

# Keefe Regional Technical School

## Program of Studies

**2018-2019**

# FOREWORD

Dear Student:

This Program of Studies is intended to give you a general overview of the courses offered at Keefe Regional Technical School. It should be helpful in selecting your classes for the coming year.

The Program of Studies and all other related school services offered at Keefe Regional Technical School are established in an effort to meet the individual needs of each student. We believe that the South Middlesex Regional Vocational Technical School District offers the best of both worlds to our students: academic excellence and career/technical skills. Students who attend Keefe Regional Technical School find their passion for skills-based learning and meet the academic requirements for life-long learning.

I encourage you to discuss your career options with your parents and make decisions that will assist you in obtaining course and career goals. We have many opportunities for you to be successful. Good decision making and career planning is the best way to begin.

Sincerely,

A handwritten signature in black ink that reads "Shannon Snow". The script is cursive and fluid, with the first letters of each word being capitalized and prominent.

Shannon Snow  
Principal

# **KEEFE REGIONAL TECHNICAL SCHOOL**

## **MISSION STATEMENT**

The mission of Keefe Regional Technical School is to challenge students to demonstrate the academic, technical, and interpersonal skills necessary for successful lifelong learning.

## **PHILOSOPHY**

Our central purpose is to provide up-to-date technical training and marketable skills to high school students. Curricula are designed to integrate career/technical and academic areas. This training will ultimately lead to satisfying employment in our global economy. Our students may become employed directly after Graduation or after pursuing further education.

Academic core subjects are English, mathematics, sciences, and social studies. A wide range of instructional settings exists to help all students achieve their individual maximum competencies. Co-curricular and extra-curricular activities further support student development.

At Keefe Regional Technical School, a student's complete education includes the development of good work habits, citizenship, and a desire for lifelong learning. Our Programs foster student self-esteem, self-respect, and social awareness. Students are to participate actively in their education and to make learning their primary goal. During their training, students will undertake school projects that will benefit our member communities and their residents.

We provide our students with skills and academic training in a safe learning environment. It is the responsibility of staff and students to develop positive relationships throughout the school. Instructors will help to foster these relationships by teaching in structured, challenging, and supportive settings. The administration will help instructors and students by providing an avenue for open and constructive dialogue within a well-disciplined environment.

# ACCREDITATION STATEMENT

The Keefe Regional Technical School is accredited by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally-recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-Graduate instruction.

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

Accreditation by the New England Association is not partial but applies to the institution as a whole. As such, it is not a guarantee of the individual Graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

Inquiries regarding the status of an institution's accreditation by the New England Association should be directed to the administrative staff of the school or college. Individuals may also contact the Association at the following address:

**Commission on Public Secondary Schools  
New England Association of Schools and Colleges  
209 Burlington Road  
Bedford, MA 01730-1433**

**Please note:** The description of a course in this Program of Studies indicates the ability of Keefe Regional Technical School staff to provide the experience. However, if an inadequate number of students select a specific course, it will not be possible to offer the course. In cases where courses are oversubscribed, priority for enrollment will be first given to seniors, then juniors, then sophomores, and then freshmen, and the guidance department and administration will make determinations based on the best interest of the student. Students who are unable to be enrolled in a course of their first choice will be offered an alternative course.

## **DISTRICT INFORMATION**

Keefe Regional Technical School is a part of the South Middlesex Regional Vocational Technical School District. The regional school district includes five towns: Ashland, Framingham, Holliston, Hopkinton and Natick. Each member town has its own high school facility. Students residing in the district, however, have the option of attending Keefe Regional Technical School to pursue technical studies in addition to traditional academic course work.

## **KEEFE REGIONAL TECHNICAL SCHOOL ADMINISTRATION**

Jonathan Evans	Superintendent-Director
Shannon Snow	Principal
Dolores Sharek	Director of Finance and Business Operations
Kenneth Collins	Assistant Principal
John Brochu	Director of Career and Technical Education
Rebecca Swasey	Academic Assistant Principal
Adrienne Bogusky	Director of Guidance and Admissions
Michael Dolan	Director of Special Education
Domenic Jannetti	Director of Satellite Vocational Programs and Facilities

## **KEEFE REGIONAL TECHNICAL SCHOOL COUNSELORS**

Andrea Fisichella	Lead Counselor Grade 9, 10, 11 and 12 (last names L-Z)
Stacey Lyskowski	School Counselor Grade 9, 10, 11 and 12 (last names A-K)
Krishna Soares	School Counselor Bilingual (all Grades)

## TABLE OF CONTENTS

Forward	1
Mission Statement	2
Accreditation	3
Administration	4
Introduction	8
Admissions	8
Equal Access	9
School Counseling Program	9
After School and Evening Programs	10
Course Selection	10
Course Changes and Withdrawals	10
Advanced Planning & Honors level Courses	10
Graduation Requirements	11
Promotion Requirements	11
Determination of Grades	12
Report Cards	12
Method of Marking and Term Grades	12
Honor Roll	12
Grade Conversion Guidelines	12
Grade Point Average	13
Extra-Curricular Eligibility Rules	14
Library/Media Information Center	14

Academic Education: Philosophy	14
English	14
Foreign Language	17
Mathematics	17
Science & Technology	20
Social Studies	23
Business Management	26
English Language Learners	26
Health and Wellness	27
Physical Education	28
Special Education Programs	28
Literary Analysis/Reading	29
Learning Strategies	29
Job Entry Training Program	30
Electives	30
Career/Technical Education	32
Career Exploration	32
Automotive	33
Business Technology	34
Carpentry	36
Cosmetology	37
Culinary Arts	38
Dental Assisting	39

Design and Visual Communications		41
Early Childhood Education		42
Electrical		43
Graphic Communication		45
Health Careers		47
Information Technology		48
Landscape Design and Horticulture		50
Legal & Protective Services		52
Metal Fabrication and Joining Technologies		53
Plumbing		55
Programming and Web Development		56
Cooperative Education		58
Student Activities		58
Central Office Administration & School Committee	Addendum A	60
MCAS	Addendum B	61
College Planning	Addendum C	64



## INTRODUCTION

The Integrated Comprehensive Program of Studies is designed to assist parents and students in selecting courses that will best meet the needs of each student. The student's individual Program should be based on ability, past achievement, school requirements and career goals. Counselors and classroom teachers will provide recommendations based on the student's performance and ability level. A full college preparatory and honors Program is available.

Keefe Regional Technical School strives to allow each student to be successful. Planning for the future is an important part of this success. Academic courses are designed to meet the learning standards set forth in the State Curriculum Frameworks.

All Grade 9 students take a core curriculum in English, mathematics, science, social studies, physical education, and health. In addition to the academic core, all Grade 9 students spend three periods every other week in a career exploratory Program. In this Program, students explore eight Career/Technical areas and receive career counseling in each area.

Grade 10 students enter a CTE Program that meets every day/five days per week on an every other week rotation. This Program continues through Grades 11 and 12 with possible internship and co-op placement during Grades 11 and 12. Students receive training in one of the following areas:

Automotive	Design & Visual Communications	Landscape Design & Horticulture
Business Technology	Early Childhood Education	Legal & Protective Services
Carpentry	Electrical	Metal Fabrication & Joining Technologies
Cosmetology	Graphic Communications	Plumbing
Culinary Arts	Health Careers	Programming & Web Development
Dental Assisting	Information Technology	

Academic classes for Grades 10, 11, and 12 meet on an every other week basis. As with Grade 9, students take a core curriculum of English, mathematics, science, social studies, physical education, and health. Senior Seminar is required for students who are enrolled in one of our fifteen CTE Programs. Career /Technical Senior Project, transition, and academic components of CTE comprise the subject matter of this course.

Articulation agreements with local colleges provide students in Automotive Technology, Culinary Arts, Early Childhood Education, Information Systems, and Business Technology with advanced placement. Qualifying seniors may participate in a dual enrollment Program with a college.

Internships and co-operative education Programs are available to qualifying juniors and seniors. In co-op, students participate in paid work experiences in their CTE fields of study while continuing to earn credit toward their diploma.

## ADMISSIONS

Prospective students are able to apply to Keefe Regional Technical school through an online application or with a paper one. Students interested in applying online can create an account and submit their application at [www.keefetech.go2cte.com](http://www.keefetech.go2cte.com). If students are more comfortable with a paper format a Keefe Regional Technical School application is available from the Guidance Departments at all sending schools in the South Middlesex Regional Vocational Technical School District or through the Keefe Regional Technical school Guidance Office.

Our admissions review is based on attendance, Grades, discipline, sending school recommendation, and an interview. Admissions representatives will work with applicants and their families on transitioning to Keefe Tech.

The following information needs to be submitted with your application for Grade 9 fall admission:

- Final report card for Grade 7 and the most recent Grade 8 report card with teacher comments;
- Attendance/tardiness record for Grades 7 and 8;
- Discipline record for Grades 7 and 8;

If you have any questions, please contact the Guidance Office at 508-416-2270.

## **EQUAL ACCESS**

All courses of study, co-curricular activities, services, and facilities offered at South Middlesex Regional Vocational Technical School District (Keefe Regional Technical School) are available to all students without regard to race, color, national origin, gender identity, religion, limited English proficiency, sexual orientation, disability, or housing status. (Title IX, Chapter 622)

## **SCHOOL COUNSELING PROGRAM**

The Keefe Regional Technical School Counseling Department consists of a full-time administrator, three full-time counselors, and an admissions school counselor. The Director is responsible for the coordination of all guidance and counseling services for Grades 9-12. The counseling load for each of the three full-time counselors is less than 250 students, and students remain with the same counselor for all four years of high school.

School counseling services are an integral part of the total educational process at Keefe Regional Technical High School. The primary goal and function of the department is to assist ALL students through a planned Program of developmental guidance and counseling services, to understand themselves in relation to their goals, abilities, interests, and needs. This planned Program of services assists the student in developing the critical-thinking and decision-making skills necessary in order to formulate future goals and plans that help each student reach maximum Growth potential. An appropriate school counseling Program in the academic/technical, workplace readiness, and personal/social domains is one that provides each student with a sense of belonging and stability during his/her high school years.

Such a Program is a shared endeavor of the student, parent, and school counselor. The guidance faculty assumes the roles of facilitator, teacher, consultant, advocate, and counselor in order to assist each student in his/her social, psychological, educational, career/technical goals, and in the development of a relevant Career Plan. Counselors are readily available to students and families by appointment and without appointments in times of significant need.

Every student is assigned a school counselor who will work with the student, parents, teachers, and other professionals. Primarily, the counselor assists the student in addressing concerns and decisions about course selections, school Progress, personal and social relationships, and educational and career-technical planning. Some small Group counseling and support Groups are available. The school counseling department has a collection of career materials and information on schools and colleges, scholarships, and supplementary material. It has established a network of referrals with community agencies to assist students and their families who are in need of specialized assistance.

## **GOALS**

- To develop each student's decision-making capabilities particularly as related to academic/technical, workplace readiness, and social development that includes the development of a relevant Career Plan;
- To help a student deal with personal problems and, if necessary, make referrals to appropriate school or community resources;
- To assist in the student's transition/adjustment from middle school to high school and high school to adulthood;
- To continually evaluate the student's academic Progress and suggest to students and parents appropriate courses of action;
- To assist parents and students in developing realistic perceptions of the student's aptitudes, abilities, and interests as they relate to educational/career planning and personal/social goals;
- To serve as a consultant to administrators and teachers by providing and suggesting materials and experiences that will help them to better understand the individuality and unique needs of each student;
- To foster in the student a sense of personal responsibility and a respect for ethnic and cultural diversity.

## **AFTER-SCHOOL AND EVENING PROGRAMS**

The School Counseling and Admissions Department sponsors and/or participates in a number of informational after-school and evening Programs throughout the year:

- Accepted Students Day – Incoming eighth Graders
- Freshmen Step-Up Day – Grade 9 orientation
- Grade 9 Parent Information Night
- Parent/Teacher Night
- Career Night Open House – Prospective middle school students and high school transfer students
- Welcome Orientation Dinner – Accepted incoming grade 9 students and families
- Financial Aid Night
- Junior College Planning Night
- Senior Awards Night

Depending on the event, the date can be found on the Keefe Regional Technical School website ([www.keefetech.org](http://www.keefetech.org)), the current school calendar, or by contacting the Guidance Department.

## **COURSE SELECTION**

As you plan your Program of studies, you should choose subjects which will give you an adequate foundation in English, Mathematics, Social Studies, Science, and Career/Technical Education. You should make your choice a realistic one in keeping with your goals, your interests, your abilities, and your aptitudes.

Each counselor aims to assist the student during his/her high school years. These are the steps in developing the most appropriate individual Program of studies for each student:

- Faculty recommendations
- Individual meetings with counselors to select courses
- Parental/guardian review and signature approval

## **COURSE CHANGES AND WITHDRAWALS**

In order to minimize changes in their Program, students should carefully select the courses they plan to take the following year. It is the student's responsibility to read the course information in the Program of Studies.

All necessary course changes should be made early in the school year prior to the deadline communicated by the Guidance Department, which will be prior to October 1<sup>st</sup>. Any course changes made after this deadline will require Administrative Approval.

## **ADVANCE PLACEMENT AND HONORS LEVEL COURSES**

Advanced Placement and Honors level courses move at a rapid pace and are more in-depth than college preparatory courses. As a result, students must be highly motivated and prepared to work independently. The successful completion of one AP or honors course does not always lead to placement into another. As a student advances through the AP or honors Program of course offerings, each succeeding course may become more difficult. Standardized test scores often are used together with a student's Grades to determine eligibility for AP and/or honors courses.

The following prerequisites apply to all students interested in pursuing AP and/or Honors courses:

1. Current teacher approval during the course selection process;
2. Departmental approval for special circumstances;

3. Students must be responsible, conscientious, highly motivated, and able to work independently;
4. Approval of the Director of Curriculum and Instruction.

Students and parents may appeal a student's denial of acceptance into an AP or Honors level course through the guidance department. Upon review, the Administrative Leadership Team will notify students and parents of the final placement decision within two weeks of appeal.

## GRADUATION REQUIREMENTS

<b>DISCIPLINE</b>	<b>CREDITS</b>	<b>Required to Pass</b>
<b>English Language Arts</b>	<b>5.0</b>	<b>5.0 (4 courses total)</b>
<b>Mathematics</b>	<b>5.0</b>	<b>5.0 (4 courses total)</b>
<b>Science and Technology</b>	<b>5.0</b>	<b>3.0 (3 courses total)</b>
<b>History and Social Sciences</b>	<b>4.0</b>	<b>3.0 (3 courses total)</b>
<b>Foreign Language</b>	<b>Optional</b>	<b>Optional</b>
<b>Career and Technical</b>	<b>21.0</b>	<b>21.0</b>
<b>Physical Education/Health</b>	<b>1.75</b>	<b>.5 (2 years of Phys Ed)</b>
<b>Electives</b>	<b>7.0</b>	<b>6.0</b>
<b>TOTAL</b>	<b>48.75</b>	<b>42.5</b>

\*\*English and math must be taken each of the four years of high school.

## PROMOTION REQUIREMENTS

<b>Year</b>	<b>Suggested Credits</b>	<b>Required Credits</b>
<b>End of Freshman Year</b>	<b>12</b>	<b>7</b>
<b>End of Sophomore Year</b>	<b>24.25</b>	<b>18</b>
<b>End of Junior Year</b>	<b>44.5</b>	<b>30.25</b>
<b>End of Senior Year</b>	<b>48.75</b>	<b>41.5</b>
<b>Total Credits for Graduation</b>	<b>48.75</b>	<b>42.5</b>

School Counseling representatives support students in all classes to meet Graduation requirements. Over the last three years there has been an increase in the number of elective credits students need to earn in order to meet graduation requirements. Beginning with the Class of 2019, students will need to earn 6.0 elective credits to be eligible for graduation. These additional credits can be earned through successful completion on a variety of coursework, including Foreign Language courses and additional coursework in Social Studies or Science.

All students must complete four years of high school and satisfy all Graduation requirements in order to receive a South Middlesex Regional Vocational Technical School District diploma. All students must also pass the MCAS test (Massachusetts Comprehension Assessment System) or must earn a competency determination in order to receive a South Middlesex Regional Vocational Technical School District diploma. **Changes in courses, sequence, or requirements may result, subject to School Committee approval.**

## DETERMINATION OF GRADES

The South Middlesex Regional Vocational Technical School District recognizes that no one method of student assessment and Grading can be all encompassing. Assessment and Grade reporting at the high school is considered a positive tool to measure Growth, Progress, and the development of the student. The unique demands and challenges of academic classroom learning and experiential career technical preparation make necessary a varied focus.

Each course has an established syllabus that provides the description, philosophy and goals, highlights of major projects and activities, and assessment plan of the course. The Grading policy will address the following areas: class attendance, class participation, homework, tests, quizzes, projects, working with others, class notes, and, if applicable, extra credit. The course syllabus will also indicate the amount of and quality of work necessary for a student to earn an A or B.

Our expectation is that students strive to demonstrate proficient performance in both academic and career and technical preparation in both knowledge and skills as measured by the state and federal curriculum standards.

## REPORT CARDS

Report cards indicate the student's achievement in each course, his/her habits of studies, attitude, attendance, and other factors which are indicative of his/her record. They are issued at the end of each term. Advanced report cards may be issued in the case of unique extenuating circumstances and must be separately approved as such, in advance, by the Principal.

## METHOD OF MARKING AND TERM GRADES

### SCHOLASTIC ACHIEVEMENT

90-100	High Honor
85-89	Honor Roll
80-84	Good
75-79	Average
70-74	Low Average
60-69	Low Passing
Below-60	Failing

## HONOR ROLL

To be eligible for the honor roll, students must complete each of his/her courses receiving quality points.

- **High Honor Roll** – Students may not receive a Grade below 90% in order to make High Honor Roll status.
- **Honor Roll**—Students may not receive a Grade below 80% in order to make Honor Roll status.

## LETTER/NUMBER GRADE CONVERSION GUIDELINES

The School Counseling Department will use these guidelines to convert final semester Grades and to convert “Grade in Progress” for those students who transfer to Keefe Regional Technical School from other systems or schools.

<b>A</b>	<b>94-100</b>	<b>B+</b>	<b>87 – 89</b>	<b>C+</b>	<b>77 – 79</b>	<b>D+</b>	<b>67 - 69</b>	<b>F</b>	<b>0-59</b>
<b>A-</b>	<b>90-93</b>	<b>B</b>	<b>84 – 86</b>	<b>C</b>	<b>74 – 76</b>	<b>D</b>	<b>60 - 66</b>		
		<b>B-</b>	<b>80 – 83</b>	<b>C-</b>	<b>70 – 73</b>				

## GRADE POINT AVERAGE PHILOSOPHY

A weighted Grade Point Average (GPA) will be determined for all Keefe Regional Technical High School students based on a 4.0 scale. The GPA will be based on Grades in Academic subjects and Career/Technical courses. Weight shall be given to Advanced Placement courses (+1.0) and honors level courses (+.5) according to the following scale.

<b>GRADE</b>	<b>COLLEGE PREP</b>	<b>HONORS</b>	<b>AP</b>
<b>A</b>	<b>4.0</b>	<b>4.5</b>	<b>5.0</b>
<b>A-</b>	<b>3.7</b>	<b>4.2</b>	<b>4.7</b>
<b>B+</b>	<b>3.3</b>	<b>3.8</b>	<b>4.3</b>
<b>B</b>	<b>3.0</b>	<b>3.5</b>	<b>4.0</b>
<b>B-</b>	<b>2.7</b>	<b>3.2</b>	<b>3.7</b>
<b>C+</b>	<b>2.3</b>	<b>2.8</b>	<b>3.3</b>
<b>C</b>	<b>2.0</b>	<b>2.5</b>	<b>3.0</b>
<b>C-</b>	<b>1.7</b>	<b>2.2</b>	<b>2.7</b>
<b>D+</b>	<b>1.3</b>	<b>1.8</b>	<b>2.3</b>
<b>D</b>	<b>1.0</b>	<b>1.5</b>	<b>2.0</b>

A Grade of 59 and below in an academic course receives no points, but the course will be included in the divisor when factoring the average.

The two highest GPAs will determine class valedictorian and salutatorian. To qualify for this honor, a student must be enrolled as a full-time student at Keefe Tech prior to the start of his/her junior year. Class valedictorian and salutatorian will be selected based on the Term 2 GPA during senior year.

Credits earned at another high school will be evaluated by a school counselor and approved by the Director of Guidance. Grades received outside by a transfer student at the school previously attended will be adjusted to the quality point system of Keefe Regional Technical High School in order to determine class rank. Transfer credits earned will be reflected on the Keefe Regional Technical High school transcript. A copy of the transcript from the sending school can be included in addition to the Keefe Regional Technical High School transcript when official transcripts are required.

AP Level (+1.0) Advanced Placement - Rigorous College-Level coursework.

Level I – H (+0.5) Honors - More extensive and intensive treatment of subject matter. Independent assignments determined by department curriculum.

Level II – CP1 Standard college preparatory curriculum. Written projects as determined by department curriculum. Percentage of variety of objective and subjective questions on tests and examinations as determined by department curriculum.

Level III – CP2 Standard college preparatory curriculum

## **EXTRA CURRICULAR ELIGIBILITY RULES**

A student cannot, at any time, represent Keefe Regional Technical School unless he/she is a student in good standing in his/her academic and Career/Technical Programs. Students must be passing nine credits based on the last marking period in order to be eligible for athletics and participation in activities.

## **LIBRARY/MEDIA INFORMATION CENTER**

The Library/Media Information Center is located on the top floor of the Main building. The center is a resource area which serves students, teachers, and counselors. It is staffed by a full-time librarian six hours a day and five days a week. Resources in the center include: interest inventories, occupational briefs, updated government employment figures, reference books, catalogues and pamphlets for colleges, universities, technical and trade schools, the military, a college and career video library and information concerning athletic eligibility for colleges and universities.

There are a number of computer stations as well as printers for student use in relation to research, career plans, and college information.

## **ACADEMIC EDUCATION**

### **PHILOSOPHY**

All academic coursework is provided at the college preparatory level in adherence to the standards and expectations of the Massachusetts Curriculum Frameworks. Honors level learning is provided in all core academic content areas for students seeking a rigorous, four-year college pathway. Opportunities exist for all students to gain academic support through enrichment electives and extra-help sessions. It is the intent of the Keefe Regional Technical School administration and faculty to provide rigorous course offerings in order to challenge students to achieve to their highest potential.

Keefe Regional Technical School students are required to enroll in six credits of core English and mathematics coursework and five credits of science and social studies coursework, all at the college preparatory or honors level. A student's guidance counselor will work throughout the four years to establish and revise a career plan that identifies additional academic electives that will best guarantee meeting college and career goals. Students are required to participate in a four-year comprehensive, developmental health and physical education Program. Additionally, all students must enroll in Technological, Entrepreneurship & Business Management and Employability Knowledge and Skills coursework that directly support career preparation.

**\* Honors courses require both departmental approval and parental consent.**

### **ENGLISH**

Each year students are required to take and successfully complete an English course; they must earn a minimum of six credits overall with eight or more credits possible. The curriculum, a combination of traditional academic materials that adhere to the Massachusetts Curriculum Frameworks for English Language Arts and Literacy and integrated career technical assignments, provides students with both the skills necessary for further education and the practical experience necessary to succeed in a competitive work force.

In the freshman year, students take prescribed literature and composition courses that are supported by reading enrichment or writing workshops. In the sophomore year, students take American Literature with an emphasis on literature and composition. In the junior and senior years, students take the core courses World Literature and Survey of Literature and Composition, respectively. Seniors in the honors Program take British Literature. All courses require standards-based assessments by unit and final exams.

**1001 – LITERATURE & COMPOSITION I HON - (GR 9)****2 CREDITS**

This course is designed for students who excelled in middle school language arts and have demonstrated advanced reading skills. Students will read a variety of literary genres including the short story, the play, the epic, the novel, poetry, and the essay. Students will learn literary terms and be asked to apply those terms as they analyze and interpret the literature. Students who select this course should be able to work more independently, participate in a faster paced Program, contribute to class discussions using higher level thinking skills, and be intrinsically motivated to learn. Enrichment topics are added as time permits. Students will learn to write precisely and clearly while mastering Grammar and usage and acquiring a more mature vocabulary. Students will practice techniques for revising and editing their own work. Writing assignments focus on literary analysis, the essay, narrative, creative writing, and a research project.

**1002 – LITERATURE & COMPOSITION I CP1 - (GR 9)****2 CREDITS**

This course is designed to help students strengthen the reading, speaking, and listening skills developed in middle school language arts. Students will develop their vocabularies and improve their reading skills while completing both fiction and non-fiction readings including the short story, the play, the epic, the novel, poetry and the essay. Students will learn literary terms and apply these terms to the readings. Students who select this course should have a solid background in reading. Students will learn the rules of usage and grammar and are expected to write clearly, concisely, and correctly. Through editing and proofreading, students will focus on syntax, spelling, vocabulary, punctuation, and capitalization skills. Writing assignments will focus on literary compositions, expository, narrative, and creative writing.

**1003 – LITERATURE & COMPOSITION I CP 2- (GR 9)****2 CREDITS**

This course is designed to help students who need to improve their reading skills in order to be successful at the high school level. Students will read some abridged versions of books that are read in the other CP level course as well as other unabridged books. Students will develop their vocabularies and improve their reading skills while completing readings including the short story, the play, the epic, the novel, poetry, and the essay. Students will learn literary terms and will use these terms to help them understand what they read. Students will learn the rules of usage and grammar and will be expected to write clearly, concisely, and correctly. Through editing and proofreading, students will focus on syntax, spelling, vocabulary, punctuation, and capitalization skills. Writing assignments will focus on literary compositions, expository, narrative, and creative writing.

**1021 – AMERICAN LITERATURE HON - (GR 10)****1 CREDIT**

This course is designed to explore modern American literature. Specific authors include Steinbeck, Alexie, Fitzgerald, Green, Frost, Poe, and Card. Honors level students are expected to complete challenging requirements including, but not limited to, textual analysis, presentations, essays, and other outside, research based assessments. The course is based on the assumption that students who elect it are already proficient in writing, thus it is aimed at enhancing skills students already possess, rather than teaching basic skills. Students will be required to write, to peer edit, and to study the works of professional writers – both fiction and non-fiction. Consideration will be given to the study of the works of outstanding American writers.

**1022 – AMERICAN LITERATURE CP1 - (GR 10)****1 CREDIT**

This college preparatory course is structured as a survey of modern American literature. Students will be required to write various types of essays and compositions, including extended essay questions, designed to refine and improve critical thinking and writing skills. Some assignments will require that students demonstrate an understanding of societal and literary concepts specific to the contemporary period, for example, the American Dream. Students will continue to develop their skills in using Standard English to produce concise and well-organized prose.

**1023 – AMERICAN LITERATURE CP2 - (GR 10)****1 CREDIT**

This college preparatory course is structured to help students develop, extend, and improve their communication competency. Students will analyze language patterns, diction, and word choice as they continue to develop language arts skills. Readings will cover the major American literary genres: the novel, the short story, drama, poetry, and non-fiction and address the language, reading and literature, composition and media strands as well as the general standards set forth in the Massachusetts Curriculum Frameworks. In addition, unit activities are designed to promote integration of career technical reading and writing skills including persuasive, descriptive and autobiographical essays, oral presentations, and technical vocabulary. Students will



analyze language patterns, diction, and word choices as they continue to develop language arts skills. In addition, unit activities are designed to promote integration of vocational/technical reading and writing skills including: persuasive, descriptive and autobiographical essays, oral presentations, and technical vocabulary.

**1041 – WORLD LITERATURE HON - (GR 11)**

**1 CREDIT**

This course will offer a survey of world literature from the early ages to the present. Selections will reflect the seminal values and culture of the contemporary time and location. Students will enhance their writing skills through close textual analysis, presentations, literary analysis essays, persuasive essays, presentations, and research projects. This is a reading intensive course.

**1042 – WORLD LITERATURE CP1 - (GR 11)**

**1 CREDIT**

This course will offer a survey of world literature from the early ages to the present. Selections will reflect the seminal values and culture of the time and location under study. Students will fulfill additional requirements including, but not limited to, textual analysis, presentations, essays, and other outside research-based projects.

**1043 – WORLD LITERATURE CP2 - (GR 11)**

**1 CREDIT**

This course will offer a survey of world literature from the early ages to the present. Students will study the cultures of Ancient Greece, Renaissance England, World War II Germany, modern Iran, and the American Counter-Culture. Students will fulfill additional requirements including, but not limited to, textual analysis, presentations, essays or other outside research-based projects.

**1052 – SURVEY OF LITERATURE & COMPOSITION CP1 - (GR 12)**

**1 CREDIT**

With the aim of preparing students for a four-year college, this course is structured to teach students the various types of essay formats they will write in college, as well as to encourage independent reading of a variety of genres and titles. Students will complete resumes, senior essays, expository essay, vocabulary study, presentations, and various forms of correspondence. Students will read and write weekly on assigned or chosen nonfiction articles. They will read independently and in common to study the forms of literary response.

**1053 –SURVEY OF LITERATURE & COMPOSITION CP2 - (GR 12)**

**1 CREDIT**

With the aim of preparing students for a four-year college, this course is structured to teach students the various types of essay formats they will write in college, as well as to encourage independent reading of a variety of genres and titles. Students will complete resumes, senior essays, expository essay, vocabulary study, presentations, and various forms of correspondence. They will read and write weekly on assigned or chosen nonfiction articles. Students will read independently and in common to study the forms of literary response.

**1100 –AP ENGLISH LANGUAGE & COMPOSITION - (GR 11)**

**1 CREDIT**

This course engages students in becoming skilled readers of prose written in a variety of rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer's purposes, audience expectations, and subjects as well as the way generic conventions and the resources of language contribute to effectiveness in writing.

**1110 –AP ENGLISH LITERATURE & COMPOSITION - (GR 12)**

**1 CREDIT**

Following the College Board's suggested curriculum designed to parallel college-level English courses, the AP English Literature and Composition course enables students to develop critical standards for evaluating literature. Students study the language, character, action, and theme in works of recognized literary merit; enrich their understanding of connotation, metaphor, irony, syntax, and tone; and write compositions of their own (including literary analysis, exposition, argument, narrative, and creative writing).

**1111 – BRITISH LITERATURE HON - (GR 12)****1 CREDIT**

This course is structured as a survey ranging from the Anglo-Saxon period to the modern age. Students will be required to write various essays based on novels discussed and analyzed in class. Students will read and analyze works of such authors as Chaucer, Swift, Shakespeare, Milton, and Orwell. This course is reading-intensive, with a strong emphasis on refining students' writing skills in preparation for college-level work. This course is designed for the student with intentions of attending a four-year college.

## **FOREIGN LANGUAGE**

**1802 – SPANISH I CP1 (GR 9, 10, 11, 12)****1 CREDIT**

Spanish I is designed for students who wish to apply to colleges that have a foreign language entrance requirement. The course is a combination of grammar-based and communication-based Programs that integrate material applicable to the world of work. In addition to vocabulary and grammar exercises, students also have ample opportunity to practice speaking Spanish through dialogues and question-and-answer exercises. A limited introduction is given to Spanish and Latin American cultures. This course adheres to standards set forth in the Massachusetts Curriculum Frameworks.

**1812 – SPANISH II CP1 (GR 10, 11, 12)****1 CREDIT**

Spanish II, a continuation of Spanish I, is designed for students who wish to apply to colleges that have a foreign language entrance requirement. The review material is expanded and enhanced. Also, emphasis is placed on students increasing their vocabulary, grammar, writing, speaking, and listening skills. As in Spanish I, consideration is given to the study of Spanish and Latin American culture and histories. This course adheres to standards set forth in the Massachusetts Curriculum Frameworks. This course is appropriate for students who have completed Spanish I and II, or who are native Spanish speakers that are looking to take a language class. This class is also appropriate for graduates of Framingham's two-way immersion Program.

**1822 – SPANISH III CP1 (GR 9, 10, 11, 12)****1 CREDIT**

The skills learned in Spanish I and II are put to extensive use via more complex grammar structure and the reading of short stories to develop vocabulary. At this level, students should be able to communicate well in all forms of Spanish, including writing short stories, reading some famous Spanish literary works, and having conversations in Spanish.

**1852 – SPANISH LITERATURE CP 1 (GR 9, 10, 11, 12)****1 CREDIT**

This course is for students who are proficient in Spanish and who are looking to expand their language base with literature and literary analysis. Students will read and write literary responses in Spanish.

## **MATHEMATICS**

The Mathematics curriculum is structured to best address the broad needs of students. All courses are designed for students who learn best in an applied approach. The department advances five major goals for students:

1. Learn to value mathematics as a tool to explore relationships between mathematics and the many disciplines it serves.
2. Gain confidence in using mathematical power to make sense of new problem situations and the world in which we live.
3. Develop ability in solving problem situations independently and in a cooperative group setting.
4. Given opportunities to read, write and discuss ideas, use the signs, symbols, and terms of mathematics.
5. Gather evidence, make conjectures, develop and support rationale using mathematical reasoning.

Students are required to complete successfully the objectives of six credits of mathematics coursework but may elect up to eight credits. Aspects of mathematics that emphasize real-life situations are integrated regularly throughout all the mathematics courses. All courses are college preparatory and fully address the goals and objectives of the Massachusetts Curriculum Frameworks.

The Honors mathematics pathway moves from Algebra Two to Geometry to Advanced Algebra and Pre-Calculus with senior year expectation of Calculus. Additional electives are available dependent upon student career plans. The majority of students follows a college preparatory pathway beginning with Algebra One but may elect Honors-level courses. The need for technological proficiency is recognized at all levels and in all courses. Students are encouraged and trained to use calculators to speed arithmetic calculations, for advanced analysis, and to explore relationships and concepts, visualize solutions, and promote hypothetical modeling of real-life situations. Additional methods utilizing computer software for exploration and analysis are also employed in all courses.

### **2001 – ALGEBRA I HON (GR 9)**

**2 CREDITS**

This is a rigorous course in algebra, aligned to the Common Core, which introduces abstract concepts by the use of symbolism in which quantitative relationships can be stated in general terms. Emphasis is on the relationship of the real number system. Manipulation of symbols according to mathematical laws requires a thorough understanding of fundamentals. Particular areas of emphasis include factoring, powers, functions, and the solution of linear, simultaneous, and quadratic equations. Applications will be emphasized.

### **2002– ALGEBRA I CP1 - (GR 9)**

**2 CREDITS**

CP Algebra I is a course that is designed to provide a solid foundation of algebra following the Common Core where students learn variable notation, operations, manipulations, functional notation, linear functions, and modeling. Students also engage in the development of components to and the applications of quadratic equations and models. Applications of concepts will be explored. This course is appropriate and necessary as preparation for the Massachusetts Comprehensive Assessment System exam.

### **2003– ALGEBRA I CP2 - (GR 9)**

**2 CREDITS**

Algebra I is a course that is designed to provide a solid foundation of algebra following the Common Core Frameworks where students learn variable notation, operations, manipulations, functional notation, polynomial operations, linear functions, and modeling. Students also engage in the development of components to and the applications of quadratic equations and models.. This course is appropriate and necessary as preparation for the Massachusetts Comprehensive Assessment System exam.

### **2071– HONORS ALGEBRA II – (GR 9)**

**2 CREDITS**

This honors-level course is intended for students who are capable of benefiting from an accelerated and deeper treatment of the topics of an Algebra II-Trigonometry course in one year. Following the Common Core Frameworks, topics will include: properties and operations in the real number system, sequences and series, graphing and solving quadratic equations, systems of equations, functions, graphing first- and second-degree equations, and the elements of coordinate geometry. Students will learn to solve a wide range of problems using a graphing calculator.

### **2041 – GEOMETRY HON - (GR 10)**

**2 CREDITS**

The objective of this rigorous honors course is for students to develop an understanding of the mathematics of spatial forms and how this branch of mathematics lends itself to the art of reasoning. It places considerable emphasis on fundamental principles of logic and the role they play in the inductive and deductive processes. Following the Common Core Frameworks, basic definitions, postulates and theorems are critically examined and subsequently applied to a detailed study of angles, triangles, quadrilaterals, perpendicularity, and parallelism. Although mastery of concepts in two-dimensional geometry is the primary goal of the course, three-dimensional concepts are also introduced.

### **2042 – GEOMETRY CP1 - (GR 10)**

**2 CREDITS**

This college preparatory course will guide students in their understanding of the basic principles of geometry and help develop spatial visualization skills. It will allow time to develop deductive reasoning. Following the Common Core Frameworks, main topics will include: the study and analysis of the characteristics and properties of two-dimensional shapes, transformations, congruence, similarity, and measurement. Students will also develop an understanding of geometric and algebraic relationships

through coordinate geometry as well as algebraic angle relationships. Emphasis is placed upon connected concepts useful for further career technical study.

### **2023 – INTEGRATED ALGEBRA & GEOMETRY CP2 - (GR 10)**

**2 CREDITS**

The course is designed to help students bring together topics of Algebra and Geometry, following the Common Core Curriculum Frameworks with direct connection to real-life application problems. Topics include: Cartesian coordinate systems, spatial understanding of geometric shapes and their properties, Pythagorean Theorem, systems of linear equations, parallel, perpendicular, and skew lines, angle relationships, and right triangle trigonometry. As the topics mirror state frameworks, students will apply concepts to open-ended questions that will apply directly to and maximize their likelihood of success on the 10<sup>th</sup> grade MCAS Mathematics examination.

### **2141 – ALGEBRA II HON (GR 10, 11)**

**1 CREDIT**

This honors-level course is intended for students who are capable of benefiting from an accelerated and deeper treatment of the topics of an Algebra II-Trigonometry course in one year. Following the Common Core Frameworks, topics will include: properties and operations in the real number system, sequences and series, GRaphing and solving quadratic equations, systems of equations, functions, graphing first- and second-degree equations, and the elements of coordinate geometry. Students will learn to solve a wide range of problems using a graphing calculator.

### **2072 – ALEGBRA II CP1 - (GR 11, 12)**

**1 CREDIT**

*(Prerequisite: Successful completion of Algebra I)*

This college-prep level course is designed to build on students' existing mathematical skills and help them develop more sophisticated problem-solving skills. This course is important for success on the S.A.T. and in subsequent mathematics courses. Following the Common Core Frameworks, topics include: properties and operations throughout the real number system, sequences and series, graphing and solving quadratic equations, systems of equations, functions, graphing first- and second-degree equations, and the elements of coordinate geometry. Students will learn to solve a wide range of problems using a graphing calculator.

### **2073 ALGEBRA II CP2 - (GR 11, 12)**

**1 CREDIT**

Building upon an understanding of number systems and basic algebraic manipulations, students move through mastery of linear functions and non-linear phenomena. Following the Common Core Frameworks, students are engaged in individual and cooperative investigations and experiments demanding data collection and analysis. Using graphing calculators, the work is focused on the development of best-fit mathematical models that may be linear, quadratic, exponential, logarithmic, rational, radical, or periodic in nature.

### **2062 – TRIGONOMETRY CP1 - (GR 12)**

**1 CREDIT**

*(Prerequisite: Successful completion of Algebra II and C.P. Geometry)*

This course represents the completion of a basic college preparatory sequence. Following the Massachusetts Curriculum Frameworks, topics of discussion include: real numbers and integers, polynomials and factoring, sequences and series, rational expressions, irrational numbers, simple radical expressions, exponents, and quadratic equations. This course focuses on problem-solving strategies and real-world application of mathematics. Algebra and geometry are woven together with topics from logical reasoning, measurement, statistics, trigonometry, and discrete mathematics. Linear and non-linear functions are regularly investigated through concrete experiments. The collection and analysis of real-life data with follow-up integration requires students to connect the major topics studied in Algebra and Geometry. Graphing calculators and computers are used regularly to enable modeling and validation of links between observed and abstract concepts.

### **2091 – PRE-CALCULUS HON - (GR 11 & 12)**

**1 CREDIT**

*(Prerequisite: Successful completion of Algebra II)*

This course provides preparation for both the rigor and learning standards of a freshman collegiate mathematics elective. Standard pre-calculus topics are presented along with gaining knowledge of discrete mathematics and data analysis. Beginning with a review of algebraic properties, the course-work leads into in-depth application of algebraic and inverse functions, exponential and logarithmic functions, conic sections, matrices, determinants, and complex numbers and vectus operations

### **2101 – CALCULUS HON - (GR 12)**

**1 CREDIT**

*(By special arrangement - Prerequisite: Successful completion of Pre-Calculus)*

This rigorous course will provide a solid foundation for students planning on studying mathematics-related topics in college. This elective develops the principal concepts of the differential and integral calculus of functions of one variable. Topics include: Exponential growth and decay, logarithmic functions, curve sketching and optimization. It is intended for students who plan on

collegiate majors that will require advanced mathematical study. The concepts are presented in an intuitive manner with an emphasis on practical applications.

### **2122 – STATISTICS I CP1 - (GR 12)**

**1 CREDIT**

Statistics is the scientific tool for describing the world in which we live. In many ways, it is formalized common sense, requiring the use of many mathematical formulas and, occasionally, an algebraic equation. Statistics is a vital part of everyday life - necessary for starting a business, planning for your financial future, or simply understanding the daily news. It appears in all facets of life from opinion polls to economic reports to the latest in health research. Knowledge of statistics is crucial to success in the modern world. The course will begin with a broad overview, hinging ideas on hands-on everyday life applications. Simple examples will be built upon to develop a step-by-step understanding, which can then be applied to more complex studies. Computations will be employed utilizing graphing calculators, Ipads, computer spreadsheets, and specialized software. Throughout the entire course, the primary focus will be on case studies and projects. Readings, written reports, and cooperative work are significant components of this elective.

### **2100 – AP CALCULUS AB – (GR 12)**

**1 CREDIT**

The overall goal of this course is to help students understand and apply the three big ideas of AB Calculus: limits, derivatives, and integrals and the Fundamental Theorem of Calculus. Embedded throughout the big ideas are the mathematical practices for AP Calculus: reasoning with definitions and theorems, connecting concepts, implementing algebraic/computational processes, connecting multiple representations, building notational fluency, and communicating mathematics orally and in well-written sentences. All students are required to complete summer work reviewing pre-calculus and Algebra 2 concepts prior to entry in the course.

### **2200 – AP Calculus BC- (GR 12)**

**1 CREDIT**

This is a college-level calculus course designed to meet the Advanced Placement curricular requirements for Calculus BC (equivalent to one year of college calculus). The major topics of this course are limits, derivatives, integrals, the Fundamental Theorem of Calculus, and series. We will investigate and analyze course topics using equations, graphs, tables, and words, with a particular emphasis on a conceptual understanding of calculus. Applications, in particular to solid geometry and physics, will be studied where appropriate.

## **SCIENCE & TECHNOLOGY**

The Science curriculum is designed to provide courses for students that coordinate with their career/technical areas. This alignment enables students to pursue a career immediately after high school in addition to the preparation for continuing their education. Through science, students can make informed decisions, are able to ask thought-provoking questions, and clearly communicate their questions and findings to those around them.

Students will come into contact with multiple science experiences that nurture and foster their increased understanding of the things they observe and investigate. They advance their ability to offer reasonable explanations, make predictions, and engage in more rewarding activities. They also learn to respect nature and their environment. Science strengthens the skills they need to think effectively, objectively, and creatively.

By the conclusion of a student's senior year, each student will have been exposed to many science themes. Students will be exposed to such themes as: the processes of life; the interaction of life and the environment, forces and motion; energy; and the nature of matter. The student will understand that science, technology, and society are all interwoven and interdependent.

### **3001 - BIOLOGY I LAB HON - (GR 9)**

**2 CREDITS**

Honors Biology is designed to give students an in-depth knowledge of biological science. The curriculum strictly follows the Massachusetts standards preparing students to take the Biology MCAS test at the end of their freshman year. Topics that are covered include biochemistry, cell biology, genetics, human anatomy, evolution, and ecology. Students are assessed based on daily class work, unit and district tests, projects, and weekly homework.

**3002 – BIOLOGY I LAB CP1 - (GR 9)****2 CREDITS**

College Preparatory Biology is designed to give students a primary knowledge of biological science. The curriculum strictly follows the Massachusetts standards, preparing students to take the Biology MCAS test at the end of their freshman year. Topics that are covered include biochemistry, cell biology, genetics, human anatomy, evolution, and ecology. Students are assessed based on daily class work, unit and district tests, and weekly homework.

**3091 – BIOLOGY II: ZOOLOGY LAB CP1 – (GR 10)****1 CREDIT**

*(Prerequisite: passed science MCAS)*

This sophomore level course will explore the main phyla and classes of the animal kingdom. Students will engage in projects and lab-based activities (including dissections) that will examine the evolution and physical make-up of the diverse species within the animal kingdom. Students are assessed based on daily class work, unit tests, projects, and weekly homework.

**3052 - BIOLOGY II LAB CP1 - (GR 10)****1 CREDIT**

This is a sophomore level course that is designed to meet the specific needs of students who need to meet the Biology MCAS competency requirements. Topics of study will include the chemistry of life, cell biology, genetics, anatomy and physiology, biodiversity, and ecology. Students will be prepared to take the Biology MCAS in June.

**3061 – CHEMISTRY LAB HON - (GR 10)****1 CREDIT**

This is a sophomore level course for students who have achieved at least an 80 in Honors Biology I or a 90 in CP Biology I. Students also have to have completed either Algebra II or honors Algebra I. Students will study concepts of atomics and bonding, the gas laws, balancing chemical equations, and nuclear chemistry. Students will engage in a variety of lab activities which will give a broader understanding of chemistry and its real world applications. (Department approval required).

**3062 - CHEMISTRY LAB CP1 - (GR 11, 12)****1 CREDIT**

*(Prerequisite: Algebra II)*

This is a college preparatory course that introduces students to the fundamental concepts of atomics and bonding, the gas laws, balancing chemical equations, and nuclear chemistry. Students will engage in a variety of lab activities which will give a broader understanding of chemistry and its real world applications.

**3071 – PHYSICS LAB HON - (GR 11))****1 CREDIT**

*(Prerequisite: Algebra and Geometry)*

This is a junior level course for students who have achieved at least a 90 average in Honors Chemistry. Students will use scientific inquiry to explore the basic concepts of physics and their relationship to real-world situations. Students will study, conduct experiments, and perform calculations in topics such as motion, forces, energy, heat waves, electricity, and magnetism. (Department approval required).

**3022 - ENGINEERING AND TECHNOLOGY LAB (GR 11)****1 CREDIT**

This is a junior elective course designed for students to learn how to use the engineering design process to solve real-world problems. This course involves practical problem solving in the areas of construction technologies, energy and power technologies, communication technologies, and manufacturing technologies.

**3072 – PHYSICS LAB CP1 – (GR 12)****1 CREDIT**

*(Prerequisite: Algebra and Geometry)*

*(Recommended for students in Automotive Technology, Carpentry, Electrical, Metal Fabrication, and Plumbing)*

This is a college preparatory class for seniors. Students will use scientific inquiry to explore the basic concepts of physics and conduct experiments in topics such as motion, forces, energy, heat, waves, electricity, and magnetism. Students will apply the laws of physics to everyday situations.

**3081 – ANATOMY & PHYSIOLOGY LAB HON - (GR 12)****1 CREDIT**

This is a senior elective course in which students will take an in-depth look at the structure and function of the various systems of the human body. These systems include cardiovascular, skeletal, digestive, endocrine, muscular and nervous. Students will engage in various activities that will focus on the physiology of various organs including dissections. (Department approval required)

**3082 – ANATOMY & PHYSIOLOGY LAB CP1 - (GR 12)****1 CREDIT**

*(Recommended for students in Health Careers, Cosmetology, Early Childhood Education, and Culinary Arts)*

This is a senior elective course that introduces students to the basic functions of various structures within the human body. Students will study the major organs of the cardiovascular, muscular, skeletal, digestive, endocrine, and nervous systems. Students will engage in various activities that will focus on the physiology of various organs including dissections.

**3092 – ENVIRONMENTAL SCIENCE LAB CP1 - (GR 10, 11, 12)****1 CREDIT**

This is an elective course that will provide students with a greater understanding of the environment in which they live. Students will study the impact humans have on the earth's ecological systems. Topics to be discussed will include energy transfer, pollution, and global warming. Students will work cooperatively to study and look for solutions to these environmental issues.

**3094 - HUMAN BIOLOGY- (GR 11)****1 CREDIT**

This is a junior level course designed to teach students about the biology of the human organism. Topics discussed in this course will include human anatomy and the basic functions of the organ systems, human development, genetics, and molecular cellular processes with relationship to environmental interactions.

**3093 - FORENSIC SCIENCE LAB HON – (GR 12)****1 CREDIT**

This is a course that introduces students to the fundamentals of forensic science. Students will use the disciplines of Biology, Chemistry, Physics, and Behavioral Sciences and apply them to basic principles of the American Criminal Justice System. Students will learn the techniques involved in crime scene investigation and the significance of the preservation of evidence. This course will focus on the fundamental principles of criminalist methods which include chemical analysis trace evidence (hair, fiber, glass, and paint), principles of serology, toxicology, DNA fingerprinting, ballistics, fingerprint identification, and forensic pathology.

**3200 - AP COMPUTER SCIENCE – (GR 11, 12)****1 CREDIT**

This course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes object-oriented and imperative problem solving and design using the Java language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems. The AP Computer Science a course curriculum is compatible with many CS1 courses in colleges and universities.

**3400 – AP ENVIRONMENTAL SCIENCE – (GR 11, 12)****1 CREDIT**

The AP Environmental science course follows the curriculum recommended by the College Board and is designed to provide students with scientific principles, concepts, and methodologies so that they can understand the interrelationships of the natural world, identify and analyze environmental problems (both natural and human made), evaluate the relative risks associated with these problems, and examine alternative solutions for resolving and/or preventing them.

# SOCIAL STUDIES

The primary purpose of social studies is to help young people develop the ability to make informed and reasonable decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world. Therefore, the underlying goal of the Social Studies curriculum is to develop important qualities of citizenship including disciplinary knowledge, thinking skills, commitment to democratic values, and citizen participation. Citizenship in a democratic society requires the development of skills for critical thinking, decision-making, and participation. In a democratic society, citizens of all ages make decisions that affect themselves, their families, their communities, their nations, and the world.

The social studies curriculum at the Keefe Regional Technical School is based on the standards set forth in the Massachusetts and Social Science Curriculum Framework (2003) and is designed to incorporate the major strands of Social Studies: history, civics, government, geography, and economics. Students are presented with multiple opportunities for rich experiences and in-depth study of the social sciences as they progress through the grades. Making the subject matter relevant to the lives of our students is an important and underlying goal of instructional delivery.

The sequence of courses for grades nine through twelve (Massachusetts Framework “Pathway 2”) was chosen to accommodate future state assessment on the standards, skills, and concepts for both U.S. History I and II at the end of grade 10. The curriculum has been restructured to prepare our students effectively for both district and state assessments. All ninth grade students are required to take U.S. History I and II, and all tenth grade students are required to take U.S. History II. A variety of social studies electives are offered to eleventh and twelfth grade students. All courses require standards-based assessments by term or unit and final exams.

## UNITED STATES HISTORY I The Revolution through World War I, 1754-1919

In U.S. History I, students examine the historical and intellectual origins of the United States during the Revolutionary and Constitutional eras. Students will learn about the important political and economic factors that contributed to the outbreak of the Revolution as well as the consequences of the Revolution including the writing and the key ideas of the U.S. Constitution. Students will also study the framework of American democracy and the basic concepts of American government such as federalism, separation of powers, checks and balances, popular sovereignty, and individual rights. Other important topics that will be examined include: America’s westward expansion, the establishment of political parties, economic and social change, the causes and consequences of the Civil War, industrial America and its emerging role in international affairs, the Progressive movement, and America’s role in World War I.

The reading of primary source documents is a key feature of the two-year set of U.S. history standards. Strong emphasis is placed on the integration of new skills and concepts in the three social studies strands... history, civics, and economics. This course focuses on the development of skills in research, note taking, writing, and study skills as preparation for college. A common end-of-the-year assessment will be given to all students.

### **4001- US HISTORY I: 1754-1850 HON - (GR 9)**

**1 CREDIT**

This course will trace the political, diplomatic, and cultural development of the United States from its historical and intellectual origins through the Antebellum Period, from the Civil War Period through the Progressive Era, and American entry into World War I. The course is designed to provide students with the analytical skills and enduring understandings necessary to prepare students for college level coursework. Students work at a **rigorous** pace as they participate in a wide variety of activities that are designed to strengthen reading, writing, and research skills necessary to succeed at a four-year college.

### **4002 - US HISTORY I: 1754-1850 CP1- (GR 9)**

**1 CREDIT**

This course will trace the political, diplomatic, and cultural development of the United States from its historical and intellectual origins through the Antebellum Period and from the Civil War Period through the Progressive Era and American entry into World War I. The course is designed to provide students with the analytical skills and enduring understandings necessary to prepare students for college level coursework. Students work at an **accelerated** pace as they participate in a wide variety of activities designed to strengthen the reading, writing, and research skills necessary to succeed at a two-year college.



## **UNITED STATES HISTORY II**

### **The Roaring Twenties to Contemporary America, 1920-2001**

This course is a required course for all sophomores and incorporates the Massachusetts framework core knowledge, skills, and concepts. In U.S. History II, students will study the domestic and foreign policy issues faced by America in the post-World War I era including the prosperity of the 1920's, the causes and effects of the great Depression, and the impact of the New Deal. Students also learn about the various factors that led to America's entry into World War II as well as the consequences of those wars on American life. Finally, students study the causes and course of the Cold War, important political and economic changes during the Cold War, including the Civil Rights movement and recent events and trends that have shaped modern-day America, including the course and consequences of America's recent diplomatic initiatives.

The reading of primary source documents is a key feature of the two-year set of U.S. history standards. Strong emphasis is placed on the integration of new skills and concepts in the three social studies strands: history, civics, and economics. This course focuses on the development of skills in research, note taking, writing, and study skills as preparation for college. A common end-of-the-year assessment will be given to all students.

#### **4021 – US HISTORY II: 1920 – 2001 HON – (GR 10)**

**1 CREDIT**

This course will trace the political, socioeconomic, diplomatic, and cultural development of the United States from the Post-World War I Era, including the Great Depression and World War II, through the recent events and trends that have shaped modern-day America. The course is designed to provide students with the analytical skills and enduring understandings necessary to prepare students for college level coursework. Students work at a **rigorous** pace as they participate in a wide variety of activities designed to strengthen the reading, writing, and research skills necessary to succeed at a four-year college.

#### **4022 – US HISTORY II: 1920 – 2001 CP1 – (GR 10)**

**1 CREDIT**

This course will trace the political, socioeconomic, diplomatic, and cultural development of the United States from the Post-World War I Era, including the Great Depression and World War II, through the recent events and trends that have shaped modern-day America. The course is designed to provide students with the analytical skills and enduring understandings necessary to prepare students for college level coursework. Students work at an **accelerated** pace as they participate in a wide variety of activities designed to strengthen the reading, writing, and research skills necessary to succeed at the college level.

## **WORLD HISTORY II**

In this course, students study the rise of the nation state in Europe, the French Revolution, and the economic and political roots of the modern world. They study the origins and consequences of the Industrial Revolution, 19th century political reform in Western Europe, and imperialism in Africa, Asia, and South America. They will explain the causes and consequences of the great military and economic events of the past century, including World War I, the Great Depression, World War II, the Cold War, and the Russian and Chinese revolutions. Finally, students will study the rise of nationalism and the continuing persistence of political, ethnic, and religious conflict in many parts of the world. This course focuses on the development of skills in research, note taking, writing, and study skills as preparation for college. The reading of primary source documents is a key feature of the history standards for this course. A common end-of-the-year assessment will be given to all students.

#### **4041 – WORLD HISTORY 1800 HON – (GR 11)**

**1 CREDIT**

This course will trace the political, economic, and social development of the modern world from the Industrial Revolution and 19<sup>th</sup> century political reform in Western Europe through the continuing persistence of political, ethnic, and religious conflict in many parts of the world. The course is designed to provide students with the analytical skills and enduring understandings necessary to prepare students for college level coursework. Students work at an accelerated pace as they participate in a wide variety of activities designed to strengthen the reading, writing, and research skills necessary to succeed at a four-year college.

**4042 – WORLD HISTORY II CP1– (GR 11)****1 CREDIT**

This course will trace the political, economic, and social development of the modern world from the Industrial Revolution and 19<sup>th</sup> century political reform in Western Europe through the continuing persistence of political, ethnic, and religious conflict in many parts of the world. The course is designed to provide students with the analytical skills and enduring understandings necessary to prepare students for college level coursework. Students work at a rigorous pace as they participate in a wide variety of activities designed to strengthen the reading, writing, and research skills necessary to succeed at a two-year college.

**CURRENT WORLD AFFAIRS**

This course examines current issues, events, and topics of international importance within three broad areas - global political developments, the search for international security, and the global economy. Students are introduced to the economic, political, social, and cultural issues that influence life in our global, multicultural society. Close attention is given to the historical background necessary for students to develop informed views. This course is designed to give students an awareness of how current events are shaped by past events. An important goal for this course is to understand our country's role in today's world. The class will combine ideas from world geography, US history, world history and US government. Magazines, newspapers, newscasts, and videos will be used throughout the course. Today's rapidly changing world demands citizens who can think critically, write and argue persuasively and approach an issue from many different perspectives. These skills will be encouraged in this class. This course focuses on the development of skills in research, note taking, writing, and study skills as preparation for college. A common end-of-the-year assessment will be given to all students.

**4062 - CURRENT WORLD AFFAIRS CP1– (GR 11, 12)****1 CREDIT**

The primary goal of the curriculum is to raise an awareness of students to the world around them. By providing students with an opportunity to discuss current events, they will develop a sense of their own view on issues and begin to define themselves as a political personality. The use of a variety of technologies and methodologies is integrated throughout the curriculum. Through regular viewing of print and television media, an emphasis is placed on the role of the media in shaping world events and influencing public opinion. Students work at a rigorous pace as they participate in a wide variety of activities designed to strengthen the reading, writing, and research skills necessary to succeed at a two-year college.

**LAW AND SOCIETY**

This course is an elective course for seniors. It integrates the Massachusetts framework of core knowledge, skills, and concepts in the study of changing American social problems and controversies dealing with the most current law-related public issues such as gangs, guns, and computer crime. The course provides information, practical advice, and competency-building activities designed to provide students with the ability to analyze, evaluate, and resolve legal disputes. Students will analyze the major social problems confronting American society. They will also explore such topics as: law and the legal system, the criminal and civil justice systems, crime in America, juvenile justice, rights in the community, and family law including influences detrimental to family stability: divorce and substance abuse.

Special emphasis is placed on critical thinking abilities in evaluating causes, effects, and various approaches in dealing with social problems. The goal of this course is to provide practical information and problem-solving opportunities for students that will develop the knowledge and skills necessary for survival in our law-saturated society. Because of the large range of diverse issues discussed in this course, there will be a few topics that may be considered controversial. Students are expected to be aware of the differing views and listen to other views during discussion in class. The curriculum utilizes the case study approach and a variety of learning activities that allow students to be active participants in their own education. The overarching goal is to promote in students willingness and a capability to participate effectively in the legal and political systems. This course focuses on the development of skills in research, note taking, writing, and study skills as preparation for college. A common end-of-the-year assessment will be given to all students.

**4051 – LAW & SOCIETY HON – (GR 12)****1 CREDIT**

This course examines the broad issues related to why we have laws and how such laws influence individuals and the society in which we live. By drawing on students' knowledge, values, and experiences, the course connects them with the overall framework of the law to help them become more active citizens. Students work at a rigorous pace as they participate in activities

in which they solve problems and analyze case studies and hypothetical situations within the areas of criminal and civil law to develop the critical thinking skills that are necessary to succeed at a **four-year college**.

#### **4052 – LAW & SOCIETY CP1 – (GR 12)**

**1 CREDIT**

This course examines the broad issues related to why we have laws and how such laws influence individuals and the society in which we live. By drawing on students' knowledge, values, and experiences, the course connects them with the overall framework of the law to help them become more active citizens. Students work at an accelerated pace as they participate in activities in which they solve problems and analyze case studies and hypothetical situations within the areas of criminal and civil law to develop the critical thinking skills that are necessary to succeed at a **two-year college**.

## **BUSINESS MANAGEMENT**

Business Management is a course that examines topics relevant to seniors preparing for their future. In this course, students will develop business literacy by learning basic economic concepts and explore the challenges that go with managing a small business and/or running a household. In this course, students will use and develop reading, writing, and math skills, doing hands-on projects such as a business plan, stock market simulation, and preparing basic financial documents such as a budget. Students will also learn and practice their computer skills using Microsoft Word, Power Point, Excel, and conducting research on the internet. A variety of instructional styles will be employed. Students will use texts, be required to take notes, read magazines and newspaper articles and debate solutions to problems presented in case studies. Students will learn important lessons from successful (and not-so-successful) entrepreneurs and use the lessons learned as they prepare their own comprehensive business plans. This course focuses on the development of skills in research, note taking, writing, and study skills as preparation for college. A common end-of-the-year assessment will be given to all students.

#### **4081 – ENTREPRENEURSHIP HON – (GR 11)**

**1 CREDIT**

This course follows the National Foundation for Teaching Entrepreneurship (NFTE) curriculum which introduces students to the entrepreneurial concepts of business management, including planning, raising capital, using business information, managing employees, and marketing products and services. Students will apply these principles by creating a business plan to develop, open, market, and operate a small business of their choice. Students work at an accelerated pace as they participate in a wide variety of activities designed to strengthen both their academic and business skills necessary for success in either continuing education in their technical career areas or at either a two-year or four-year college.

#### **4083 – ENTREPRENEURSHIP I CP1 – (GR 11, 12)**

**1 CREDIT**

This course will inform students how individual choices directly influence occupational goals and future earnings potential. Real world topics covered will include income, money management, spending and credit, as well as saving and investing. Students will design personal and household budgets utilizing checking and saving accounts, gain knowledge in finance, debt and credit management, and evaluate and understand insurance and taxes. This course will provide a foundational understanding for making informed personal financial decisions leading to financial independence. Students in this class will also develop book business plans and explore principles of entrepreneurship.

## **ENGLISH LANGUAGE LEARNERS**

This English Language Learner (ELL) Program welcomes students from all countries and language groups who do not speak English as their first language and who require assistance completing schoolwork in English. Students in the ELL Program are enrolled in English as a Second Language (ESL) classes to help them listen, speak, read, and write in English. They are mainstreamed into all other academic and career/technical education courses. In the academic classes of social studies, mathematics, and science, bilingual aides are present to help students understand and complete class work. Language support services are provided to ELL students in career/technical education classes as well.

**501, 511 – ESL 1 CP1 – (GR 9-12)****1 CREDIT**

This course is designed for students who speak little to no English. Emphasis is on developing students' vocabulary, speaking, listening, reading, and writing skills for personal, social, and academic purposes. The focus of the course is on survival and academic vocabulary development as well as understanding and using basic English grammar including: the verb to be, present tense, continuous tense, future tense and pronouns. Students read beginning level material in this course. By the end of this course, students transition into CP ESL 2.

**502, 512 – ESL 2 CP1 – (GR 9-12)****1 CREDIT**

This course is designed for students who are at the low intermediate level of English. There is continuing emphasis on the development of vocabulary, speaking, listening, reading, and writing skills. Students begin to use both regular and irregular past tense verbs and modals such as: can, may, might, and should. Students read high-beginning and low-intermediate material in this course. By the end of this course, students transition into CP ESL 3.

**503, 513 – ESL 3 CP1 – (GR 9-12)****1 CREDIT**

This course is designed for students who have transitioned into the high intermediate level of English. Continuing emphasis is placed on developing students' vocabulary, speaking, listening, reading, and writing skills for personal, social, and academic purposes. Students in this course are ready for more complex grammatical structures including: present and past perfect, two-word verbs, connectors, gerunds, and infinitives. There is a strong emphasis on reading and increasing the students' independent and instructional reading level. By the end of this course, students transition into CP ESL 4.

**504, 514 – ESL 4 CP1 – (GR 9-12)****1 CREDIT**

This course is designed for students who are at the advanced level of English but are not yet ready for mainstream classes. Students will comprehend and communicate orally using spoken English to participate in academic and social settings. They will write English for a variety of purposes with clear focus, coherent organization, and sufficient detail. Students in this course learn to use very complex grammatical structures including: conditionals, passive voice, perfect modals, embedded questions, tag questions and reported speech. Students in this course are reading novels and are able to write essays in response to MCAS questions. By the end of this course, students transition into CP ESL 5 OR mainstream English classes, depending upon teacher recommendation.

**505, 515 – ESL 5 CP1 – (GR 9-12)****1 CREDIT**

This course is designed for students who have advanced level English language skills in speaking and listening, but who are in need of a reading and writing course which is designed for second language learners. Only students who have completed CP ESL 4 or who test at a level 4.5 or higher on the ACCESS test may enroll. This course is designed to help English language learners develop and refine their reading and writing skills in both academic and vocational areas. Emphasis is placed on learning and applying reading and writing strategies that students can use in all classes. Students are exposed to classic and contemporary literature. By the end of this course, students should be able to transition successfully into a mainstream English classroom.

**506, 516 – ESL LITERATURE CP1- (GR 9-12)****1 CREDIT**

This course provides both individualized academic support and additional literacy practice to students. Every ESL student takes this course, as well as those students who are in their first year of mainstream English courses. The purpose of this course is to ensure that ESL students get the support that they need on any take-home work for academic classes, while also giving them additional support for students enrolled in the ESL Program, and helps bridge the gap between ESL and mainstream classes for students who are in their first year of mainstream Programming.

## **HEALTH AND WELLNESS**

Throughout all four years, students are required to Progress through a developmental study of health and wellness topics. Through health literacy, healthy self-management skills, and health promotion, comprehensive health education teaches

fundamental health concepts, promotes habits and conduct that enhance health and wellness, and guides efforts to build healthy families, relationships, schools, and communities. Fundamental health knowledge and skills need to be taught, reinforced and expanded regularly in a student's four-year high school career. A planned, sequential curriculum addresses a variety of topics with increasing degrees of complexity appropriate to students' developmental levels as they move through adolescence. Such a Program ensures thorough, balanced coverage of health content areas, and its success relies on our skilled teachers who readily adapt to incorporate emerging health topics.

### **3102A – HEALTH CP1 – (GR 9)**

**.5 CREDIT**

Health, a required course for freshmen, meets half of the school year. Topics included are cardio respiratory function, vascular disease, tobacco abuse, fitness evaluation, substance abuse, sexually transmitted diseases, nutrition, eating disorders and weight control, violence prevention, and personal safety issues. Emphasis will be placed on the importance of developing positive personal choices that promote life-long wellness. Notebook and journals are a requirement of the course.

### **3142 – HEALTH & WELLNESS - (GR 12)**

**1 CREDIT**

This senior elective looks at critical issues affecting students in their everyday life. Candid discussions look at today's health risks and encourage students to evaluate choices and take responsibility for their own wellbeing. Topics covered include: physical fitness, nutrition and eating disorders, stress, suicide, marriage and parenthood, sexually transmitted infections, drug and alcohol awareness, cultural influence on behavior, and environmental and public health. Through debate, projects, and class discussions, students will analyze problems, evaluate choices, and make life-affirming decisions. Notebooks and journals are a requirement of the course.

## **PHYSICAL EDUCATION**

Physical Education is a required course for all students in grades nine through twelve unless medically excused.

Physical Education will focus on individual competence in movement skills, understanding the concepts of movement, and relating physical activity to lifelong health and wellness. Students can increase their awareness of the benefits of exercise and how it relates to fitness and overall health and wellness. Grades nine through twelve curricula covers topics that include: motor skill development, muscular strength and conditioning, fitness, agility, coordination, flexibility, group and individual sports and activities and personal and social competency. Students will be evaluated on their preparedness, cooperation, attitude, participation, and effort.

### **9102 – PHYSICAL EDUCATION - (GR 9)**

**.5 CREDITS**

### **9112 – PHYSICAL EDUCATION - (GR 10)**

**.25 CREDITS**

### **9122 – PHYSICAL EDUCATION - (GR 11)**

**.25 CREDITS**

### **9132 – PHYSICAL EDUCATION - (GR 12)**

**.25 CREDITS**

### **3152 – PERSONAL FITNESS (GR 11)**

**1 CREDIT**

### **3162 – EVERYDAY FITNESS – (GR 10 & 12)**

**1 CREDIT**

### **3172 – TEAM SPORTS – (GR 10 & 12)**

**1 CREDIT**

### **3182 – YOGA & AEROBICS – (GR 10 & 12)**

**1 CREDIT**

## **SPECIAL EDUCATION PROGRAMS**

The Philosophy of the Special Education Program is consistent with the school's mission statement. Specialized courses and approaches to learning are designed to help students meet high expectations, MCAS requirements, and the challenges of the Massachusetts Curriculum Frameworks, while addressing the goals and objectives of their Individualized Education Programs (IEPs).

Special education services and Programs are offered in accordance with state and federal laws that govern special education and are driven by the scope of the Individuals with Disabilities Education Act (IDEA) and the Massachusetts Curriculum Frameworks.

Student needs are identified through the TEAM meeting process. Programs are tailored to student needs as identified through this ongoing process. Inclusion supports, specialized instruction, and learning strategies are some of the services provided to help students achieve these goals. An inclusion consult model in the general curriculum, supported by special educators and paraprofessionals, is provided in all content areas. A variety of materials, instructional approaches, supports, and assistive technology are provided in order to meet the unique needs and challenges of each student.

Transition Planning is an integral part of each student's Program. Transition planning focuses largely on areas of school to work, school to community, and post-secondary education as well as planning for independent life after high school. Special educators work with students, parents/guardians, guidance counselors, and additional service providers in order to establish annual goals and to implement the steps necessary to achieve post-secondary outcomes. Students may achieve these goals either independently and/or in small group seminars conducted in collaboration with guidance and special education.

Each student on an individualized IEP is assigned a liaison that monitors student Progress. Communication is ongoing with the parent, guidance counselor, student, academic and career/technical staff, as well as outside service providers.

It is the intent of the special education department to support student participation and access to the general curriculum, as well as to remediate weaknesses, to increase student skills, and to foster student self-esteem.

The special education department provides a wide range of services to students with varying abilities and needs. Students with learning disabilities, emotional difficulties, and/or physical limitations have Programs tailored to their specific needs through the Individualized Education Program (IEP) process. Also, related services such as counseling and speech therapy are available to aid students.

## **LITERARY ANALYSIS / READING**

Literary Analysis and Reading classes are offered to students in grades 9 through 12 in an effort to enhance the skills of students in analyzing essential readings from upcoming study or for students who are in need of support. These classes cover vocabulary acquisition, comprehension and listening skills, and reading strategies. Oral expression, phonics, accuracy, and fluency are also addressed.

### **703 – DEVELOPMENTAL READING CP2 – (GR 9)**

**1 CREDIT**

Development reading is a balanced approach to reading, writing, and spelling across the curriculum. This course will teach the skills necessary to master phonemic awareness, the alphabetic principle, fluency, and comprehension. Instructional use of ongoing assessment is used to monitor individual strengths and needs. A variety of methods will support the processes of introduction, discovery, learning, review, practice, and evaluation.

### **733U – DEVELOPMENTAL READING CP2 – (GR 10, 11, 12)**

**1 CREDIT**

The development reading course is a continuation of the grade 9 curriculum and balanced approach to reading, writing, and spelling across the curriculum. This course will teach the skills necessary to master phonemic awareness, the alphabetic principle, fluency, and comprehension. Instructional use of ongoing assessment is used to monitor individual strengths and needs. A variety of methods will support the processes of introduction, discovery, learning, review, practice, and evaluation.

## **LEARNING STRATEGIES**

The Learning Strategies Program has been designed for special education students in grades 9 through 12 in an effort to support them in general education settings. Students who require specialized instruction are assisted with assignments from both career/technical related and/or academic classes. A variety of materials, instructional approaches, supports and assistive technology are provided in order to meet the unique needs and challenges of each student. Students are also taught specific organizational skills and study strategies. Some of the topics include: discovering your learning style, effective time management, reading strategies for success, writing effective essays, and test taking strategies. Additionally, there is an emphasis on the remediation of concepts in biology, math, language arts, and MCAS preparation.

**Please note: Students must be on an IEP to be eligible for the following classes:**

**713 – LEARNING STRATEGIES – (GR 9)**

**1 CREDIT**

**743 – LEARNING STRATEGIES – (GR 10-12)**

**1 CREDIT**

## **JOB ENTRY TRAINING PROGRAM**

The Job Entry Training Program (JET) is a sub-separate Program available to high school age students who qualify based on the IEP process. This Program provides a modified frameworks-based academic component, career training, employability skills, and personal as well as social skills development.

The academic component consists of English, math, practical science/health, social studies, and current events. Other services include: remedial reading, computer literacy, physical education, and personal and social development. Ancillary services such as speech and language are also provided as determined by the IEP process.

Career experiences offered include specialized settings in Food Service, Horticulture, Carpentry, Small Engines, Housekeeping, and Maintenance. General education vocational settings are accessed with the support of special education vocational instructors to provide challenging and varied experiences.

As students in the Job Entry Training Program approach the age of 18 or complete four years at Keefe, further Program options are reviewed with the student's sending town in an effort to transition the student to community-based settings.

It is the intent of the Job Entry Training Program to provide every opportunity for students to access challenging curricula and career and technical environments.

**108 - HEALTH**

**763 - ADL ACADEMIC (GR 9- 12)**

**773 - FUNCTIONAL ADL ACADEMIC (GR 10)**

**783 - ADL ACADEMICS**

**9143 - ADAPTIVE PHYSICAL EDUCATION (GR 9)**

## **ELECTIVES**

**603 - INTRODUCTION TO CAD - (GR 12)**

**1 CREDIT**

This is an introductory course that focuses on the basic skills required to create and edit drawings with SoftPlan software. Students are introduced to 2-dimensional and 3-dimensional software commonly used in the industry. This is a hands-on project-based class focused on reading and understanding detailed drawings. Projects consist of creating, editing, and dimensioning drawings.

**604 – INTRODUCTION TO FINE ARTS CP1 – (GR 10-12)**

**1 CREDIT**

Introduction to Art is the introduction to art classes. Students will learn how to use elements of art such as line, shape, and color as well as principles of design like balance, contrast, and movement. There are four units of study focusing on increasing ability in the techniques of Drawing, Painting, Printmaking, and Sculpture. Students will enhance artistic and creative abilities, understand art careers and current events, and see how art allows us to understand a visual language.

**617 – INTRODUCTION TO COMPUTER SCIENCE CP1**

**1 CREDIT**

Exploring Computer Science courses present students with the conceptual underpinnings of computer science through an exploration of human computer interaction, web design, computer Programming, data modeling, and robotics. While these

courses include Programming, the focus is on the computational practices associated with doing computer science, rather than just a narrow focus on coding, syntax, or tools. Exploring Computer Science courses teach students the computational practices of algorithm design, problem solving, and Programming within a context that is relevant to their lives.

**642 – CERAMICS CPI**

**1 CREDIT**

This course is designed for students who have an interest in working with clay, and gives students experience in making functional as well as sculptural pieces, using a variety of techniques. **(Pre Req: Intro to Fine Arts)**

**643 – CERAMICS II CPI (GR 11, 12)**

**1 CREDIT**

Description: Ceramics II is an art course that will explore advanced solutions to creative problems in clay, glaze and firing techniques as well as art history from around the world. Students will become very good at wheel work and hand building and be able to concentrate on creative solutions that help them realize greater personal expression applicable to all art.  
**(Prerequisite: Ceramics I.)**

**1162 – MYTHOLOGY - (GR 9, 10, 11, 12)**

**1 CREDIT**

This course will explore the question: how does ancient mythology connect with our lives today? Students will read and act out in class myths from around the world written as plays to learn how ancient myths can teach us lessons for today.

**3031 - INTRODUCTION TO ENGINEERING DESIGN (HON) – (GR. 11 & 12)**

**1 CREDIT**

Introduction to Engineering Design (IED) is a course that is appropriate for students who are interested in design and engineering or another technical career. The major focus of the IED course is to expose students to a design process, professional communication and collaboration methods, design ethics, and technical documentation. IED gives students the opportunity to develop skills in research and analysis, teamwork, technical writing, engineering graphics, and problem solving through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills and creative abilities while applying math, science, and technology knowledge learned in other courses to solve engineering design problems and communicate their solutions. IED also allows students to develop strategies to enable and direct their own learning--an ultimate goal of education.

**4092 – INTRODUCTION TO PSYCHOLOGY CP 1– (GR 12)**

**1 CREDIT**

This is a year-long course. The course is designed to introduce students to the systematic of human behavior. Students will be exposed to the psychological facts and principles associated with the major sub-fields within psychology. This course introduces the psychological basis of behavior, development, learning, memory, consciousness, personality, and abnormal psychology. Students will also explore how people use their mental processes to learn, solve problems, and face the challenges of their daily lives. An emphasis will be placed on the application of critical thinking skills, independent reading, individual and Group projects, essay writing, research skills, and objective tests and quizzes.

**753 - LEARNING STRATEGIES – (GR 12)**

**1 CREDIT**

This elective provides students with direct instruction to maximize success in on-going course work. Organizational skills, time-management skills, and note taking skills will support all major content areas: English/math, science, social studies, and career and technical related theory.



# CAREER/TECHNICAL EDUCATION

## PHILOSOPHY

Our main purpose is to provide up-to-date technical training and marketable skills to high school students. Curricula are designed to integrate vocational and academic areas. This training will ultimately lead to meaningful employment in our global economy. Our students may become directly employed after Graduation or after pursuing further education.

At Keefe Regional Technical School, a student's global education includes the development of strong work habits, good citizenship and the development of interest in lifelong learning. Our Programs foster student self-esteem, self-respect, and social awareness. Students actively participate in their education with educational success as their primary goal. During their four years, students will undertake school projects that will benefit our member communities and their residents.

Students are educated in a safe learning environment. It is the responsibility of staff and students to develop positive relationships throughout the school. Instructors will help to foster these relationships by teaching in structured, challenging, and supportive settings. The Keefe Tech administration will help instructors and students by providing an avenue for open and constructive dialogue within a well-disciplined environment.

The fundamental concept of Career/Technical Education is that all education experiences, curriculum, instruction, and counseling should be geared for economic independence and appreciation for the dignity of work. Career/technical education is not limited to the task of skill training; it also focuses on helping the student master several career development tasks for awareness, exploration, and decision making. Keefe Regional Technical School supports an educational process designed as follows:

1. To increase the relationship between society and the schools as a whole.
2. To provide opportunities for counseling, guidance, and career development for all students.
3. To relate the subject matter of the curricula of schools to meet the needs of persons and society.
4. To extend the concept of the education process beyond the school into the area of employment and the community.
5. To foster flexibility in attitudes, skills, and knowledge in order to enable persons to cope with accelerating changes and obsolescence.
6. To make education more relevant to employment and functioning in society.
7. To eliminate any dichotomy between education and career/technical purposes and academic education.

## CAREER EXPLORATION

The Career Exploratory Program is designed to help grade 9 students make an informed decision as to which career technical Program best coincides with their aptitudes and interests.

**Career/Technical Program** – Upon completion of the exploratory cycles, each student will choose the career technical Program in which they were most successful. For the remainder of the school year they will spend their exploratory periods in the shop for which they have earned placement. While they are in their career technical Program, they will be evaluated to determine their potential for successful employment in their chosen field. They will also have the opportunity to change Programs if they so desire and if a seat is available within that CTE area. If a Program is oversubscribed, the student's academic, attendance, discipline records and performance in the exploratory Program will be considered for placement into the Program as indicated in the DESE approved Admissions Policy.

### 8001 – CAREER EXPLORATION (GR 9)

**3 CREDITS**

**Exploratory Program** - Prior to the beginning of the school year, the students are introduced to the career technical Programs offered at Keefe Regional Technical School. They spend 15 periods during a two-week cycle in a career/technical area exploring eight of fifteen Programs. These CTE areas are based upon choices of interest expressed by the student and also include non-traditional CTE areas.

# AUTOMOTIVE TECHNOLOGY

Keefe Regional Technical School's Automotive Technology Program is certified in all eight ASE (Automotive Service Excellence) service areas and has received master status certification from the National Automotive Technician's Education Foundation (NATEF). Keefe is an authorized inspection station under the new Massachusetts Enhanced Emission and Safety Program.

Keefe Regional Technical School offers our students the ability to work with the latest technology in the automotive service industry. After graduation, Keefe Regional Technical School students are in demand in the MetroWest community working as entry-level technicians.

## **8011 - AUTOMOTIVE TECHNOLOGY PROGRAM I (GR 9)**

**3 CREDITS**

The Freshman Automotive Program consists of training students in the fundamental aspects of automotive service. It includes an emphasis on automotive safety practices, hazard communication, hand tool and equipment usage, precision tool knowledge, automotive component removal and replacement, work order documentation, confidence building, and teamwork skills.

## **8012 - AUTOMOTIVE TECHNOLOGY PROGRAM II (GR 10)**

**5 CREDITS**

The sophomore automotive shop Program consists of performing NATEF task-based jobs on our existing training fleet of vehicles. These jobs include servicing the suspension, brake and electrical systems. Using student generated work orders, the technicians practice their skill at component removal and replacement within a team production setting. In addition, the students become familiar with precision measuring instruments during engine disassembly and reassembly procedures.

## **6012 – AUTOMOTIVE TECHNOLOGY RELATED THEORY (GR 10)**

**1 CREDIT**

This takes the students beyond basics starting with the more complicated functions. The students will learn how to diagnose and repair starters, charge systems, use testing equipment, such as battery testers, and repair standard transmissions, clutches, drive lines, cooling systems, and engine lubrication systems. The student will learn how to align front ends using a 4-wheel alignment machine.

## **8013 – AUTOMOTIVE TECHNOLOGY PROGRAM III (GR 11)**

**5 CREDITS**

The third year automotive student will be instructed through live hands-on work, and learn to diagnose and repair major components of domestic and imported cars. The student will first be instructed in the proper procedure of diagnosing a problem; then, the exact procedure of removal of the component, the disassembly of the unit, the inspection of the unit, the complete repair and the re-installation of the component. All of these above-mentioned procedures will be performed on engines, transmissions, differentials, and the drive line components.

## **6013 – AUTOMOTIVE TECHNOLOGY RELATED THEORY (GR 11)**

**1 CREDIT**

This course is more advanced in the automotive area. The students will learn how to service air conditioners, drive lines, fuel systems, fuel injections, exhaust emissions controls, engine diagnostics, and engine rebuilding. The students will learn how to use test equipment to check engine blocks, crankshafts, and valvetrains.

## **8014 – AUTOMOTIVE TECHNOLOGY PROGRAM IV (GR 12)**

**5 CREDITS**

The senior shop will be run as a live repair facility. The seniors will be reviewing all automotive shop procedures plus encounter heavy involvement in the computer controls of the modern automobile. They will be instructed in the use of special test equipment, to read the codes that are stored in each computer, and the proper way to repair them.

## **6014 - AUTOMOTIVE TECHNOLOGY RELATED THEORY (GR 12)**

**1 CREDIT**

The senior year will be devoted to teaching the students about electrical systems, engine tune ups, alternators, voltage regulators starting circuits, wiring circuits and computer control systems. The student will learn how to diagnose and trouble shoot engine problems and how to repair them. The student will learn how the sensors operate and what role they play.

The senior automotive student will review work ethics, customer relations, attendance, and how to succeed in the automotive technical industry.

### **CAREER OPTIONS INCLUDE:**

Automotive Technician  
Parts Specialist  
Service Writer/Advisor  
Service Manager  
Emission Repair Technician

## **BUSINESS TECHNOLOGY**

The Business Technology Program prepares students for employment in today's business office and for the business administration major in college. The Program is structured so that a student obtains proficiency in computer applications, business communications, office procedures, accounting, medical office assistant, web design, and entrepreneurship. Skills can be applied to a wide variety of workplace settings, including both profit and non-profit organizations.

Computer applications include: word processing applications, spreadsheets, databases, presentation graphics, desktop publishing, and web design using a Microsoft-based computer network. Students are given the opportunity to attain national certification as a Microsoft Certified Application Specialist in Microsoft Word, Excel, PowerPoint and Access. Students also gain experience with QuickBooks, an automated accounting system.

The Business Technology students operate the school store which provides the students valuable skills in ordering merchandise, inventory control, marketing, and finance. Junior students have the opportunity to work in businesses on internships. In their senior year, qualified students participate in the co-operative work-study Program where they gain valuable hands-on experience while receiving monetary compensation.

With the skills and training they have received, Business Technology seniors are in demand in the MetroWest business community. With further training in this field, opportunity for career advancement increases. Many Business Technology graduates continue their studies in various business majors at the post-secondary level. Agreements with colleges allow students to earn college credit for computer applications and/or business courses taken in the Business Technology Program.

## **8021 - BUSINESS TECHNOLOGY PROGRAM I (GR 9)**

**3 CREDITS**

Students will be introduced to keyboarding and information processing using Microsoft applications including Word, Excel, PowerPoint, and Publisher. These skills will be used to plan an event. Students will also be introduced to entrepreneurship and business management through the school store. Presentation graphics will be introduced with projects that require Internet research, preparing a presentation, and public speaking skills.

## **8022 – BUSINESS TECHNOLOGY PROGRAM II (GR 10)**

**5 CREDITS**

The grade 10 curriculum will include instruction in keyboarding, computer technology, accounting, Microsoft Office particularly Word and PowerPoint, Business Communications, File Management, and Business Math. Through these courses, students will attain knowledge on how to format documents on the computer and acquire spelling and vocabulary skills for better

communication in business. Instruction will include composing e-mails, letters and memoranda. At the end of grade 10, students will have an opportunity to achieve certification in Microsoft Word and PowerPoint.

## **6022 – BUSINESS TECHNOLOGY RELATED THEORY (GR 10)**

**1 CREDIT**

This curriculum includes instruction in OSHA Career Safe, especially as it relates to ergonomics in the office environment. Students complete a CareerSafe course on maintaining personal safety while using the Internet and social media, with attention paid to cyberbullying and inappropriate texting. Grade 10 related also includes instruction in the SkillsUSA Professional Development Program as well as related reading and independent projects.

## **8023 – BUSINESS TECHNOLOGY PROGRAM III (GR 11)**

**5 CREDITS**

Curriculum will include advanced word processing, spreadsheets, and introduction to database principles using Microsoft Office software. Students will also study office procedures, Accounting 2, including an introduction to QuickBooks as well as continuing with Business Math curriculum. Selected students will earn an internship at local companies during the second half of Grade 11. Students will be given the opportunity to attain certification in Microsoft Excel.

## **6023 – BUSINESS TECHNOLOGY RELATED THEORY (GR 11)**

**1 CREDIT**

Students will study entrepreneurship through the National Foundation for Teaching Entrepreneurship (NFTE) Program. Through entrepreneurship education, the NFTE helps young people build skills and unlock their entrepreneurial creativity. Each student will develop a business plan in this course. Students will also continue their instruction in the SkillsUSA Professional Development Program.

## **8024 – BUSINESS TECHNOLOGY PROGRAM IV (GR12)**

**5 CREDITS**

Students will acquire skills for working in a medical office including skills on a Practice Management Program called Medisoft. Through this Program, students will get training in billing patients, filing claims, recording data, printing reports, and scheduling appointments. Students will learn skills in web design (HTM, and Dreamweaver). as well as working toward certification in QuickBooks. Grade 12 students can earn an opportunity to work in a professional business office for co-op work experience.

## **6024 – BUSINESS TECHNOLOGY RELATED THEORY (GR 12)**

**1 CREDIT**

Students will utilize their skills in Microsoft Office to complete projects in integrated applications as well as readings related to business and entrepreneurship. The students will complete an online financial literacy course as well as continue their instruction in the Skills USA Professional Development Program.

### **CAREER OPTIONS INCLUDE:**

Accounts Payable/Receivable Department	Legal Office Assistant
Accountant (with additional education)	Manager
Administrative Assistant	Marketing Assistant
Bookkeeper	Medical Administrative Office Assistant
Business Owner	Paralegal (with additional education)
Customer Service Representative	Receptionist
	Salesperson

# CARPENTRY

Mill and House Carpentry is a three-year Program that is divided into two major parts. The first and second year students receive basic instruction in the process of milling lumber into various components including cabinets and counter tops. The third and fourth year students spend the majority of their time learning how to construct a house from foundation to finished product. The annual house-building project provides the setting for the “on the job” learning activities.

The Carpentry Program has the major role in the house-building Program, as we are responsible for completing the structure of the building in a timely fashion. This enables the other trades of Plumbing and Electrical to perform their work. The carpenters also install all windows and doors, shingle the roof, and install finished products to both the exterior and interior of the house.

## **8031 - CARPENTRY PROGRAM I (GR 9)**

**3 CREDITS**

The freshmen will learn and demonstrate safe and appropriate work practices and procedures. The students will learn how to properly and safely use and maintain hand tools, portable power tools, and stationary shop equipment. The students will begin to learn the basics of working with various types of wood and creating shop projects to increase their knowledge base and develop their skills.

## **8032 – MILL & HOUSE CARPENTRY PROGRAM II (GR 10)**

**5 CREDITS**

The sophomore students will continue to develop their skills with the necessary carpentry tools through a succession of projects which build on previous skills and continues to introduce new techniques. The students will be capable of proper tool set-up and maintenance. The students will be able to produce a project from a shop drawing. Introduction to the skills required to prepare them for the house building project including the safety requirements will begin in the latter portion of the course.

## **6032 – CARPENTRY RELATED THEORY (GR 10)**

**1 CREDIT**

Students will be re-tested on tool safety and use. The sophomores will learn how to interpret drawings and prints. They will practice related math skills and the use of measuring devices. The sophomores will know why MSDS data sheets are posted on job sites and in shop areas as a safety measure, as well as take the OSHA ten-hour training course. Students will be involved in activities involving interpersonal skills to make them better workers and thinkers.

## **8033 – MILL & HOUSE CARPENTRY PROGRAM III (GR11)**

**5 CREDITS**

The juniors will learn basic framing methods used in modern house construction. The students will have the opportunity to lay out floor and ceiling joists, walls, and rafters. They will do most of the finish work involved in a house including hanging doors, installing baseboard, and building stairs. The students will learn safe work procedures. This course brings the students into direct contact with the public. The students will develop proficiency in the skills learned in the first two years of shop.

## **6033 – CARPENTRY RELATED THEORY (GR 11)**

**1 CREDIT**

The juniors will learn how to read prints, estimate, layout, and build a modern-day house. The students will learn how to frame a house using the platform method of construction. Concepts taught are: sill and floor framing, wall framing, and roof framing. The related Program will coordinate as much as possible with the house building Program. Construction practices and safety will be continuously emphasized. Soft skills such as resume writing interviewing, getting along with co-workers, and other skills related to creating a good work ethic and a well-rounded worker.

## **8034 – MILL & HOUSE CARPENTRY PROGRAM IV (GR 12)**

**5 CREDITS**

The seniors will expand on the knowledge gained from the previous years. They will refine job skills already learned, and have the opportunity to learn different methods of accomplishing the same task. As each house is different, they will learn to solve problems not previously encountered. They will learn cooperation with different trades, which is a necessity if one wishes to succeed in any trade or profession. This course is designed to provide the student with the entry level skills needed to procure

employment in the carpentry trade. It is the objective to promote personal pride while striving for excellence in every task undertaken.

#### **6034 – CARPENTRY RELATED THEORY (GR 12)**

**1 CREDIT**

The seniors will learn how to do interior and exterior trim. The exterior trim will include water table, corner boards, windows and doors, casing, rake, and siding. Interior trim will include kitchen cabinets, door and window trim, hardwood floors, baseboard and closet trim. This related instruction will coordinate with the house building Program. The seniors will review all modern day concepts and products involved in platform construction. House design and floor plan layout will be introduced as an area to extend the students' accumulated knowledge and skills into a post high school education.

##### **CAREER OPTIONS INCLUDE:**

General Carpenter	Lumber Sales
Framing Carpenter	Pattern Maker
Cabinetmaker	Floor Layer and Finisher
Finish Carpenter	Siding Installer
Roofer	Sheet Rock Installer

## **COSMETOLOGY**

This is a licensing Program for students meeting the State Board of Cosmetology's age requirements. In the 1,000-hour course curriculum, students will learn how to cut, style, perm, color, and highlight hair. Cosmetology students will also learn basic facial procedures and manicure procedures to prepare them to take the Massachusetts State Board of Cosmetology exam. Students will also participate A major emphasis is placed on sanitation and sterilization.

#### **8041 – COSMETOLOGY PROGRAM I (GR 9)**

**3 CREDITS**

Students will learn shop safety precautions, sanitation, and sterilization. The grade 9 students will also be introduced to the basics of draping, shampooing, and conditioning the hair, braiding, roller placement and hair styling, as well as basic manicures and facials.

#### **8042 - COSMETOLOGY PROGRAM II (GR 10)**

**5 CREDITS**

Students will learn wet hairstyling, blow drying, thermal styling, manicuring, hair shaping, facials and make-up application as well as scalp treatments through demonstrations, DVD's and hands-on procedures.

#### **6042 - COSMETOLOGY RELATED THEORY (GR 10)**

**1 CREDIT**

The grade 10 students will cover career opportunities, life skills, professional imaging, communication, the general science of infection control: principles and practices, structure and chemical composition of the hair, principles of hair design, hair shaping, and hairstyling as well as hair removal, facials, and nail care.

#### **8043 - COSMETOLOGY PROGRAM III (GR 11)**

**5 CREDITS**

The grade 11 students will continue with the hands-on skills developed in grade 10 and will perfect the basic practices required by the State Board of Cosmetology while working towards their requirement of 1,000 hours. They will be introduced to chemical texture services as well as hair coloring.

#### **6043 - COSMETOLOGY RELATED THEORY (GR 11)**

**1 CREDIT**

The grade 11 students will learn to develop a positive and cultivating approach in health, poise and professional ethics. They will be provided with knowledge of cosmetology theory that is needed to be successful in the trade and assist the students in creating their own sense of style. They will also learn the theory of chemical texture services as well as hair coloring. The use of films and demonstrations are used in accomplishing these goals.

**8044 - COSMETOLOGY PROGRAM IV (GR 12)****5 CREDITS**

The grade 12 students will continue with the chemical application of products, various hair-coloring products, the types of coloring services performed and methods used. The students will also learn chemical relaxing methods and techniques, thermal and chemical hair straightening, and the safety precautions that must be used with each salon service. The students will learn basic salon management, how to maintain accurate business records, and the fundamental rules of first aid. The students will further enhance their ability in all phases of the cosmetology course such as, facials, manicures, hair removal, artificial nail application, scalp treatments, hair shaping, and make-up application. This will prepare the student for gainful employment and fully prepare them for the Massachusetts State Board Exam.

**6044 - COSMETOLOGY RELATED THEORY (GR 12)****1 CREDIT**

The grade 12 students will cover the science of the chemistry of products used, skin and nail structure and growth, the basics of electricity and general anatomy and physiology. They will develop a basic knowledge and understanding that will set the foundation for the student to advance into the industry. The State of Massachusetts uses demonstrations, class projects and films in accomplishing these tasks which will prepare the student in related science for their State Board Exam, issued upon completion of 1,000 hours.

**CAREER OPTIONS INCLUDE:**

Hairstylist  
Aesthetician  
Manicurist  
Platform Artist

Salon Owner  
Receptionist  
Cruise Ship Stylist  
Nail Technician

Instructor  
Make-up Artist  
Theatrical Make-Up Artist

## **CULINARY ARTS**

The Culinary Arts Program provides students with the training and experience needed to be in a rewarding career in the ever growing food service industry. Students learn knife skills, equipment use, cooking and baking methods, techniques and terminology, customer service dining room and retail bakery operations.

Related theory classes stress the importance of safe food handling and sanitation and provide the opportunity to attain nationally recognized Serv-Safe and Pro-Start Certifications.

The comprehensive curriculum is supported and enhanced by hands-on practice in our state-of-the-art kitchen and student-run East Side Room restaurant and bakery open to the public.

**8051 - CULINARY ARTS PROGRAM I (GR 9)****3 CREDITS**

Freshmen will learn the basics of the professional kitchen. This includes running a dish washing station, pot washing, sanitation, dining room procedures, food product identification, basic sandwiches, salads and knife skills. Also covered is the use of basic equipment such as portion scales, baker's scales, mixers and hand tools. Baking curriculum includes: weights and measures, introduction to baking procedures and the preparation of cookies, dinner rolls, and other simple items. Students will learn basic trimming and cutting of vegetables and begin to learn cooking methods and techniques. The student will spend time in the dining room learning set up for service. Particular emphasis is placed on physical safety and food safety.

**8052 - CULINARY ARTS PROGRAM II (GR 10)****5 CREDITS**

Sophomores will continue with their kitchen basics. Students will continue to develop food safety and safety practices, basic knife skills and basic preparation skills. Students will work with basic recipes/formulas to develop organizational skills and some

independent work habits. They will also be introduced to basic preparation of vegetables, starches and various proteins using a variety of cooking methods. Students will learn to identify and make basic soups and salads. The students will work on basic yeast and quick breads, pie dough products, custards and dessert sauces. Particular emphasis is placed on safety.

#### **6052 - CULINARY ARTS RELATED THEORY (GR 10)**

**1 CREDIT**

Sophomores will continue with their kitchen basics as in the first year. Students will learn more about recipes/formulas, product and tool identification and weights and measure. Students will also complete the NRA Serv-Safe certification Program for food safety.

#### **8053 - CULINARY ARTS PROGRAM III (GR 11)**

**5 CREDITS**

Juniors will continue to develop professional work habits and begin to work on meat, poultry and seafood preparation, sauces, soups, and more advanced bakery items including cakes, and frozen and plated desserts. Students will operate the East Side Room restaurant including a la carte cooking and service. In addition, they will learn to operate the Point of Sale register system and retail pastry counter. Students will gain practical marketing and merchandising experience.

#### **6053 - CULINARY ARTS RELATED THEORY (GR 11)**

**1 CREDIT**

Juniors will be introduced to advance cooking methods and techniques as well as baking theories. Students are introduced to market forms and quality standards for meats, poultry, seafood and produce. Students continue to develop measurement skills, safety and sanitation.

#### **8054 - CULINARY ARTS PROGRAM IV (GR 12)**

**5 CREDITS**

Seniors will build upon professional work habits, advanced meat, poultry and seafood preparation, sauces, soups, bakery items, and desserts. Students will operate the East Side Room restaurant producing advanced desserts, food courses and dining room service. In addition, students will develop advanced plating and garnishing skills. Students will also develop managerial and entrepreneurial skills.

#### **6054 - CULINARY ARTS RELATED THEORY (GR 12)**

**1 CREDIT**

Seniors will build upon more advanced cooking methods and techniques as well as baking theories. Students continue to work on market forms and quality standards for meats, poultry, seafood and produce. Students continue to develop measurement skills, safety and sanitation.

#### **CULINARY CAREER OPTIONS INCLUDE:**

Server	Dining Room Manager	Baker
Caterer	Pastry Chef	Host/Hostess
Short-Order Cook	Culinary Chef	Restaurant Cook

## **DENTAL ASSISTING**

The Dental Assisting Program is designed to prepare students with knowledge and hands-on skills to gain entry-level employment in the dental field. Students will be exposed to all aspects of dental assisting including appointment scheduling, patient charts, and legal obligations of the dental team. Emphasis will be placed on infection control, dental radiology, chairside dental assisting, dental materials and dental specialties. Certifications will include OSHA Career safe, First Aid and CPR Healthcare Provider level through the American Heart Association. Students 18 years of age are qualified to apply for a dental assistant license through the state of Massachusetts. The students will have the opportunity to achieve certifications through the Dental Assisting National Board (DANB). The Program will prepare the students to take the NELDA or National Entry Level Dental Assisting Exam upon Graduation. After completion of a minimum of 3,500 hours of work experience, the student will be eligible to take the Chairside portion of the DANB exam to obtain full certification as a dental assistant.



**8171 -DENTAL ASSISTING PROGRAM I (GR 9)****3 CREDITS**

During Freshmen Exploratory, the students will spend five days in the dental assisting Program. The importance of Program safety and emergency procedures will be established. Students will receive an overview of the course including fundamental dental anatomy, infection control and dental materials. Skills introduced will include creating dental casts, proper handwashing, taking an alginate impression on a typodont and placing an amalgam restoration. After Program selection, the students will become familiar with infection control, dental anatomy, the role and responsibilities of the dental assistant, personal protective equipment, legal and ethical issues, and front desk duties. Additional skills will include greeting and seating the patient, coronal polishing on typodont, application of fluoride treatment and telephone etiquette.

**8172 - DENTAL ASSISTING PROGRAM II (GR 10)****5 CREDITS**

The main focus of sophomore year will involve infection control protocols. Skills will include breaking down, cleaning and disinfection of the dental treatment area, proper handing and sterilization of dental instruments. The student will also learn about maintaining dental equipment, flushing dental water lines and biological monitoring of the autoclave. Other topics to be covered include dental charting, instrument identification and sequence, dental bases and liners, examination and treatment planning. CPR and First Aid certification will be acquired.

**6172 - DENTAL ASSISTING RELATED THEORY II (GR 10)****1 CREDIT**

The importance of infection prevention will be covered. This will encompass microbiology, disease transmission and prevention, principles and techniques of disinfection, principle and techniques of instrument processing and sterilization. OSHA Career Safe certification will be earned.

**8173 -DENTAL ASSISTING PROGRAM III (GR 11)****5 CREDITS**

Junior year curriculum will highlight radiographic imaging. Students will learn and practice techniques for exposing intraoral and extraoral radiographs on a Dental X-ray Teacher Training Replica (DXTTR) mannequin. Introduction to DEXIS digital radiology software as well as analog radiographs; processing and developing or radiographs and the American Dental Association approved method for dental mounting. Additional skills will include record keeping, mixing and application of various impression materials, fabricating temporary crowns, and preventing a medical emergency.

**6173 - DENTAL ASSISTING RELATED THEORY III (GR 11)****1 CREDIT**

Junior year related theory will incorporate foundations of radiology, radiographic equipment, radiation safety, digital imaging, intraoral and extraoral imaging, dental films and processing. Supplemental topics will include legal issues, quality assurance, infection prevention, errors and solutions for exposing, processing and developing.

**8174 - DENTAL ASSISTING PROGRAM IV (GR 12)****5 CREDITS**

In the senior year, students will continue to develop and hone their clinical abilities from preceding years and apply newly acquired skills. This will include assisting duties for orthodontics, pediatrics, endodontics, periodontics, prosthodontics, and oral maxillofacial surgery. Support skills will include vital signs, patient assessment, dental materials and CPR recertification. Students will have the opportunity to work in a co-operative job to apply and refine their previous expertise.

**6174 - DENTAL ASSISTING RELATED THEORY IV (GR 12)****1 CREDIT**

The seniors will study procedures, instruments and equipment used in various dental specialties, patient assessment techniques and importance of vital signs.

**Career Options Include:**

Licensed/Registered Dental Assistant  
Surgical Assistant  
Dental Office Receptionist  
Orthodontic Assistant

Sterilization Assistant  
Patient Care Coordinator  
Insurance Coordinator  
Dental Hygiene Assistant

# DESIGN AND VISUAL COMMUNICATIONS

Students interested in the world of Visual Design will find opportunities to explore several areas of this exciting field. Freshmen and sophomore students will learn the foundations of design, including color theory, drawing, perspective, and layout. In the junior and senior years, students will work with Photoshop, In-Design, Digital Photography and Video to produce a variety of multimedia projects for their portfolio. Package Design, Product Photography, Multimedia Presentations, Web design, and Audio Production will be introduced through the use of the latest technology.

Graduates of this Program will be prepared to continue their education at a college level or obtain an entry-level position.

## **8141 – DESIGN AND VISUAL COMMUNICATIONS PROGRAM I (GR 9)**

**3 CREDITS**

Freshmen will be introduced to the elements and principles of design. Drawing from still life, imagination, and the human figure will be emphasized. Students will begin keeping a sketchbook of ideas and assigned drawings. The concept of visualization will be introduced through the creation of thumbnail and rough layout drawings. Students will be introduced to the MACLAB through a series of projects that begin in studio and are completed using several different applications.

## **6142 – DESIGN AND VISUAL COMMUNICATIONS RELATED THEORY (GR 10)**

**1 CREDIT**

Sophomores will research artists, art movements, techniques, and history. Students will prepare and present a multimedia slideshow based on these areas. Students will become familiar with pitching ideas, group critique, and brainstorming sessions. Students will continue to receive training via lecture, demonstration, and video.

## **8142 – DESIGN AND VISUAL COMMUNICATIONS PROGRAM II (GR 10)**

**5 CREDITS**

Sophomore students will begin working on a portfolio of their work. Assignments in studio and MACLAB will be given to strengthen the student materials presented in their portfolio. Students will complete daily and weekly assignments based on the Massachusetts frameworks for Design & Visual Communications. Students will be introduced to Vector Drawing applications in the MACLAB and will create a series of pieces utilizing this software. Image scanning and manipulation will be demonstrated. Instruction in multimedia technologies available to artists will continue throughout the sophomore year. Students will complete portfolio pages for each project completed.

## **6143 - DESIGN AND VISUAL COMMUNICATIONS RELATED THEORY (GR 11)**

**1 CREDIT**

Juniors will continue with research on artists, techniques, and history. Students will prepare and present a multimedia slideshow using industry standard computer applications, based on one of the subjects previously mentioned. Students will continue to receive training via lecture, demonstration, and video. An emphasis will be placed on self-guided exploration of art styles, techniques and interpretation.

## **8143 – DESIGN AND VISUAL COMMUNICATIONS PROGRAM III (GR 11)**

**5 CREDITS**

Juniors will continue with studio and MACLAB projects. Students will continue to refine and enhance their knowledge and skills working in the studio with several media including: acrylic paint, charcoal/pastels, watercolor and colored pencil. Students will continue to explore the software applications available to artists in the MACLAB. Photoshop and Illustrator will be used to create portfolio pieces. Several specialized software applications will be utilized in the creation of logos letterheads, brochures and other advertising media. Students will work with digital photography to archive work as well as create multimedia presentations. Portraiture and product photography will be introduced.

## **6144 – DESIGN AND VISUAL COMMUNICATIONS RELATED THEORY (GR 12)**

**1 CREDIT**

Seniors will design and create senior presentation using multimedia authoring software. This presentation will be a 10-minute multimedia recap of their experiences at Keefe Regional Technical School. Artwork, photographic images, music and video will be combined to create a digital “scrapbook”. An electronic portfolio will be produced in parallel with this yearlong assignment. Proper presentation/submission of artwork for college consideration will be emphasized. Students will work toward a successful

admission application at an art school or schools. Students will prepare work for review and critique by college admissions representatives.

#### **8144 – DESIGN AND VISUAL COMMUNICATIONS PROGRAM IV (GR 12)**

**5 CREDITS**

Emphasis in senior year is placed on projects/pieces to be used in a portfolio presentation. Pieces prepared traditionally, as well as digitally, will be collected and prepared for presentation. Portfolios will be complete and ready for presentation to college admission representatives.

##### **CAREER OPTIONS INCLUDE:**

Graphic Designer

Illustrator

Multimedia Artist

Industrial Design

Fashion Design

Product/Package Design

Software Based Design (InDesign- Photoshop – Illustrator)

Interior Design

Retail Display - Merchandising

## **EARLY CHILDHOOD EDUCATION**

The Early Childhood Education Program at Keefe Regional Technical School is an in-house training site designed to introduce the high school student to the development of children. Students choosing Early Childhood will be exposed to the emotional, social, physical, and cognitive changes that take place during a child's life.

Students will learn and demonstrate the duties of a classroom teacher. Students will also learn theme development, behavior management, observation, and assessment skills for children. Other curriculum learned includes: classroom limitations, child guidance, brain development, lesson plan creations, and classroom learning areas (math, science, language, art and writing).

The Early Childhood Education Program at Keefe Regional Technical School provides practice in different off-site child care centers. Students who successfully complete this course will meet the licensing requirements for the Massachusetts Department of Early Childhood and Care in infant-toddler and preschool areas. Students will also receive First-Aid and CPR certifications. Students in the Early Childhood Education are eligible to receive three college credits from Massachusetts Bay Community College upon Graduation.

#### **8061 - EARLY CHILDHOOD EDUCATION PROGRAM I (GR 9)**

**3 CREDITS**

Freshmen will be introduced to the employability/physical skills they need in order to work with children. Freshmen will begin to learn about prenatal development. Students will be introduced to children disabilities, infections and family components. As well as, be introduced to the physical, emotional, social, cognitive, and moral development of children ages birth through adolescence. Students will learn how activities are incorporated into the curriculum in order for children to learn. Freshman will begin to learn about development of children beginning at birth.

#### **8062 - EARLY CHILDHOOD EDUCATION PROGRAM II (GR 10)**

**5 CREDITS**

Child growth and development continues to be the focus for the sophomore year. Students will continue the introduction to the physical, emotional, social, cognitive, and moral development of children, birth through adolescence. Students will begin working with children in the childcare center to demonstrate the duties of classroom teachers.

#### **6062 – EARLY CHILDHOOD EDUCATION RELATED THEORY (GR 10)**

**1 CREDIT**

Students will study the responsibilities of the childcare teacher and the importance of a professional attitude. In addition, students will be introduced to the responsibilities of being a professional, the importance of communicating with others, and the need to project a professional appearance.

**6063 - EARLY CHILDHOOD EDUCATION PROGRAM III (GR 11)****5 CREDITS**

The information received during the sophomore year will assist the junior early childhood education and teaching students in the creation of developmental areas and activities for young children. Juniors will be expected to create educational, fun and age appropriate lesson plans in math, language, art, technology, dramatic play, to name a few. Students will be introduced to assessments, observation and interpretation in the EEC classroom. Special populations of children will also be. Students will continue to assist teachers at the off-site childcare center, while earning hours toward their Massachusetts Teachers License in infant, toddler and preschool.

**6053 – EARLY CHILDHOOD EDUCATION RELATED THEORY (GR 11)****1 CREDIT**

Students will be introduced to career options involving children and families that will range in educational requirements and experience. Students will continue to learn about professional expectations; students will examine career experiences through the Professional Development Program (PDP's) readings and student texts.

**8064 - EARLY CHILDHOOD EDUCATION PROGRAM IV (GR 12)****5 CREDITS**

Senior students will be exploring the business aspect of owning and operating a child care center. They will be expected to create a business plan for their future reference. Seniors will continue to plan, create, and perform specific developmentally appropriate activities with the preschoolers attending our early childhood education center. Students will also have the opportunity to participate in cooperative education that will give them hands-on experience at area centers. Students successfully Graduating from our ECE Program are able to go into the Early Childhood field upon Graduation in the capacity of Assistant Preschool Teacher. Once a student has obtained their Office of Child Care Services license, they will be able to be employed as a preschool teacher.

**6064 – EARLY CHILDHOOD RELATED THEORY (GR 12)****1 CREDIT**

Students study the growth and development of young children. Each week topics that introduce and influence development are discussed. Topics include: prenatal development and the newborn and continues with the physical, social, emotional, and cognitive growth of children from the infant through the five-year-old. In addition, students will look at how to provide for the children's needs at each stage of development and the importance of play.

**CAREER OPTIONS INCLUDE:**

Classroom Teacher	Guidance Counselor
Social Worker	Resource Referral
Child Psychologist	Pediatric Nurse
Child Care Center Director	Play Therapist
Parent and Family Life Educator	Speech-Language Pathologist

## **ELECTRICAL**

The electrical trade is one of the skilled trades of the construction industry, a trade where individual ability and motivation are recognized and rewarded. The Keefe Regional Technical School Electrical Department covers commercial, industrial, and residential wiring of old and new buildings as well as alarm system installation. The course of study provides the student with the knowledge of how a building is constructed and wired as well as Solar Energy and wind energy technology.

Residential wiring is just one segment of the electrical course of study. Keefe Regional Technical School emphasizes residential wiring by completing all the electrical work for our annual house-building project. This project introduces the student to the

telephone, familiarization with blueprints for location of outlets, and the type of wiring method that will satisfy the Massachusetts Electrical Code.

### **8071 – ELECTRICAL PROGRAM I (GR 9)**

**3 CREDITS**

Freshmen will learn about shop safety, the proper use of hand tools, responsibilities, shop procedures, and the Right to Know Laws regarding use and storage of chemicals. Students will learn to install low voltage wiring for doorbells and buzzers. Students will be introduced to wiring methods for residential, commercial, and industrial settings. Students will be certified to use a conduit cutting and threading machine. Students will be introduced to alternating current theory and the National Electrical Code.

### **8072 - ELECTRICAL PROGRAM II (GR 10)**

**5 CREDITS**

Sophomores will focus on becoming skilled in installing seven common wiring methods used today. As the year Progresses, students will attain skills in residential wiring, commercial wiring, and industrial wiring. We cover installations of Romex, low voltage cabling, armored cable, electrical metallic tubing, P.V.C., rigid conduit, and wire mold. Students will become proficient with three-way switching circuits, doorbell circuits, parallel circuits, and switch loops. Sophomores will learn to bend conduit to blueprint specifications.

### **6072 -ELECTRICAL RELATED THEORY (GR 10)**

**1 CREDIT**

Sophomores will learn the basics of navigating the Massachusetts electrical code. They will also learn the higher math of the electrical trade along with batteries wire sizing, voltage drop, switching, and series parallel circuits. Safety on and off the job will be covered. Also, they will learn O.S.H.A. and other safety organizations.

### **8073 – ELECTRICAL PROGRAM III (GR 11)**

**5 CREDITS**

Juniors will learn how to use and maintain all safety equipment on both inside and outside projects. They will train in all aspects of the electrical field. Students will be introduced to outside projects in the community and continue to work on jobs in the school itself. They will also train on lab volt trainers to sharpen their motor control and trouble shooting skills. At the beginning of third quarter, students would be allowed to participate in the Co-op Program.

### **6073 - ELECTRICAL RELATED THEORY (GR 11)**

**1 CREDIT**

Commercial and residential blueprint reading and National Electrical Code (N.E.C.) regarding commercial buildings will also be covered. A more in-depth study of blue prints and the N.E.C. articles, conductors, branch circuits, and safety on and off the job will be covered.

### **8074 – ELECTRICAL PROGRAM IV (GR 12)**

**5 CREDITS**

Seniors will learn how to properly use all the equipment in the shop. They will work more substantially on the outside projects. They will be given changes to individually advance in many areas of the trade. Students will also learn the knowledge of all factors including cost of tools and materials, time and labor. This will prepare them for an entry-level job in the trade and eventually a license. They will also train on lab volt trainers to sharpen their motor control and industrial control wiring trouble shooting skills.

### **6074 - ELECTRICAL RELATED THEORY (GR 12)**

**1 CREDIT**

Seniors will learn about industrial transformers, fire alarms, motors, N.E.C. motor rules and Programmable logic controllers.. The math covered this year is inductance, transformer, and motor calculations. The N.E.C. codes on industrial work are covered. Also covered are: labor laws, wages and the current electrical industry, apprenticeship Programs and employment. A complete review of all safety is covered in-depth.

### **ELECTRICAL CAREER OPTIONS INCLUDE:**

Apprenticeship  
Electrical Construction  
Cable Installation  
Signaling Systems  
Light and Power Systems  
Electrical Motor Maintenance and Repair  
Equipment and Appliance Service

Communications  
Alarm System Installation  
Motor Control  
Underground Service Installation  
Residential Wiring  
Commercial Wiring  
Job Estimating

## **GRAPHIC COMMUNICATIONS**

### **8081 - GRAPHIC COMMUNICATIONS PROGRAM I (GR 9)**

**3 CREDITS**

Students will learn the fundamentals of silk screen printing and how to create single color T-shirts and posters. Students will be trained in the operation of offset duplicators and wet ink duplicating processes. Students will learn the bindery functions of folding, drilling, stitching, collating, booklet making and padding operations. Students will be introduced to the entire graphic communications field, which includes press operations, pre-press computer-based layout, digital design, and imaging. Concentration will be placed on safety standards and procedures related to the graphic communications field of study. Introduction to Adobe Illustrator, Photoshop and InDesign; students will assist and observe the latest industry standard graphic design software through instructional projects and live work that incorporates graphic communications techniques. Student evaluation incorporates attendance, test and quiz grades, time on task, skill level, safety, and completion of all projects. Students receive instruction in a cooperative learning environment through a combination of demonstrations, self-study, small group projects, and individual hands-on experiences.

### **6082 – GRAPHIC COMMUNICATIONS RELATED THEORY (GR 10)**

**1 CREDIT**

Sophomore students will continue to work towards completing the Introduction to Graphic Communications curriculum. Daily and weekly projects are introduced to promote knowledge gained in the Program. Desktop design applications will be discussed using the latest software in the industry. Proofreading, register marks, and color separations will be taught. The RIP station will be covered with preflight operations. Computer-to-plate technology will also be covered. Students will understand the process of job estimating and paper types. The students will know the fundamental operations of the offset presses within the shop with a continuing emphasis on safety. Two-color operation with close and hairline register will be discussed. Introduction to four-color process printing will be covered. Bindery operations including folding, padding, stitching, collating and cutting is an integral part of sophomore year. Students receive instruction on understanding Mac computers, printing processes, elements of design, introduction to thumbnails and roughs, basic templates, guides and layout, history of typography, and an intro to color theory. Student evaluation incorporates attendance, test and quiz grades, time on task, skill level and completion of all projects. Students receive instruction in a cooperative learning environment through a combination of demonstrations, self-study, small group projects, and individual hands-on experiences.

### **8082 – GRAPHIC COMMUNICATIONS PROGRAM II (GR 10)**

**5 CREDITS**

Students are exposed to the latest industry standard graphic design software (Adobe Illustrator, Photoshop and InDesign) through instructional projects and live work that incorporates graphic communication techniques. Students receive instruction on OSHA Health and Safety Regulations. The students will work on the computer to learn about hardware and software functions of the computer. The student will learn about page layout software using the Adobe In-Design application. A basic understanding of Adobe Photoshop and Illustrator will be introduced. Students gain experience in the areas of digital page layout, prepress production, and direct to plate output. Weekly projects and daily lessons reinforce the material learned in the Related Theory class. The concentration of layout and digital imaging software will act as a primer to the junior year when advanced digital layout is introduced. The latter half of the sophomore year will be spent learning basic press techniques, which include the use of duplicator's and offset printing equipment to achieve simple forms printing, close and hairline register plus four-color process. Students are taught the five and/or six systems of the press for complete set-up and operation of the equipment. Students will learn about the Silk Screen process working with one- and two-color projects including T-shirts and posters. Training will continue of bindery operations to reinforce the knowledge gained in freshmen year. The operation and calculation of all paper cutting techniques will be taught. Students will learn about paper types and weights as it applies to the successful operation of

the equipment. Student evaluation incorporates attendance, test and quiz grades, time on task, skill level, and completion of all projects. Students receive instruction in a cooperative learning environment, through a combination of demonstrations, self-study, small group projects, and individual hands-on experiences.

### **6083 – GRAPHIC COMMUNICATIONS RELATED THEORY (GR 11)**

**1 CREDIT**

Students will learn about the importance of digital printing as it applies to the graphic communications field. Students will use the Adobe Creative Suite of software products for design. This includes: Adobe Illustrator, Photoshop, and In-Design applications used in the industry. Daily and weekly projects reinforce the students' knowledge of pre-press and press operations. Multiple page layout, color separations and densitometry are a part of the junior year. Students learn about printing color separations, quality control standards, job cost estimation and paper estimation for a multi-page form. Proofing techniques, ink mixing, and the use of color bars as they relate to CMYK press operations are discussed. Students will have a better understanding of press operations for proper registration and for larger color printing work. Multiple folding operations are used and the understanding of paper manufacturing and bookbinding are discussed. Student evaluation incorporates attendance, test and quiz grades, time on task, skill level, and completion of all projects. Students receive instruction in a cooperative learning environment through a combination of demonstrations, self-study, small group projects, and individual hands-on experiences.

### **8083 – GRAPHIC COMMUNICATIONS PROGRAM III (GR 11)**

**5 CREDITS**

Students will concentrate on digital design and printing techniques. Four color registration, color matching and calibration, mixing ink, and bindery techniques will be reinforced during the first half of the junior year while in the press area of the shop. Continuing to learn about four-color press runs and registration techniques prepares the junior student to enter the press field. Densitometry, the use of color bars and registration is stressed. Students will work on single color, two-color and four-color process work on a daily basis. Maintenance of equipment is taught on a daily basis. Students will continue to use bindery equipment for producing booklets, brochures, forms and other typical printing work. Students are trained in scoring, perforating and folding operations. Students will continue to learn about the Silk Screen process working with multi-color projects including T-shirts and posters. Strong emphasis will be placed on four-color design, animation and press techniques while broadening the scope of the curriculum. Students are exposed to the latest industry standard graphic design software (Adobe Illustrator, Photoshop, and InDesign) through instructional projects and live work that incorporates graphic communication techniques. Students will gain experience in the areas of digital page layout, pre-press production, direct to plate output, and customer service. Student evaluation incorporates attendance, test and quiz grades, time on task, skill level and completion of all projects. Students receive instruction in a cooperative learning environment, through a combination of demonstrations, self-study, small group projects, and individual hands-on experiences.

### **6084 – GRAPHIC COMMUNICATIONS RELATED THEORY (GR 12)**

**1 CREDIT**

Students will create a resume to utilize for their continuing education or in the work world. The students will understand job interview techniques and prepare themselves to become young professionals within the graphic communications industry. The students will work on the Internet for their research and work within the classroom to create a mock business. Students will be able to demonstrate a greater understanding of the design, preparation, and printing of multi-color and process printing operations using the latest software and printing equipment within the shop and industry. Safety standards are taught continually to impress upon the graduating student that safety procedures are a part of everyday life. Printing of CMYK work is the emphasis in senior year. Students will understand the process and are able to design, preflight, RIP to plate, and print a four-color process job plus complete the necessary bindery operations associated with the work. Estimating functions and job costing functions will be discussed in further detail. Student evaluation incorporates attendance, test and quiz grades, time on task, skill level, and completion of all projects. Students receive instruction in a cooperative learning environment, through a combination of demonstrations, self-study, small group projects, and individual hands-on experiences.

### **8084 – GRAPHIC COMMUNICATIONS PROGRAM IV (GR 12)**

**5 CREDITS**

Students will continue to practice the Graphic Communications career involving the prepress, digital, and press techniques. Students will concentrate on more typical graphic communications work like: four-color process design and printing, pre-flighting operations, RIP station operation and the use of the four-color press. Students will continue to learn about the Silk Screen process working with multi-color projects including printing on different substrates. They will study all areas of the discipline to gain a thorough understanding of techniques to better themselves in the work force. Creation of work for the school involving the school brochure, shop pamphlets, and projects given to senior students will enable them to produce a working portfolio of their work to present to future employers using real world examples. Students are exposed to the latest industry

standard graphic design software (Adobe Illustrator, Photoshop, and InDesign) through instructional projects and live work that incorporates graphic communications techniques. Students gain experience in the areas of digital page layout, pre-press production, direct to plate output, and customer service, all with the focus towards self-promotion and aligning themselves towards a post-secondary career or continuing their educations through higher learning. Student evaluation incorporates attendance, test and quiz Grades, time on task, skill level, and completion of all projects. Students receive instruction in a cooperative learning environment through a combination of demonstrations, self-study, small group projects, and individual hands-on experiences.

#### **GRAPHIC COMMUNICATIONS CAREER OPTIONS INCLUDE:**

Desktop Publishing  
Graphic Designer  
Bindery Worker  
Prepress  
Production Artist  
Illustrator  
Repair Technician

Offset Press Operator  
Preflight Technician  
Digital Printing Estimator  
Customer Service Representative  
Screen Press Operator  
Logo Designer

## **HEALTH CAREERS**

Students in the Health Careers Program have the opportunity to acquire skills that prepare them for successful career entry, advancement, and/or continuing education in the health field. This Program is designed to focus on the certification of nursing assistants. Students will receive certification as a Nursing Assistant and certifications in OSHA, First Aid, CPR/AED, and Dementia Training. The first phase will emphasize foundation skills and common skills (gloving, hand washing, vital signs) that are necessary in all health occupations. The second phase will focus on job-specific skills and knowledge. Skills learned will be introduced and practiced in the classroom and then transferred to residents in a long-term care setting during the career technical training activities. We often invite guest speakers in from the Healthcare Industry to share their knowledge and expertise with our students at all grade levels.

### **8091 - HEALTH CAREERS PROGRAM I (GR 9)**

**3 CREDITS**

Freshman Exploratory is a five-day Program designed to expose students to the Health Careers Program. The week long exploratory provides the student with an overview of the program course content, certifications policies and clinical opportunities. Students will learn the basics of first aid, how to recognize when someone needs CPR, and how to give CPR. Exploratory allows the student a “glimpse” into the aging process, and the importance of accurate measuring and recording of vital signs. For students who choose the Health Careers Program, the focus of study will include Health Care Safety, Infection Control, Professionalism, and basic skills related to the “Care of the Residents Environment”.

### **6092 – HEALTH CAREERS RELATED THEORY (GR 10)**

**1 CREDIT**

Medical Terminology Course is introduced. Students study the principles of medical word building to help the student develop the extensive medical vocabulary used in health care occupations. Students receive a thorough grounding in basic medical terminology through a study of root words, prefixes and suffixes. The study focuses on correct pronunciation, spelling and use of medical terms. This skill and ability will provide the student with a powerful foundation of knowledge for the language of medicine. The use of the “Dean Vaughn Learning System” will enable the student to quickly remember and effectively apply the 350 elements taught in this course.

### **8092 – HEALTH CAREERS PROGRAM II (GR 10)**

**5 CREDITS**

The sophomore student will be introduced to the health care industry and have the opportunity to obtain certification in First Aid, Heartsaver CPR/AED, OSHA Career Safe Training, and Dementia Training. The sophomore student will also be exposed to introductory health career theory and related skills. Topics include Understanding Healthcare Settings, the Nursing Assistant and Care Team, Legal and Ethical Issues, Communication, Preventing Infection, and Safety and Body Mechanics. Students will complete a “Pre-Care Curriculum”. Skills will include, but are not limited to proper handwashing, applying personal protective equipment, nail care, hair care, and positioning a resident. Students will also participate in community volunteer experiences which presently take place in a nursing facility and at the Framingham Senior Center.



**6093 – HEALTH CAREERS RELATED THEORY (GR 11)****1 CREDIT**

Medical Terminology Course is completed. Students will receive a certificate of Completion for the course after achieving 100% on the Final Exam. The award will give evidence of their complete knowledge and understanding of medical terminology as presented in this course and will be a testament of the student's high academic achievement.

**8093 – HEALTH CAREERS PROGRAM III (GR 11)****5 CREDITS**

As a junior, the student will focus on completing the Health Assisting Program of Studies and focus on obtaining certification as a Nursing Assistant through the American Red Cross, Massachusetts Department of Public Health, and Massachusetts Department of Elementary and Secondary Education approved curriculum. The student will provide direct, hands on resident care with the assistance and supervision of their instructor at a nearby long-term care facility.

**6094 – HEALTH CAREERS RELATED THEORY (GR 12)****1 CREDIT**

Students in senior year will take the Home Health Aide Course and learn how to provide assistance to the chronically ill, the elderly, and family caregivers who need relief from the stress of caregiving. Pre-requisite for the Home Health Aide Course is the successful completion of the Nursing Assistant Program. Students may be offered Medical Terminology remediation so that they have the opportunity of earning their Certificate of Completion.

**8094 – HEALTH CAREERS PROGRAM IV (GR 12)****5 CREDITS**

Health Careers students' senior year often will take advantage of and are encouraged to participate in the Cooperative Education Program. The program provides an opportunity for deserving students to participate in paid employment in a related Health Careers area during their shop week.

Students who do not participate in Co-Op will continue their Health Careers studies and learn additional advanced skills that a Certified Nursing Assistant may learn on the job. The course, Certified Nursing Assistant II, will use the "Body Systems Course" as a guide and implement related skills pertinent to individual systems. Skills may include Electrocardiogram (EKG), Blood Glucose Testing, Urinalysis, and Cranial Nerve Testing, to list a few.

**HEALTH CAREER OPTIONS INCLUDE:**

Certified Nursing Assistant  
Patient Care Assistant  
Activity Assistant

Home Health Care/Aides  
Dietary Assistant

## **INFORMATION TECHNOLOGY**

Students entering into the Information Technology Program will have the opportunity to receive industry recognized certifications through CompTIA, Cisco, and NOCTI in the general areas of Computer Servicing and Networking. In the sophomore year, students enter into the A+ IT Technician/Computer Repair Program. This Program teaches students the basic skills to gain entry-level positions in the IT industry as well as prepares them to take the NOCTI and CompTIA certification exams.

In their junior year, students enroll into our authorized Cisco Networking Academy. Keefe Regional Technical School, through its affiliation with Bunker Hill Community College, utilizes the Cisco Networking Academy Discovery curriculum which is a four-semester Program. CCENT Part 1 certification exam is covered during their junior year where students will enter into semester 1, "Networking for Home and Small Businesses" and semester 2 "Working at a Small to Medium Business or ISP" from the Cisco curriculum. After completing both semesters, a student can choose to complete the CCENT certification (CISCO Certified Entry Network Technician) certification exam.

In their senior year, students continue on with CCNA Part 2 of the certification exam which covers semester 3, "Introducing Routing and Switching in the Enterprise" and semester 4 "Designing and Supporting Computer Networks" from the Cisco curriculum. After completing each semester, a student can choose to complete the CCNA certification exam.

**8111 - COMPUTER AND NETWORK CONCEPT PROGRAM I (GR 9)****3 CREDITS**

The Information Technology (IT) Basics Fundamental Course covers the necessary career skills to become a successful entry-level computer repair technician. The curriculum is designed to develop working knowledge of how computers operate both on a hardware platform and OS platform. Students will build state-of-the-art computers and install and configure multiple operating systems. Students will learn how to develop critical thinking and complex problem-solving skills using hands-on labs and virtual learning tools. Additionally, students will apply skills and procedures to install and upgrade hardware and software and troubleshoot systems. Labs will include Testout Lab Sim and using the Cisco Packet Tracer simulation tool.

**6112- PROGRAMMING AND WEB DESIGN APPLICATION RELATED THEORY (GR 10)****1 CREDIT**

In the Basic HTML Fundamentals Course the student will learn to create and maintain Web pages using HTML and CSS. This course is taught in our PC computer lab, but one can do the coursework on other computer platforms. It is assumed that the student is proficient with the operating system on their computers, including file management and connecting to the Internet. It is also assumed that the student is proficient with using Web browsers. In this course, you will learn to edit HTML and CSS files directly using HTML or text editors.

**8112 - A+ COMPUTER REPAIR/BASIC NETWORKING PROGRAM II (GR 10)****5 CREDITS**

The Advanced IT Essential Course will prepare students for new technology within the IT field. Students will concentrate on installations and configuration of computer systems and peripheral devices to enhance the system capabilities. Students will learn advanced troubleshooting methods and how to properly remove malware and viruses from computer systems. Students will also learn how to fix mobile devices and configure them for everyday use. Labs will include Testout Lab Sim and using the Cisco Packet Tracer simulation tool.

The Basic Networking Fundamentals Course introduces the students to the seven layers of the OSI model. General topics include network topologies; introduction to Local Area Networks, such as Ethernet, Token Ring, and FDDI, and internet-working. Special topics include TCP/IP and FTP protocols, socket interface, Remote Procedure Call (RPC), and client-server architecture. Students will learn to design networks and learn the basic routers and switching configurations. Students will utilize Cisco Packet Tracer simulation tools as well as real equipment to build and troubleshoot networks. Labs will include Testout Lab Sim and using the Cisco Packet Tracer simulation tool.

**6113 - CISCO PROJECTS AND SKILLS USA PDP RELATED THEORY (GR 11)****1 CREDIT**

Introduction to the JavaScript language course will explore the more unique and tricky JavaScript features such as closures, higher-order functions, and prototype object oriented models that perhaps are not familiar to many students who are familiar with Java and Python as their primary languages. We will also introduce how JavaScript is used as a popular technology for both the frontend and backend web applications.

**8113 – ADVANCED NETWORKING ROUTING AND SWITCHING COURSE (GR 11)****5 CREDITS**

This course is designed to challenge students to build more complex networks and implementing IP address schemes, creating VLANs and using advanced routing protocols RIP, OSPF and EIGRP to organize and manage a more complex network. Student will configure, verify, and troubleshoot basic to advance router operations and routing on CISCO Devices using Cisco Packet Tracer and real Cisco equipment. Labs will include Testout Lab Sim and using the Cisco Packet Tracer simulation tool.

**6114 - SENIOR PROJECT AND SKILLS USA PDP RELATED THEORY (GR 12)****1 CREDIT**

Senior Labs Course: This course is designed to allow students to work hands-on with Server Management or Computer Virtualization. Student will complete assorted hands-on labs and projects which will be part of their senior portfolio. Senior students will also concentrate on attaining certification in areas of COMPTIA/MTA/Cisco.

**8114- CISCO ACADEMY SEMESTER 3 AND 4 PROGRAM IV (GR 12)****5 CREDITS**

Windows Server Administration Fundamental Course helps teach and validate fundamental technology concepts. Server fundamentals such as managing Windows Servers (including virtualization) and storage, along with monitoring and troubleshooting servers are included. It also covers such topics as essential naming, directory, and print services. Students also learn of popular Windows Network Services and Applications.

Computer Virtualization Course implements and support virtualization of clients of servers in a networked computing environment. This course explores installation, configuration, and management of computer virtualization workstation and servers. Introduce Virtualization and Cloud Computing concepts and technologies and provides information on networked storage for virtualization infrastructure needs.

**INFORMATION TECHNOLOGY CAREER OPTIONS INCLUDE:**

Computer Repair Technician  
Help Desk Technician  
Programmer  
Call Center Technician

Web Site Editor  
Cable Installer  
Network Service technician  
Network administrator

## **HORTICULTURE AND LANDSCAPE MANAGEMENT**

This Program provides students with training opportunities in all aspects of the Green Industry. The curriculum stresses the study of landscaping management, plant and soil science, horticulture, turf management, equipment operation, small engine repair, landscape construction, masonry, greenhouse management, arboriculture care, floral designing, and plant propagation. Students use the Keefe Regional Technical School grounds and greenhouse for hands-on training and real-life work experiences. In addition, eligible students can participate in off-site cooperative work experiences. Placements may include private landscaping companies, Framingham Parks and Recreation Department, Framingham Highway Department, Natick Community Organic Farm or Cavicchio's Greenhouses.

**8101 - LANDSCAPE DESIGN & HORTICULTURE PROGRAM I (GR 9)****3 CREDITS**

A broad overview of the horticultural industry is the primary learning track for new students. Learning to grow, care for and maintain various plants in a wide variety of circumstances is the focus. Plant identification is a constant component of the year as well. Growing plants in the school Greenhouse, vegetable gardens, and grounds are primary learning opportunities. Vegetables are grown and harvested for use in our culinary arts department restaurant. Flowers are grown and utilized for designing, selling, and grounds beautification. Students will also be familiarized with industry equipment and tools.

**8102 – LANDSCAPE DESIGN & HORTICULTURE PROGRAM II (GR 10)****5 CREDITS**

With a good foundation of how plants grow, students at this level work on more publicly visible horticultural projects. Students continue growing plants in all areas of the school grounds as well as maintaining and improving school grounds; maintaining and improving community gardens and property; participating in professional horticultural events, shows, and competitions; and operating all Program landscaping equipment safely and proficiently. The Program also produces its own maple syrup with the efforts of the 10<sup>th</sup> graders. Students will benefit from working relationships with the Natick Organic Farm (maple sugaring, greenhouse growing and gardening), The Massachusetts Horticulture Society as well as Hopkinton State Park (landscaping and natural resource management).

**6102 - LANDSCAPE DESIGN & HORTICULTURE RELATED THEORY (GR 10)****1 CREDIT**

Students will be re-tested on tool and equipment safety and use. Sophomores will learn plant science, growing techniques, horticultural industry practices and regulations, and general mechanical skills. Plant identification is an emphasis at this level. They will practice related math skills and the use of measuring devices. The sophomores will know why MSDS data sheets are posted on job sites and in shop areas as a safety measure, as well as take the OSHA ten-hour training course. Students will be involved in activities involving interpersonal skills to make them better workers and thinkers.

**8103 - LANDSCAPE DESIGN & HORTICULTURE SHOP III (GR 11)****5 CREDITS**

Students begin taking a major role in all aspects of school grounds, landscape, greenhouse, and garden management. At this level, students are responsible for assisting with the planning and timing of all landscape and horticultural work on the school grounds. The students' responsibility is increased and they are expected to take initiative and represent the Program for all school and community horticulture, educational, outreach, sales, and promotional events. Students will maintain all equipment. Small and large engine maintenance and repair work is done at this level. All Program marketing and sales are generated from students at this level. Students are expected to participate in the FFA (student agriculture and horticulture organization) at a competitive level.

**6103 - LANDSCAPE DESIGN & HORTICULTURE RELATED THEORY (GR 11)****1 CREDIT**

Students will be re-tested on tool and equipment safety and use. The juniors will further develop their plant science knowledge. They will utilize this knowledge by developing landscape designs and plans using appropriate plant materials. Designs are developed, presented, and often implemented. Juniors develop their personal portfolios at this level by organizing and accumulating their practical work. Also, students at this level are learning all aspects and responsibilities of horticulture workers in a variety of "green" occupations.

**8104 - LANDSCAPE DESIGN & HORTICULTURE SHOP IV (GR 12)****5 CREDITS**

A leadership role is introduced and placed upon students at this level. Students fine-tune all of their skills in horticulture, landscaping, sales, marketing, customer relations, and mechanics. All components of the Program to date are re-emphasized. Preparations are made for transitioning into industry, small business management, or higher education. Methods of achieving this are:

- a. Empowering students with "crew leader" responsibility and role in greenhouse manager, small engine mechanic, large equipment mechanic, garden manager, tree and shrub specialist, turf manager, shop manager, and sales and marketing manager.
- b. Participate in professional conferences and job fairs
- c. FFA and SkillsUSA competitions
- d. Participation in Horticultural Cooperative Education Experiences (each student is encouraged to do a minimum of a trimester at a workplace).

**6104 - LANDSCAPE DESIGN & HORTICULTURE RELATED THEORY (GR 12)****1 CREDIT**

Students will be re-tested on tool and equipment safety and use. Plant identification, vocabulary, and science skills are all enhanced at this level. Also, the seniors will be working on further preparing themselves for post-graduation by developing resumes, business plans, college applications, scholarship applications, and other relevant materials. Students will be learning about leadership in the workplace. This curriculum ties in with their increased level of responsibility on our school grounds maintaining grounds and gardens. By the third trimester, students should be ready to be placed on cooperative work experiences.

**LANDSCAPE DESIGN & HORTICULTURE CAREER OPTIONS INCLUDE:**

Landscape	Grounds Maintenance Management
Greenhouse Management	Nursery Worker
Arboriculture Worker	Landscape Designer
National, State, or City Department of Public Works	Landscape Construction
Turf Management/Golf Course Management	Equipment Operators
Florist	Park Ranger
Organic Farming	

# LEGAL AND PROTECTIVE SERVICES

The Legal and Protective Services Program provides an opportunity for students to learn fundamental skills and knowledge of professionals in the field of legal and protective services. Students study a variety of legal and protective service areas such as communications, criminal investigation, crime scene processing, criminal law and procedure, disaster preparedness, ethics, law enforcement, private investigations, surveillance practices, and government functions.

## **8161 – LEGAL AND PROTECTIVE SERVICES (GR 9)**

**3 CREDITS**

In this freshman course, students will engage in an introduction to the careers in the legal and protective services field. The curriculum includes the basic knowledge and application of the laws, rules, regulations, and other influences that govern the operation of our nation's criminal justice system and related citizen protective services. Student activities will focus on safety practices and the activities of professionals in the field.

## **8162 –CRIMINAL JUSTICE I (GR 10)**

**5 CREDITS**

Sophomores will be introduced to the basics of the Criminal Justice System. Career pathways in Law, Public Safety Security and Corrections will be introduced. Students will focus on criminal investigation, collection of evidence, criminal trial procedure through moot court experiences, and continue to develop knowledge of Constitutional Law and the Bill of Rights.

## **6162 –CRIMINAL JUSTICE I RELATED THEORY (GR 10)**

**1 CREDIT**

Sophomores will study the criminal justice and civil law. Related Theory will focus on criminal investigations, criminology and psychology, the study of the criminal mind, the basics of evidence law in criminal trials, and civil law cases.

## **8183 – CRIMINAL JUSTICE II (GR 11)**

**5 CREDITS**

Juniors will understand the court system both at state and federal levels. Court room demeanor and testimony and trial process will be taught as well as Civil law and tort liability. Students will gain a general understanding of professionalism and ethics, law enforcement, types of crimes, traffic laws, motor vehicle stops, defensive tactics, crime scene investigation, evidence collection and forensics. Students will also learn about search and rescue, and prepare for 911 dispatch certification.

## **6163 –CRIMINAL JUSTICE II RELATED THEORY (GR 11)**

**1 CREDIT**

Juniors will study civil laws and criminal law within the American legal system at the federal and state levels. Related Theory will focus on case law analysis and identifying the elements of criminal laws and civil law statutes.

## **8164 – CRIMINAL JUSTICE III (GR 12)**

**5 CREDITS**

Seniors will engage in the skills of security, law enforcement, investigations, and the practice of law. Students will learn tactical communication skills and report writing skills. They will learn employment skills for any career as well as understand and be prepared to take a civil service test. Students will complete a senior project related to skills and knowledge gained through this Program. Students will also become First Aid/CPR/AED certified.

## **6164 –CRIMINAL JUSTICE III RELATED THEORY (GR 12)**

**1 CREDIT**

Seniors will study strategies of crime prevention, physical security, cyber security, and the theories of Community Policing. Seniors will engage in the curriculum of a college level course, Introduction to Criminal Justice, and have an opportunity to gain college level credits.

### **LEGAL AND PROTECTIVE SERVICES CAREER OPTIONS INCLUDE:**

First Responder/EMT	Criminal Law
Fire and Rescue	Crime Scene Investigation/Forensics
Defensive/Tactical training	Physical Security
911 Dispatch/Advanced Communications	Cyber Security
Law Enforcement	Legal Practice

## **METAL FABRICATION & JOINING TECHNOLOGIES**

This Program trains students in the technologies of metal fabrication and welding. These are directly related to the processes of the metal products industries. The curriculum allows each student to develop a well-rounded background in several phases of welding and cutting.

Students in the Metals Technology Program may attain certification for the American Welding Society. The Certified Welder (CW) Program tests to procedures used in the structural steel welding.

## **8121 - METAL FABRICATION & JOINING TECHNOLOGIES PROGRAM I (GR 9)**

**3 CREDITS**

Students work with advanced equipment for punching, bending, rolling, and shearing metal as they learn the precise skills of fabricating metal. They will also be trained in the art of welding with oxyacetylene, arc, resistance (spot welding) as well as brazing.

Freshmen will name and know the use of all the tools commonly found in a sheet metal shop. They will learn to safely operate selected pieces of equipment found in the school metal fabrication Program. They will learn to fabricate objects using simple shop drawings, and will observe and carry out all safety principles regarding machine use, proper clothing, and good housekeeping. Additionally, the freshmen will learn safety, setting up and connecting welding equipment, and proper methods of manipulating the torch. They will perform common welding joints and welding positions, and how to do this type of welding with and without a welding rod will be covered. The basics of braze welding and cutting of steel along with basic arc welding and how to hold and maintain an arc will be studied. The freshmen will learn the basic operations and safety of hand tools plus some of the basic machines. They will be able to identify some of the basic metals, their thickness, and uses. They will learn the use of basic arc welding equipment and supplies and will start the basic theory for shielded metal arc welding.

## **6122 – METAL FABRICATION & JOINING TECHNOLOGIES RELATED THEORY (GR 10)**

**1 CREDIT**

Sophomores will learn blueprint reading, drawing, layout and shop math. They will learn how to apply them to shop projects. Students will also learn to safely set up and operate all pieces of power machinery in our metal fabrication shop. Additionally, students will learn shielded metal arc welding, AC-DC operation along with electrode care, operating ranges, and power supplies. They will also learn basic mig welding operation using state-of-the art equipment.

**8122 – METAL FABRICATION & JOINING TECHNOLOGIES PROGRAM II (GR 10)****5 CREDITS**

Sophomores will learn to operate safely all pieces of equipment found in the metal fabrication welding shop, make and read simple shop drawings, and be able to fabricate objects from them. The students will apply all safety principles regarding the use of machinery. Students will learn steel preparation and rod selection as well as arc welding in all positions on mild steel. They will learn the basics of pipe welding. The students will also learn the basics of gas metal arc welding (mig). Sophomores will learn blueprint reading, drawing, layout and shop math. They will learn how to apply them to shop projects. Students will also learn to safely set up and operate all pieces of power machinery in our metal fabrication shop. Additionally, students will learn shielded metal arc welding, AC-DC operation, along with electrode care, operating ranges, and power supplies. Students will also continue to work with a variety of sheet metal projects including layout and fabricating of basic duct work.

**6123 – METAL FABRICATION & JOINING TECHNOLOGIES RELATED (GR 11)****1 CREDIT**

Juniors will learn blueprint reading, weld symbols, and weld mathematics. Additionally, they will learn the theory of gas tungsten welding equipment and supplies along with its safe operation. They will learn the theory of current, power and electrodes for the metals to be welded. They will also learn about inert and shielding welding gasses, mig welding wires, and plasma arc cutting theory.

**8123 – METAL FABRICATION & JOINING TECHNOLOGIES SHOP III (GR 11)****5 CREDITS**

Juniors will learn to operate safely pieces of equipment found in the metal fabrication shop. They will fabricate fittings for duct work in air conditioning, heating, and exhaust systems. Additionally, the juniors will learn how to set up the welding machine for the different welding operations and how to weld light metals as well as heavy metals in all positions using different types of welding joints. The students will also learn the proper use of plasma arc cutting as well as the basics of gas tungsten arc welding. Juniors will learn blueprint reading, drawing, layout for heating, ventilating, and air conditioning, along with precision sheet metal mathematics. Additionally, juniors will learn the theory of gas tungsten welding equipment and supplies along with its safe operation. They will learn the theory of current, power, and electrodes for the metals to be welded. They will learn about inert and shielding welding gasses, mig welding wires, and plasma arc cutting theory.

**6124 – METAL FABRICATION & JOINING TECHNOLOGIES RELATED THEORY (GR 12)****1 CREDIT**

Seniors will learn advanced blueprint reading and drawing. They will learn the theory of layout work, including parallel line development, radial line development, triangulation, and shortcut methods of layout. They will also learn the applications of special non-ferrous welding. They will learn inspection and testing of weldments, heat treatments of metals, metal surfacing, and welder qualification.

**8124 – METAL FABRICATION & JOINING TECHNOLOGIES PROGRAM IV (GR 12)****5 CREDIT**

Seniors will learn to perform, with acceptable skill, all of the operations learned and reviewed in the previous three years. They will be able to operate safely all pieces of equipment found in the metal fabrication shop. Their skills will be limited only by the students' ability and willingness to indulge themselves into their work. Students will also be given Greater latitude to concentrate on that part of the trade that he/she best likes or has shown a Greater aptitude for. Additionally, seniors will learn safety and care of gas tungsten arc welding equipment as well as basic skills in the welding of aluminum, stainless steel and mild steel in the different positions using the different types of welding joints. Destructive and non-destructive testing will also be taught. Seniors will learn the applications of special non-ferrous welding. They will also learn inspection and testing of weldments, heat treatments of metals, metal surfacing, and welder qualification.

**METAL FABRICATION & JOINING TECHNOLOGIES CAREER OPTIONS INCLUDE:**

Apprentice (Sheet Metal)  
Machine Operator  
Welding Apprentice  
Forge man  
Riveter  
Air-Conditioning  
Apprentice Assembler

# PLUMBING

The shortage of skilled tradesmen is expected to increase significantly over the next few years. Shop time during sophomore and junior years cover the introduction to the trade and the basic skills needed to become a successful plumber. Senior year shop students have the opportunity to work on the Keefe Tech house building project or to go to work for a plumbing company on Co-op. All students will receive three years of Related Theory, math, and science. Students completing the three-year Program can receive up to 1700 hours (1 year) of work experience and up to 220 hours (Tier 1 and Tier 2) of related classroom hours towards their Massachusetts Journeyman's Plumbers License.

## **8131 - PLUMBING PROGRAM I (GR 9)**

**3 CREDITS**

Freshmen will learn how to thread pipe. They will have a basic understanding of I.P.S. measurements and applications. Students will learn the proper use of pipe wrenches, pipe fittings, and lubricating oils. Students will learn to cut and ream copper tubing and to assemble the tubing using various procedures including flared, soldered and compression. Students will learn the proper use of torches. They will learn to set up a lead pot and to yarn, pour, and caulk a lead soil pipe joint. The students will also learn basic water and drain line sizing, laws and materials. Safety will be taught during each phase of the course.

## **6132 – PLUMBING RELATED THEORY (GR 10)**

**1 CREDIT**

Sophomores will begin the year by learning the many different types of pipes and fittings involved with the proper assembly of drains and waste pipes such as cast iron, PVC, and copper. The student will be introduced to the many methods of venting a plumbing system. Blueprint reading and drawing will be introduced, and the student will also become proficient in sizing capacities and volumes of all sorts and sizes of piping, tanks, etc. The proper operation of several basic plumbing fixtures such as faucets, water closets, and water heaters will be reviewed extensively.

## **8132 – PLUMBING PROGRAM II (GR 10)**

**5 CREDITS**

Sophomores will learn about types of valves, including gate, globe, and quick closing. Students will learn about special valves such as regulators and also about air chambers. Students will learn about water service mains and water meters. Some gas piping, gas appliances, and gas flues will be taught. Different uses for hangers such as resnor hook, clevis, strap, and van will be taught along with the anchors used to attach them. Safety with rigging and hoisting will be covered. Students will learn knots, chain fall, and come along procedures. Students will learn waste stack sizes, materials, and laws, along with branch line sizes, materials, and laws.

## **6133 – PLUMBING RELATED THEORY (GR 11)**

**1 CREDIT**

Juniors will learn air break and air gap indirect wastes, and storm drain and sewer drain regulations. Septic systems will be taught, and all units of the system will be covered. Students will learn plumbing vents, including: stack, continuous, individual, common, bow, yoke, battery, circuit, loop, wet, and crown.

## **8133 – PLUMBING PROGRAM III (GR 11)**

**5 CREDITS**

Students will learn about floor drains and the different laws covering them. Bathtub and shower installations will be covered. Students will learn about different types of sewer ejectors. Different testing methods will be taught. Students will also learn duriron, glass pipe, and poly special waste systems. Students will learn about special waste traps including plaster, grease, acid, gasoline, and sand traps. Students will also participate in the Keefe Tech House Building Project and can become eligible for Co-op as of January).

## **6134 – PLUMBING RELATED THEORY (GR 12)**

**1 CREDIT**

Seniors will continue with blueprint reading and will, by this time, be able to design and rough the plumbing system for residences and commercial installations. The finer points of plumbing design will be covered such as different manufacturers and styles. The student will learn many principles of business such as estimating jobs, labor costs, pricing material, and figuring overhead costs.



**8134 – PLUMBING PROGRAM IV (GR 12)****5 CREDITS**

Seniors will learn about repairing fixtures in the plumbing system. Special methods and materials to detect leaks will be taught. Students will learn to install and repair different valves including ballcocks, faucet stem, flushometer, gate, globe, mixing, hosebibb, silcock, wall hydrants, and trap seal valves.

Students will learn about trap fixtures and pipe stoppages and how to correct and avoid them. Students will learn about fixtures including wall-hung water closets, floor mount water closets, wall-hung lavatories, vanity lavatories, kitchen sinks, wall-hung urinals, pedestal urinals and bidets. Students will also learn special hospital and commercial fixtures. In addition, students will learn about water heaters fueled by gas, oil, electric and solar. Students will also learn about indirect, direct, and instantaneous heaters. Students will also participate in the Keefe Regional Technical School House Building Project and can become eligible for Co-op).

**PLUMBING CAREER OPTIONS INCLUDE:**

Licensed Plumber – Apprentice, Journeyman, and Master  
Oil Burner Technician  
Service Plumber  
Residential or Commercial Plumber  
Solar Thermal System Installer  
Pipefitter/Welder

## **PROGRAMMING & WEB DEVELOPMENT**

As society becomes more information oriented, computers, technology, and the Internet are an integral part of most jobs. Our students are trained using a state-of-the-art 20-workstation lab running a Windows XP environment. Students will learn how to manage data electronically with Microsoft Office Suite of applications. Programming concepts are taught using Visual Studio, Net Microsoft Access, HTML, Java and JavaScript. Web pages are designed and developed with FrontPage, Dreamweaver and XHTML. Upon graduation, students are prepared for an entry-level position in Computer Programming and Web page development or to further their education by enrolling in a post-secondary school.

**8151 - PROGRAMMING & WEB DEVELOPMENT PROGRAM (GR 9)****3 CREDITS**

This course will introduce students to computer concepts and applications and will focus web technologies. Students will be introduced to the importance of design and usability. Students will learn basic HTML and Cascading Style Sheets (CSS) to produce a variety of web pages, including interactive pages that use JavaScript. Students will be introduced to computer science terminology and concepts, and will apply some of these through game development using the “GameMaker” game development Program. Students will be introduced to logical problem-solving and algorithms through autonomous robotics Programming using Lego Mindstorms.

**8152 - PROGRAMMING & WEB DEVELOPMENT PROGRAM II (GR 10)****5 CREDITS**

This course will teach students fundamentals of Programming, continuing web technologies and introducing Windows application environments. Design and usability, and logical/analytical problem-solving remain central. Programming web sites using HTML, CSS and JavaScript, begun in grade 9, will be expanded on. Application development will use the Visual Studio Integrated Development Environment (IDE) and the C# Programming language. More complex Programming constructs will be introduced and more complex Programs will be developed using GameMaker and Unity. Students will become conversant in data types and basic data structures, and will learn fundamental Programming constructs, including string manipulation, mathematical processing, looping and decision-making. Students will combine hardware practice with applied robotics by building and Programming Raspberry Pi computers.

**6152 - PROGRAMMING & WEB DEVELOPMENT RELATED THEORY II (GR 10)****1 CREDIT**

IT Essentials covers fundamental computer and career skills. The IT Essentials curriculum develops hands on, working knowledge of how computers are assembled and how they operate. Students will learn to build a computer, install and upgrade hardware and software and troubleshoot systems.

**8153 - PROGRAMMING & WEB DEVELOPMENT PROGRAM III (GR 11)****5 CREDITS**

During this year, students will dive deeper into application development using Visual Studio and C#. They will be introduced to more advanced Programming concepts, including complex looping structures, multiple forms, menus, graphics, linked lists, and multi-dimensional arrays. They will delve into modular Programming, functional abstraction, and Programming efficiency. They will be introduced to object-oriented Programming. Relational databases and the use of SQL to store and retrieve information will be covered, and students will integrate SQL and the use of relational data into application development. Students will also dive deeper into web Programming, adding AJAX and Python, and will learn to write web applications that communicate with relational databases. Students will be introduced to *responsive web page design*. A deep appreciation of the importance of *design* on many levels (technical, functional and visual) will be emphasized. The robotics Programming strand will continue with Programming of humanoid robots (NAO) using Python and/or Java.

**6153 - PROGRAMMING & WEB DEVELOPMENT RELATED THEORY III (GR 11)****1 CREDIT**

Basic Networking Fundamentals Course is designed to introduce students to Networks, Routers and Switching essentials. Students will explore the working knowledge of routing, switching, protocols and network applications. Students will use Cisco Packet Tracer simulation tools build and troubleshoot networks.

**8154 - PROGRAMMING & WEB DEVELOPMENT PROGRAM IV (GR 12)****5 CREDITS**

Students will delve deeper into object-oriented Programming and *responsive web page design*. They will also be introduced to some more complex problems in computer science, including finite state automata, and introductory artificial intelligence. Students will put what they have learned together into a *capstone* project of significant scope. The *capstone* project will include front end, middle tier and database components. Students will be required to document and present their projects. Students may (optionally) choose to create a phone or tablet App as part of their project. Robotics will be an optional part of the curriculum and *capstone* project. Students can choose any one of the robotics platforms they have worked with.

**6154 - PROGRAMMING & WEB DEVELOPMENT RELATED THEORY IV (GR 12)****1 CREDIT**

Advanced Networking Routing and Switching course is designed to challenge students to build more complex networks and implementing IP address schemes, creating VLANs and advanced routing.

**Programming & Web Development Career Options Include:****ENTRY LEVEL CAREER OPTIONS INCLUDE:**

Data Entry  
Computer Operator  
Technical Support (including phone support, help desk)  
Computer Maintenance/Repair Technician  
Geek Squad  
Entry Level Sales  
Software Tester

**TECHNICAL CAREER OPTIONS (SOME FURTHER TRAINING REQUIRED) INCLUDE:**

Software Quality Assurance  
Software Test Engineer  
Graphic Designer,  
Web Developer,  
Web Master  
Technical Sales  
Pre-Sales Support

# COOPERATIVE EDUCATION

The Cooperative Education Program provides an opportunity for deserving students to participate in paid employment in their career/technical areas of study during their shop week for area employers. They receive fair and competitive wages and valuable work experience. The employers are expected to grade students based on criteria provided by the school. These selected employers become partners in the educational process by offering expanded learning opportunities in the workplace.

## ELIGIBILITY FOR SENIORS:

Co-op eligibility, at the beginning of the senior year, depends on the following junior year criteria:

- A final grade of C- or better in each academic subject.
- A final grade of B- or better in junior year shop and related.
- MCAS competency determination based on scores in all required areas.
- Obtained OSHA 10-hour safety card.
- Met school's term or yearly attendance requirements.
- Instructor recommendation.

\*Students who are not eligible for cooperative placement at the beginning of grade 12 may become eligible based on their report card at the end of any term during the senior year.

**Summer school grade may not be used for co-op eligibility.**

## ELIGIBILITY FOR TERM III JUNIORS:

- An average grade of C- or better in each academic subject.
- An average grade of B- or better in junior year shop and related.
- **\*Based on the first two terms in grade 11**
- MCAS competency determination based on scores in all required areas.
- Obtained OSHA 10-hour safety card.
- Instructor recommendation.
- Fewer than (10) absences through the end of Term II in the junior year (3 tardies equals an absence).
- Juniors participating in co-op must continue to meet the grade requirements based on year end grades to continue on co-op placement.

## SUMMER COOPERATIVE PLACEMENT FOR JUNIORS:

Summer cooperative placement (new contract) for juniors will commence the last day of their junior year and will end the first day of school of their senior year as regulated by the Department of Elementary and Secondary Education.

## WAIVERS:

**Students may appeal to the Principal for a waiver for extenuating circumstance on an individual basis.**

## TERMINATION OF COOPERATIVE PLACEMENT:

**A student will be removed or terminated from cooperative placement because of ineligibility due to poor attendance, failing grades, suspension, or other disciplinary infractions. Any exception to the above will be decided by the Principal and the Cooperative Placement coordinator.**

# STUDENT ACTIVITIES

## THIS IS A SAMPLING OF THE STUDENT ACTIVITIES:

- American Culinary Federation (ACF)
- Art Club
- Audio-Visual Assistant

- Business Professionals of America (BPA)
- Chess Club
- Chorus
- Dance Club
- Drama Club
- Future Farmers of America (FFA)
- Gay/Lesbian Alliance (GSA)
- Intramural Sports Activities
- Leadership Academy
- National Art Honor Society
- National Honor Society
- South Middlesex Scholars Program
- Student Advisory Committee (SAC)
- Student Ambassadors
- Student Council and Class Officers
- Students Against Destructive Decisions (SADD)
- SkillsUSA
- Yearbook

# **ADDENDUM A**

## **SOUTH MIDDLESEX REGIONAL VOCATIONAL TECHNICAL SCHOOL DISTRICT**

### **CENTRAL OFFICE ADMINISTRATION**

Jonathan Evans - Superintendent/Director  
Shannon Snow, Ed.D – Principal  
Dolores Sharek – Director of Finance & Business Operations  
Domenic Jannetti – Director of Satellite Vocational Programs & Facilities  
Jack Keating - Treasurer

### **SCHOOL COMMITTEE**

#### **ASHLAND**

Edward Burman  
William N. Gaine, Jr.

#### **HOLLISTON**

Sarah Commerford  
Barry Sims

#### **HOPKINTON**

Mia Crandall  
Ruth Knowles

#### **FRAMINGHAM**

Myra Bushell  
James Comeau  
Larry Cooper  
John Evans  
Linda Fobes  
John Kahn  
A.J. Mulvey  
Michael Rossi

#### **NATICK**

Tassos Filledes  
Stephen Kane

# ADDENDUM B

## MASSACHUSETTS COMPREHENSIVE ASSESSMENT SYSTEM (MCAS)

The Commonwealth of Massachusetts requires all students to pass the English Language Arts and Math exams and to meet all local Graduation requirements in order to receive a high school diploma. Beginning with the Class of 2010, students will also be required to pass a Science/Technology MCAS in order to receive a high school diploma. Students take these exams for the first time at the end of the freshman year. Students will have five opportunities during their high school years to pass the MCAS. To assist students in preparing for these exams, Keefe Tech offers many MCAS preparation Programs including MCAS classes during the day and tutoring in the school day. It is important to note that students who have not passed the MCAS may be rescheduled from their electives courses and assigned to MCAS tutoring.

**Certificate of Attainment:** The Certificate of Attainment is available to students who have completed all the local graduation requirements but who have not yet qualified for a high school diploma because they have not passed the required MCAS tests. Students must also meet the attendance requirements for this certificate. This is a state-endorsed credential, based on specific criteria available through the Department of Elementary and Secondary Education.

**Certificate of Program Completion:** A Certificate of Program Completion signifies that successful completion of an individualized Program must include the following areas: Local requirements without MCAS status.

### BOARD OF EDUCATION- MCAS COMPETENCY DETERMINATION (603 CMR 30.0)

\*Beginning with the Class of 2010 and beyond:

Students will be required to meet or exceed a scaled score of 240 on both the grade 10 English Language Arts and Mathematics MCAS exam;

- Students will be required to meet or exceed a scaled score of 220 on one of the high school test- Biology, Chemistry, Intro to Physics, or Technology/Engineering **or**
- Students will be required to meet or exceed a scaled score of 220 on both the grade 10 English Language Arts and Mathematics MCAS exams **and** fulfill the requirements of an Educational Proficiency Plan (EPP); the EPP shall be developed for the subject matter area(s) in which students did not meet or exceed a scaled score of 240 **and**
- Students will be required to meet or exceed a scaled score of 220 on one of the high school test- Biology, Chemistry, Intro to Physics, or Technology/Engineering

Each **Educational Proficiency Plan** (EPP) will include, at a minimum:

- A review of the student's strengths and weaknesses, based on MCAS and other assessment results, coursework, grades, and teacher input;
- The courses the student will be required to take and successfully complete in grades 11 and 12; and
- A description of the assessments the school will administer on a regular basis to determine if the student is moving toward proficiency.

### MCAS PERFORMANCE APPEAL PROCESS

MCAS Performance Appeals are available for students who have not passed the test after three attempts, but who have demonstrated through their course work and grades that they have the knowledge and skills in English and/or mathematics equal to the standard established in the grade 10 MCAS test.

To be eligible for an MCAS Performance Appeal, a student must have:

- Attended school 95% of the time both last school year and the current school year,
- Taken the 10<sup>th</sup> grade MCAS test 3 times
- Participated in MCAS tutoring or other academic help that is available.

## STANLEY Z. KOPLIK CERTIFICATE OF MASTERY

The Certificate of Mastery Program provides recognition by the Massachusetts State Department of Education to high school juniors and seniors for outstanding academic achievement. To be eligible, students must have taken the tenth grade English Language Arts and Mathematics MCAS test and score Advanced in one category and Advanced or Proficient in the other. To confirm your eligibility, consult with your school Guidance Counselor. Upon the confirmation of eligibility, your counselor will provide you with the application and the additional requirements that need to be completed prior to graduation. Upon completing the requirement, provide the completed application to your Guidance Counselor who will process the application for the tuition waiver for Massachusetts State Colleges and Universities. For additional information, please consult your Guidance Counselor.

## JOHN AND ABIGAIL ADAMS SCHOLARSHIP

The John and Abigail Adams Scholarship provides a tuition waiver for up to eight semesters of undergraduate education at a Massachusetts state college or university. The scholarship covers tuition only; fees and room and board are not included. **The scholarship must be used within six years of a student's high school Graduation.**

In order to be eligible for the John and Abigail Adams Scholarship, Massachusetts public high school students in the **class of 2015 or earlier** must

- have scores of *Advanced* and *Proficient* on Grade 10 MCAS tests in English Language Arts (ELA) and Mathematics (at least one score must be *Advanced*) **AND**
- have combined scores on MCAS ELA and Mathematics tests that place them in the top 25 percent of students in the Graduating class in their district.

**Beginning with the class of 2016**, in order to be eligible for the scholarship, students must

- score at the *Advanced* performance level on one of the three high school state assessment tests in ELA, Mathematics, or STE (Biology, Chemistry, Introductory Physics, or Technology/Engineering); **AND**
- score at the *Proficient* level or higher on the remaining two high school state assessment tests; **AND**
- have combined scores from the three tests that place them in the top 25 percent of students in the Graduating class in their district.

Scholarship eligibility is based on each student's **first attempt** at taking the spring Grade 10 MCAS tests in ELA and Mathematics (and for students in the class of 2016 and beyond, first attempt at taking one of the four STE tests). In order to receive the scholarship, a student must be enrolled in a Massachusetts public high school in his or her senior year. Students who qualify for the scholarship will receive award letters and further information in the fall of their senior year.

Stanley Z. Koplik Certificate of Mastery with Distinction Award	John and Abigail Adams Scholarship
<p>Students qualify for the Koplik certificate by 1) scoring at the <i>Advanced</i> level on the grade 10 MCAS test in English Language Arts (ELA), Mathematics, or Science and Technology/Engineering and <i>Proficient</i> or higher in the other two subject tests <b>and</b></p> <p>2) demonstrating additional academic achievements on AP and/or SAT II (subject tests) Exams. The Koplik certificate provides a tuition waiver to a Massachusetts state college or university.</p>	<p>Students qualify for the Adams Scholarship by 1) scoring at the <i>Advanced</i> and <i>Proficient</i> levels on grade 10 MCAS tests <b>and</b> 2) having a combined score that places them in the top 25% of students in their district. The Adams scholarship provides a tuition waiver to a Massachusetts state college or university.</p>
<p>Students may take the Grade 10 MCAS tests * a second time in grade 11 in an attempt to meet the eligibility requirements for the Koplik certificate.</p> <p>*STE re-take added per Commissioner's Update 12/22/11</p>	<p>Students are not allowed to take Grade 10 MCAS tests a second time. The Adams scholarship is based on first time grade 10 test takers.</p>
<p>Students must submit an application for the Koplik award to their guidance counselor by the beginning of May of their senior year.</p>	<p>There is no application for the Adams scholarship award. Students who qualify for the scholarship receive an award letter in the fall of their senior year.</p>
<p>In order to use the award, students must present a copy of their certificate to the financial aid office at the Massachusetts state college or university they plan to attend and file the Free Application for Federal Student Aid.</p>	<p>In order to use the award, students must present their award letter to the financial aid office of the Massachusetts state college or university they plan to attend and file the Free Application for Federal Student Aid.</p>
<p>The tuition waiver must be used in the fall of the year the student Graduates from high school.</p>	<p>The tuition waiver must be used within 6 years of a student's high school Graduation.</p>
<p>The tuition waiver is in effect for eight consecutive semesters provided that the student maintains a cumulative GPA of 3.3 or higher. If the GPA falls below 3.3 the student loses the tuition waiver.</p>	<p>The tuition waiver is in effect for eight semesters provided that the student maintains a cumulative GPA of 3.0 or higher. If the GPA falls below 3.0 the student loses the tuition waiver.</p>
<p>The tuition waiver applies to all Massachusetts public state colleges and universities.</p>	<p>The tuition waiver applies to all Massachusetts public state colleges and universities with the exception of the Massachusetts College of Art and Design.</p>
<p>A student who receives both the Koplik Scholarship and a Pell grant is eligible for funds through the Academic Competitiveness (AC) Grant.</p>	<p>A student who receives both the Adams Scholarship and a Pell Grant is not automatically eligible for funds through the Academic Competitiveness (AC) Grant.</p>



# **ADDENDUM C**

## **COLLEGE PLANNING**

The Keefe Technical School Counseling Department is committed to helping students with their plans for post-secondary education. If a student is planning on applying to a 2- or 4-year college or university, they should express this to their counselor early on in their high school career and work with their counselor to take the appropriate courses and necessary testing in order to be eligible for admission.

The School Counseling Department strongly recommends that students planning to attend college take the PSAT in October of their Junior year and the SAT and/or ACT Test in May or June of their Junior year. During the senior year, students planning to apply to a 4-year college should take the SAT/ACT test in October, November or December.

### **PREPARATION FOR POST-SECONDARY EDUCATION**

To prepare for admission to a college or other institute of higher learning, the student is advised (1) to make proper choices of subjects and (2) to maintain a sufficiently high grade or achievement in his/her major subjects. Other matters of consideration are personal interview, personal characteristics, and health standards.

School achievement and test scores are the best predictors of success in college. The colleges have become highly selective, and each year admission is becoming more competitive. A high school diploma alone does not guarantee admission to most colleges; the decision to admit a student rests with the college.

Many colleges give preferences to the students who have earned at least sixteen units. Students are also encouraged to consider electing courses in the areas of art, music, and occupational education. In addition to the sixteen academic units, it is imperative that students consult the college catalogs and the counselors for up-to-date information about admission requirements.

### **CANDIDATES FOR COLLEGE ADMISSION**

#### **General Information**

1. Students must qualify for admission to college by selecting a Program consistent with the admission requirement of most colleges
2. An applicant for college is judged on his/her achievement, class rank, results of entrance examinations, interview, and recommendations
3. The candidate should follow these procedures:
  - a. Make a firm decision that college is his/her goal
  - b. Review the literature of specific collegiate institutions to ascertain what the entrance requirements are and decide which schools he/she would like to attend.
4. Discuss plans with his/her parents and counselor
5. Visit the collegiate institutions to which he/she plans to apply as early as possible following the junior year
6. Arrange to take the necessary entrance examination. In general, these would be the SAT Reasoning Test, SAT Subject Test, and PSAT tests of the College Board and/or the ACT. Information and applications are available from counselors.
7. Secure applications from the colleges early in the senior year and complete such applications with care
8. Request that transcripts be forwarded by the counselor
9. Furnish any references which may be required
10. Complete the required Financial Aid forms (FAFSA, CSS Profile) if he/she plans to apply for financial aid. Information is available in the School Counseling Office. The student should also check all financial aid sources with his/her counselor

### **COURSE REQUIREMENTS: 4-YEAR COLLEGES AND UNIVERSITIES**

Students planning to attend a 4-year college or university or a 2-year Community College (transfer Program) should elect the most demanding Program for grades 9-12.

The requirements for acceptances to most colleges are a minimum of 16 units including: English, 4 units; College Math, 3 units; Social Studies 2 units; and Science, 3 units.

Many colleges require two years of a foreign language only for the Liberal Arts Program. To be certain of the language requirements, a student should check the college catalogue or see his/her counselor. State colleges or universities of Massachusetts require two years of a foreign language. Students from Career/Technical High Schools are eligible to have the foreign language requirement waived.

## 2-YEAR COLLEGES

### TRANSFER

Some 2-year colleges offer an Associate in Arts or Associate in Science Program. If the student completes his/her 2-year college Program with sufficiently high grades, he/she may transfer to a 4-year college for the final two years.

### CAREER/TECHNICAL PROGRAMS

The admission requirements for career Programs in 2-year or Community Colleges are not as strict as those for academic Programs. Usually a high school diploma is required. Successful completion of a career Program does not usually meet the requirements for transfer to a major 4-year college or university. It does, however, lead to a certificate and is designed to prepare students for immediate employment in a specific occupation.

## MASSACHUSETTS STATE UNIVERSITY SYSTEM AND UMASS MINIMUM ADMISSIONS REQUIREMENTS

The admissions standards for the state universities 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 admissions 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. 16 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 freshman class entering fall 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	University of Massachusetts GPA
3.00	3.00

## 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.*

Scores on the new writing section of the SAT will not affect the sliding scale for freshman applicants to the Massachusetts state universities and to the University of Massachusetts at this time. The sliding scale, used in making admissions decisions for students with high school grade point averages falling below the required minimum, will continue to be based upon the combined critical reading (verbal) and math sections of the SAT.

### Sliding Scale for Freshman Applicants to UMASS

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

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

## Transfer Applicants

Transfer students must meet one of the following criteria:

1. 12-23 transferable college credits and a minimum 2.5 college GPA;
2. Up to 23 transferable college credits, a minimum 2.0 college GPA, and a high school transcript that meets the admission standards for freshman applicants; or
3. 24 or more transferable credits and a minimum 2.0 college GPA.

For the purpose of the transfer GPA calculation, transferable credits are to be calculated based on non-remedial credits earned from the most recently attended higher education institution. Students who have earned college credits while enrolled in high school are not transfer students and must meet the admissions standards for freshman applicants.

### *Determining course credit for transfer*

College credits earned need only be transferable to the accepting institution in order to be counted, and not necessarily transferable to a specific degree Program. Remedial coursework is not transferable. For the purpose of the transferable GPA calculation, transferable credits are to be calculated based on non-remedial credits earned at the most recently attended higher education institution.

### *MassTransfer Policy*

**MassTransfer** provides any student in the Massachusetts public higher education system the intermediate goal of completing a portable general education transfer block which satisfies general education requirements across institutions.

**MassTransfer** also provides community college students who complete designated associate degrees with the benefits of the full transfer and applicability of credit, guaranteed admission, and a tuition discount (each benefit based on the student's final grade point average) to linked baccalaureate Programs.

### *Non-Traditional Applicants*

Students applying for admission more than three years after high school graduation, or who have completed the GED and whose high school class graduated three or more years prior to applying to college, must show their ability to succeed in college based upon their high school and/or college transcripts.

Some campuses may consider standardized test scores and other factors as part of the admissions process for non-traditional applicants.

Students who drop out of high school, earn a GED, and apply to college within three years of when their high school class graduated, are subject to the same admission standards as students applying within three years of graduation from high school.

## **EXCEPTION ALLOWANCES**

### **English as a Second Language (ESL) Applicants**

English as a Second Language (ESL) applicants must complete the 16 required college preparatory courses with two exceptions:

1. ESL applicants may substitute up to two college preparatory electives for the two required foreign language courses and,
2. ESL applicants may substitute up to two years of college preparatory ESL English courses for college preparatory English courses.

### **Learning Disabled Applicants**

Applicants with professionally diagnosed and documented learning disabilities (documentation must include diagnostic test results) are exempt from taking standardized tests for admission to any public institution of higher education in the Commonwealth. Such students, however, must complete 16\*\* required academic courses with a minimum required GPA of 3.00 or present other evidence of the potential for academic success.

**\*\***An applicant may substitute two college preparatory electives for the two required foreign language courses only if the applicant has on file with the high school results of a psycho-educational evaluation completed within the past three years that provides a specific diagnosis of a learning disability and an inability to succeed in a foreign language.

*Eligibility for admission is not an entitlement of admission for any applicant, including learning disabled students.*

This policy frames minimum standards for admission to Massachusetts state universities and UMass. Institutions are free to set higher standards and/or to impose additional requirements. In any case, meeting minimum standards for admissibility does not guarantee admission for any applicant. The final decision on accepting an applicant rests with the individual campus.

### **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:

1. Two vocational-technical courses may be used to fulfill the two required electives.

2. 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:

- Complete at least one Carnegie unit of foreign language;
- Complete a fourth Carnegie unit of mathematics or science, which need not be a laboratory course; or
- 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 universities will be required to meet DOE requirements for foreign language study.

## **SUGGESTED COURSES FOR COLLEGES**

**(Most cases: 1 credit = 1 year of study)**

Here are a few typical four-year patterns which illustrate the way in which you should plan your Program. Be sure to check the requirements for entrance to the colleges or schools in which you are interested. Investigate the qualifications for the occupational field you have chosen.

1. If you are planning to go to a Liberal Arts College, State College or University:

4 Years of English

4 Years of Mathematics

2 or more Years of a Foreign Language (Waived for Career/Technical Students)

3 Years of Science (including three lab courses)

3 or more Years of Social Studies (to include US History and World History)

2. If you are planning to enter the Fine Arts or Practical Arts fields, in addition to the required subjects, consider electing as many courses as possible in your field of specialization. Keep in mind your required subjects as well as those subjects that may be requested by the college, school, or vocation of your choice.