  
Students are introduced to hand tools, specialized trade tools and the manual skills involved in flaring, swaging and bending copper tubing. The identification and use of brass, copper, steel, plastic, PVC and CPVC, and other piping materials are covered. Soldering, brazing and oxy-acetylene welding and cutting are covered with an emphasis on safety, quality fabrication and bonding of materials. Basic electrical components and wiring of low voltage circuits are introduced.

HVAC&R II (8453)  
Students advance on to high voltage circuits and learn basic wiring skills. The proper use of electrical testing equipment and troubleshooting procedures as used in the trade are covered. Thermodynamic theory and application are introduced. Detailed wiring assignments are given with an emphasis on residential and small commercial electrical circuitries to ensure the students acquire the knowledge to be able to perform maintenance and service procedures. Proper installation, troubleshooting and servicing techniques for window air conditioners are covered. Students are introduced to basic concepts of refrigerant recovery and management.

HVAC&R III (8455)  
Electrical, mechanical theory and hands-on skills used with commercial walk-in refrigeration systems and residential air conditioning systems are covered. There is a strong emphasis on electrical wiring diagrams and system mechanical operation. Commercial compressor motor theory, electro-magnetic controls, safety devices and operational control devices are taught in the technology class as they are worked on in the shop.

HVAC&R IV (8457)  

Students complete more complex wiring and piping control system assignments on heat pumps and electric, gas and oil furnaces and boilers. Students are introduced to commercial rooftop package systems, which include heating, air conditioning and ventilation. The designing of HVAC&R systems through the use of software programs that calculate residential and commercial heating, cooling loads and air distribution is covered. Computer-aided instruction in duct sizing, system balancing and psychometric skills are presented. Computer-aided drafting is introduced in drafting classes and utilized on projects in the HVAC&R program shop.

**METAL FABRICATION & JOINING TECHNOLOGIES**

Metal fabrication practices taught include layout, forming, rolling, bending, punching, shearing and inspection using the latest manual and semi-automatic equipment found in today's fabrication facilities. Welding processes taught include SMAW, GTAW, and GMAW welding, as well as Oxy-Fuel Gas Cutting.

_Career Opportunities (Entry Level):_

- Sheet Metal Worker
- MIG/TIG Welder
- Plating and Coating Machine Setter

_With Experience or Advanced training:_

- Recreational Vehicle Service Technician
- Exotic Metals Welder
- Structural Iron and Steel Worker

_Related Fields/Occupations:_

- Bridge Construction Supervisor
- Commercial/Underwater Diver/Welder
- Oil Pipeline Welder

**METAL FABRICATION & JOINING TECHNOLOGIES I (8741) 4 credits**

In the first year, students learn the fabrication methods by integrated classroom and shop instruction. Students use basic math to perform project layout. Students learn the differences between metals and alloys and what is necessary to complete a project that meets industry standards. Written communications are used daily to record student activities, teach technical vocabularies and test student progress. Students receive instruction and individual safety tests for nearly every tool or machine in the Metal Fabrication shop. Safe work practices are the main focus in training the first year student. Projects are assigned to steadily challenge and expand the level of student interests and abilities. Students are introduced to AWS Entry Level Welder Phase 1. Students are introduced to GMAW and SMAW through a new Virtual Welding System where students learn the proper techniques in a virtual world.

**METAL FABRICATION & JOINING TECHNOLOGIES II (8743) 8 credits**

The second year program expands upon and reinforces the lessons taught during the first year. Students perform more complex assignments and apply skills to develop their projects from calculated sketches and blueprints where quality and accuracy are emphasized. Students begin to improve their welding skills. The students are introduced to the OSHA construction safety and health standards, and complete a required OSHA ten-hour safety training course. Students learn to
combine measurement and communication lessons in order to accomplish computer programming assignments for machinery used in the shop. Students learn the importance of chemistry in welding and cutting processes. Safe shop practices and lessons are reinforced daily. Projects are assigned to meet the interests and abilities of the individuals and are usually in teamwork with other students. Students continue on AWS Entry Level Welder Phase 1.

**METAL FABRICATION & JOINING TECHNOLOGIES III (8745) 8 credits**
In the third year, extensive training and practice is given for all types of welding and cutting to enhance the students’ abilities to perform these skills with accomplished, expert results. The students complete AWS Entry Level Welder Phase 1. They are introduced to GTAW, GMAW, and CNC Plasma Arc Cutting. The students are instructed in precision sheet metal layout and making templates. They learn to do their own setup and tool changes on machinery. In the related classroom students learn the mathematical formulas to calculate material waste, project costs and unit conversions. The communication of complex welding information by welding symbols is explained and practiced. Written assignments in a program known as All Aspects of Industry teach students the regulatory interests of metalworking trades. Quality, accuracy, safety and work ethics are important objectives expected from each project assignment.

**METAL FABRICATION & JOINING TECHNOLOGIES IV (8747) 8 credits**
The fourth year prepares students for the world of work. Students are given more responsibility for the planning, performance, supervision and quality produced by themselves and a team of underclassmen. Students wanting additional training in specific areas such as computer programming, precision metal fabrication or welding are encouraged to work independently in the development, layout and fabrication of projects. Students are taught how to work efficiently with proper tooling and fabrication jigs to make the job easier, more accurate and cost effective. The fourth year is all about learning the rules, economics and management of metalworking. At this time students who have met preparation and training requirements have the opportunity to attempt to pass a welding certification exam in accordance with AWS D1.1 Structural Steel Code and D1.5 Bridge Code.
ACADEMIC COURSES & PROGRAMS
The academic departments have created a curriculum that is balanced, sequential and planned to meet the needs and goals of a diverse student population. Those students who plan to enter college will find a challenging curriculum available that will prepare them for admission to most competitive universities. Other course requirements ensure that each student takes a thorough program that allows the student to develop a solid background in their chosen vocational/technical field. All students who attend the Blue Hills Regional Technical School will find a course of study that goes beyond skill training to provide each student with a comprehensive education that includes higher level thinking skills, problem-solving capabilities and the theoretical bases for various technologies.

Please refer to Appendix A, which contains Massachusetts State University admissions requirements and may serve as a helpful guideline for course selection and post-secondary planning.

- Advanced Placement courses prepare students for a 4-year university program
- Honors courses prepare students for a 4 year university program
- College preparatory courses prepare students for a 2-year community college or 4 year university program.
- Team and standard courses prepare students for a 2-year community college program, continued vocational training, or direct entry into the workforce upon graduation. These courses are NOT designated college preparatory.
- Resource courses render students eligible for a 2-year community college program, continued vocational training, or direct entry into the workforce upon graduation. These courses are NOT designated college preparatory, and require placement by an IEP team.
### Academic Course Offerings 2019-2020

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<td>P.A.S.S. 9*</td>
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**NOTE:** Please note that some courses described in the Academic sections (including electives) may not run during the school year due to student interest or teacher availability. Courses designated with an (*) are by assignment only.
ACADEMIC COURSES
Students with aspirations to attend competitive four-year colleges should be taking 3QP, 3.5 QP, 4QP honors courses and/or 4.25QP Advanced Placement courses whenever possible. Enrolling in standard and Team 2QP courses will not automatically preclude a student from gaining acceptance into many fine colleges and post-secondary institutions in the Commonwealth and elsewhere. However, it is advised that all students work to their potential and consider higher-level pathways. Given the significance of class rank in college admissions, students should take into consideration the importance of quality points when selecting courses.

TEAM TEACHING
Sections marked with a “T” are designated as team-taught classes. This instructional method is designed for the regular education classrooms to include students with special needs so they can become successfully integrated into mainstreamed settings. A special education teacher or educational support staff and an academic teacher co-teach classes and provide increased attention, curriculum modifications and varied instructional strategies for students who demonstrate a need for additional support. These classes are not part of a student’s IEP. Strict adherence to the Massachusetts Curriculum Frameworks is maintained.

SPECIAL EDUCATION INSTRUCTION/P.A.S.S.
The Special Education Resource and Instructional Programs offer specialized instruction and supportive academic tutorial to students who have been identified as being eligible for special education services as a result of a Special Education TEAM Evaluation and who have an Individualized Education Program (IEP). These classes provide individualized and small group instruction in ELA, Mathematics and P.A.S.S, offering IEP-recommended specialized instruction, modifications and accommodations to the general curriculum. Course instructional content is guided by and equivalent to the Massachusetts Curriculum Frameworks.

P.A.S.S. (PROMOTING ACHIEVEMENT: STRATEGIES AND SKILLS)

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This course is designed to offer specialized instruction in the areas of a student’s identified disability. Students will gain a greater understanding of their primary learning style and will develop an inventory of strategies to utilize in the completion and understanding of content area assignments and materials. These strategies will encourage greater independence in the management of academic responsibilities. The student should be prepared to actively participate in this program with necessary materials and a willingness to improve skills (1 QP).
ENGLISH LANGUAGE ARTS

The goal of the English Language Arts program is to provide a literature-based program founded on intensive reading, writing, speaking and listening. Using the Massachusetts Language Arts Curriculum Frameworks as its core, the program will provide students with a solid body of knowledge derived from the following: reading high quality works of literature; experience in confronting human issues and conflicts; developing a strong sense of values including personal, social, and aesthetic; and attaining critical language competencies and thinking skills. Students should select courses that they will find challenging and that best meet their educational objectives.

GRADE 9

READING ENGLISH I (1311)   2 credits
Reading English classes assist special needs students in improving the receptive and expressive language skills that will result in the development of effective reading and communication abilities. Instruction is guided by the Massachusetts Curriculum Frameworks and includes comprehensive literature, grammar, vocabulary and written expression components (1QP).

ENGLISH I (1321T)   2 credits
This course is designed to develop a foundation in English language arts through reading classic and contemporary works, applying reading strategies, and the development of writing skills with the aid of additional supports that allow for modifications that meet students’ specific needs. Through close reading and discussion of major literary genres including short stories, non-fiction, poetry, drama and the novel, students will foster the thinking and writing skills necessary for the 21st Century student (2QP). Please refer to the earlier description of Team Teaching.

ENGLISH I-CP (1331)   2 credits
This is a course dedicated to college preparation which will build on skills students have acquired in previous years of ELA study. This course focuses on short stories, non-fiction, poetry, drama, the novel, vocabulary development, as well as writing, listening, and speaking skills while developing strong formal writing skills. Students will also be preparing for rigorous standardized state exams. Students taking this course should anticipate a steady pace of instruction (3QP).

HONORS ENGLISH I (1341)   2 credits
This is a faster-paced, college preparatory course that will refine the skills already acquired in previous years of language study. It will focus on short stories, several novels and plays, college-bound vocabulary development, as well as writing, speaking and listening skills developing strong formal writing skills. Students will be exposed to materials not only in preparation for the MCAS, but for the PSAT/SAT as well. Students taking this course should anticipate more intensive and independent work (4QP). Students must have a 93 or higher to move from College Prep to Honors.

GRADE 10

READING ENGLISH II (1313)   2 credits
Reading English classes assist special needs students in improving the receptive and expressive
language skills that will result in the development of effective reading and communication abilities. Instruction is guided by the Massachusetts Curriculum Frameworks. Short stories, novels, and plays will be studied along with instruction in writing skills (1QP).

**ENGLISH II (1323T)**  
2 credits  
This course is designed to build on and strengthen the foundation gained in the 9th grade with extra instructional supports that accommodate specific student needs. Through a variety of novels, the tragic play, non-fiction, and poetry, students will explore character relationships, conflicts and other literary elements and develop their writing skills through such genres. Writing will focus on communicating ideas through analysis of literature using textual evidence to support a thesis. These practices are necessary for success on the MCAS as well as preparation for future high school courses, college and career readiness (2QP). Please refer to the earlier description of Team Teaching.

**ENGLISH II-CP (1333)**  
2 credits  
This course is dedicated to building on skills students acquired in English I. This course focuses on a variety of novels, the tragic play, non-fiction, poetry, vocabulary development, as well as writing, speaking and listening skills, and state testing preparation while developing strong formal writing skills that emphasize literary analysis. State testing materials and extensive writing will be a primary focus. Students taking this course should anticipate a steady pace of instruction (3QP).

**HONORS ENGLISH II (1343)**  
2 credits  
This intensive and faster paced course is a rigorous study in literature and writing. It is designed to further refine the skills acquired in Honors English I. This course focuses on a variety of novels, the tragic play, non-fiction, poetry, and college-bound vocabulary development, as well as writing, speaking and listening skills while developing strong formal writing skills that emphasize literary analysis. Students will be required to work extensively in preparation for not only the MCAS, but also the PSAT/SAT in their critical reading and writing skills. Students taking this course should anticipate more intensive and independent work (4QP). Students must have a 93 or higher to move from College Prep to Honors.

**GRADE 11**

**READING ENGLISH III (1315)**  
2 credits  
Reading English classes assist special needs students in improving the receptive and expressive language skills that will result in the development of effective reading and communication abilities. Instruction is guided by the Massachusetts Curriculum Frameworks and includes the study of myths and folklore, novels, short stories, American poetry, and other contemporary authors (1QP).

**ENGLISH III (1325T)**  
2 credits  
This course explores the many facets of literature in conjunction with its historical importance. It integrates writing, reading, and critical thinking practices from previous years and incorporates
additional instruction and modifications that accommodate student needs. Through the research paper, group and individual projects, oral presentations and class discussions, students will be exposed to a variety of approaches (chronological, historical, and thematic) that writers use (2QP). Please refer to the earlier description of Team Teaching.

ENGLISH III-CP (1335) 2 credits
This course is designed to explore the many facets of literature in conjunction with its historical importance. It integrates writing, reading, creative and critical thinking practices. Through the research paper, group and individual projects, oral presentations and class discussions, the students will be exposed to a variety of approaches writers have used in order to convey their ideas. Students taking this course should anticipate a steady pace of instruction and work (3QP).

HONORS ENGLISH III (1345) 2 credits
This intensive course in literary study will focus on writers using a variety of approaches (chronological, historical or thematic). Since this type of course prepares students for the PSAT/SAT and possibly qualifying for AP Literature and Composition senior year, students taking this course will be working at an advanced, more independent level. There will be extensive reading and formal writing in this course (4QP). Students must have a 93 or higher to move from College Prep to Honors.

AP ENGLISH LANGUAGE & COMPOSITION (1355AP) 2 credits
This rigorous course is intended to function at the college level and is reviewed by the College Board; therefore students need to be adept in analysis with strong writing skills and extremely motivated. This is a course in which students will analyze rhetorical strategies, synthesize complex arguments, and conduct self-directed research. Not only does A.P. English Language and Composition prepare students for college-level study in any subject area, but it also provides them with the literacy skills required for “responsible engagement in civic life” (College Board). Students should expect a demanding English experience with a significant workload that concludes with the AP English Language and Composition Exam in May. Pre-Requisite: Pre-approval of the student’s 10th grade English teacher and the AP Instructor. A Parent conference may also be required for admission to the course. Students are required to take the AP exam. There is an exam fee required by the College Board (4.25 QP).

GRADE 12

READING ENGLISH IV (1317) 2 credits
This course for special needs students is designed to provide small group and specialized instruction in reading comprehension and written expression. It is designed to give students a final review of all the reading and writing skills they have developed. Novels, short stories and dramas dealing with many universal themes will be discussed. Also included is a unit on job skills, resume writing, interviewing techniques and job applications (1QP).
ENGLISH IV (1327T) 2 credits
This developmental literature based course integrates writing, reading and analysis practices from previous years and incorporates additional instruction and modifications that accommodate student needs. By delving into various pieces of fiction, including classic and contemporary novels, short stories and drama dealing with universal themes, students will further their critical and creative thinking skills and improve their writing abilities in preparation for their future career paths (2QP).

Please refer to the earlier description of Team Teaching.

ENGLISH IV-CP (1337) 2 credits
This literature based course integrates writing, reading and analysis practices from previous years. Various pieces of fiction, including classic and contemporary novels, short stories and drama dealing with universal themes will be discussed. Students will continue to develop the literacy skills while focusing on highly structured writing that will prepare them for college and career paths (3QP).

HONORS ENGLISH IV (1347) 2 credits
This course is designed to give students a survey of world literature from Ancient Sumerian writings to the modern novel and is designed for self-motivated students who are interested in reading and analyzing challenging literature. The course will focus on classic and influential works of literature from around the world presented both chronological and thematic that is universal in theme. Students’ writing will be held to a high level of expectations appropriate for earning honors credit (4QP). Students must have a 93 or higher to move from College Prep to Honors.

A.P. ENGLISH LITERATURE & COMPOSITION (1357AP) 2 credits This rigorous course is intended to function at the college level and is reviewed by the College Board; therefore students need to be adept in analysis with strong writing skills and extremely motivated. It is rich in higher-level thinking where students will be required to read, analyze and evaluate a variety of literature. Students should expect a demanding English experience with a significant workload that concludes with the AP English and Literature Exam in May. AP English Literature and Composition will challenge, stimulate, and deepen the enthusiastic literature student. Pre-Requisite: Pre-approval of the student’s 11th grade English teacher and the AP Instructor. A Parent conference may also be required for admission to the course. Students are required to take the AP exam. There is an exam fee required by the College Board (4.25 QP).
MATHEMATICS

The Mathematics program provides students with the opportunity to participate in courses designed to satisfy their educational goals, interests and needs. The program is flexible and students are able to transfer from one type of preparation to another should their initial selection no longer be appropriate. Students may pursue courses that will prepare them for technical employment and business, as well as education beyond the secondary level, i.e., Algebra I, Geometry, Algebra II, Trigonometry, Statistics, Pre-Calculus and Calculus. All courses strictly adhere to the Massachusetts Curriculum Frameworks.

GRADE 9

RESOURCES ALGEBRA I (2311) 2 credits

Resource Algebra I is designed for students who require small groups and specialized instruction with mathematical processes. Emphasis is placed on exploring and using multiple strategies for solving problems, as well as determining, collecting and analyzing appropriate data for problem solving situations in Algebra I. All strands of the curriculum frameworks are covered in this course with special emphasis put on MCAS preparation (1QP).

ALGEBRA I (2321T) 2 credits

This course emphasizes the importance of understanding and using mathematics as a tool to explore new relationships and patterns, rather than simply memorizing terms, procedures and rules. The course will cover most of the topics covered in Algebra I (2331) with an extra emphasis placed on MCAS preparation (2QP). Please refer to the earlier description of Team Teaching.

ALGEBRA I-CP (2331) 2 credits

This college preparatory course is designed to help students model and solve problems algebraically and prepare them for technical employment and post-secondary education. Students will learn to write, solve, graph and interpret linear functions and systems of equations. This course will also focus on interpreting and analyzing scatterplots, simplifying and factoring quadratic expressions, solving quadratic equations, and analyzing properties of functions. An emphasis will be placed on standards that are assessed on the 10th grade Math MCAS (3QP).

HONORS ALGEBRA I (2441) 2 credits

This course is offered to freshmen who demonstrate a firm understanding of number sense and mathematical reasoning as determined by 8th grade transcripts and assessments administered at Blue Hills prior to beginning the 9th grade year. This course will cover the content described in Algebra I CP (2331) at a faster pace and in greater depth. An emphasis will be placed on standards that are assessed on the 10th grade Math MCAS (3.5QP).
**HONORS ALGEBRA II (2341)  2 credits**

Honors Algebra II is a rigorous and fast-paced course offered to freshmen who demonstrate strong proficiency in Algebra I concepts as determined by 8th grade transcripts and assessments administered at Blue Hills. This course is designed to prepare students for college courses of study that require advanced mathematics. Students will deepen their understanding of linear and quadratic functions and manipulate expressions to create new functions. Students will learn to use exponential functions, matrices and rational expressions and equations to solve algebraic and real world problems (4QP).

**GRADE 10**

**RESOURCE GEOMETRY (2313)  2 credits**

Resource Geometry is designed for students who require small groups and specialized instruction with mathematical processes. Emphasis is placed on exploring and using multiple strategies for solving problems, as well as determining, collecting and analyzing appropriate data for problem solving situations in Geometry. All strands of the curriculum frameworks are covered in the course with special emphasis placed on MCAS preparation (1QP).

**GEOMETRY (2323T)  2 credits**

This course emphasizes the importance of understanding and using mathematics as a tool to explore new relationships and patterns rather than memorizing terms, procedures and rules. The course will provide a foundation in principles of Geometry. The course will cover most of the topics covered in Geometry (2333) with an extra emphasis placed on MCAS preparation (2QP). *Please refer to the earlier description of Team Teaching.*

**GEOMETRY-CP (2333)  2 credits**

This course is designed to formalize and extend students’ understanding of geometric relationships and prepare students for technical employment and post-secondary education. In this course, students will analyze and solve for angles, dimensions, area, surface area and volume of plane and solid figures. Problem solving methods will include using proportional reasoning, the Pythagorean Theorem, special right triangle relationships, and area and volume formulas. Students will explore transformations in the coordinate plane and describe the algebraic relationship between preimage and postimage figures. Algebra and number sense standards will be reinforced in the context of geometry problems to prepare students for the 10th grade Math MCAS (3QP).

**HONORS GEOMETRY (2343)  2 credits**

This fast-paced, accelerated course is offered to students who have demonstrated strong proficiency in 9th grade Honors Algebra I or Honors Algebra II. The topics covered in Geometry-CP (2333) will be studied in greater depth and will be applied to a wider expanse of mathematical concepts. Deductive and inductive reasoning and formal proof will be emphasized in the study of geometric principles, thus allowing the Honors Geometry student to pursue more advanced courses in mathematics. An emphasis will be placed on MCAS preparation (4QP). *Prerequisite: Honors*
Algebra II with B- or above, Honors Algebra I with a B or above, or the approval of the Academic Director.

**MATH SKILLS (2303T)**

1 credit

This course is offered to students by invitation only. Students in this course will work on improving general math skills with a focus on pre-algebra and algebra content and skills. Students will leave this course better prepared to take the grade ten math MCAS, as well as Algebra II in junior year. The course will be co-taught, and is offered in conjunction with US History II – Team 7103T. (2 QP) **Prerequisite: Approval by Academic Director and Math Lead Teacher.**

**GRADE 11**

**RESOURCE ALGEBRA II (2315)**

2 credits

Resource Algebra II is designed for students who require small groups and specialized instruction with mathematical processes. Emphasis is placed on exploring and using multiple strategies for solving problems, as well as determining, collecting, and analyzing appropriate data for problem solving situations in Algebra II. All strands of the curriculum frameworks are covered in the course (1QP).

**ALGEBRA II (2325T)**

2 credits

Emphasis is placed on using multiple approaches to problem solving. The use of graphs and tables will be an integral component of each unit of study as will the use of graphing calculators and computers. The course will cover the majority of the topics covered in Algebra II (2335). If necessary, MCAS preparation will be provided (2QP). **Please refer to the earlier description of Team Teaching.**

**ALGEBRA II-CP (2335)**

2 credits

This course is designed to extend algebraic reasoning and problem solving skills and prepare students for technical employment and introductory level college math classes. In this course, students will (1) deepen understanding of linear and quadratic functions, (2) manipulate expressions to create new functions, (3) use exponential functions and matrices to model and solve algebraic and real world problems, (4) simplify, add, subtract, multiply and divide rational expressions and solve rational equations, and (5) transform or describe transformations of linear, quadratic, exponential, and square root function from their parent functions (3QP).

**HONORS ALGEBRA II (2535)**

2 credits

Honors Algebra II is a course offered to juniors who demonstrate strong proficiency in Algebra I and Geometry. This course is designed to prepare students for college courses of study that require advanced mathematics. Students will learn the algebraic concepts in Algebra II-CP in more depth and at a faster pace. (3.5 QP). **Prerequisite: Algebra I and CP Geometry or Honors Geometry with a C+ or above, or the approval of the Academic Director.**
TRIGONOMETRY (2435)  
2 credits

Trigonometry is recommended for both college-bound students and for those who plan on entering fields of work such as electronics, electricity and drafting. It includes a review of algebra and geometry and a complete study of trigonometry functions and their applications (3.5QP). **Prerequisite: successful completion of Algebra II.**

PRE-CALCULUS (2345)  
2 credits

The focus of this course is solving, graphing and finding the inverse of the following functions: linear, polynomial (quadratics, cubics, quantic, quintics), radical, exponential, logarithmic and trigonometric. Students will graph and solve inequalities of one and two variables, including linear programming. Students will have a complete study of trigonometry and will work with vectors and the complex number system (4QP). **Prerequisite: Algebra II and Honors Geometry with a B- or above, or the approval of the Academic Director.**

GRADE 12

RESOURCE TRIGONOMETRY (2317)  
2 credits

Resource Algebra II and Trigonometry is designed for students who require small groups and specialized instruction with mathematical processes. The focus of this course is providing students with a means of operating with mathematical concepts at an abstract level and then applying this skill to many real world problems (1 QP).

TRIGONOMETRY (2327T)  
2 credits

Emphasis is placed on using multiple approaches to problem solving. The focus of this course is providing students with a means of operating with mathematical concepts at an abstract level and then applying these skills to many real-world problems. The course will cover advanced topics in Algebra II and the basics of right triangle Trigonometry (2 QP). **Please refer to the earlier description of Team Teaching.**

TRIGONOMETRY-CP (2337)  
2 credits

Trigonometry is recommended for both college-bound students and for those who plan on entering fields of work such as electronics, electricity and drafting. It includes a review of algebra and geometry and a complete study of trigonometric functions and their uses (3QP). **Prerequisite: successful completion of Algebra II.**

STATISTICS (2537)  
2 credits

This course introduces students to general statistical methods used in the collection, presentation, analysis, and interpretation of statistical data. Topics to be covered include frequency distributions, measure of central tendency, probability theory, binomial distributions, and the application of concepts in statistical methodology (3QP). **Prerequisite: Trigonometry, CP Algebra II or Honors Algebra II with a B- or above.** or the approval of the Academic Director.
PRE-CALCULUS (2437) 2 credits
This accelerated course is offered to college bound seniors. The focus of this course is solving, graphing and finding the inverse of the following functions: linear, polynomial (i.e.: quadratics, cubics, quartics, quintics), radical, exponential, logarithmic and trigonometric. Students will graph and solve inequalities of one and two variables, and engage in a study of linear programming (3.5 QP). Prerequisite: Trigonometry or Honors Algebra II with a C or above, or approval of the Academic Director.

CALCULUS (2347) 2 credits
This accelerated course is offered to seniors who have demonstrated strong mathematical ability, and who are highly motivated to learn mathematics. Topics include sequence and series, limits, iterating functions, differentiation and integration. Computer technology and graphing calculators will be utilized in the problem-solving sections of this course (4QP). Prerequisite: Pre-Calculus with a B- or above or approval of the Academic Director.
The science offerings at Blue Hills Regional Technical School provide students with the opportunity to learn scientific concepts and principles in a hands-on, applied manner as recommended by the State Curriculum Frameworks in Science and Technology. Each science concept is presented with the intention of developing inquiry skills, showing the connections with technology and its impact on society. Throughout the different disciplines in science there are common embedded themes. The common themes include energy, patterns, models and scales, measurement, interactions and system, and change over time. The Curriculum Frameworks recommend that these common themes be emphasized. The goals of the Science program are designed to meet the needs of the entire student body, whether it is to continue education beyond high school or to enter the work force immediately after graduation.

GRADE 9

**BIOLOGY I (6121T)**  2 credits

Biology begins by defining life and what it means to be living, along with the scientific method and how it is used to investigate new questions. We will begin studying life at the cellular level, observing cell organelles, their structure, function, and purposes. We will then explore genetics, investigating how cells replicate and pass on genetic material. Once students understand how genetic material is passed on we will discuss how genetic processes of replication and mutation may have led to the evolution of different species. We will then look at how this information is used to classify species (2 QP). *Please refer to the earlier description of Team Teaching.*

**BIOLOGY I-CP (6131)**  2 credits

Biology begins by defining life and what it means to be living, along with the scientific method and how it is used to investigate new questions. We will begin studying life at the cellular level, observing cell organelles, their structure, function, and purposes. We will then explore genetics, investigating how cells replicate and pass on genetic material. Once students understand how genetic material is passed on we will discuss how genetic processes of replication and mutation may have led to the evolution of different species. We will then look at how this information is used to classify species (3QP).

**HONORS BIOLOGY I (6141)**  2 credits

This course is an accelerated study of biological concepts and is intended for the self-motivated, scientifically talented student who has already developed a sound foundation in general science, lab procedures, and scientific reasoning. This is a laboratory course that utilizes the inquiry approach to study such topics as the chemistry of life, cell structure and function, and genetics. A long-range experimental science project or term paper may be required (4QP).
GRADE 10

**BIOLOGY II (6123T)**  
2 credits  
Students explore interactions between individuals and species in Ecology while examining the body systems that regulate functions and the flow of energy in all organisms – with an emphasis on humans. Throughout the year, the relationships between all areas of biology are emphasized using connecting ideas such as the relationship between structure and function, homeostasis, patterns of change over time (evolution), and the flow of matter and energy. The class is designed to stress the interdependence of all life through hands-on experiments while preparing students for the Biology MCAS (2 QP). Please refer to the earlier description of Team Teaching.

**BIOLOGY II-CP (6133)**  
2 credits  
Students explore interactions between individuals and species in Ecology while examining the body systems that regulate functions and the flow of energy in all organisms – with an emphasis on humans. Throughout the year, the relationships between all areas of biology are emphasized using connecting ideas such as the relationship between structure and function, homeostasis, patterns of change over time (evolution), and the flow of matter and energy. The class is designed to stress the interdependence of all life through hands-on experiments while preparing students for the Biology MCAS (3QP).

**HONORS BIOLOGY II (6143)**  
2 credits  
This course is a continuation of an accelerated study of biological concepts and is intended for the self-motivated, scientifically talented student. The laboratory course utilizes the inquiry approach to study such topics as comparative anatomy and physiology, evolution, biodiversity, and ecology. A long-range experimental science project or term paper may be required (4QP). Prerequisite: B-in Honors Biology I or above and/or approval from the Lead Science Teacher or Academic Director.

GRADE 11

**EARTH SCIENCE 11: Systems and Meteorology (6635)**  
1 credit  
Earth science is the study of the earth’s atmosphere (Meteorology) and cyclic systems that occur. Meteorological research encompasses the observation, numerical modeling, and prediction of weather systems such as hurricanes, severe storms, and heavy snow events. Material is researched in such diverse areas as atmospheric dynamics, atmospheric chemistry, atmospheric electricity, climate modeling, climate change, turbulence, planetary atmospheres, precipitation physics and sun-earth interactions (3QP).
CHEMISTRY I-CP (6435)  
1 credit

This is an introductory chemistry course that examines the structure of matter, its properties, and changes in its properties as a result of chemical reactions. Emphasis is placed on the physical world involving atomic theory, energy relationships, and chemical reactions. Laboratory work involves first-hand experiences in the use of chemical equipment and the development of manipulative skills in order to conduct chemical investigations using observation and accumulated data to arrive at conclusions (3QP). **Prerequisite: C+ or above in Algebra I or approval from the Lead Science Teacher and Academic Director.**

HONORS CHEMISTRY I (6445)  
1 credit

Honors Chemistry I is an accelerated Chemistry course designed to offer students the opportunity to master the conceptual and mathematical principles of chemistry. Students interested in attending college or pursuing a science related career, such as medical professions, engineering, lab technology, or research should take this course. This course examines the structure of matter, its properties, and changes in its properties as a result of chemical reactions. Emphasis is placed on the physical world involving atomic theory, energy relationships, and chemical reactions. Laboratory work involves first-hand experiences in the use of chemical equipment and the development of manipulative skills in order to conduct chemical investigations using observation and accumulated data to arrive at conclusions (4QP). **Prerequisite: B+ or above in Algebra II or Honors Algebra I or approval from the Lead Science Teacher and Academic Director.**

PHYSICS I-CP (6835)  
1 credit

This is a college preparatory course that emphasizes the concepts of mechanics - motion, energy, and the interactions of matter. Topics include conservation of energy, work, and power, kinematics, forces, circular motion, conservation of momentum, and heat. This is a laboratory and project based science course that requires some algebra which will be reinforced in the course. (3QP). **Prerequisite: C+ or above in Algebra I or approval from the Lead Science Teacher and Academic Director.**

HONORS PHYSICS I (6845)  
1 credit

This is an honors level course that emphasizes the concepts of mechanics - motion, energy, and the interactions of matter. Topics include conservation of energy, work, and power, one and two-dimensional motion including circular motion, forces, conservation of momentum, and heat. This is a laboratory and project based science course that requires a significant amount of algebra. (4QP). **Prerequisite: B+ or above in Algebra II or Honors Algebra I or approval from the Lead Science Teacher and Academic Director.**
GRADE 12

EARTH SCIENCE 12: Geology and Oceanography (6637) 1 credit

Please note: Earth Science 11 is NOT a prerequisite for Earth Science 12.

Earth Science 12 is a contemporary, interdisciplinary approach to the earth and its environment. Areas of concentration include Geology, which is the study of the Earth, the materials of which it is made, the structure of those materials, and the processes acting upon them and Oceanography, which is an interdisciplinary science in which researchers from diverse fields focus on the broad goal of understanding the ocean. Throughout the course, renewable and non-renewable environmental resources are stressed, including, but not limited to, their formation, acquisition, efficiency, and pollution factors. Students study alternative energy sources such as geothermal, solar, hydroelectric, wind, and biomass; with the intent of evaluating the viability of each resource while considering their environmental problems and solutions. Another major theme of the course is the universality of change, from catastrophic events to the rock cycle through plate tectonics to postulated changes in the environment based on the affects and activities of humans. The role of energy conversions as an agent of change is given emphasis (3QP).

CHEMISTRY II (6437) 1 credit

This course is designed as a college preparatory laboratory course. Emphasis is shifted away from purely descriptive chemistry toward the study of chemical principles. Major topics such as measurement, matter and energy, atomic structure, the mole concept, formulas and equations, the gas laws, chemical bonding, solutions, and acids and bases are reviewed. Other topics covered are atomic and molecular structure of matter, stoichiometry, periodicity, chemical bonding, chemical and physical properties of matter, changes of state, solutions, kinetics, equilibrium, acids and bases, thermodynamics, nuclear chemistry, and an introduction to organic chemistry. The laboratory program is an integral part of this course and is used to help students understand how chemical principles are developed from experimental data and observations (3QP). Pre-requisite: Successful completion of Chemistry I.

HONORS CHEMISTRY II (6447) 1 credit

A continuation of Honors Chemistry I for students who are self-motivated, possess above average math skills and have successfully completed Honors Chemistry I may consider this laboratory course. It is designed for students who may be considering a career in science or a health-related field. It is an accelerated study of such topics as stoichiometry, gas laws, solutions, equilibrium, acids and bases, and electrochemistry. A focus on problem solving and critical reasoning skills will be emphasized throughout the course. A long-range experimental science project may be required. (4QP) Prerequisite: Successful completion of Honors Chemistry I with a minimum grade of C or approval of the Academic Director.

PHYSICS II-CP(6837) 1 credit

This laboratory course is designed to give students a general knowledge of the major concepts and theories of physics. Major topics such as motion, heat, sound, light, and electricity are reinforced and other topics covered are the study of motion and energy with the aim to develop a student’s ability to observe, experiment with, and analyze the surrounding physical world. A focus on
problem solving and critical reasoning skills will be emphasized throughout the course. Several engineering-based science projects may be a required component of this course. Students should possess math skills in algebra, geometry, and trigonometry. These skills will be reinforced in the class. This is a laboratory course. (3QP). **Pre-requisite: Successful completion of CP Physics I.**

**HONORS PHYSICS II (6847) 1 credit**

This honors level laboratory course is designed to give students a general knowledge of the major concepts and theories of physics. Major topics such as motion, heat, sound, light, and electricity are reinforced and other topics covered are the study of motion and energy with the aim to develop a student’s ability to observe, experiment with, and analyze the surrounding physical world. A focus on problem solving and critical reasoning skills will be emphasized throughout the course. Several engineering-based science projects may be a required component of this course. Students who are self-motivated, and possess strong math skills in algebra, geometry and elementary trigonometry should consider this laboratory course. (4QP). **Pre-requisite: Successful completion of Honors Physics I with a minimum grade of C or approval of the Academic Director.**
SOCIAL STUDIES

The goal of the social studies program is to instill participatory citizenship through a curriculum that stresses critical thinking, reading, and writing skills. To satisfy this goal, the social studies curriculum provides a number of courses that are designed to meet the educational needs of students. The curriculum has courses to prepare students for further study and provides course material for those entering the world of work. The social studies curriculum has maintained a sufficient degree of flexibility to provide students with the information and skills needed to adequately prepare them for societal change. The social studies curriculum is aligned to the Massachusetts Curriculum Frameworks.

GRADE 9

U.S. HISTORY I (7121T) 2 credits
This ninth grade course surveys issues in early American history. It illustrates the influences of American history from early 1500’s to the early 1900’s. The major topics covered will be: American colonization, the struggle for independence, development of a new nation and its constitutional framework, westward expansion, the Civil War, the era of Reconstruction and the rise of labor during the Industrial Revolution. The focus of the course is to give students an historical perspective from which to approach the political, economic and social issues that they face in their everyday lives (2QP). Please refer to the earlier description of Team Teaching.

U.S. HISTORY I–CP (7131) 2 credits
This ninth grade course surveys issues in early American history. It illustrates the influences of American history from early 1500’s to the early 1900’s. The major topics covered will be: American colonization, the struggle for independence, development of a new nation and its constitutional framework, westward expansion, the Civil War, the era of Reconstruction and the rise of labor during the Industrial Revolution. The focus of the course is to give students an historical perspective from which to approach the political, economic and social issues that they face in their everyday lives (3QP).

HONORS U.S. HISTORY I (7141) 2 credits
This ninth grade course is a rigorous study of issues in early American history. It illustrates the influences of American history from early 1500’s to the early 1900’s. The major topics covered will be: American colonization, the struggle for independence, development of a new nation and its constitutional framework, westward expansion, the Civil War, the era of Reconstruction and the rise of labor during the Industrial Revolution. The focus of the course is to give students an in-depth historical perspective from which to approach the political, economic and social issues that they face in their everyday lives (4QP).
GRADE 10

U.S. HISTORY II (7123T) 2 credits
This tenth grade course surveys United States history from the turn of the twentieth century, including industrialization, World War I, reassessment of national policies and economic changes in the post war period. It surveys political, economic and social development related to this period. It introduces the New Deal Era, recalls its roots and traces its development and the changes precipitated by World War II. The course explores the causal relationships between World War II and to the United States’ involvement in post-war Europe and subsequent commitment in Asia. It assesses United States’ policy in Middle Eastern affairs and analyzes political and economic factors related to foreign policy. It surveys domestic social changes in the post-World War II and post-Vietnam eras, including the constitutional debates associated with changing political attitudes (2QP). Please refer to the earlier description of Team Teaching.

U.S. HISTORY II (7103T) 1 credit
This tenth grade course surveys United States history from the turn of the twentieth century, including industrialization, World War I, reassessment of national policies and economic changes in the post war period. It surveys political, economic and social development related to this period. It introduces the New Deal Era, recalls its roots and traces its development and the changes precipitated by World War II. The course explores the causal relationships between World War II and the United States’ involvement in post-war Europe and subsequent commitment in Asia. It assesses United States’ policy in Middle Eastern affairs and analyzes political and economic factors related to foreign policy. It surveys domestic social changes in the post-World War II and post-Vietnam eras, including the constitutional debates associated with changing political attitudes (2QP). This course is required for students enrolled in Math Skills, 2303T, with the approval of the Academic Director. This course replaces either 7143, 7133, or 7123T.

U.S. HISTORY II-CP (7133) 2 credits
This tenth grade course surveys United States history from the turn of the twentieth century, including industrialization, World War I, reassessment of national policies and economic changes in the post war period. It surveys political, economic and social development related to this period. It introduces the New Deal Era, recalls its roots and traces its development and the changes precipitated by World War II. The course explores the causal relationships between World War II and the United States’ involvement in post-war Europe and subsequent commitment in Asia. It assesses United States’ policy in Middle Eastern affairs, and analyzes political and economic factors related to foreign policy. It surveys domestic social changes in the post-World War II and post-Vietnam eras, including the constitutional debates associated with changing political attitudes (3QP).

HONORS U.S. HISTORY II (7143) 2 credits
This tenth grade course is a rigorous survey of United States history from the turn of the twentieth century, including industrialization, World War I, reassessment of national policies and economic changes in the post war period. It surveys political, economic and social development related to this period. It introduces the New Deal Era, recalls its roots and traces its development and the
changes precipitated by World War II. The course explores the causal relationships between World War II and the United States’ involvement in post-war Europe and subsequent commitment in Asia. It assesses United States’ policy in Middle Eastern affairs, and analyzes political and economic factors related to foreign policy. It surveys domestic social changes in the post-World War II and post-Vietnam eras, including the constitutional debates associated with changing political attitudes (4 QP).

**GRADE 11**

*WORLD HISTORY (7025) 1 credit*

This eleventh grade course is a comprehensive survey of world history and the many cultures of the world with an emphasis on the Modern Era from the Renaissance to the present. The course will include historical, geographical, economic, technological, social, political, and current event strands aligned with the Massachusetts Curriculum Frameworks for World History. Through reading, writing, research and presentation, students learn to analyze the cause/effect relationships between geography and historical development (2QP).

*WORLD HISTORY-CP (7035) 1 credit*

This eleventh grade course is a comprehensive survey of world history and the many cultures of the world with an emphasis on the Modern Era from the Renaissance to the present. The course includes historical, geographical, economic, technological, social, political, and current event strands aligned with the Massachusetts Curriculum Frameworks for World History. Through reading, writing, research and presentation, students are required to analyze the cause/effect relationships between geography and historical development (3QP).

*HONORS WORLD HISTORY (7045) 1 credit*

This eleventh grade course is a rigorous survey of world history and the many cultures of the world with an emphasis on the Modern Era from the Renaissance to the present. The course includes historical geographical, economic, technological, social, political, and current event strands aligned with the Massachusetts Curriculum Frameworks for World History. Through reading, writing, research, and presentation, students are required to analyze the cause/effect relationships between geography and historical development (4QP).

**GRADE 12**

*U.S. GOVERNMENT (7027) 1 credit*

This twelfth grade course provides students with an analytical perspective on government and politics in the United States. This course includes both the study of general concepts used to
interpret U.S. government and politics and the analysis of specific examples. It also provides familiarity with the various institutions, groups, beliefs and ideas that constitute U.S. government and politics. Topics include: The Constitution, political beliefs and behaviors, political parties, interest groups and mass media, government institutions and structure, public policy, civil rights and civil liberties. (2QP).

**U.S. GOVERNMENT & POLITICS-CP (7037)**

1 credit

This twelfth grade course provides students with an analytical perspective on government and politics in the United States. This course includes both the study of general concepts used to interpret U.S. government and politics and the analysis of specific examples. It also provides familiarity with the various institutions, groups, beliefs and ideas that constitute U.S. government and politics. Topics include: The Constitution, political beliefs and behaviors, political parties, interest groups and mass media, government institutions and structure, public policy, civil rights and civil liberties (3QP).

**HONORS U.S. GOVERNMENT & POLITICS (7047)**

1 credit

This twelfth grade course provides students with a rigorous analytical perspective on government and politics in the United States. This course includes both the study of general concepts used to interpret U.S. government and politics and the analysis of specific examples. It also provides familiarity with the various institutions, groups, beliefs and ideas that constitute U.S. government and politics. Topics include: The Constitution, political beliefs and behaviors, political parties, interest groups and mass media, government institutions and structure, public policy, civil rights and civil liberties (4QP).

**ADVANCED PLACEMENT U.S. GOVERNMENT & POLITICS (7057AP)**

2 credits

This twelfth grade Advanced Placement course provides students with an advanced analytical perspective on government and politics in the United States. Students will work independently to learn and analyze both the general concepts and used to interpret U.S. government and the politics that surround them. Students will develop familiarity with the various institutions, groups, beliefs and ideas that constitute U.S. government and politics. This is a demanding course that requires students to successfully complete college level work. Topics include: The Constitution, political beliefs and behaviors, political parties, interest groups and mass media, government institutions and structure, public policy, civil rights and civil liberties. This class meets for two consecutive periods – students will forfeit one of their electives to take this course. Students are also required to take the Advanced Placement test in May. **Pre-Requisite:** Preapproval of the student’s 11th grade Social Studies teacher and the AP Instructor. A Parent conference may also be required for admission to the course. Students are required to take the AP exam. There is an exam fee required by the College Board (4.25 QP).
PHYSICAL/HEALTH EDUCATION

The Physical Education program emphasizes that physical activity is an essential part of overall health. Physical Education provides a solid foundation for learning the benefits of an active lifestyle and positive effects of being physically fit. Students will have opportunities to learn and practice lifelong habits and healthful behaviors. Ninth and tenth grade students will participate in one term/semester of pool which will concentrate on Red Cross Level V swim techniques and practices. Students will also spend one marking period in a health class, which is a component to many of the skills and concepts that are reinforced in the physical education classes. All Grades will spend one term in the Wellness Center taking part in a cardiovascular and strength program that will help them in the future for life-long health. In addition, students are taught nutrition, wellness, and good decision-making as part of an overall balanced and healthful life (1QP each course).

Special Education students who are enrolled in the P.A.S.S. course will meet for P.A.S.S. every other day, and will share every other day of their academic cycles with PE / Health. Therefore, they will receive 0.5 credits for P.A.S.S. and 0.5 credits for PE/Health.

PHYSICAL EDUCATION / HEALTH 9 (9021) 1 credit

OR

PHYSICAL EDUCATION / HEALTH / P.A.S.S 9 (9121) by assignment only .5 credit*

A core course for freshmen establishes a foundation in a variety of physical education activities. Students will participate in fitness testing as an essential element of a health related physical education program. Students will learn how to assess their fitness level. They will set fitness goals and chart progress. Students will be provided with specific information and strategies to develop and maintain personal fitness for a lifetime. They will experience and better understand the components of health related fitness. Instruction, practice, and participation are provided in conditioning, fitness, flag football, soccer, basketball, floor hockey, gymnastics, speedball, tumbling, volleyball, softball and track and field. Special programs in physical fitness testing and the Project Adventure indoor course are also included. For the health component of the class, grade nine students receive an introduction to health. Emphasis is placed on the benefits of a positive attitude and good self-esteem. Students discuss getting along with parents and the impact of divorce on the family. Decision-making and the different ways of making a responsible decision are explored. Drug use and abuse in society are discussed. Sexual harassment and issues around sexuality are included in grade nine. Current events relating to health, bullying and cyber-bullying are also discussed (2QP).

PHYSICAL EDUCATION / HEALTH 10 (9023) 1 credit

OR

PHYSICAL EDUCATION / HEALTH / P.A.S.S 10 (9123) by assignment only .5 credit*

A core course for sophomores establishes a foundation in a variety of physical education activities. Students will participate in fitness testing as an essential element of a health related physical education program. Students will learn how to assess their fitness level. They will set fitness goals and chart progress. Students will be provided with specific information and strategies to develop
and maintain personal fitness for a lifetime. They will experience and better understand the components of health related fitness. This is a broad and varied course that includes a variety of coeducational games and activities. The program offers many small and large group games, basic skills and fundamental aspects of team games, such as basketball, soccer, track and field, softball, team handball, volleyball and flag football. Various other activities include testing, Project Adventure, weight training and cardiovascular conditioning. For the health component of the class, students in grade ten continue to discuss decisions about drugs and alcohol. The effects of gateway drugs, nicotine, alcohol, marijuana and cocaine are studied. Great emphasis is placed on the dangers of smoking cigarettes and the impact smoking has on society. Preventing teenage pregnancy, resolving conflict peacefully and making schools safe for all students are also included in grade ten. Current health-related issues are discussed (2QP).

**PHYSICAL EDUCATION / HEALTH 11 (9025)**

1 credit

OR

**PHYSICAL EDUCATION / HEALTH / P.A.S.S. 11 (9125) by assignment only .5 credit**

The program for juniors consists of sports and games designed to be played at both a competitive and recreational level. Students refine the skills they developed in grades nine and ten. These skills are then practiced in game situations where students learn teamwork, cooperation and rules and regulations. Peer teaching and peer assessment is encouraged. The focus is on developing a solid foundation for learning the benefits of a healthy lifestyle and being physically fit. Appropriate instruction and practice opportunities teach students to build strength and stamina safely and effectively. Using a variety of machines, free weights, bands and body weight, students learn the essential knowledge to develop overall fitness. Juniors participate in Project Adventure as a unit. They spend time challenging themselves on the high elements and working with their classmates in a cooperative setting. For the health component of the class, students in grade eleven continue to discuss chemical abuse in society. In addition, there will be a unit on human sexuality. Students will learn about reproductive anatomy and physiology. Also, they will discuss prevention of teenage pregnancy and learn about birth control, emphasizing abstinence as the only 100% means of preventing pregnancy. The issue of sexually transmitted diseases will also be discussed. Driving under the influence of drugs or alcohol is reviewed and ways of preventing this are discussed. Dealing with stress, sexual harassment and making schools safe for all students is included. Current events relating to health are discussed (2QP).

**PHYSICAL EDUCATION / HEALTH 12 (9027)**

1 credit

OR

**PHYSICAL EDUCATION / HEALTH / P.A.S.S. 12 (9127) by assignment only .5 credit**

Senior classes participate in a sports and games model that aims to replicate the key characteristics of team activity within an educational context of a physical education class. These grade 12 classes aim to develop good sportsmanship, increase student knowledge and competency in content area as well as student responsibility and positive social behaviors. In addition, seniors graduate to outside Project Adventure elements and are encouraged to take on leadership roles and more extensive challenges. Fitness is the primary goal in physical education. Seniors develop personal fitness programs and create a plan for lifelong fitness. Personal evaluations and assessments provide students with a systematic method for setting and reaching goals. Major concepts related
to physical activity and fitness are presented to equip students with useful strategies to improve and maintain fitness for a lifetime. For the health component of the class, students in grade twelve will continue to discuss the use and abuse of chemicals, as well as information about human sexuality. There will be a unit on first aid and personal safety. Students will practice mouth-to-mouth resuscitation and cardiopulmonary resuscitation. Emergency first aid procedures and practices will be taught as well. Emphasis will be placed on proper diet, nutrition and exercise, as well as losing or maintaining “ideal” weight. In addition, students will discuss death and dying as well as “at risk” students and suicide. Current events relating to health are discussed (2QP).

*IQP for 9121, 9213, 9125, 9127 and IQP for 0101, 0103, 0105, 0107*
SUPPLEMENTAL/REMEDICATION

SUPPLEMENTAL BIOLOGY Grade 11 (6005)     1 credit

This class, offered in a small-group format, is offered only to students who did not receive a passing score on the Biology MCAS (2QP). Enrollment and availability are determined by the Academic Director.

TITLE I SERVICES

The Title I program is a supplementary education program in accordance with No Child Left Behind. Factors that determine eligibility for Title I services include performance on standardized tests and teacher recommendations. Questions about Title I services can be directed to the Title I Director at (781) 828-5800. The Title I program is a federally funded supplementary education initiative that supports the efforts of Blue Hills to be in compliance with the regulations of ESSA. Blue Hills Regional Technical School is a Title one school and uses Title I funding from the United States Department of Education to supplement its educational program.

ENGLISH AS A SECOND LANGUAGE    (4000X and 4000Y)

The English as a Second Language (ESL) program at Blue Hills is designed to assist students whose first language is not English to acquire proficiency in the English language. Students receive developmentally appropriate instruction in the areas of reading, writing, speaking, and listening while working in collaboration with English Language Arts, Mathematics, Social Studies, Science and Vocational Technical program to focus on continued academic language development.

Students are assigned to ESL classes according to grade level and/or English proficiency. The need for ESL services is determined based on the IDEA and ACCESS test scores, other standardized test scores, prior ESL inclusion, and teacher recommendations. The ESL curriculum is aligned with the Massachusetts and World-Class Instructional Design and Assessment (WIDA) standards. Students will continue striving through the six levels of language proficiency of Level 1: Entering, Level 2: Emerging, Level 3: Developing, Level 4: Expanding, Level 5: Bridging, Level 6: Reaching.

ELL students will be closely monitored and assessed by the ELL Director and ESL instructor and are expected to fulfill school requirements for graduation. Enrollment determined by English Language Learner Director/Academic Director.
ELECTIVES

Elective classes will run subject to enrollment. Blue Hills Regional Technical School will do its very best to provide students with their choice of electives. Please note, however, that priority will be given to students’ core academic choices, in which case, chosen electives may not be available.

GRADE 11

SPANISH I-CP (4035)  
1 credit
The emphasis of the course will be on real communication in Spanish: reading, writing, and most of all, speaking. Students will gain the ability to speak and write about themselves, as well as to request information from others. They will also be introduced to the cultures and geography of Spain and Latin America, as well as to the many diverse Hispanic cultures within the United States. 
Prerequisite: **Students need a 73 or better in English II** (3QP).

ASTRONOMY (4135)  
1 credit
This course provides a practical look into astronomy on a descriptive level. Topics to be discussed include the study of telescopes, light and the spectrum, the moon, the solar system, and the newest discoveries in the space program. Other celestial bodies such as comets, asteroids, meteoroids, pulsars, quasars, nebulae, etc. will be examined. The principal pursuits of the astronomer are to extend the understanding of the physical nature of the universe to convey this understanding to students. Learning to star gaze and a trip to the planetarium and a large working observatory will be used to enrich the course is possible (3QP).

ETHICS IN LITERATURE (4066)  
1 credit
This discussion-based course will explore how philosophy and literature intersect. This exploration will lead into the concepts of happiness and basic philosophy, while students explore foundational ideas of philosophy. Using examples from literature, students will discover universal themes from multiple cultures, starting with the research of one’s own background. Through various literary works, media, and film, the class will delve into concepts of right and wrong, virtue, and what is required to create a just and equal society. Students will stage a mock trial, share and develop their own ideas through projects and plays, investigate moments of cultural success and failure, and create their personal values system.

21ST CENTURY COMPUTER SKILLS (4435)  
1 credit
21st Century Computer Skills is a computer course designed to introduce and enhance skills using various integrated software programs such as the Microsoft Office Suite and web platforms such as Google Drive. In this course, students will be able to demonstrate proficiency in the basics of word processing, Access, Excel, Power Point, and Internet research. The students will use their skills to aggregate information to create Line, Pie, Bar, Stacked and 3-D charts, and reports. Students will collaborate to create and present Google Drive documents and presentations (3QP).

CURRENT EVENTS (4635)  
1 credit
This eleventh grade course helps students develop a broad understanding of the current issues facing America and the world by exposing them to various forms of media. Students will develop
the skills needed to critically evaluate sources of information. Methods used include films, debate, and online sources (3QP).

**ART APPRECIATION (4735) 1 credit**
Art Appreciation is an eleventh grade introductory course in which students will explore topics in the visual and graphic arts, focusing on styles and examples of art from around the world. Topics in the course will include art history, styles of art, works of art, artists, and art in everyday life (3QP).

**PSYCHOLOGY (4835) 1 credit**
This eleventh grade course introduces concepts relative to human behavior and attitude. It provides tools for analysis so students may learn to recognize concepts and evidence of social problems, including alcoholism, drug reliance and social maladjustment. It considers the factors of personality, maturation, perception, learning, establishment of social relationships, and heredity and environment in psychological development. This course is designed to apply many of the psychological concepts with assignments and activities to provide students with new ways of looking at and interpreting the world in which they live (3QP).

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**GRADE 12**

**SPANISH II-CP (4037) 1 credit**
Spanish II is a continuation of Spanish I, reinforcing and expanding on the program developed in the first year of language learning. Listening skills and basic speaking ability are further developed while the student’s vocabulary is expanded, and accuracy is increased. Some short reading selections with emphasis on culture will be included. **Prerequisite: Students need a 73 or better in Spanish I or approval of the Academic Director (3QP).**

**COMMUNICATION SKILLS FOR COLLEGE AND CAREER (4237) 1 credit**
This course is intended to prepare students for the communication skills needed beyond high school, whether their next step is college or career. Students will start by developing a cover letter and resume that reflects a competitive edge through their vocational skills. It will showcase a strong work ethic and broad knowledge that most teens have yet to acquire whether applying for an after-school job, heading into their vocational field, or uploading their resume as part of their college application process. Public speaking is also a big part of this course. Students will practice job-interviewing skills and write and perform informal and formal presentations needed in the 21st Century corporate and collegiate worlds. By the end of this course, students will feel more confident in their communication skills and be better prepared entering the post high school world. (3 QP)

**ENVIRONMENTAL SCIENCE and ECOLOGY (4437) 1 credit**
This course utilizes the inquiry approach to study how humans interact with current global and local environments. Humans inhabit both the natural world and a world created by human society/technology. Environmental science investigates the interaction of these two worlds, the problems created by this interaction, and possible solutions to these issues. The course will examine such topics as: biodiversity, ecosystems, population studies, energy and chemical cycles,
conventional and sustainable energy sources, pollution as well as general earth science concepts (3QP).

**CROSS CULTURAL STUDIES (4537) 1 credit**
The purpose of this course is to help students to better understand, appreciate, and respect the diversity of cultures, religions, and customs of people around the world. This course will introduce students to a variety of cultures through reading, foreign films, and research-based projects that focus on the experiences of differing modern cultures. Students will learn about cultural differences and similarities in family structure, beliefs, and traditions. Projects and writing on religions, anthropology, geography, and sociology will also strengthen students’ world views (3QP).

**ENTREPRENEURSHIP (4637) 1 credit**
This course helps students understand, develop and practice the skills of business and marketing necessary to start, operate and maintain a business. The course is split into three sections. In the first section, students will first learn basic economic principles focused on personal finance. The second section will investigate and develop their online professional persona from writing resumes, monitoring social media posts, and developing a dynamic business networking profile. The third section will delve deeply into developing a business, from determining feasibility of an idea utilizing research, learning about the different ways to organize business and finally to understand how to raise the necessary capital. All throughout the course students will be introduced to different technological tools that will help them develop their ideas and promote them on a global scale as well as interacting with entrepreneurs and business professionals. Entrepreneurship is designed for students who have an interest in developing the skills, attitudes and knowledge necessary for becoming successful entrepreneurs. (3QP).

**SOCIOLGY (4837) 1 credit**
This twelfth grade course introduces students to the fundamentals of sociology – the study of people and how they go about solving the problems they face as a group. The course is a broad survey of topics and contemporary issues covered through the use of discussions, readings, lecture notes, activities, popular films, projects and writing assignments. Students examine such topics as culture, family, class, race, gender, deviance and criminality, and death. This class deals with a number of topical social issues in a balanced way where students are encouraged to actively and respectfully participate. This class will benefit students who plan to continue in careers of criminal justice, nursing, or any field where there is a requirement to work with the public (3QP).

**MUSIC APPRECIATION (4937) 1 credit**
This twelfth grade course increases the students’ knowledge and enjoyment of modern American music. Emphasis is on the music, artists and events elements of music and the characteristic styles of major modern historical periods with a review of modern popular music. Through written, video and audio sources, students will review the development of musical styles from the 1950’s through the present day. They will explore what to listen for and learn how historical events impacted music (3QP).
APPENDIX A: MASSACHUSETTS STATE UNIVERSITIES MINIMUM ADMISSION REQUIREMENTS

The admissions standards for the state colleges and UMASS emphasize a strong academic high school background so that students enter college ready to learn. These standards represent minimum requirements; meeting them does not guarantee admission, since campus officials consider a wide range of factors in admission decisions. Students shall have fulfilled all requirements for the high school diploma or its equivalent upon enrollment. It is important to note that admissions standards for the state’s community colleges differ. Community colleges may admit any high school graduate or GED recipient.

**Freshman Applicants**

The admissions standards for freshmen applicants have two main parts:

1. 17 required academic courses.
2. A minimum required grade point average (GPA) earned in college preparatory courses completed at the time of application.

Applicants must also submit an SAT or ACT score.

*Academic Course Requirement*

Sixteen college preparatory courses distributed as follows are required. (A course is equivalent to one full school year of study. Courses count toward the distribution only if passed.)

Effective with the college freshmen class entering fall of 2016, the number of required courses will increase to 17 with the additional year of math.
Minimum Required Grade Point Average (GPA)
The GPA must be achieved based on all college preparatory courses completed at the time of application and should be weighted for accelerated (Honors or Advanced Placement) courses. The required minimum weighted high school GPA is 3.0 for the four-year public campuses.

### State University GPA

<table>
<thead>
<tr>
<th>Subject</th>
<th>Fall 2012</th>
<th>Fall 2013</th>
<th>Fall 2014</th>
<th>Fall 2015</th>
<th>Fall 2016</th>
<th>Fall 2017 and beyond</th>
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<tbody>
<tr>
<td>English</td>
<td>4 courses</td>
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<tr>
<td>Mathematics</td>
<td>3 courses (Algebra I &amp; II and Geometry or Trigonometry or comparable coursework)</td>
<td>4 courses (Algebra I &amp; II and Geometry or Trigonometry, or comparable coursework) including mathematics during the final year of high school</td>
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<td>Sciences</td>
<td>3 courses (drawn from Natural Science and/or Physical Science and/or Technology/Engineering; including 2 courses with laboratory work); Technology/engineering courses must be designated as science courses (taken for science credit) by the high school</td>
<td>3 courses (drawn from Natural Science and/or Physical Science and/or Technology/Engineering), including 3 courses with laboratory work</td>
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<tr>
<td>Social Sciences</td>
<td>2 courses (including 1 course in U.S. History)</td>
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<tr>
<td>Foreign Languages</td>
<td>2 courses (in a single language)</td>
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<tr>
<td>Electives</td>
<td>2 courses (from the above subjects or from the Arts &amp; Humanities or Computer Sciences)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SAT Scores
Applicants who meet the GPA requirement do not have to use the sliding scale for admission, but still must submit SAT or ACT test scores for consideration if they are applying to a state university or UMASS within three years of high school graduation.

Sliding Scale (used when GPA is lower than the minimum required GPA)

If an applicant’s GPA falls below the required minimum, a sliding scale will apply. This scale should be used only when an applicant’s GPA falls below the required 3.0 minimum for admission to the state universities or UMASS.

The sliding scale, used in making admissions decisions for students with high school grade point averages falling below the required minimum, will be based upon the combined critical reading (verbal) and math sections of the SAT.
Sliding Scale for Freshmen Applicants to UMASS

<table>
<thead>
<tr>
<th>Weighted High School GPA</th>
<th>Combined SAT-I V&amp;M Must Equal or Exceed (ACT Equivalent in Italics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.51-2.99</td>
<td>950 (20)</td>
</tr>
<tr>
<td>2.41-2.50</td>
<td>990 (21)</td>
</tr>
<tr>
<td>2.31-2.40</td>
<td>1030 (22)</td>
</tr>
<tr>
<td>2.21-2.30</td>
<td>1070 (23)</td>
</tr>
<tr>
<td>2.11-2.20</td>
<td>1110 (24)</td>
</tr>
<tr>
<td>2.00-2.10</td>
<td>1150 (25)</td>
</tr>
</tbody>
</table>

NO APPLICANT WITH A HIGH SCHOOL GPA BELOW 2.00 MAY BE ADMITTED TO A STATE UNIVERSITY OR UNIVERSITY OF MASSACHUSETTS CAMPUS.

Sliding Scale for Freshman Applicants to a State University

<table>
<thead>
<tr>
<th>Weighted High School GPA</th>
<th>Combined SAT-I V&amp;M Must Equal or Exceed (ACT Equivalent in Italics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.51-2.99</td>
<td>920 (19)</td>
</tr>
<tr>
<td>2.41-2.50</td>
<td>960 (20)</td>
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<td>1040 (22)</td>
</tr>
<tr>
<td>2.11-2.20</td>
<td>1080 (23)</td>
</tr>
<tr>
<td>2.00-2.10</td>
<td>1120 (24)</td>
</tr>
</tbody>
</table>

Vocational-Technical Student Applicants

Vocational-technical students must complete 16 college preparatory courses, distributed in the same manner and with the same minimum grade point averages required of other high school graduates, with the following exceptions:

- Two vocational-technical courses may be used to fulfill the two required electives
- Vocational-technical high school graduates who do not complete the two required college preparatory foreign language courses must complete an additional elective college preparatory course, for a total of three such courses, and satisfy one of the following options:

  1. Complete at least one Carnegie unit of foreign language;
  2. Complete a fourth Carnegie unit of mathematics or science, which need not be a laboratory course; or
  3. Complete one Carnegie unit of computer science.
**Note:** A Carnegie unit represents a full academic year of study or its equivalent in a specific subject.

This requirement will remain in effect until the Department of Education (DOE) implements its requirements regarding foreign language study for vocational-technical students. At that time, vocational-technical applicants for admission to UMass and the state colleges will be required to meet DOE requirements for foreign language study.