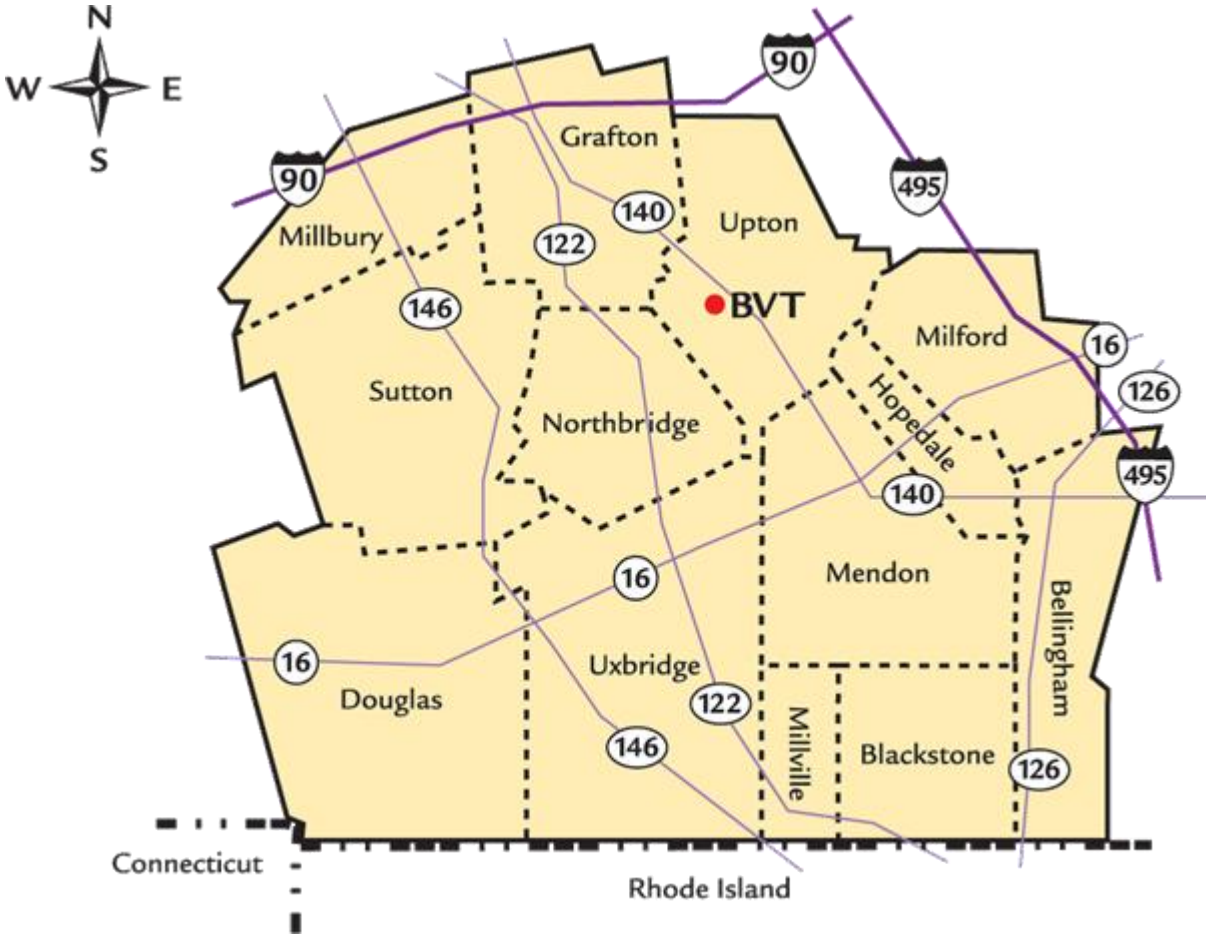
Transforming Education



2016-2017
Program of Studies

http://www.valleytech.k12.ma.us/domain/198

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FOREWARD

This Program of Studies is intended to provide students and parents with a general overview of the courses offered at Blackstone Valley Regional Vocational Technical High School and should be helpful in selecting your program of studies for the coming year. Blackstone Valley Tech recognizes that each student is unique and possesses specific strengths, needs, and learning styles. The courses offered at Blackstone Valley Tech provide all students the opportunity to develop their capabilities in a variety of content areas and at the appropriate and challenging levels of learning.

All courses listed in this catalog are intended to be flexible, adaptable, and responsible in terms of student needs and represent our current efforts to align with the Massachusetts Curriculum Frameworks and the MassCore course of study.

Blackstone Valley Tech staff members are highly qualified in their specific content areas and make practical applications of all academic and technical subjects in order for students to learn the concepts required for success in their skill training or occupation. We are always committed to providing individual assistance necessary to ensure student success.

Non-Discrimination

It is the policy of the Blackstone Valley Vocational Regional School District not to discriminate on the basis of race, color, sex, religion, national origin, gender identity, sexual orientation, homelessness, or disability in its educational policies as required by Title VI, Title IX, Section 504 and Chapter 622.

Translations

Documents:

If you would like a translation of this document, please contact the Main Office 508-529-7758, x3172.

Si desea una traducción de este documento, por favor póngase en contacto con la oficina principal 508-529-7758 x3172.

Se você gostaria de uma tradução deste documento, entre em contato com o Escritório Central 508-529-7758 x3172.

BVT Website:

Our website can be translated using “Language Translator” link at the bottom of the main page!

Nuestro sitio web se puede traducir mediante enlace "Language Translator " en la parte inferior de la página principal!

Nosso website pode ser traduzido usando link " Language Translator " na parte inferior da página principal!

Administration

Dr. Michael F. Fitzpatrick	**Superintendent-Director**
Anthony E. Steele II	**Assistant Superintendent-Director/Principal**
Thomas Belland	**Vocational Coordinator**
James Brochu	**Director of Construction/Facilities**
Michele Denise	**Director of Student Life**
Edward W. Evans III	**Assistant Principal**
Alison Fraser	**Resource Development Specialist**
Cyra Hathaway	**Vocational Coordinator**
Kurtis Johnson	**Assistant Superintendent for Finance/Operations**
Joann Monks	**Practical Nursing Program Coordinator**
Donna Sroka	**Director of Technology**
Rebecca A. Swasey	**Director of Curriculum and Instruction**
Matthew P. Urquhart	**Assistant Principal**
Yvette Whitesell	**Director of Student Services**

Mission Statement

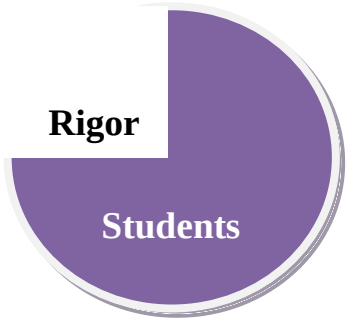
At Valley Tech we create a positive learning community that prepares students for personal and professional success in an internationally competitive society through a fusion of rigorous vocational, technical, and academic skills.

Philosophy

Education is the process of developing an individual's potential. To realize this goal, we create a powerful social network of supportive relationships that deliver a rigorous and relevant education. Over time, our students experience an increase in autonomy, a sense of belonging and commitment, along with opportunities to display competence in the performance of relevant work. All staff are committed to promoting life-long learning and career development in a safe environment.

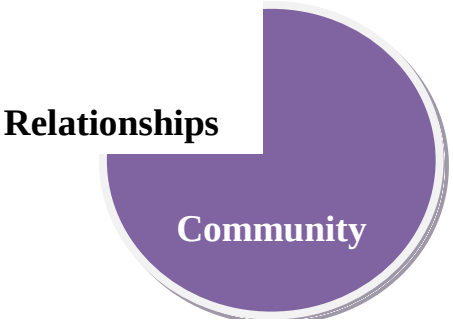
Individualized instruction recognizes diverse learning styles and incorporates the use of state-of-the-art technology so that each student can develop his/her evolving talents to the fullest. Challenging academic/vocational/technical programming is complemented by a comprehensive competency-based career counseling program and a wide array of extracurricular activities. As a publicly supported institution, our approach fosters an atmosphere of tolerance, promoting equality and an appreciation for diversity. Additionally, we strive to develop in our students an understanding of and a responsible commitment to the principles of freedom, respect, social justice, personal worth, economic independence, and concern for the environment.

To fuse rigorous academic, vocational and career technical skills with enhanced proficiencies in communication, critical thinking, collaboration, and literacy in media, information, and technology, empowering students to be resilient participants in a fluid global economy



To nurture qualities of character, including self esteem, introspection, accountability, leadership, and creativity as students become credentialed, contributing members of an evolving society

To foster among staff a culture that embraces adaptability, reflection, mutual support, and ongoing professional development in the interest of continuous improvement



To promote a safe, respectful community of shared values acknowledging the cultural diversity of our thirteen towns while forging a partnership with our civic and business communities

Student Services Department (508) 529-7758 x3013		
Ms. Yvette Whitesell	**Director of Student Services**	**x3117**
Ms. Jennifer Antonelli	School Counselor	x3023
Ms. Brooke Carney	School Counselor	x3012
Ms. Caitlin Forgit	School Counselor	x3118
Ms. Gillian Granger	School Counselor	x3138
Ms. Susan Milewski	School Counselor	x3060
Ms. Courtney Allain	School Psychologist	x3189
Ms. Luanne Pehl	School Adjustment Counselor	x3066
Ms. Alyson Turner	School Adjustment Counselor	x3101

School Based Health Center

Blackstone Valley Tech School Based Health Center (SBHC) provides on-site medical, nutrition, and mental health case management services. The Health Center operates in conjunction with Milford Regional Medical Center. The Health Center offers convenient, teen friendly services in a confidential manner and is operational while school is in session.

Our goal is to treat and to prevent health and social problems that often interfere with academic success. Students can use the Health Center to receive preventative health care or treatment for acute/minor illnesses, psychological and emotional support. We are also available for health related questions/concerns or support services if needed. The Health Center will not replace your child's primary care provider.

The Health Center is staffed by a Nurse Practitioner, a Nutritionist, and an Office Coordinator.

School Based Health Center (508) 529-7758 x3702		
Dawn Cater	**Nurse Practitioner**	**x3711**
Robin Brown	**Social Worker**	**x3190**
Katie Lynch	**Social Worker**	**x3190**
Martha Pellegrino	**Nutritionist**	**x3710**
Michele Dafonte/Amy VanderVeer	**Office Coordinators**	**x3702**

Academic Course Selection Process

Blackstone Valley Regional Vocational Technical High School is committed to providing every student with an education best suited to his or her individual needs and learning style. Our course offerings have been carefully developed to challenge all students to maximize their academic and vocational experiences at BVT. The academic course selection process is a collaborative event that factors in student interest, parent/guardian concerns, teacher and counselor recommendations, student work ethic, past student performance, as well as data points that may include placement test and standardized test results. Students achieving a grade of 90 or better are encouraged to consider the next higher level of that course. Our primary objective is always to place students appropriately in courses and levels where they will not only be challenged but also successful in attaining their personal goals.

Academic Course Requirements

Every student at Blackstone Valley Tech is required to enroll in four years of English, Mathematics, Science, Social Studies, Career Enrichment and Electives. The Career Enrichment courses consist of activities designed to develop 21st century skills that enhance career readiness and employability. Elective courses are intended to supplement a student's core academic and technical studies and should be in concert with the student's four-year and post-secondary plan. Please note that some courses may not run during a given school year due to student interest and/or teacher availability. Please refer to *Appendix A* which contains Massachusetts State College admissions requirements and may also serve as a helpful guideline for course selection and post-secondary planning.

Career Vocational Technical Education

The curriculum for Blackstone Valley Tech approved Chapter 74 Career Vocational Technical Education (CVTE) programs, is developed, aligned and revised based on the current Massachusetts CVTE Frameworks. Vocational instruction is designed utilizing the Massachusetts Framework strands, competencies and tasks, as well as local, state, and national licensing and certification requirements. Valuable industry input is derived from the Program Advisory Committees, the General Advisory Committee and subject matter experts in each area of instruction.

Portfolio Requirements

The Student Portfolio Program at Blackstone Valley Regional Vocational Technical High School is an "Across-the-Curriculum" initiative that provides the opportunity, instruction, and provisions for every student to create a portfolio that demonstrates compelling evidence of the vocational, academic, and employability skills acquired throughout the high school career. Every student in grades 9 through 12 is required to submit a portfolio at the end of each year to be used as part of the evaluation of the student's annual performance, and promotion/graduation status, as well as employment and/or post-secondary education readiness. The Student Portfolio Handbook, along with detailed templates and instructions, are available to students, staff, and parents on-line at http://www.valleytech.k12.ma.us.

Grade Point Average and Class Rank Calculation

Grade point averages (GPA) and class rank are important to students seeking scholarships, financial assistance, and other post-secondary endeavors. GPA and class rank are calculated using a system of levels and credits. Each academic and elective course is assigned the appropriate level based on the rigor of the curriculum and performance expectations; AP courses are rated at level one, Honors courses are rated at level two, mainstream courses are rated at level three, and courses with modified curriculum and/or performance expectations are rated at level four. For the purpose of calculating GPA only, a level one rating elevates a grade average by twenty points, level two ratings elevate a grade average by ten points, level three ratings elevate a grade average by five points and level four ratings calculate grades at face value. It is important to note that levels do not affect the grade published on a student's report card—levels provide a means for accurately calculating class rank for a diverse student population. Levels may also be utilized to adjust for an individual with significant modifications to his/her course expectations. Multiplying a student's adjusted class averages by the corresponding credit value, and then dividing by the total number of attempted credits derives a student's GPA and class rank.

Superintendent-Director's Commendation List Criteria

Commendation List students are selected three (3) times per year, at the end of each trimester, based on the following criteria:

1. A student must maintain a grade point average of 80% or above (no incompletes) in each technical, related and academic course for that trimester.

2. A student must maintain an effort and conduct grade average of 2 or better in each technical, related, and academic course for that trimester.

3. A student may not be absent more than six (6) days during the trimester. Consideration will be given to students who exceed six (6) days of absence due to prolonged illness when verified by a physician's note.

4. A student may receive no more than three (3) aftersessions and zero (0) suspensions during the trimester.

Minimum Credit and Portfolio Requirements for Promotion / Graduation

Under the provision of the Massachusetts Department of Education and Blackstone Valley Vocational Regional School District, a full high school diploma may be earned at BVT. Blackstone Valley Tech is accredited by the New England Association of Schools and Colleges.

To earn a high school diploma a student must fulfill the following minimum requirements:

All students must enroll in Math, English, Science, History and Related courses each year.

As a minimum requirement all students must pass the courses listed to the right by earning a final average of 60 or greater.

• 4 years of Vocational Technical Program	32	Credits
• 2 years of Related	2	Credits
• 4 years of English	8	Credits
• 4 years of Math	8	Credits
• 3 years of Science (including 1 lab science)	6	Credits
• 3 years of Social Studies	6	Credits
• Additional Elective Courses	3	Credits
• Enrichment Courses	3	Credits

Minimum Academic and Shop Credits Required for Graduation* = 68 Credits

***Additional Requirements for Promotion and Graduation:**

- No student will be **promoted** if he/she fails more than one (1) core course in a school year.
- No student will be **promoted** if he/she fails English or math during any school year.
- No student will be **promoted** if he/she fails in Technical Shop during any school year.
- Students must obtain three (3) credits from Electives to **graduate**.
- Students must obtain three (3) credits from Enrichments to **graduate**.
- Any student who fails to fulfill **promotion** requirements will be subject to an administrative review to determine appropriate placement for the following school year.
- All students must submit a passing Career Portfolio to **graduate.**
- All students must successfully complete all requirements for MCAS Competency Determination to **graduate.**

Grading System

Superior	90-100	
Very Good	80-89	
Satisfactory	70-79	
Creditable	60-69	
Failure (no credit)	0-59	
I	Incomplete	(Make-up work is required)
M	Medical	(Doctor's note is required)
W	Withdrew	
	Conduct	**Effort**
Excellent	1	1
Good	2	2
Fair	3	3
Unsatisfactory	4	4

Student shop performance is assessed daily. A weekly assessment record is maintained and averaged to determine the trimester grade point average. Absenteeism is factored into the weekly assessment record and may reduce the weekly average by five (5) points for each day absent. Absences, fully substantiated for just cause, will not result in a penalty. Absences caused by disciplinary reasons or truancy will be factored in as a zero (0) per day and will be included in the weekly assessment record calculation.

Incomplete Grades

An "I" (incomplete) appearing on a report card in any given subject will indicate that a student has failed to make up missed work. It is expected that students will complete make-up work within two (2) weeks of returning from an extended absence unless other arrangements are made with school officials. This applies to all shop, related or academic classes. A student receiving an incomplete grade is responsible for making arrangements with his/her teacher(s) to make up the work within ten (10) days from the end of the marking period. Failure to make up work within the prescribed time will result in a grade of zero for the missed work and will be factored in the determination of a numerical grade point average.

Mid-Term Progress Reports

An academic and vocational progress report will be issued at the middle of each term for all students. These reports indicate student performance on class/shop assignments, homework and tests, as well as student conduct and effort. Progress reports will be available via iParent or mailed to the parent/guardian upon request.

Extra Help and Web-Based Resources

Students are encouraged to seek support for their course of study by attending a special help period scheduled for after dismissal on Tuesday and Thursday afternoons from 2:15-3:00 P.M. It is the student's responsibility to take the initiative in making arrangements to see teachers for extra help when having difficulty with subject matter or having work to make up after an absence. In addition, the school's website hosts a variety of web-based resources for students. Simply go to ***www.valleytech.k12.ma.us*** and follow the links to the ***Student Links & Resources.***

Summer School

All summer school placements must be pre-approved by the Director of Curriculum and Instruction.

Guidelines:

- A maximum of two (2) core courses (academic) may be taken during summer school.
- Vocational courses cannot be made up in summer school.
- Approved lists of local summer school opportunities are available in the School Counseling Office.
- A student must achieve a minimum grade of 75% in summer school to receive credit and a recordable grade of 60% on his/her transcript.
- The original failing grade will still appear on the student's transcript.
- All summer school grades are due to the School Counseling Office prior to the first day of the new school year. Failure to do so may result in retention.

Please Note:

- A student will not be allowed to make up a core course (academic) via online distance learning.
- A student will not be allowed to make up a core course (academic) in summer school if he/she received a combination of "I" and failing numerical grades in that subject for all three trimesters.

Advanced Placement Courses

Blackstone Valley Tech is committed to offering challenging and rigorous coursework to prepare students for the demands of the 21st century. As newly accepted 8th graders, Valley Tech students and parents are guided to create a roadmap to graduation and beyond. Within that on-going process, students and parents are empowered to make decisions about career preparation, course selections, and appropriate levels of rigor. Students are generally encouraged to reach for the most challenging levels of coursework possible.

Blackstone Valley Tech proudly offers Advanced Placement (AP) courses in the following departments: mathematics, science, English, social studies, foreign language and Information Technology. Enrollment is open to all students in those departments; however, students must meet the prerequisite coursework for AP subjects. Please consult the course descriptions in this book for more specific information regarding prerequisites for each AP course offered.

Students who elect to take AP course(s) must also agree to participate in the AP exam(s) at the conclusion of the course(s). Please see the section titled "*Grade Point Average and Class Rank Calculation*" for more information about how Advanced Placement rigor is rewarded in the GPA calculation.

Please note:
Some AP courses may not run during a given school year due to student interest and/or teacher availability.

Cooperative Education Program

The Cooperative Education Program is a continuation of the school program that provides qualified senior students with a vocational occupational employment opportunity in an industrial setting. The work engaged in must be directly related to the vocation in which the student has been trained and Cooperating employers agree to provide additional training as specified by the school. Students participating in this program work rotating weeks according to the school calendar. The employer reports student performance to the school on a regular basis and students are paid for their work.

First Trimester senior year eligibility for the Cooperative Education Program is met during the junior year and is based on the following criteria:

- Completion of at least two years in the Vocational Technical program of study
- Completion of OSHA 10; General Industry or Construction
- Completion of Employability Portfolio
- Must meet advanced shop competency requirements
- Must be recommended by Vocational-Technical Department Team Leader
- Junior year final grade point average of 70% or higher
- No individual course grade lower than 60% during the third trimester of junior year
- All Effort and Conduct grades must be 1 (excellent) or 2 (good)
- Maximum of nine days absent during the junior year

If a student is denied eligibility, the student has the right to submit an appeal to the Cooperative Education Review Team. In the situation where a student is denied eligibility by the Review Team, an individualized contract may be developed whereby the student may become eligible for Co-Op after the first trimester of the senior year is completed.

Second Trimester senior eligibility is based on the following requirements during the first trimester of 12^{th} grade:

- Completion of at least two years in the Vocational Technical program of study
- Completion of OSHA 10; General Industry or Construction
- Completion of Employability Portfolio
- Must be recommended by Vocational-Technical Department Team Leader
- Must meet advanced shop competency requirements
- Grade point average of 70% or higher during the first trimester
- No individual course grade lower than 60% during the first trimester
- All Effort and Conduct grades must be 1 (excellent) or 2 (good)
- Maximum of three days absent during the first trimester

A student may be removed from the Cooperative Education Program if one or more of the following conditions exist:

- The student receives a failing or incomplete grade in any subject
- A student receives a conduct grade of 3 (fair) or 4 (unsatisfactory)
- The student is absent more than three (3) days in a trimester without an acceptable excuse validated by written documentation from the appropriate authority
- A student participates in behavior leading to disciplinary suspension from school
- A student fails to return time slips, weekly work reports and/or evaluations to school

Refer to the *Student Handbook* for junior year Cooperative Education Program eligibility criteria.

Academic Courses 2016-2017

	Grade 9		Grade 10		Grade 11		Grade 12	
ENGLISH	Honors English I	121	Honors English II	122	AP English Language & Composition	133	AP English Literature & Composition	134
	College Prep English I	101	College Prep English II	102	Honors English III	123	Honors English IV	124
	English I	111	English II	112	College Prep English III	103	College Prep English IV	104
	English I	911	English II	912	English III	113	English IV	114
					English III	913	English IV	914
MATH	Honors Algebra II	223	Honors Geometry	222	Honors Pre-Calculus/Intro to Trig	224	AP Calculus AB	235
	College Prep Algebra I	221	College Prep Geometry	212	College Prep Pre-Calculus/Intro to Trig	228	College Prep Pre-Calculus	229
	College Prep Algebra I Part I	200	Geometry	202	College Prep Algebra II	220	College Prep Functions and Trigonometry	219
	Algebra I Part I	921	Geometry	922	College Prep 3Algebra I Part II	210	College Prep Algebra II	220
					Algebra I/Part II	923	Algebra II	215
							Algebra II	925
SCIENCE	Honors Biology (1 year course)	345	Honors Biology (1 year course)	345	AP Biology	370	AP Biology	370
	College Prep Biology Part I	310	Honors Biology Part II	316	Honors Biology	345	Honors Biology	345
	Biology Part I	947	College Prep Biology Part II	315	College Prep Biology	320	College Prep Biology	320
	Honors Physics (1 year course)	344	Biology Part II	948	AP Chemistry	390	AP Chemistry	390
	College Prep Intro to Physics I	311	Honors Chemistry (1 year course)	342	Honors Chemistry	342	Honors Chemistry	342
			Honors Physics (1 year course)	344	College Prep Chemistry	332	College Prep Chemistry	332
			Honors Intro to Physics II	318	AP Physics I	381	Chemistry	958
			College Prep Intro to Physics II	317	Honors Physics	344	AP Physics I	381
					College Prep Physics	334	Honors Physics	344
					Physics	957	College Prep Physics	334
SOCIAL STUDIES	Honors U.S. History I	440	Honors U.S. History II	426	Honors World History II	442	AP U.S. History	432
	College Prep U.S. History I	415	College Prep U.S. History II	416	College Prep World History II	417	Honors American Government	422
	U.S. History I	429	U.S. History II	425	World History II	433	College Prep American Government	418
	U.S. History I	946	U.S. History II	935	World History II	932	American Government	421
							American Government	934
	Career Enrichment 9	611	Career Enrichment 10	612	Career Enrichment 11	613	Career Enrichment 12	614
	Electives							
ELECTIVE COURSES	Music 9	141	Music 10	142	Music 11	143	Music 12	144
	Art 9	161	Art 10	162	Art 11	163	Workplace Writing	174
	Writer's Voice	171	Vision and Revision	172	College Bound Writing	173	Art 12	164
	Spanish I	501	Accelerated Algebra II	266	Spanish I	501	Current Events	406
	Spanish II	503	Spanish II	503	Spanish III	506	Spanish II	503
	Honors Immersion Spanish II	523	Spanish III	506	Spanish IV	509	Spanish IV	508
	Literary Lab	915	Honors Immersion Spanish III	525	Honors Immersion Spanish IV	527	Spanish IV Part II	509
	Wilson Reading	951	Literary Strategies	916			AP Spanish Language	529
			Wilson Reading	951	Computer Science and Software Engineering	634	Environmental Sustainability	635
					Literary Workshop	917	Literary Roundtable	918
					Wilson Reading	951	Wilson Reading	951

English Course Offerings

The English Department strives to provide a coordinated and integrated English program that nurtures intellectual capabilities and fosters an understanding that learning is a lifelong process. The curriculum provides students with communication competencies through the writing process and through oral presentations. In addition, we offer formal approaches common to areas of fiction, non-fiction, technical, and business writing. Students read the works of various noted authors for analysis of style, form, and historical significance. We encourage an appreciation of literature as a source of enjoyment, social commentary, inquiry, and critical analysis. Students use open-response questions, various sources of information, and appropriate techniques in the refinement of their critical thinking and research skills.

Grade 9 English Courses

121 ***Honors English I*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

This accelerated college and career focused course is centered on developing, extending, and improving communication competency. Students write coherent compositions, displaying proficiency in sentence, paragraph and vocabulary development. They practice specific techniques for revising and editing their own work to add depth to their arguments and analysis. Students periodically make oral presentations to experience speaking before a critical audience. Students demonstrate an understanding of the structure, elements, and meaning of non-fiction or informational material. Literature includes an introduction to the elements of the short story, poetry, plays, and the novel. Specifically, students will study three common units: Romeo and Juliet, The Pearl, and *Great American Speeches*.

101 ***College Prep English I*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This college and career focused course is an introduction to written and oral communication. Students write compositions for a variety of purposes: description, narration, and exposition. Emphasis placed on the writing process develops greater proficiency in sentence and paragraph development. Written and spoken vocabulary expands to express a developing thought process. Students demonstrate an understanding of the structure, elements, and meaning of non-fiction or informational material. Readings include the short story, novel, and poetry. Specifically, students will study three common units: Romeo and Juliet, The Pearl, and *Great American Speeches*.

111 ***English I*** Credits: 2 Level: 3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is an introduction to written and oral communication. Students write compositions for a variety of purposes: description, narration, and exposition. Emphasis placed on the writing process develops greater proficiency in sentence and paragraph development. Written and spoken vocabulary expands to express a developing thought process. Students demonstrate an understanding of the structure, elements, and meaning of non-fiction or informational material. Readings include the novel, short stories, and poetry. Specifically, students will study three common units: Romeo and Juliet, The Pearl, and *Great American Speeches*.

911 ***English I*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

The course is an introduction to written and oral communication. This course is designed for students whose English skills are significantly below grade level and who benefit from specialized instruction in a small group setting. Students write compositions for a variety of purposes: description, exposition, and comparison/contrast. Emphasis placed on the writing process develops greater proficiency in sentence and paragraph development. Written and spoken vocabulary expands to express a developing thought process. Students demonstrate an understanding of the structure, elements, and meaning of non-fiction or informational material. Readings include the short story, novel, and periodicals. Specifically, students will study three common units: Romeo and Juliet, The Pearl, and *Great American Speeches*.

Grade 10 English Courses

122 ***Honors English II*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

This accelerated college and career focused course reinforces and expands communication competencies initiated in Honors English I. Students receive greater emphasis on organization, syntax, precision of expression, and wider use of vocabulary. The focus of instruction is to encourage students to demonstrate an understanding of English grammar and standard English conventions and use this knowledge to edit their writing. Students become comfortable using open-response questions, different sources of information, and appropriate research methods in gathering information for projects. Students make oral presentations that demonstrate considerations of audience, purpose, and the information conveyed. Students read the works of various noted authors for analysis of style, form, and historical significance. Specifically, students will study three common units: Julius Caesar, Of Mice and Men, and *Poetry*.

102 ***College Prep English II*** Credits: 2 Level:3

This course prepares students for a 4 year college program.

This college and career focused course reviews and expands the communication skills introduced in English I with greater emphasis on organization, syntax, precision of expression, and wider use of vocabulary. Through revision exercises students become more aware of the writing and thinking process. Students make oral presentations to experience speaking before a critical audience. Students become more comfortable and confident in various research techniques. Students read various works of fiction and non-fiction to analyze style, form and historical context. Specifically, students will study three common units: Julius Caesar, Of Mice and Men, and *Poetry*.

112 ***English II*** Credits: 2 Level:3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course reviews and expands the communication skills introduced in English I with greater emphasis on organization, syntax, precision of expression, and wider use of vocabulary. Through revision exercises students become more aware of the writing and thinking process. Students make oral presentations to experience speaking before a critical audience. Students become more comfortable and confident in various research techniques. Students read various works of fiction, non-fiction, and poetry to continue to analyze style, form, and /or historical context. Specifically, students will study three common units: Julius Caesar, Of Mice and Men, and *Poetry*.

912 ***English II*** Credits: 2 Level:4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course reviews and expands the communication skills introduced in English I. It is designed for students with English skills significantly below grade level and who benefit from specialized instruction in a small group setting. Through revision exercises students become more aware of the writing and thinking process. Students make oral presentations to experience speaking before a critical audience. Students read various works of fiction, non-fiction, and poetry to begin to analyze style, form, and/or historical context. Specifically, students will study three common units: Julius Caesar, Of Mice and Men, and *Poetry*.

Grade 11 English Courses

133 ***AP English Language and Composition*** Credits:2 Level:1

This course prepares students for a 4 year college program.

AP English Language and Composition enables students to read complex texts with understanding, while also teaching them to write prose of sufficient richness and complexity to communicate effectively with mature readers. The ultimate goal of building the rhetorical skills the class fosters is to help mold students into individuals who will actively and intelligently engage with the world around them. The AP English Language and Composition course helps students move beyond reading for mere comprehension, and it moves them past composing programmatic responses; it encourages them to think critically and purposefully about the rhetorical choices that authors make, and it leads them to consider the choices they make when deciding to add their voice into any given discourse: civil or academic. Students must take the AP exam in May to receive AP credit on their transcript. A qualifying score of three (3) or better on the AP exam may earn a student college credit.

123 ***Honors English III*** Credits:2 Level:2

This course prepares students for a 4 year college program.

This Honors level of junior English maintains an accelerated pace, preparing students for college and career readiness, as they explore American literary topics in greater depth, including additional course work and lengthier essays. Students participate in a rich variety of activities that bolster abstract reasoning, promote proper research techniques, and develop reading, writing, and oral fluency. Emphasis is placed on developing content driven essays that support the Writing Across the Curriculum initiative. Topics of study may include a study of our nation's founding documents (e.g., "The Constitution"), media outlets (e.g., news networks, newspapers, and trade journals), speeches, plays, professional writing, and popular literature, which may include science fiction, historical novels, and political science pieces. Specifically, students will study three common units: The Crucible, *American Realism*, and *Argumentative Research*.

103 ***College Prep English III*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This course maintains a rigorous pace, preparing students for college and career readiness, and requires students to explore American Literary topics in greater depth. Students participate in a rich variety of activities directed toward improving written and oral communication. Emphasis is placed on developing content driven essays that support the Writing Across the Curriculum initiative. Topics of study may include a study of our nation's founding documents (e.g., "The Constitution"), media outlets (e.g., news networks, newspapers, and trade journals), speeches, plays, professional writing, and popular literature, which may include science fiction, historical novels, and political science pieces. Specifically, students will study three common units: The Crucible, *American Realism*, and *Argumentative Research*.

113 ***English III*** Credits: 2 Level: 3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is designed to promote literacy and to help create informed, freethinking citizens who are lifelong learners. Students study the various practical uses and expressions of language relevant in American society today. Topics of study may include a study of our nation's founding documents (e.g., "The Constitution"), media outlets (e.g., news networks, newspapers, and trade journals), speeches, plays, professional writing, and popular literature, which may include science fiction, historical novels, and political science pieces. Specifically, students will study three common units: The Crucible, *American Realism*, and *Argumentative Research*.

913 ***English III*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is designed for students with English skills significantly below grade level and who have yet to pass the ELA MCAS exam. Students review and develop the skills practiced in English III with emphasis on English skills necessary for their transition to the work force. Students use self-generated questions, note taking, summarizing, paraphrasing, and outlining in their learning activities. Students interpret the meaning of literacy works, films, and media by using different critical and analytic techniques. Through a variety of hands-on activities, students develop business and technical writing skills. Topics of study may include a study of our nation's founding documents (e.g., "The Constitution"), media outlets (e.g., news networks, newspapers, and trade journals), speeches, plays, professional writing, and popular literature, which may include science fiction, historical novels, and political science pieces. Specifically, students will study three common units: The Crucible, *American Realism*, and *Argumentative Research*.

Grade 12 English Courses

134 ***AP English Literature & Composition*** Credits: 2 Level: 1

This course prepares students for a 4 year college program.

The AP English Literature and Composition course is designed to engage students in the careful reading and critical analysis of literature. Through the close reading of selected texts, students can deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students should consider a work's structure, style, and themes, in conjunction with elements such as figurative language, imagery, symbolism, and tone. Students must take the AP exam in May to receive AP credit on their transcript. A qualifying score of three (3) or better on the AP exam may earn a student college credit.

124 ***Honors English IV*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

This Honors level of senior English course maintains an accelerated pace, preparing students for college and career readiness, by developing and refining communication competencies. Students build upon foundational writing and speaking skills mastered during prior years of study. Students improve organization, content, paragraph development, level of detail, style, voice, and word choice in their writing by drawing from a variety of revision strategies. In addition, they learn formal writing techniques common to areas of fiction and non-fiction while demonstrating clear and effective writing skills. Students write at least one research project utilizing research techniques and skills. Specifically, students will study two common units—Macbeth and a *World Novel* (Lord of the Flies or Brave New World)—and also produce a capstone project. The grade for the capstone project will be recorded as their final exam.

104 ***College Prep English IV*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This College Prep level of senior English course maintains a rigorous pace, preparing students for college and career readiness, by developing and refining communication competencies. Students build upon foundational writing and speaking skills mastered during prior years of study. Students improve organization, content, paragraph development, level of detail, style, voice, and word choice in their writing by drawing from a variety of revision strategies. In addition, they learn formal writing techniques common to areas of fiction and non-fiction while demonstrating clear and effective writing skills. Students write at least one research project utilizing research techniques and skills. Specifically, students will study two common units—Macbeth and a *World Novel* (Lord of the Flies or Brave New World)—and also produce a capstone project.

114 ***English IV*** Credits: 2 Level: 3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This senior English course is designed to promote literacy and to help create informed, freethinking citizens who are lifelong learners. Students build upon foundational writing and speaking skills mastered during prior years of study. Students improve organization, content, paragraph development, level of detail, style, voice, and word choice in their writing by drawing from a variety of revision strategies. In addition, they learn formal writing techniques common to areas of fiction and non-fiction while demonstrating clear and effective writing skills. Students write at least one research project utilizing research techniques and skills. Specifically, students will study two common units—Macbeth and a *World Novel* (Lord of the Flies or Brave New World)—and also produce a capstone project.

914 ***English IV*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is designed for students with English skills significantly below grade level and who have yet to pass the ELA MCAS exam. Students review and develop the skills practiced in English III with emphasis on English skills necessary for their transition to the work force. Students use self-generated questions, note taking, summarizing, paraphrasing, and outlining in their learning activities. Students interpret the meaning of literacy works, films, and media by using different critical and analytic techniques. Through a variety of hands-on activities, students develop business and technical writing skills. Specifically, students will study two common units—Macbeth and a *World Novel* (Lord of the Flies or Brave New World)—and also produce a capstone project.

Math Course Offerings

The Math Department has revised the curriculum of all math courses to be fully aligned with Common Core. Students and parents should be mindful that the intensity and rigor of each course is noticeably more challenging and that the curriculum is delivered at a faster pace than prior to the implementation of Common Core.

Grade 9 Math Courses

223 ***Honors Algebra II*** Credits: 2 Level: 2

Note: Completion of Algebra I with a grade of 90 or better is strongly recommended. In addition, student should score "Honors Algebra II Ready" on the BVT Placement Exam.

This course prepares students for a 4 year college program.

This is an accelerated course with an emphasis on modeling as it expands upon the topics developed in Algebra I. Students will study a variety of functions with both a graphical and algebraic approach, including quadratic, polynomial, exponential, logarithmic, rational, radical and trigonometric functions. This course also investigates important concepts in data analysis and statistics. A graphing calculator is required as its use is emphasized throughout instruction. Applications include problems relating to the students' technical areas and everyday life.

221 ***College Prep Algebra I*** Credits: 2 Level: 3

Note: Completion of 8th grade Pre-Algebra or Algebra I with a grade of 90 or better is strongly recommended. In addition, student should score at least "College Prep Algebra I Ready" on BVT Placement Exam.

This course prepares students for a 4 year college program.

This is an accelerated course with an emphasis on modeling as it expands upon the topics developed in Pre-Algebra. Students will study equations, inequalities, linear functions, systems of equations and inequalities, exponents, polynomials, factoring and data analysis. This course also provides a brief introduction to quadratic and exponential functions. Applications include problems relating to the students' technical areas and everyday life.

200 ***College Prep Algebra I Part I*** Credits: 2 Level: 3

Note: Completion of Pre-Algebra or equivalent is recommended. This course is appropriate for students who scored "Algebra I Part 1 Ready" on BVT Placement Exam.

This course prepares students for a 2 or 4 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This is the first course of a two-part series. Students will study equations, inequalities, linear functions, systems of equations, and data analysis. Applications include problems relating to the students' technical areas and everyday life.

921 ***Algebra I Part I*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is intended for students who have an IEP that requires specialized instruction in a small group setting. The course introduces a selected number of the topics developed in Algebra I Part I, providing more time between topics to strengthen concept development. Students will study equations, inequalities, linear functions, systems of equations, and data analysis. Applications include problems relating to the students' technical areas and everyday life.

Grade 10 Math Courses

222 ***Honors Geometry*** Credits: 2 Level: 2

Prerequisite: Completion of Honors Algebra II or completion of College Prep Algebra I with a grade of 90 or better (grades will be verified at the end of the school year to determine eligibility).

This course prepares students for a 4 year college program.

This course is an accelerated course with an emphasis on geometric reasoning and proof. Students analyze the characteristics of two and three-dimensional geometric figures and their properties. The topics of study include parallel and perpendicular lines, triangles, polygons and quadrilaterals, similarity, trigonometry, spatial reasoning, circles and probability. Applications include problems relating to the students' technical areas and everyday life.

212 ***College Prep Geometry*** Credits: 2 Level: 3

Prerequisite: Completion of College Prep Algebra I or completion of Algebra I Part I (grades will be verified at the end of the school year to determine eligibility).

This course prepares students for a 4 year college program.

This course emphasizes geometric reasoning and proof. Students analyze the characteristics of two and three-dimensional geometric figures and their properties. The topics of study include parallel and perpendicular lines, triangles, polygons and quadrilaterals, similarity, trigonometry, spatial reasoning, circles and probability. Applications include problems relating to the students' technical areas and everyday life.

202 ***Geometry*** Credits: 2 Level: 3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course provides more time between topics to strengthen concept development. Students analyze the characteristics of two and three-dimensional geometric figures and their properties in an applied manner. The topics of study include parallel and perpendicular lines, triangles, polygons and quadrilaterals, similarity, trigonometry, spatial reasoning, circles and probability. Applications include problems relating to the students' technical areas and everyday life.

922 ***Geometry*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is intended for students who have an IEP that requires specialized instruction in a small group setting. The course introduces a selected number of the topics developed in Geometry, but provides more time between topics to strengthen concept development. The topics of study include parallel and perpendicular lines, triangles, polygons and quadrilaterals, similarity, trigonometry, spatial reasoning, circles and probability. Applications include problems relating to the students' technical areas and everyday life.

Grade 11 Math Courses

224 ***Honors Pre-Calculus/Intro to Trigonometry*** Credits: 2 Level: 2

Prerequisite: Completion of Honors Algebra II or Accelerated Algebra II with a grade of 80 or better (grades will be reviewed at the end of the school year to verify eligibility).

This course prepares students for a 4 year college program.

This course is an accelerated course designed to prepare students for AP Calculus AB. The topics of study include a further examination of functions: linear, polynomial, rational, exponential, logarithmic, and trigonometric functions. The study of these functions will include examination of their graphs, asymptotes, limits, continuity, symmetry, domain and range, and roots. Use of the graphing calculator is emphasized throughout instruction.

228 ***College Prep Pre-Calculus/Intro to Trigonometry*** Credits: 2 Level: 3

Prerequisite: Completion of Honors Algebra II or Accelerated Algebra II.

This course prepares students for a 4 year college program.

This course is designed to prepare students for AP Calculus AB or College Prep Trigonometry. The course introduces a selected number of the topics developed in Honors Pre-Calculus, but provides more time between topics to strengthen concept development. The topics of study include a further examination of functions: linear, polynomial, rational, exponential, logarithmic, and trigonometric functions. The study of these functions will include examination of their graphs, asymptotes, limits, continuity, symmetry, domain and range, and roots. Use of the graphing calculator is emphasized throughout instruction.

220 ***College Prep Algebra II*** Credits: 2 Level: 3

Prerequisite: Completion of College Prep Algebra I.

This course renders students eligible for a 4 year college program.

This is an accelerated course with an emphasis on modeling as it expands upon the topics developed in Algebra I. Students will study a variety of functions with both a graphical and algebraic approach, including quadratic, polynomial, exponential, logarithmic, rational, radical and trigonometric functions. This course also investigates important concepts in data analysis and statistics. Use of the graphing calculator is emphasized throughout instruction. Applications include problems relating to the students' technical areas and everyday life.

210 ***College Prep Algebra I Part II*** Credits: 2 Level: 3

Prerequisite: Completion of Algebra I Part I.

This course renders students eligible for a 2 or 4 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This is the second course of a two-part series extending from topics developed in Algebra I Part 1. Students will study systems of equations and inequalities, exponents, polynomials, factoring, quadratic and exponential functions. Applications include problems relating to the students' technical areas and everyday life.

923 ***Algebra I Part II*** Credits: 2 Level:4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is intended for students who have an IEP that requires specialized instruction in a small group setting. The course introduces a selected number of the topics developed in Algebra I Part II, but provides more time between topics to strengthen concept development. Students will study systems of equations and inequalities, exponents, polynomials, factoring, quadratic and exponential functions. Applications include problems relating to the students' technical areas and everyday life.

Grade 12 Math Courses

235 ***AP Calculus AB*** Credits: 2 Level: 1

Prerequisite: Completion of Honors Pre-Calculus or College Prep Pre-Calculus

This course prepares students for a 4 year college program.

This is an accelerated course with an emphasis on the AP Calculus AB Exam. Students enrolled in this course prepare to take the Advanced Placement AB Calculus Exam and seek college credit and/or placement from institutions of higher learning. Course study includes properties of functions, graphs, limits, differential calculus, integral calculus, and applications. Regular use of a graphing calculator is required in the course work. A qualifying score of three (3) or better on the AP exam may earn a student college credit.

229 ***College Prep Pre-Calculus*** Credits:2 Level:3

Prerequisite: Completion of College Prep Algebra II

Note: Students should check with prospective colleges to determine math requirements before choosing their grade 12 math course.

This course prepares students for a 4 year college program.

This rigorous course is designed for students planning to continue their education after graduation and will require students to spend extensive time at home and/or after school in order to be successful. The topics of study include a further examination of functions: linear, polynomial, rational, exponential and logarithmic functions. The study of these functions will include examination of their graphs, asymptotes, continuity, symmetry, domain and range, and roots. Use of the graphing calculator is emphasized throughout instruction.

219 ***College Prep Functions and Trigonometry*** Credits:2 Level:3

Prerequisite: Completion of College Prep Algebra II.

Note: Students should check with prospective colleges to determine math requirements before choosing their grade 12 math course.

This course prepares students for a 2 or 4 year college program.

This course will emphasize the study of functions, function notation, domain and range, linear, exponential, quadratic, polynomial and trigonometric functions. The course will also include analytical trigonometry, right triangle and circular trigonometric functions, and applications of trigonometric functions. Applications focus on problems relating to the students' technical areas and everyday life.

220 ***College Prep Algebra II*** Credits: 2 Level: 3

Prerequisite: Completion of Algebra I Part II with a grade of 80 or better (grades will be verified at the end of the school year to determine eligibility).

This course renders students eligible for a 4 year college program.

This course expands upon the topics developed in Algebra I Parts I & II and is designed for students planning to continue their education after graduation. Students will study a variety of functions with both a graphical and algebraic approach, including quadratic, polynomial, exponential, logarithmic, rational, radical and trigonometric functions. This course also investigates important concepts in data analysis and statistics. Use of the graphing calculator is emphasized throughout instruction. Applications include problems relating to the students' technical areas and everyday life.

215 ***Algebra II*** Credits: 2 Level: 3

Prerequisite: Completion of Algebra I Part II.

This course renders students eligible for a 2 or 4 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course expands upon the topics developed in Algebra I Parts I & II. Students will study a variety of functions with both a graphical and algebraic approach, including quadratic, polynomial, exponential, logarithmic, rational, radical and trigonometric functions. This course also investigates important concepts in data analysis and statistics. Use of the graphing calculator is emphasized throughout instruction. Applications include problems relating to the students' technical areas and everyday life.

925 ***Algebra II*** Credits: 2 Level:4

This course renders students eligible for a 2 or 4 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is intended for students who have an IEP that requires specialized instruction in a small group setting. This course expands upon the topics developed in Algebra I Parts I & II. The course introduces a selected number of the topics developed in Algebra II, but provides more time between topics to strengthen concept development. Students will study quadratic, polynomial, exponential, logarithmic, rational, radical and trigonometric functions. This course also investigates important concepts in data analysis and statistics. Use of the graphing calculator is emphasized throughout instruction. Applications include problems relating to the students' technical areas and everyday life.

Science Course Offerings

Grade 9 Science Courses

Prior to the start of school, students are enrolled in either Honors Physics, CP Intro to Physics I, Honors Biology, CP Biology I, or Biology I for preparation of the State-required MCAS Exam. To provide the solid scientific background required to succeed on MCAS exams, these courses are completed during the freshman or freshmen/sophomore year. Honors Physics and Honors Biology are courses for the accelerated student and will prepare the student to take the MCAS exam in their Freshmen year. Students taking the two-year science in grades 9 and 10 will have the opportunity to study the life sciences or physics and /or chemistry in their junior and senior years.

345 ***Honors Biology (Lab)*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

This accelerated course is designed for the motivated student in preparation for advanced science courses. The course is designed to complete the biology curriculum frameworks in one year so that grade 9 students can participate in the biology MCAS by the end of the school year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include chemistry of life, the cell and its processes, genetics, anatomy and physiology, evolution and ecology. This course is considered a lab science for college admissions and is a prerequisite for AP Biology.

310 ***College Prep Biology I (Lab)*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This course is the first half of a two-year sequence designed to follow the Massachusetts State Frameworks for Biology and prepare students for success on the Biology MCAS exam in the spring of the student's sophomore year. This course is designed for the college bound student. The course is structured to include the biology curriculum frameworks during the academic year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include chemistry of life, the cell and its processes, anatomy and physiology. This course is considered a lab science for college admissions.

947 ***Biology I (Lab)*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is the first half of two-year sequence designed to follow the Massachusetts State Frameworks for Biology and prepare students for success on the Biology MCAS exam in the spring of the student's sophomore year. This course concentrates on the cell, including its structure, functions, and variety and introduces Anatomy and Physiology. This course is designed for students on an IEP and offers specialized instruction in a small group setting. Students learn through a variety of "hands on" activities and labs that facilitate teamwork and improve problem-solving skills. This course is considered a lab science for college admissions.

344 ***Honors Physics (Lab)*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

This is an intensive science course for highly motivated students with high level math skills, especially those interested in majoring in science, engineering or mathematics. Topics include dimensional analysis of metric (SI) and English measurement units, density, laws of motion, linear and angular motion, vector analysis and summation, electrical and static forces, potential and kinetic energy, work & power, friction, mechanical and electromagnetic waves, gravity and other nuclear forces, centripetal acceleration and orbital motion, heat, thermal expansion, quantum mechanics, calculation of physical constants, gas laws, nuclear fission and fusion, optics, and other topics in an effort to discover the relationship of why and how all things work in our universe. Frequent labs and persistent independent study are required in this course. This course is considered a lab science for college admissions. This course is intended to prepare grade 9 students to take the State-required MCAS exam in the freshmen year. This course serves as a prerequisite for AP Physics I.

311 ***College Prep Intro to Physics I (Lab)*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This course is the first half of a two-year sequence designed to follow the Massachusetts State Frameworks for Intro to Physics and prepare students for success on the Intro to Physics MCAS exam. Students explore the three strands of the Massachusetts Science and Technology Curriculum Frameworks: Motion and Forces, Conservation of Energy & Momentum, and Heat and Heat Transfer. The content of the program is learned through the use of numerous hands-on activities and projects. This course is considered a lab science for college admissions.

Grade 10 Science Courses

345 ***Honors Biology (Lab)*** Credits: 2 Level:2

This course prepares students for a 4 year college program.

This course is designed for the motivated student in preparation for advanced science courses. This course is structured to include the biology curriculum frameworks during the academic year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include chemistry of life, the cell and its processes, genetics, anatomy and physiology evolution and ecology. This course is considered a lab science for college admissions and serves as a prerequisite for AP Biology.

316 ***Honors Biology II (Lab)*** Credits: 2 Level: 2

Prerequisite: Completion of CP Biology I with a 90 or above and teacher recommendation.

This course prepares students for a 4 year college program.

This course is the second half of two-year sequence designed to prepare students for continued proficiency in Biology and laboratory skills and prepare students for success on the Biology MCAS exam in the spring of the student's sophomore year. This course is designed for the motivated student in preparation for advanced science courses. The course is structured to include the biology curriculum frameworks during the academic year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include genetics, evolution and ecology followed by a review of the topics covered in Biology I and II to prepare students for the MCAS exam taking place in June. This course is considered a lab science for college admissions.

315 ***College Prep Biology II (Lab)*** Credits: 2 Level: 3

Prerequisite: CP Biology Part I or teacher recommendation.

This course prepares students for a 4 year college program.

This course is the second half of two-year sequence designed to prepare students for continued proficiency in Biology and laboratory skills and prepare students for success on the Biology MCAS exam in the spring of the student's sophomore year. This course is designed for the college bound student. The course is structured to include the biology curriculum frameworks during the academic year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include genetics, evolution and ecology followed by a review of the topics covered in Biology I and II to prepare students for the MCAS exam taking place in June. This course is considered a lab science for college admissions.

948 ***Biology II (Lab)*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is the second half of two-year sequence designed to follow the Massachusetts State Frameworks for Biology and prepare students for success on the Biology MCAS exam in the spring of the student's sophomore year. This course introduces genetics, evolution, biodiversity, and ecology. This course is designed for students on an IEP and offers specialized instruction in a small group setting. Students learn through a variety of hands-on activities and labs that facilitate teamwork and improve problem-solving skills. This course is considered a lab science for college admissions.

342 Honors Chemistry (Lab) Credits: 2 Level: 2

Prerequisite: Completion of Honors Biology or Honors Physics during Freshman year. This course prepares students for a 4 year college program.

Honors Chemistry is an accelerated Chemistry course designed to offer students the opportunity to master the conceptual and mathematical principles of chemistry. Students interested in attending college or pursuing a science related career, such as medical professions, engineering, lab technology, or research should consider taking this course. The course includes classroom and laboratory instruction including proper use of laboratory equipment, use of appropriate investigation techniques, current theories and established laws, and conceptual and mathematical ideas as related to chemistry. This course is considered a lab science for college admissions and will serve as a prerequisite for AP Biology and AP Chemistry.

344 Honors Physics (Lab) Credits: 2 Level: 2

This course prepares students for a 4 year college program.

This is an intensive science course for highly motivated students with high level math skills, especially those interested in majoring in science, engineering or mathematics. Topics include dimensional analysis of metric (SI) and English measurement units, density, momentum, linear and angular motion, vector analysis and summation, electrical and static forces, potential and kinetic energy, work & power, friction, mechanical and electromagnetic waves, gravity, centripetal and orbital motion, heat, thermal expansion, calculation of physical constants, gas laws, nuclear fission and fusion, optics, and other topics in an effort to discover the relationship of why and how all things work in our universe. Frequent labs and persistent independent study are required in this course. This course is considered a lab science for college admissions. This course will serve as a prerequisite for AP Physics I.

318 Honors Intro to Physics II (Lab) Credits: 2 Level: 2

Prerequisite: Completion of CP Physical Science Part I with a 90 or better and teacher recommendation.

This course prepares students for a 4 year college program.

This course is the second half of two-year sequence designed to prepare students for continued proficiency in Intro to Physics and laboratory skills and prepare students for success on the Intro to Physics MCAS exam in the spring of the student's sophomore year. Students enrolled in this accelerated course examine the various topics in greater depth and engage in additional course work and extended projects. Students continue to explore the three strands of the Massachusetts Science and Technology Curriculum Frameworks: Motion and Forces, Conservation of Energy & Momentum, and Heat and Heat Transfer. The content of the program, focused on the Intro to Physics, is learned through the use of numerous hands-on activities and projects. This course is considered a lab science for college admissions. This course will serve as a prerequisite for AP Physics I.

317 College Prep Intro to Physics II (Lab) Credits: 2 Level: 3

Prerequisite: CP Physical Science Part I.

This course prepares students for a 4 year college program.

This course is the second half of two-year sequence designed to follow the Massachusetts State Frameworks for Intro to Physics and prepare students for success on the Intro to Physics MCAS exam in the spring of the student's sophomore year. Students continue to explore the three strands of the Massachusetts Science and Technology Curriculum Frameworks: Motion and Forces, Conservation of Energy & Momentum, and Heat and Heat Transfer. The content of the program is learned through the use of numerous hands-on activities and projects. This course is considered a lab science for college admissions.

Grade 11 Science Courses

370 ***AP Biology (Lab)*** Credits: 2 Level:1

Prerequisite: Successful completion of chemistry and 1 or more high school biology courses. Students enrolled in this course are required to complete summer assignments designed to refine specialized skills applicable to this course.

This course prepares students for a 4 year college program.

The goal of AP Biology is to provide students with an experience equivalent to an introductory college-level Biology course. The AP Biology course is designed to be taken by students after the successful completion of a first course in high school biology and one in high school chemistry. It aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology. The AP Biology course is divided into the following 8 units: ecology, evolution, biochemistry, cells, enzymes/metabolism, structure/function, heredity, and molecular genetics. The two main objectives of AP Biology are to help students develop a conceptual framework for modern biology and to help students gain an appreciation of science as a process. Primary emphasis in an AP Biology course should be on developing an understanding of concepts rather than memorization of terms and technical details. Essential to this conceptual understanding are the following: a grasp of science as a process rather than as an accumulation of facts; personal experience in scientific inquiry; recognition of unifying themes that integrate the major topics of biology; and application of biological knowledge and critical thinking to environmental and social concerns. Students should be prepared to devote a significant amount of time to master vocabulary and concepts presented in class, writing lab reports, and working on projects outside of class. Students must take the AP exam in May to receive AP credit on their transcript. A qualifying score of three (3) or better on the AP exam may earn a student college credit. This course is considered a lab science for college admissions. Please note: Successful completion of this course, and all AP courses, will require completion of summer assignment and at least 1 hours of preparation/study per night.

345 ***Honors Biology (Lab)*** Credits: 2 Level:2

This course prepares students for a 4 year college program.

This course is designed for the motivated student in preparation for advanced science courses. This course is structured to include the biology curriculum frameworks during the academic year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include chemistry of life, the cell and its processes, genetics, anatomy and physiology evolution and ecology. This course is considered a lab science for college admissions and serves as a prerequisite for AP Biology.

320 ***College Prep Biology (Lab)*** Credits: 2 Level:3

This course prepares students for a 4 year college program.

This course is designed for the college bound student. The course is structured to include the biology curriculum frameworks during the academic year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include chemistry of life, the cell and its processes, genetics, anatomy and physiology, evolution and ecology. This course is considered a lab science for college admissions.

390 ***AP Chemistry (Lab)*** Credits: 2 Level:1

Prerequisite: Successful completion of Honors Chemistry and teacher recommendation. Students enrolled in this course are required to complete summer assignments designed to refine specialized skills applicable to this course.

This course prepares students for a 4 year college program.

The goal of AP Chemistry is to provide students with an experience equivalent to an introductory college-level Chemistry course. The AP Chemistry course is designed to be taken by students after the successful completion of a first course in high school chemistry. It aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of chemistry. AP Chemistry requires a serious commitment from students. The two main objectives of AP Chemistry are to help students develop a conceptual framework for modern chemistry and to help students gain an appreciation of science as a process. AP Chemistry will include instruction in each of the following eight content areas: atomic theory, chemical bonding, states of matter, reaction types, stoichiometry, kinetics, and thermodynamics. Laboratory experiments will be used to enhance students understanding of AP Chemistry content. Students should be prepared to devote a significant amount of time to master vocabulary and concepts presented in class, writing lab reports, and working on projects outside of class. Students must take the AP exam in May to receive AP credit on their transcript. A qualifying score of three (3) or better on the AP exam may earn a student college credit. This course is considered a lab science for college admissions. Please note: Successful completion of this course, and all AP courses, will require completion of summer assignments and at least 1 hour of preparation/study per night

342 ***Honors Chemistry (Lab)*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

Honors Chemistry is a fast-paced Chemistry course designed to offer students the opportunity to master the conceptual and mathematical principles of chemistry. Students interested in attending college or pursuing a science related career, such as medical professions, engineering, lab technology, or research should consider taking this course. The course includes classroom and laboratory instruction including proper use of laboratory equipment, use of appropriate investigation techniques, current theories and established laws, and conceptual and mathematical ideas as related to chemistry topics as stated in the Massachusetts Curriculum Framework. This course is considered a lab science for college admissions and will serve as a prerequisite for AP Biology.

332 ***College Prep Chemistry (Lab)*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This lab course is presented in the context of chemical influences in contemporary life. Classroom instruction examines chemical theories while students gain knowledge of chemical techniques and analysis through lab experimentation and reporting. Areas of study include descriptive chemistry, classes of matter, chemical reactions, acids and bases, atomic theory, the periodic table, covalent and ionic bonding, and quantitative chemical analysis. Classroom and laboratory instruction includes the proper use of laboratory equipment, use of appropriate investigative techniques, current theories and established laws, and conceptual and mathematical ideas as related to chemistry topics as stated in the Massachusetts Curriculum Framework. This course is considered a lab science for college admissions.

381 AP Physics I (Lab) Credits: 2 Level: 1

Prerequisites: Successful completion Physics I & II or Physics. Successful completion or concurrent enrollment in Algebra II is strongly recommended, or teacher recommendation.
Students enrolled in this course are required to complete summer assignments designed to refine specialized skills applicable to this course.

This course prepares students for a 4 year college program.

The goal of AP Physics I is to provide students with an experience equivalent to a first-semester college course in algebra-based Physics. The AP Physics I course is designed to be taken by students after the successful completion of a 2-year course in Intro to Physics or a 1-year Physics course. AP Physics I requires a serious commitment from students. This class will be conducted primarily through inquiry based laboratory experiments and problem solving activities, reinforced with class discussion. AP Physics I will include instruction in Newtonian mechanics, (including rotational dynamics and angular momentum.), Work, Energy, and Power, Mechanical Waves and Sound. It will also introduce Electrical Circuits. Students should be prepared to devote a significant amount of time to working on example problem sets and writing lab reports. It is expected that students taking this course will have strong algebra skills. Students are expected to attempt the AP Physics I exam in May as a condition of enrolling in the course. A qualifying score of three (3) or better on the AP exam may earn a student up to 8 college credits. This course is considered a lab science for college admissions. Please note: Successful completion of this course, and all AP courses, will require completion of summer assignment and at least 1 hour of preparation/study per night.

344 Honors Physics (Lab) Credits: 2 Level: 2

Prerequisite: Completion or concurrent enrollment in Algebra II is strongly recommended, or teacher recommendation.

This course prepares students for a 4 year college program.

This is an intensive science course for highly motivated students with high level math skills, especially those interested in majoring in science, engineering or mathematics. Topics include dimensional analysis of metric (SI) and English measurement units, density, momentum, linear and angular motion, vector analysis and summation, electrical and static forces, potential and kinetic energy, work & power, friction, mechanical and electromagnetic waves, gravity, centripetal and orbital motion, heat, thermal expansion, calculation of physical constants, gas laws, nuclear fission and fusion, optics, and other topics in an effort to discover the relationship of why and how all things work in our universe. Frequent labs and persistent independent study are required in this course. This course is considered a lab science for college admissions. This course will serve as a prerequisite for AP Physics I.

334 College Prep Physics (Lab) Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This is a science course for college prep students. Topics include dimensional analysis of metric (SI) and English measurement units, density, momentum, linear and angular motion, vector analysis and summation, electrical and static forces, potential and kinetic energy, work & power, friction, mechanical and electromagnetic waves, gravity, centripetal and orbital motion, heat, thermal expansion, calculation of physical constants, gas laws, nuclear fission and fusion, optics, and other topics in an effort to discover the relationship of why and how all things work in our universe. Frequent labs and persistent independent study are required in this course. This course is considered a lab science for college admissions.

957 ***Physics (Lab)*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

Classroom and laboratory instruction includes the proper use of laboratory equipment, use of appropriate investigative techniques, current theories and established laws, and conceptual and mathematical ideas as related to fundamental Physics topics. Through the study of these and other topics, students discover the relationship of how all things work in our universe. Students participate in frequent labs and projects designed to test a solution to a specific task. Students learn through a variety of hands-on activities and labs that facilitate teamwork and improve problem-solving skills. This course is designed for students on an IEP and offers specialized instruction in a small group setting.

Grade 12 Science Courses

370 ***AP Biology (Lab)*** Credits: 2 Level:1

Prerequisite: Successful completion of chemistry and 1 or more high school biology courses. Students enrolled in this course are required to complete summer assignments designed to refine specialized skills applicable to this course.

This course prepares students for a 4 year college program.

The goal of AP Biology is to provide students with an experience equivalent to an introductory college-level Biology course. The AP Biology course is designed to be taken by students after the successful completion of a first course in high school biology and one in high school chemistry. It aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of biology. The AP Biology course is divided into the following 8 units: ecology, evolution, biochemistry, cells, enzymes/metabolism, structure/function, heredity, and molecular genetics. The two main objectives of AP Biology are to help students develop a conceptual framework for modern biology and to help students gain an appreciation of science as a process. Primary emphasis in an AP Biology course should be on developing an understanding of concepts rather than memorization of terms and technical details. Essential to this conceptual understanding are the following: a grasp of science as a process rather than as an accumulation of facts; personal experience in scientific inquiry; recognition of unifying themes that integrate the major topics of biology; and application of biological knowledge and critical thinking to environmental and social concerns. Students should be prepared to devote a significant amount of time to master vocabulary and concepts presented in class, writing lab reports, and working on projects outside of class. Students must take the AP exam in May to receive AP credit on their transcript. A qualifying score of three (3) or better on the AP exam may earn a student college credit. This course is considered a lab science for college admissions. Please note: Successful completion of this course, and all AP courses, will require completion of summer assignment and at least 1 hours of preparation/study per night.

345 ***Honors Biology (Lab)*** Credits: 2 Level:2

This course prepares students for a 4 year college program.

This course is designed for the motivated student in preparation for advanced science courses. This course is structured to include the biology curriculum frameworks during the academic year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include chemistry of life, the cell and its processes, genetics, anatomy and physiology, evolution and ecology. This course is considered a lab science for college admissions and serves as a prerequisite for AP Biology.

320 ***College Prep Biology (Lab)*** Credits: 2 Level:3

This course prepares students for a 4 year college program.

This course is designed for the college bound student. The course is structured to include the biology curriculum frameworks during the academic year. Students will engage in a variety of activities such as laboratories, on-line activities, and class discussions. Topics include chemistry of life, the cell and its processes, genetics, anatomy and physiology, evolution and ecology. This course is considered a lab science for college admissions.

390 AP Chemistry (Lab) Credits: 2 Level: 1

Prerequisite: Successful completion of Honors Chemistry and teacher recommendation. Students enrolled in this course are required to complete summer assignments designed to refine specialized skills applicable to this course.

This course prepares students for a 4 year college program.

The goal of AP Chemistry is to provide students with an experience equivalent to an introductory college-level Chemistry course. The AP Chemistry course is designed to be taken by students after the successful completion of a first course in high school chemistry. It aims to provide students with the conceptual framework, factual knowledge, and analytical skills necessary to deal critically with the rapidly changing science of chemistry. AP Chemistry requires a serious commitment from students. The two main objectives of AP Chemistry are to help students develop a conceptual framework for modern chemistry and to help students gain an appreciation of science as a process. AP Chemistry will include instruction in each of the following eight content areas: atomic theory, chemical bonding, states of matter, reaction types, stoichiometry, kinetics, and thermodynamics. Laboratory experiments will be used to enhance students understanding of AP Chemistry content. Students should be prepared to devote a significant amount of time to master vocabulary and concepts presented in class, writing lab reports, and working on projects outside of class. Students must take the AP exam in May to receive AP credit on their transcript. A qualifying score of three (3) or better on the AP exam may earn a student college credit. This course is considered a lab science for college admissions. Please note: Successful completion of this course, and all AP courses, will require completion of summer assignments and at least 1 hour of preparation/study per night.

342 Honors Chemistry (Lab) Credits: 2 Level: 2

This course prepares students for a 4 year college program.

Honors Chemistry is a fast-paced Chemistry course designed to offer students the opportunity to master the conceptual and mathematical principles of chemistry. Students interested in attending college or pursuing a science related career, such as medical professions, engineering, lab technology, or research should consider taking this course. The course includes classroom and laboratory instruction including proper use of laboratory equipment, use of appropriate investigation techniques, current theories and established laws, and conceptual and mathematical ideas as related to chemistry topics as stated in the Massachusetts Curriculum Framework. This course is considered a lab science for college admissions.

332 College Prep Chemistry (Lab) Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This lab course is presented in the context of chemical influences in contemporary life. Classroom instruction examines chemical theories while students gain knowledge of chemical techniques and analysis through lab experimentation and reporting. Areas of study include descriptive chemistry, classes of matter, chemical reactions, acids and bases, atomic theory, the periodic table, covalent and ionic bonding, and quantitative chemical analysis. Classroom and laboratory instruction includes the proper use of laboratory equipment, use of appropriate investigative techniques, current theories and established laws, and conceptual and mathematical ideas as related to chemistry topics as stated in the Massachusetts Curriculum Framework. This course is considered a lab science for college admissions.

958 Chemistry (Lab) Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This lab course is presented in the context of chemical influences in contemporary life. Classroom instruction examines fundamental chemical theories while students gain essential knowledge of chemical techniques and analysis through lab experimentation and reporting. Classroom and laboratory instruction includes the proper use of laboratory equipment, use of appropriate investigative techniques, current theories and established laws, and conceptual and mathematical ideas as related to chemistry topics. This course is designed for students on an IEP and offers specialized instruction in a small group setting. Students learn through a variety of hands-on activities and labs that facilitate teamwork and improve problem-solving skills.

381 ***AP Physics I (Lab)*** Credits: 2 Level: 1

Prerequisites: Successful completion Physics I & II or Physics. Successful completion of or concurrent enrollment in Algebra II is strongly recommended.
Students enrolled in this course are required to complete summer assignments designed to refine specialized skills applicable to this course.

This course prepares students for a 4 year college program.

The goal of AP Physics I is to provide students with an experience equivalent to a first-semester college course in algebra-based Physics. The AP Physics I course is designed to be taken by students after the successful completion of a 2-year course in Intro to Physics or a 1-year Physics course. AP Physics I requires a serious commitment from students. This class will be conducted primarily through inquiry based laboratory experiments and problem solving activities, reinforced with class discussion. AP Physics I will include instruction in Newtonian mechanics, (including rotational dynamics and angular momentum.), Work, Energy, and Power, Mechanical Waves and Sound. It will also introduce Electrical Circuits. Students should be prepared to devote a significant amount of time to working on example problem sets and writing lab reports. It is expected that students taking this course will have strong algebra skills. Students are expected to attempt the AP Physics I exam in May as a condition of enrolling in the course. A qualifying score of three (3) or better on the AP exam may earn a student up to 8 college credits. This course is considered a lab science for college admissions. Please note: Successful completion of this course, and all AP courses, will require completion of summer assignment and at least 1 hour of preparation/study per night.

344 ***Honors Physics (Lab)*** Credits: 2 Level: 2

Prerequisite: Algebra II or must take Algebra II concurrently.

This course prepares students for a 4 year college program.

This is an intensive science course for highly motivated students with high level math skills, especially those interested in majoring in science, engineering or mathematics. Topics include dimensional analysis of metric (SI) and English measurement units, density, momentum, linear and angular motion, vector analysis and summation, electrical and static forces, potential and kinetic energy, work & power, friction, mechanical and electromagnetic waves, gravity, centripetal and orbital motion, heat, thermal expansion, calculation of physical constants, gas laws, nuclear fission and fusion, optics, and other topics in an effort to discover the relationship of why and how all things work in our universe. Frequent labs and persistent independent study are required in this course. This course is considered a lab science for college admissions.

334 ***College Prep Physics (Lab)*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This is a science course for college prep students. Topics include dimensional analysis of metric (SI) and English measurement units, density, momentum, linear and angular motion, vector analysis and summation, electrical and static forces, potential and kinetic energy, work & power, friction, mechanical and electromagnetic waves, gravity, centripetal and orbital motion, heat, thermal expansion, calculation of physical constants, gas laws, nuclear fission and fusion, optics, and other topics in an effort to discover the relationship of why and how all things work in our universe. Frequent labs and persistent independent study are required in this course. This course is considered a lab science for college admissions.

Social Studies Course Offerings

Grade 9 Social Studies Courses

The freshman year social studies course reviews the development of the United States from its early settlement through Reconstruction of the South after the Civil War. Students examine the historical and intellectual origins of the United States during the Revolutionary and Constitutional eras. After determining the political and economic factors that contributed to the outbreak and consequences of the Revolution, students are introduced to the writing and key ideas of the U.S. Constitution. Students also study the basic framework of American democracy and those fundamental concepts of American government such as popular sovereignty, federalism, separation of powers, and individual rights. Students study America's westward expansion, the establishment of political parties, and economic and social change. Finally students learn about the growth of sectional conflict, how sectional conflict led to the Civil War, and the consequences of the Civil War, including Reconstruction. The origins and impact of sectionalism on American life and politics is addressed. Students develop an understanding of the political, economic, social, and cultural forces involved in the cause and effect of historical change. A strong focus on the geography of each section has been included into the curriculum. The students will be able to identify how geography shapes historical events and how these events in turn can influence the development of political borders. The reading of primary source documents is an integral part of this course. Emphasis is placed on aligning this course with the Massachusetts State Frameworks for U.S. History I and the Common Core initiative.

440 ***Honors U.S. History I*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

The Honors level of U.S. History I maintains an accelerated pace as students explore topics in greater depth through additional course work and the integration of technology. Students participate in a rich variety of activities including public speaking assignments, term projects, oral and written reports, and supplemental reading. Emphasis is placed on developing content driven essays that support the Writing Across the Curriculum initiative and John Collins Program. Traditional note taking and testing are a vital component of this course.

415 ***College Prep U.S. History I*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

This course maintains a rigorous pace and requires students to explore topics in greater depth including additional course work and projects. Students participate in a rich variety of activities directed toward the development of oral and written reports. Emphasis is placed on developing content driven essays that support the Writing Across the Curriculum initiative and John Collins Program. Traditional note taking and testing are a vital component of this course.

429 ***U.S. History I*** Credits: 2 Level: 3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

Students participate in a rich variety of activities directed toward the development of oral and written reports. Emphasis is placed on developing content driven essays that support the Writing Across the Curriculum initiative and John Collins Program. Students participate in activities and projects directed toward the development of oral and written reports with emphasis on communication skills.

946 ***U.S. History I*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This class is designed for students with an IEP requiring specialized instruction in a small group setting. Through reading, class discussion, hands-on-projects and writing exercises, students are encouraged to develop a more thorough understanding of the periods studied. Writing Across the Curriculum is an important course component; however, this course also utilizes a wide variety of assessment strategies so that students may demonstrate their understanding of subject matter.

Grade 10 Social Studies Courses

More than any other nation, The United States has envisioned itself as an ever-changing landscape with a vision of pure possibility for the individual. The 10th grade curriculum discusses that which is the American vision, and why and how Americans commemorate history. From a review of America's Division and Uneasy Reunion (1848-1877), to The Era of Expansion Rewards and Costs (1850-1915), through a United States on the brink of change precipitated by Progressive Reform and World War I this course evaluates that which is our heritage. The Twenties, The Great Depression, World War II, the Cold War, The Civil Rights Movement and other social movements are considered. The Capstone Unit takes us through the Korean Conflict, the Vietnam Conflict, the fall of Communism as well as current issues and concerns in the world today. Students develop an understanding of those events that comprise our special role in the world at large. A strong focus on the geography of each section has been included into the curriculum. The students will be able to identify how geography shapes historical events and how these events in turn can influence the development of political borders. Emphasis is placed on aligning this course with the Massachusetts State Frameworks for U.S. History II and Common Core initiatives.

426 ***Honors U.S. History II: Imagining the American Nation*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

Students at this Honors level explore topics at an accelerated pace and in great depth through additional course work that includes the integration of technology. Students participate in a rich variety of activities including required research and compositions, a major project each trimester, and supplemental reading assignments. Emphasis is placed on developing content driven essays that support the Writing Across the Curriculum initiative and the John Collins Program. Traditional note taking and testing are a vital component of this course.

416 ***College Prep U.S. History II: Imagining the American Nation*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

At the college prep level, students maintain a rigorous pace while they are challenged to develop an understanding of the complexities of this course through traditional testing, required compositions, note taking, and research projects. Emphasis is placed on aligning this course with the Massachusetts State Frameworks for U.S. History II and the Common Core initiative.

425 ***U.S. History II: The American Nation*** Credits: 2 Level: 3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

Students in this course are challenged to develop an understanding of those events that comprise our special role in the world at large. Emphasis is placed on aligning this course with the Massachusetts State Frameworks for U.S. History II and the Common Core initiative.

935 ***U.S. History II*** Credits: 2 Level: 4

This course renders students eligible for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course is designed for students with an IEP requiring specialized instruction in a small group setting. Students study the time period from the Civil War to the present and are exposed to such topics as; the Industrial Revolution, Imperialism, World War I, The Great Depression, World War II, The Cold War and The Vietnam Conflict, and modern day issues such as terrorism. This course expands understanding of the United States' role in world affairs. Students learn to do research and to create oral and written presentations that demonstrate their understanding of world events. Emphasis is placed on aligning this course with the Massachusetts State Frameworks for U.S. History II and the Common Core initiative.

Grade 11 Social Studies Courses

The 11th grade curriculum examines the development of "Man" from the Industrial Revolution to the present. Students acquire insights into relationships among peoples, ideas, and events as they develop an interpretive framework based on the significant trends in World History. Students develop a global perspective of the forces and movements that have made the past contiguous with and relevant to the present. This course stresses the Massachusetts framework core knowledge that includes the Industrial Revolution, Imperialism and World War I, Nationalism and World War II, modern Nationalism, and the Age of Technology, and is designed to give the student an understanding of the world from the rise of the nation state to the present. Students study the growing consolidation of political power in Europe from 1500 to 1800 as manifested in the rise of nation states. Topics such as; countries ruled by monarchs, countries opposed to absolutism, the important causes and events of the French Revolution, the Enlightenment, and the influence of the American Revolution are introduced. Students study the origins and consequences of the Industrial Revolution, the rise of the middle class, 19th century political reform in Western Europe, and imperialism in Africa, Asia, and South America. Students study the causes and the 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. A strong focus on the geography of each section has been included into the curriculum. The students will develop an understanding of how geography shapes historical events and how these events in turn can influence the development of political borders. Finally, students study the rise of nationalism and the continuing persistence of political, ethnic, and religious conflict in many parts of the world. Emphasis is placed on aligning this course with the Massachusetts State Frameworks for World History II and the Common Core initiative.

442 ***Honors World History II: The Rise of the Nation State to the Present*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

This Honors level course maintains an accelerated pace while exploring topics in greater depth. Students are evaluated through traditional testing, note taking, required research and compositions as well as a major project each trimester. In addition, each trimester a supplemental book is assigned. An emphasis is placed on public speaking and the integration of technology.

417 ***College Prep World History II: The Rise of the Nation State to the Present*** Credits: 2 Level: 3

This course prepares students for a 4 year college program.

Students maintain a rigorous pace while studying these topics in great depth. Evaluation is based on traditional quizzes, tests, projects, research and writing assignments and discussions. Writing Across the Curriculum is an integral part of the course.

433 ***World History II: The Rise of the Nation State to the Present*** Credits: 2 Level: 3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course requires students to be involved in traditional note taking and testing. In addition, activities are directed toward the development of oral and written reports with emphasis on Writing Across the Curriculum as an integral part of the course.

Grade 12 Social Studies Courses

The 12th grade curriculum is designed to give the student an understanding of the workings of local, state, and federal governments. Students study and discuss the role of the citizen in government, the American political party system as well as past and present elections. The focus is on the three branches of the federal government and how they influence the lives of all citizens. Students examine the workings of Congress, the role of the President and his cabinet, and the need for the judicial system. Students develop the understanding that they live not only under the laws of the federal government, but also under the laws of the state and local governments as they learn about the workings of all three. Students continue their study of the Constitution of the United States and its amendments. This course focuses on those important Supreme Court cases that have had an impact on our lives. A major emphasis during the senior year is to interest students in becoming involved citizens and active participants in their government. An emphasis will be placed on the role of the United States in the world today.

432 ***AP U.S. History*** Credits: 2 Level: 1

Successful completion of summer work is required.
This course prepares students for a 4 year college program.

AP United States History is intended for highly motivated and serious students who are ready for the challenge of a college level course. Students making a commitment to Advanced Placement should expect the reading and writing demands equivalent to a college course. This course provides an overview of the American experience from the pre-Columbian through the post-Vietnam eras together with the close examination of problems or themes through supplementary readings of documents, essays, and specialized writing by historians. Students must take the AP exam in May to receive AP credit on their transcript. A qualifying score of three (3) or better on the AP exam may earn a student college credit.

422 ***Honors American Government*** Credits: 2 Level: 2

This course prepares students for a 4 year college program.

In this Honors course students study the topics in greater depth while maintaining an accelerated pace. Students are evaluated through traditional testing, note taking, required research and compositions as well as a major project each trimester. An emphasis is placed on public speaking and the integration of technology.

418 ***College Prep American Government*** Credits: 2 Level:3

This course prepares students for a 4 year college program.

Students maintain a rigorous pace while studying these topics in great depth. Evaluation is based on traditional quizzes, tests, projects, research and writing assignments, and discussions. Writing Across the Curriculum is an integral part of the course.

421 ***American Government*** Credits: 2 Level: 3

This course prepares students for a 2 year college program, continued vocational training, or direct entry into the workforce upon graduation.

This course requires students to be involved in traditional note taking and testing as well as projects, research and writing assignments, and discussions. Writing Across the Curriculum is an integral part of the course.

Foreign Language

The Spanish department works collaboratively with the intention of helping students develop comprehensive grammar and communication skills. Curriculum objectives emphasize an active application of the language, with a goal of attaining listening, speaking and writing proficiencies. Developing student knowledge and appreciation of the diverse cultures of Spanish-speaking countries is integral to the program. Course sequencing options allow for students with varied previous exposure to the Spanish language, to maximize their capacity for growth. There are courses offered to novice level students as well as advanced and heritage speakers who wish to experience a total linguistic immersion, thus preparing them for the AP Spanish exam and for further Spanish studies at the college level.

501 ***Spanish I*** Credits: 1 Level: 3

This is an introductory course in the Spanish instructional sequence. This course is open to freshmen and juniors. Listening, speaking, reading and writing skills will be introduced through a variety of activities, materials, evaluations and the use of technology. Selected topics of vocabulary and grammar lead to a novice level of communication, comparison, and cultural awareness of the Spanish-speaking world. This course is closed to heritage and native Spanish speakers. This course is not part of the standard sequence leading to AP Spanish.

503 ***Spanish II*** Credits: 1 Level: 3

Prerequisites: Successful completion of Spanish I at the high school level or determined by placement exam.

This course is a continuation of Spanish I and is offered to freshmen, sophomores and seniors. The course begins with a complete review of the grammar taught during Spanish I as well as further introduction of new grammatical structures and tenses. Students will participate in dialogues and class discussion in order to increase their oral proficiency and comprehension of Spanish. Emphasis will be placed on the basic language skills of reading, listening, speaking and writing. This course is closed to heritage and native Spanish speakers. This course is not part of the standard sequence leading to AP Spanish.

506 ***Spanish III*** Credits: 1 Level: 3

Prerequisites: Successful completion of Spanish II (with a 75 or above). Teacher's recommendation must be considered for placement at this level. *Native Spanish speakers must have approval from the Spanish Team Leader prior to registration if he/she is interested in this course.

This course is offered to sophomores and juniors who wish to continue beyond the two introductory years. Spanish III includes a comprehensive review of grammar taught in Spanish I and II. Advanced grammatical structures are introduced. Students learn the basic concepts of Spanish using an aural-lingual-visual method to attain a level of communication competency and proficiency in each of the four language skills: listening, speaking, reading, and writing. Intermediate authentic text and media resources are used. Students will be accountable for readings and presentations in Spanish as well as intermediate Spanish dialogue presented throughout the year. The teacher uses Spanish almost exclusively in class and encourages students to do likewise. This course is not part of the standard sequence leading to AP Spanish.

508 ***Spanish IV*** Credits: 1 Level: 3

Prerequisites: Successful completion of Spanish III (with an 80 or above). Teacher's recommendation must be considered for placement at this level.

Spanish IV includes a comprehensive review of grammar taught in Spanish III. Advanced grammatical structures continue to be introduced, and reviewed with emphasis on the active application of the language with a goal of attaining listening, speaking and writing proficiencies. Intermediate/advanced authentic text and media resources will be used. Students will be accountable for readings and presentations in Spanish. Hispanic history and culture will be further examined through the study of history, literature, art, music and current events. The teacher uses Spanish almost exclusively in class and encourages students to do likewise.

509 ***Spanish IV-Part II*** Credits: 1 Level: 3

Prerequisites: Successful completion of Spanish IV part I (with an 80 or above). Teacher's recommendation must be considered for placement at this level. Spanish IV part II is a senior level course and includes a comprehensive review of material taught in Spanish IV part I.

Additional advanced grammatical structures continue to be introduced, and reviewed with emphasis on the active application of the language with a goal of aural, oral, and written proficiency. Intermediate/advanced authentic text and media resources will be used. Students will be accountable for readings and presentations in Spanish. Hispanic history and culture will be further examined through the study of history, literature, art, music and current events. The teacher uses Spanish exclusively in class and encourages students to do likewise.

523 ***Honors Immersion Spanish II*** Credits: 1 Level: 2

Prerequisites: Participation in a Spanish Immersion program prior to enrollment at BVT. (Or is a native/heritage speaker). (Open to grade 9 only.)

This is a rigorous course focused on Hispanic Civilization and Culture, designed for students who have participated in a Spanish Immersion program and wish to continue their instruction entirely in the Spanish language. Students are exposed to the many diverse cultures of today's Spanish-speaking communities while also comparing and contrasting cultures. Through the use of authentic audio, video, visual and written material students will be provided with the tools necessary to communicate meaningfully, effectively and accurately in Spanish. Class is taught exclusively in Spanish. This freshman course is the first in a series that prepares students for AP Spanish during the senior year.
*Native/heritage Spanish speakers must have approval from the Spanish Team Leader prior to registration if he/she is interested in this course.

525 ***Honors Immersion Spanish III*** Credits: 1 Level: 2

Prerequisites: Successful completion of Honors Spanish Immersion II at BVT or is a native/heritage speaker with approval from the Spanish Team Leader. (Open to Grade 10 only.)

Advanced Spanish Grammar and Composition through Immersion continues the study of vocabulary and grammar and progresses to a higher level of production. Emphasis continues to be placed on the use of Spanish for communication in oral and written form through a wide range of authentic situations and cognitively engaging content. Students will read, comprehend, interpret and discuss more extensive materials as well as utilize the content learned in the previous year to write well-developed compositions in Spanish. The quality, quantity, depth, sophistication and expectation of oral and written production increase with this course. Class is taught exclusively in Spanish. This sophomore course is the second in a series that prepares students for AP Spanish during the senior year.

527 Honors Immersion Spanish IV

Credits: 1 Level: 2

Prerequisites: Successful completion of Honors Spanish Immersion III at BVT or is a native/heritage speaker with approval from the Spanish Team Leader. (Open to Grade 11 only.)

This is a Pre-AP course composed of thematic units using intermediate/advanced authentic text and media resources with emphasis on the development of language skills within the three modes of communication: Interpretive, presentational and interpersonal. Students will be accountable for readings and presentations in Spanish. Hispanic history and culture will be further examined through the study of history, literature, art, music and current events. The class is taught exclusively in Spanish. This junior course is the third in a series that prepares students for AP Spanish during the senior year.

529 AP Spanish Language and Culture

Credits: 2 Level: 1

Prerequisites: Successful completion of Honors Spanish Immersion IV at BVT or is a native/heritage speaker with approval from the Spanish Team Leader. (Open to Grade 12 only.)*

This course is composed of thematic units using intermediate/advanced authentic text and media resources with emphasis on the development of language skills within the three modes of communication: Interpretive, presentational and interpersonal. Students will be accountable for readings and presentations in Spanish. Hispanic history and culture will be further examined through the study of history, literature, art, music and current events. This course is designed to continue preparing students to take the AP Spanish Language and Culture exam and prepares students for more advanced Spanish studies at the college level. The class is taught exclusively in Spanish.

Students *must* take the AP exam in May in order to receive AP credit on their transcript. A qualifying score of three (3) or better on the exam may earn a student college credit.

*If a non-immersion student wishes to take this course after successful completion of Spanish IV, a placement test consisting of a written, listening and speaking component (at an intermediate-pre-advanced level defined by ACTFL performance guidelines) will be administered previous to entering the class and supplementary coursework outside of school will be necessary.

Career Enrichments

Career Enrichment teachers team with school counselors, coaching all BVT students in the fundamental skills that ensure adaptability and success in the 21st Century.

Coursework is project-based, mostly digital and includes a mix of collaborative and individual endeavors. Teachers frame group work around individual accountability and team rewards. Student autonomy is expected, encouraged and supported with clear expectations and direction. Career Enrichment teachers and school counselors deliver strengths-based instruction guided by the tenets of Positive Psychology, coaching students as they:

1. **Discover who they are and what they can do**
   Students use this self-awareness and skill set to their benefit in academic, vocational and extra-curricular endeavors and to become ready for college, work and society.
   Self-discovery is based on:
   - Character Strengths
   - Well-Being, Optimism and Resiliency
   - Self-Control, Perseverance and Goal Setting

2. **Grow and become ready for college, work and society**
   Career Enrichment teachers guide students as they develop goals and then work with students to develop plans and motivation to reach their goals.
   Growth and readiness focus on:
   - Career Readiness
   - BVT Vocational Competencies (In particular: Employability, Management & Entrepreneurship, and Technology)
   - Academic Growth (College Readiness)
   - Personal and Social Growth

3. **Acquire 21st Century Skills**
   21st Century Skills provide context to the process, thereby creating a Career Enrichment program that prepares students for a dynamic world economy. BVT 21st Century Skills include:
   - Communication (clarity & simplicity, written & spoken)
   - Reasoning, critical thinking, problem solving
   - Literacy: financial, economic, business, entrepreneurial
   - Global awareness, civic awareness, cross-cultural skills
   - Leadership, strategic vision, tactical vision, shaping clear missions
   - Teamwork and collaboration
   - Literacy: technology, media, information
   - Health, nutrition and wellness

611 Career Enrichment 9 Credits: 1 Level:3

Students are introduced to positive and professional workplace behavior – a theme that underlies all four years in Career Enrichment. They explore their character strengths and write a strengths based autobiography, a document they will continue to develop and revise in the years ahead. Freshmen explore potential career paths, reflect on their vocational exploratory experiences and begin setting personal and career goals. Projects include conceptual photography, growth mindset, and public speaking presentations. Seminars and activities incorporate positive psychology, money management, health, nutrition and wellness, technical, media and information literacy, as well as BVT 21st century skills.

612 Career Enrichment 10 Credits: 1 Level: 3

This course continues to reinforce positive and professional workplace behavior. Sophomores concentrate on business literacy with a major project in Management & Entrepreneurship. Students work in small groups to develop a business plan and marketing campaign. The project culminates in the spring with a business plan competition in the BVT Competition Center. Students also work on financial literacy projects covering insurance and investing, topics relevant to the business planning process. Seminars and activities incorporate positive psychology, character strengths, goal setting, health, nutrition and wellness. Students continue to discover who they are, grow and become ready for college, work and society, while developing 21st Century Skills critical to future success in a dynamic world economy.

613 Career Enrichment 11 Credits: 1 Level: 3

Students continue to develop their positive and professional workplace habits. Juniors start the year with post-graduation research and character strengths projects, then begin their Career Action Plans. Students work on the practical aspects of securing a job by writing cover letters and resumes, researching successful job searches and by conducting mock interviews. They strengthen their public speaking skills with a presentation project and further develop their financial literacy with a project on earning power. Seminars and activities incorporate positive psychology, character strengths, goal setting, health, nutrition and wellness. Junior year in Career Enrichment is when students, in a very real and practical sense, turn their attention to the adult world. Juniors focus on the world outside of – and beyond – high school. They continue to discover who they are, grow and become ready for college, work and society, while further developing their 21st Century Skills.

614 Career Enrichment 12 Credits: 1 Level:3

Seniors further their financial literacy with projects related to borrowing and budgets and they continue to strengthen their public speaking skills with a presentation project. Positive workplace behavior and professionalism is emphasized as seniors build on their earlier efforts with college, military and employment research. Students work on career navigation projects and they expand and finalize their Career Action Plans. A period of time is also allotted for portfolio work assigned by vocational instructors. Counselors and teachers guide seniors through the SAT process, financial aid, FAFSA filings, and establishing online FAFSA accounts, while students planning on going to work after graduation - and those enlisting in the military - receive guidance relative to those endeavors. Seminars and activities incorporate positive psychology, character strengths, goal setting, health, nutrition and wellness.

Senior year in Career Enrichment is the culmination of a four year effort. The goal has been for students to discover who they are, grow and become ready for college, work and society, and to acquire 21st Century Skills that are so crucial to their success as adults.

Elective Course Offerings

Electives are offered to supplement a student's core academic and technical studies at Valley Tech. NOTE: Some Electives <u>may not run</u> during a given school year due to student interest and/or teacher availability.

141 Music 9 Credits: 1 Level: 3

<u>Music Appreciation I</u>

The primary purpose of this course is to increase the student's knowledge and enjoyment of music. Specifically, this course should help the student critically listen to and develop an enjoyment of extraordinary music, develop an understanding of the most significant composers and renowned musicians and develop the skills needed to fully appreciate the participation and contribution of acclaimed music to the overall history of Western culture. These goals will be achieved by studying the history of music and key composers and musicians of the past 1500 years, the study of music theory, listening to a wide variety of musical styles, and watching live performances. Students will also be exposed to complex music theory and will have access to music composition software and learn to create their own music.

142 Music 10 Credits: 1 Level: 3

<u>Music Appreciation II</u>

Although this course is a continuation of Music Appreciation I, it can be fully enjoyed by students who have not taken Music Appreciation 1. Students will have access to music composition software and learn to create their own music. In addition, students will take a deeper look into the characteristics of music of the Middle Ages, the Renaissance, and Baroque, Classical and Romantic music, and the lives of key composers, and students will begin to see how the music of those time periods have influenced popular music of the 20th and 21st century.

143 Music 11 Credits: 1 Level: 3

<u>Introduction to Modern American Popular Music</u>

This course is open to any student who enjoys popular American music. Students will listen to and critique popular music of the 20th century. The course takes an in depth look and the music that has influenced today's popular music by studying the history, foundations and key musicians of many different styles and types of music. Genres such as Jazz, the Blues, Heavy Metal and Country will be covered. The important social, political and cultural elements of popular music will be studied, analyzed and discussed, as well as how certain historical events made an impact on pop music.

144 Music 12 Credits: 1 Level: 3

<u>Musical Expression</u>

This course is designed to provide seniors with or without a musical background, a chance to study the important fundamentals of music, aside from music theory and history. Students will take a deeper look into song lyrics and structure, and focus mainly on critical listening and reflection. Students are encouraged to use music in an expressive way, and asked to share their opinions and feelings, and participate in discussions on controversial issues. Students will be required to communicate to their peers how they use music to express themselves and will take an in depth look on what music means to them, and how music plays a part in their everyday lives.

161 Art 9 Credits: 1 Level: 3

Introductory Art Studio
Students will acquire a basic foundation in understanding and producing original works of art through applying the elements and principles of art and design. Students work on a combination of two-dimensional and three-dimensional projects applying basic art theory concerning aesthetics and conceptual development. Emphasis on creative process and exploration in a variety of media provide a broad exposure to the Visual Arts.

162 Art 10 Credits: 1 Level: 3

Illustration and Design
Students will explore conceptual projects through drawing and painting techniques: colored pencil rendering, pen and ink illustration, acrylic painting, watercolor painting and ink painting: collage and mixed media. Projects will learn to implement the elements of line, shape, color, space, texture, and value in relationship to compositional study. In addition, students will be exposed to contemporary artists that focus on the genre of two-dimensional art and design. Lastly, students will learn how to cultivate their ideas; transferring what's in their head to a piece of art.

163 Art 11 Credits: 1 Level: 3

Sculpture
Students explore various conceptual projects using sculptural techniques with unconventional and traditional materials alike. Projects examine space, volume, mass, plane and line interweaving the principles of art and design into each assignment. Materials used include wire, clay, chipboard, Bristol board, recycled materials, paper maché and plaster wrap. Projects highlight process, problem solving and critical thinking skills. In addition, students are exposed to contemporary artists and designers that focus on the genre of three-dimensional art and design.

164 Art 12 Credits: 1 Level: 3

Art History Studio
Students explore a variety of influential periods of art through historical study and related projects. Students learn about diverse cultures and classical masters to gain an appreciation for these classified periods of creative history. Rooted in discussion of the most influential artists throughout history partnered with the execution of their techniques, students will discover what makes the master artists of the past so important to the art of today.

171 ***Writer's Voice*** Credits: 1 Level: 3

This class will provide a vehicle for grade 9 students to learn to shape facts, theory, beliefs, and opinion into cogent, compelling communications. Through journaling, reading, class discussions, and group work, students will investigate different styles and forms of writing that provide a range of models for approaching thinking, writing, and speaking. Emphasis will be on learning to refine thinking and discovering one's own voice through editing, rewriting, and publishing.

172 ***Vision and Revision*** Credits: 1 Level: 3

This course is designed to help grade 10 students develop their writing voice utilizing description, narration, and exposition. Students will expand their writing styles through critical thinking and the logical development of ideas. The course includes keeping journals, the critical analysis of informal essays, individual student conferences and a variety of assignments designed to improve the student's ability to communicate in writing.

173 ***College Bound Writing*** Credits: 1 Level: 3

This class will provide grade 11 students with an opportunity to improve upon writing efforts relative to college admission and completion. This course will address aspects of college admission such as preparation for the SAT I verbal and essay sections, college application essays and narratives, expanding college level vocabulary, refining resumes for college admission, and improving reflective entries and personal narratives within the student's portfolio. The course will also help students make a smooth transition to college by introducing them to many elements of rhetoric and style typically taught in college freshman writing seminars.

174 ***Workplace Writing*** Credits: 1 Level: 3

This course is designed to help grade 12 students develop practical and informational writing skills for the workplace. These non-fictional topics include writing instruction and conventions in the areas of concise instructions, invoices, business letters and memorandums, email, online media, personal marketing and branding, and refining resumes for job attainment. This course is ideal for students who are bound for the workforce and is also beneficial for those pursuing post-high school educations.

263 MCAS Math III Credits: 1 Level: 4

Prerequisite: Teacher recommendation

This course is offered to juniors who scored less than Proficient on the MCAS math exam. It is a supplement to their core math course. The focus of MCAS Math III is to review and reinforce concepts developed in Algebra I Part I and Geometry. Emphasis in this course is based specifically on topics presented in the Massachusetts Curriculum Framework and on the MCAS, such as number sense, patterns, algebra, geometry, measurement, statistics, and probability. Test taking strategies and techniques are presented and practiced by completing previous MCAS test questions on a topic by topic basis. The objective of this course is to better prepare students to take the MCAS Retest or the MCAS EPP Test.

264 MCAS Math IV Credits: 1 Level: 4

Prerequisite: Teacher recommendation

This course is offered to seniors who scored less than Proficient on the MCAS math exam. It is a supplement to their core math course. The focus of MCAS Math IV is to review and reinforce concepts developed in Algebra I Part I and Geometry. Emphasis in this course is based specifically on topics presented in the Massachusetts Curriculum Framework and on the MCAS, such as number sense, patterns, algebra, geometry, measurement, statistics, and probability. Test taking strategies and techniques are presented and practiced by completing previous MCAS test questions on a topic by topic basis. The objective of this course is to better prepare students to take the MCAS Retest or the MCAS EPP Test.

266 Accelerated Algebra II Credits: 1 Level:3

Prerequisite: Completion of College Prep Algebra I with a grade of 90 or better (grades will be verified at the end of the school year to determine eligibility)

This course prepares students for a successful transition to Honors Pre-Calculus.

This accelerated supplemental course is designed for grade 10 students who showed above average achievement in College Prep Algebra I and who would like the opportunity to elect the Honors pathway by obtaining the skills necessary to be prepared for Honors Pre-Calculus their junior year. This course places emphasis on modeling as it expands upon the topics developed in Algebra I. Students will study a variety of functions with both a graphical and algebraic approach, including quadratic, polynomial, exponential, logarithmic, rational, radical and trigonometric functions. This course also investigates important concepts in data analysis and statistics. Use of the graphing calculator is emphasized throughout instruction. Applications include problems relating to the students' technical areas and everyday life.

406 Current Events Credits: 1 Level: 3

This course, offered to grade 12 students, investigates events of recent history and what is happening in the world today. With an increased awareness of current events comes a better understanding of world affairs as well as national and state government issues. The fundamental focus of this course is to prompt and encourage the habit of following current events with particular attention to the value of the internet, newspapers, news magazines and broadcast media. Students will have an opportunity to discuss and present their views on global topics. Students should expect to become more responsible and knowledgeable consumers of news information and opinion.

570 ***World Cultures*** Credits: 1 Level: 3

This course, offered to grade 11 students, examines the history and culture of Spanish speaking countries, specifically Spain, Central & South America and the Caribbean. Students will delve into the geography, history, food, music, dance, literature and modern culture of countries in these regions. Students should expect to keep an open mind as they learn about a world much different from their own. Students will read works written by Latin American and Spanish authors, listen to music, try different foods, work on culture projects and even communicate with students from these countries. Please note that this course is not credited as a language course and does not fulfill the language requirement of most colleges and universities.

634 ***Computer Science and Software Engineering*** Credits: 1 Level: 3

Open the door to many career with computer science. This course, offered in the junior year, teaches students to create apps for mobile devices, automate tasks in a variety of languages, find patterns in data and interpret simulations. Students create and present solutions that can improve people's lives through a variety of platforms. Topics in this class include programming, app development, the internet and world wide web, online shopping, social media, web security, and cryptography. Students will also learn about intelligent machines and will engage in a programming challenge to develop completely autonomous robot behaviors.

635 ***Environmental Sustainability*** Credits: 1 Level: 3

Environmental Sustainability, offered in the senior year, encourages students to investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply issues, and renewable energy. Applying their knowledge through hands-on activities and simulations, students will research and design potential solutions to these true-to-life challenges.

751 ***Occupational Health/Physical Education (grades 9-12)***

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This course is designed to develop skills and competencies in occupational health, personal fitness, team sports, team building, and lifelong health and wellness. This is a shop based program, with students participating during all four grade levels (freshmen begin when Exploratory concludes). Learning is tailored to the needs of individual students and also to the occupational requirements of each vocational shop. Students study and practice functional human movements and various components of physical fitness. Through team sports and team building activities, BVT students practice respect and good citizenship. They are developing collaboration skills while moving and engaging in physical activities. Occupational Health / Physical Education takes place during vocational cycles, but it is graded separately from shop.

915 ***Literary Lab*** Credits: 1 Level: 4

Enrollment in this course requires the recommendation of School Counseling

Literary Lab is offered to freshmen as a supplemental course where the focus is on process. Emphasis is placed on strengthening comprehension and fluency. This course employs a variety of reading materials both fiction and nonfiction and classroom experiences along with individualized instruction in the computer reading lab. Additional emphasis is placed on organizing information via the writing process to increase MCAS preparedness.

916 ***Literary Strategies*** Credits: 1 Level: 4

Enrollment in this course requires the recommendation of School Counseling

Literary Strategies is offered to sophomores as a supplemental course where the focus is on process. This course assesses and reinforces comprehension required to analyze literary and informational texts in preparation for MCAS. Additional emphasis is placed on organizing information via the writing process.

917 ***Literary Workshop*** Credits: 1 Level: 4

Enrollment in this course requires the recommendation of School Counseling

Literary Workshop is offered to juniors as a supplemental course where the focus is on process. This course builds upon the skills required to analyze literary and informational texts. Additional emphasis is placed on organizing information via the writing process.

918 ***Literary Roundtable*** Credits: 1 Level: 4

Enrollment in this course requires the recommendation of School Counseling

Literary Roundtable is offered to seniors as a supplemental course where the focus is on process. Literary and informational texts are discussed and analyzed using comprehension strategies developed and reinforced over the duration of this supplemental program. Additional emphasis is placed on organizing information via the writing process.

951 ***Wilson Reading*** Credits: 1 Level: 4

Enrollment in this course requires IEP team recommendation

The Wilson Reading Program directly and systematically teaches students to fluently and accurately decode. The instruction is very interactive and multi-sensory. It also thoroughly teaches, "total word construction," not just phonics. Students learn to encode (spell) as they learn to decode. The Wilson Reading System teaches word construction according to six types of syllables. These syllable types are gradually taught to the student. Comprehension is strengthened using a variety of reading materials along with individualized instruction in the computer reading lab. Depending on the needs of the student, this program is delivered in several models: one-on-one, small group, JUSTWORDS.

960 ***Study Strategies*** Credits: 1 Level: 4

Enrollment in this course requires IEP team recommendation

Study Strategies focuses upon developing a student's ability to absorb, process, and apply new information. Daily lessons emphasize the acquisition and application of study and organizational strategies (e.g. use of assignment notebooks, notebook organization for subject classes, time management skills, etc.). Students develop an understanding of personal learning strengths and weaknesses. A portion of each class is designated to course work to assist students with the authentic application of skills taught.

English as a Second Language

The English as a Second Language (ESL) program at Blackstone Valley Tech (BVT) is designed to assist students whose first language is not English to acquire proficiency in the English language. Students receive developmentally appropriate instruction in the areas of listening, speaking, reading and writing. Working in collaboration with Social Studies, Science, Language Arts, Mathematics, and Vocational Instructors this program focuses on continued academic language development.

Students are assigned to ESL classes according to grade level and English proficiency. Need for ESL services is determined based on MODEL and/or ACCESS test scores, other standardized test scores, prior ESL inclusion, and teacher recommendation.

The ESL curriculum is aligned with the Massachusetts and WIDA standards.

981 ***ESL I - Entering*** Credits: 1 Level: 4

Students are placed in this course based on the ESL Coordinator's recommendation

At this given level of English language proficiency, English language learners will process, understand, produce or use:

- pictorial or graphic representation of the language of the content areas
- words, phrases or chunks of language when presented with one-step commands, directions, WH- (Why? What? Who? When? etc...), choice or yes/no questions, or statements with sensory, graphic or interactive support
- oral language with phonological, syntactic, or semantic errors that often impede meaning when presented with basic oral commands, direct questions, or simple statements with sensory, graphic or interactive support

982 ***ESL II - Beginning*** Credits: 1 Level: 4

Students are placed in this course based on the ESL Coordinator's recommendation

At this given level of English language proficiency, English language learners will process, understand, produce or use:

- general language related to the content areas
- phrases or short sentences
- oral or written language with phonological, syntactic, or semantic errors that often impede the meaning of the communication when presented with one- to multiple-step commands, directions, questions, or a series of statements with sensory, graphic or interactive support

983 ***ESL III - Developing*** Credits: 1 Level: 4

Students are placed in this course based on the ESL Coordinator's recommendation

At this given level of English language proficiency, English language learners will process, understand, produce or use:

- general and some specific language of the content areas
- expanded sentences in oral interaction or written paragraphs
- oral or written language with phonological, syntactic or semantic errors that may impede the communication, but retain much of its meaning, when presented with oral or written, narrative or expository descriptions with sensory, graphic or interactive support

984 ***ESL IV - Expanding*** Credits: 1 Level: 4

Students are placed in this course based on the ESL Coordinator's recommendation

At this given level of English language proficiency, English language learners will process, understand, produce or use:

- specific and some technical language of the content areas
- a variety of sentence lengths of varying linguistic complexity in oral discourse or multiple, related sentences or paragraphs
- oral or written language with minimal phonological, syntactic or semantic errors that do not impede the overall meaning of the communication when presented with oral or written connected discourse with sensory, graphic or interactive support

985 ***ESL V - Bridging*** Credits: 1 Level: 4

Students are placed in this course based on the ESL Coordinator's recommendation

At this given level of English language proficiency, English language learners will process, understand, produce or use:

- specialized or technical language of the content areas
- a variety of sentence lengths of varying linguistic complexity in extended oral or written discourse, including stories, essays or reports
- oral or written language approaching comparability to that of English-proficient peers when presented with grade level material

986 ***ESL VI - Reaching*** Credits: 1 Level: 4

Students are placed in this course based on the ESL Coordinator's recommendation

At this given level of English language proficiency, English language learners will process, understand, produce or use:

- specialized or technical language reflective of the content areas at grade level
- a variety of sentence lengths of varying linguistic complexity in extended oral or written discourse as required by the specific grade level
- oral or written communication in English comparable to English-proficient peers

Vocational-Technical Programs

Auto Collision Repair and Refinishing	
0310	Auto Collision Repair and Refinishing Exploratory
0311	Auto Collision Repair and Refinishing 9 Shop
3101	Auto Collision Repair and Refinishing 9 Related
0312	Auto Collision Repair and Refinishing 10 Shop
3102	Auto Collision Repair and Refinishing 10 Related
0313	Auto Collision Repair and Refinishing 11 Shop
3103	Auto Collision Repair and Refinishing 11 Related
0314	Auto Collision Repair and Refinishing 12 Shop
3104	Auto Collision Repair and Refinishing 12 Related

Automotive Technology	
0320	Auto Technology Exploratory
0321	Auto Technology 9 Shop
3201	Auto Technology 9 Related
0322	Auto Technology 10 Shop
3202	Auto Technology 10 Related
0323	Auto Technology 11 Shop
3203	Auto Technology 11 Related
0324	Auto Technology 12 Shop
3204	Auto Technology 12 Related

Business Technology	
0480	Business Technology Exploratory
0481	Business Technology 9 Shop
4801	Business Technology 9 Related
0482	Business Technology 10 Shop
4802	Business Technology 10 Related
0483	Business Technology 11 Shop
4803	Business Technology 11 Related
0484	Business Technology 12 Shop
4804	Business Technology 12 Related

Construction Technology	
3300	Construction Technology Exploratory
0331	Construction Technology 9 Shop
3301	Construction Technology 9 Related
0332	Construction Technology 10 Shop
3302	Construction Technology 10 Related
0333	Construction Technology 11 Shop
3303	Construction Technology 11 Related
0334	Construction Technology 12 Shop
3304	Construction Technology 12 Related

Cosmetology	
0210	Cosmetology Exploratory
0211	Cosmetology 9 Shop
2101	Cosmetology 9 Related
0212	Cosmetology 10 Shop
2102	Cosmetology 10 Related
0213	Cosmetology 11 Shop
2103	Cosmetology 11 Related
0214	Cosmetology 12 Shop
2104	Cosmetology 12 Related

Culinary Arts	
0450	Culinary Arts Exploratory
0451	Culinary Arts 9 Shop
4501	Culinary Arts 9 Related
0452	Culinary Arts 10 Shop
4502	Culinary Arts 10 Related
0453	Culinary Arts 11 Shop
4503	Culinary Arts 11 Related
0454	Culinary Arts 12 Shop
4504	Culinary Arts 12 Related

Dental Assisting	
0220	Dental Assisting Exploratory
0221	Dental Assisting 9 Shop
2201	Dental Assisting 9 Related
0222	Dental Assisting 10 Shop
2202	Dental Assisting 10 Related
0223	Dental Assisting 11 Shop
2203	Dental Assisting 11 Related
0224	Dental Assisting 12 Shop
2204	Dental Assisting 12 Related

Drafting and Engineering Technology	
0340	Drafting and Engineering Technology Exploratory
0341	Drafting and Engineering Technology 9 Shop
3401	Drafting and Engineering Technology 9 Related
0342	Drafting and Engineering Technology 10 Shop
3402	Drafting and Engineering Technology 10 Related
0343	Drafting and Engineering Technology 11 Shop
3403	Drafting and Engineering Technology 11 Related
0344	Drafting and Engineering Technology 12 Shop
3404	Drafting and Engineering Technology 12 Related

Electrical	
0410	Electrical Exploratory
0411	Electrical 9 Shop
4101	Electrical 9 Related
0412	Electrical 10 Shop
4102	Electrical 10 Related
0413	Electrical 11 Shop
4103	Electrical 11 Related
0414	Electrical 12 Shop
4104	Electrical 12 Related

Electronics and Engineering Technology	
0350	Electronics and Engineering Technology Exploratory
0351	Electronics and Engineering Technology 9 Shop
3501	Electronics and Engineering Technology 9 Related
0352	Electronics and Engineering Technology 10 Shop
3502	Electronics and Engineering Technology 10 Related
0353	Electronics and Engineering Technology 11 Shop
3503	Electronics and Engineering Technology 11 Related
0354	Electronics and Engineering Technology 12 Shop
3504	Electronics and Engineering Technology 12 Related

Engineering Technology	
0380	Engineering Technology Exploratory
0381	Engineering Technology 9 Shop
3801	Engineering Technology 9 Related
0382	Engineering Technology 10 Shop
3802	Engineering Technology 10 Related
0383	Engineering Technology 11 Shop
3803	Engineering Technology 11 Related
0384	*The Engineering Technology Shop and Related for grade 12 will be phased in for 2017-2018.*
3804	

Health Services	
0490	Health Services Exploratory
0491	Health Services 9 Shop
4901	Health Services 9 Related
0492	Health Services 10 Shop
4902	Health Services 10 Related
0493	Health Services 11 Shop
4903	Health Services 11 Related
0494	Health Services 12 Shop
4904	Health Services 12 Related

HVAC/R	
0440	HVAC/R Exploratory
0441	HVAC/R 9 Shop
4401	HVAC/R Related
0442	HVAC/R 10 Shop
4402	HVAC/R 10 Related
0443	HVAC/R 11 Shop
4403	HVAC/R 11 Related
0444	HVAC/R 12 Shop
4404	HVAC/R 12 Related

Information Technology	
0230	Information Tech Exploratory
0231	Information Tech 9 Shop
2301	Information Tech 9 Related
0232	Information Tech 10 Shop
2302	Information Tech 10 Related
0233	Information Tech 11 Shop
2303	Information Tech 11 Related
0234	Information Tech 12 Shop
2304	Information Tech 12 Related

Manufacturing and Engineering Technology	
0360	Manufacturing and Engineering Technology Exploratory
0361	Manufacturing and Engineering Technology 9 Shop
3601	Manufacturing Technology 9 Related
0362	Manufacturing Technology 10 Shop
3602	Manufacturing Technology 10 Related
0363	Manufacturing Technology 11 Shop
3603	Manufacturing Technology 11 Related
0364	Manufacturing and Engineering Tech12 Shop
3604	Manufacturing and Engineering Tech 12 Related

Multimedia Communications	
0620	Multimedia Communications Exploratory
0621	Multimedia Communications 9 Shop
6201	Multimedia Communications 9 Related
0622	Multimedia Communications 10 Shop
6202	Multimedia Communications 10 Related
0623	Multimedia Communications 11 Shop
6203	Multimedia Communications 11 Related
0624	Multimedia Communications 12 Shop
6204	Multimedia Communications 12 Related

Painting & Design Technology	
0460	Painting & Design Technology Exploratory
0461	Painting & Design Technology 9 Shop
4601	Painting & Design Technology 9 Related
0462	Painting & Design Technology 10 Shop
4602	Painting & Design Technology 10 Related
0463	Painting & Design Technology 11 Shop
4603	Painting & Design Technology 11 Related
0464	Painting & Design Technology 12 Shop
4604	Painting & Design Technology 12 Related

Plumbing	
0430	Plumbing Exploratory
0431	Plumbing 9 Shop
4301	Plumbing 9 Related
0432	Plumbing 10 Shop
4302	Plumbing 10 Related
0433	Plumbing 11 Shop
4303	Plumbing 11 Related
0434	Plumbing 12 Shop
4304	Plumbing 12 Related

The curriculum for Blackstone Valley Tech approved Chapter 74 Career Vocational Technical Education (CVTE) programs, is developed, aligned and revised based on the current Massachusetts CVTE Frameworks. Vocational instruction is designed utilizing the Massachusetts Framework strands, competencies and tasks, as well as local, state, and national licensing and certification requirements. Valuable industry input is derived from the Program Advisory Committees, the General Advisory Committee and subject matter experts in each area of instruction.

Auto Collision Repair and Refinishing

0310 Auto Collision Repair and Refinishing Exploratory

The program is an intensive one-week introduction in basic Auto Collision Repair and Refinishing panel straightening and repair on actual Auto Collision Repair and Refinishing panels and painting procedures, which includes students Refinishing an actual Auto Collision Repair and Refinishing panel in a base coat / clear coat refinish process . Related theory focuses on the general topics of shop safety and career potential in the collision repair industry.

0311 Auto Collision Repair and Refinishing 9th Grade Shop Credits: 8 Level: 3

Students are introduced to basic vehicle construction, basic hand tools used for repair, paint and surface preparation, vehicle detailing, and the use of trade materials such as plastic fillers, masking supplies, abrasives, and solvents. Safety is an important issue and is stressed throughout the 4-year program.

3101 Auto Collision Repair and Refinishing 9th Grade Related Credits: 1 Level: 3

This two-trimester course examines auto detailing (washing and cleaning of vehicles), surface preparation, masking, hand sanding techniques, respirator safety, general hand tools, hand and power tools used in collision repair, introduction to spray guns, undercoats (primers), small dent repair (plastic fillers), basic body construction and measuring. Reading, writing, and math assignments are integrated with Auto Collision Repair and Refinishing theory.

0312 Auto Collision Repair and Refinishing 10th Grade Shop Credits: 8 Level: 3

Auto Collision Repair and Refinishing basics are expanded to include use of pneumatic and electric tools, compressed air supply equipment, sheet metal work, paint and primer mixing ratios and applications, trim installation and removal, torquing procedures, small dent repair, panel replacement and adjustment, and lifting and jacking. Safety and quality of workmanship are stressed.

3102 Auto Collision Repair and Refinishing 10th Grade Related Credits: 1 Level: 3

This course reviews the freshmen third trimester, refinishing equipment, refinishing procedures and materials, basic sheet metal repair, polishing and compounding, welding basics (gas), basic MIG welding, cosmetic panel replacement, wheels and tires, fasteners, exterior molding and trim, and lifting and jacking. Reading, writing, and math assignments related to the Auto Collision Repair and Refinishing profession are integrated with academic frameworks during this class.

0313 Auto Collision Repair and Refinishing 11th Grade Shop Credits:8 Level: 3

Juniors fine-tune previously acquired skills. Instruction includes welding and cutting equipment and procedures, overall paint application including color and clear topcoats, body and frame straightening procedures, and automotive plastics. Juniors learn to diagnose each vehicle's unique collision damage and perform appropriate repair procedures.

3103 Auto Collision Repair and Refinishing 11th Grade Related Credits: 1 Level: 3

Students study interior repair, glass replacement, fiberglass panel repair, plastic panel repair and refinish procedures, structural panel replacement, wheels and tires, fasteners, and exterior molding and trim. Reading, writing, and math assignments related to the Auto Collision Repair and Refinishing profession are integrated with academic frameworks in this class.

0314 Auto Collision Repair and Refinishing 12th Grade Shop Credits: 8 Level: 3

In addition to using previously acquired skills, seniors specialize in analyzing and repairing frame damage. Damage repair and refinishing skills are mastered. Mentoring of underclassmen, business and managerial concepts, such as damage estimating, part and material ordering, and customer interaction are introduced. Eligible seniors may participate in the co-op program.

3104 Auto Collision Repair and Refinishing 12th Grade Related Credits: 1 Level: 3

This course examines vehicle structural repair, analyzing and gauging frame damage, and Advanced refinishing procedures, suspension systems, and basic electro/mechanical systems. Research as well as reading, writing, and math assignments related to the Auto Collision Repair and Refinishing profession are integrated with academic frameworks during this class.

Automotive Technology

0320 Auto Technology Exploratory

This one-week program provides the 9th grade student with instruction in basic maintenance of vehicles. Students will be paired with a Mentor from the Junior class, and guided through the repair process performing oil and filter changes, tire rotations, brake system service, cooling system service & repair, tire mounting & balancing, wheel alignments and transmission services. Each student completes a reflective worksheet for each task performed, and builds a personal portfolio to share with parents and peers. A visit to local automobile dealerships, highlighting the service, parts and sales departments with a chance to talk to employees and learn about different career pathways. Students receive instruction in shop operational procedures, personal and shop safety, and tool usage. Instructional delivery includes multimedia presentations, demonstrations and an emphasis on hands-on performance.

0321 Auto Technology 9th Grade Shop Credits: 8 Level: 3

This two-trimester course provides students with the basic knowledge and skill training necessary for continued success in the Automotive Technology program. Students receive instruction in career opportunities, hand & power tools, measuring tools, tire service, preventative maintenance, cooling systems, brake system service, and online repair manuals. Instructional methods include multimedia presentations with interactive software, instructor demonstration and hands-on performance testing, on shop vehicles, in the areas listed above.

3201 Auto Technology 9th Grade Related Credits: 1 Level: 3

This two-trimester course provides students with the technical knowledge necessary for success in the Automotive Technology program. Students receive instruction in tools, measuring systems, engine and chassis lubrication, cooling systems, fundamentals of braking (friction, pressure, heat dissipation and hydraulic system operation), tire construction, design, and replacement procedures. Instructional delivery includes the use of instructor led presentations, reading and writing assignments, classroom demonstrations, and multimedia presentations.

0322 Auto Technology 10th Grade Shop Credits: 8 Level: 3

This course provides students with the knowledge and skill training necessary for continued success in the Automotive Technology program. Students receive instruction and hands-on training in steering/suspension fundamentals and service, wheel alignment fundamentals and service, basic electrical/electronic theory and operation, and online repair manuals. Instructional delivery includes interactive multimedia presentations, demonstrations, computer based instruction and hands-on performance testing.

3202 Auto Technology 10th Grade Related Credits: 1 Level: 3

This course provides students with the technical knowledge necessary for continued success in the Automotive Technology program. Students receive instruction in steering and suspension geometry, performance of pre-alignment checks and 4-wheel alignment, fundamentals of electrical principles, use of DMM's, Ohm's Law, basic circuit design, testing and repair of batteries, starters, alternators and their related circuits. Testing and diagnosis procedures are taught on cooling fans, blower controls, lighting, and power window circuits. Instructional delivery includes interactive multimedia presentations, reading and writing assignments, computer based instruction, and classroom demonstrations.

0323 Auto Technology 11th Grade Shop Credits: 8 Level: 3

This course provides students with the knowledge and skill training necessary for continued success in the Automotive Technology program. Students receive instruction and hands-on training in service and repair of the manual transmission/transaxle, service and repair of automatic transmission/transaxle, diagnosis and repair of clutch systems, differentials, and drive line components. Instruction is also provided in the area of engine operation, disassembly, measurement and repair, and online repair manuals. Students are introduced to service writing/advising, billing and customer service. Instructional delivery includes multimedia presentations, demonstrations, and hands-on performance testing.

3203 Auto Technology 11th Grade Related Credits: 1 Level: 3

This course provides students with the technical knowledge and skill training necessary for continued success in the Automotive Technology programs. Students receive instruction and hands-on training in service and repair of the automatic & manual transmission/transaxle. Instruction is also provided in the area of engine operational theory, disassembly, inspection and measurement. Instructional delivery includes multimedia presentations and demonstrations.

0304 Auto Technology 12th Grade Shop Credits: 8 Level: 3

This course provides students with the technical knowledge and skill training necessary to begin post-secondary education or attain an entry level position in the workplace. Students receive instruction and hands-on training in the diagnosis and repair of heating and air conditioning systems, fuel delivery systems, maintenance and service of the cooling system, exhaust system inspection and service, service writing/advising procedures, and online repair manuals. Students also receive instruction and hands-on training in the proper use of scan tools and state of the art test equipment in diagnosing drivability concerns. Instructional delivery includes multimedia presentations, demonstrations, and hands-on performance testing.

3204 Auto Technology 12th Grade Related Credits: 1 Level: 3

This course provides students with the technical knowledge and skill training necessary to begin post-secondary education or attain an entry level position in the workplace. Students receive instruction and hands-on training in the principles and operation of heating and air conditioning systems, fuel delivery systems, principles and operation of the cooling system, engine system diagnostics, principles, inventory, and billing procedures. Students receive instruction and hands-on training in the principles and operation of scan tools and test equipment. Shop management skills including service writing, billing, and parts ordering are taught. Instructional delivery includes multimedia presentations, writing assignments, repair scenario discussion, and classroom demonstrations.

Business Technology

0480 Business Technology Exploratory

The focus of this exploratory course is to introduce the freshman student to the varied curriculum that is offered in the Business Technology program. We also focus our attention on the diversity of career pathways that are available within not one career cluster but four career clusters directly related to the program: Business Management and Administration, Finance, Information Technology, or Marketing. Students experience a range of computer projects that introduce the different software programs used in the shop on a daily basis. All activities are hands-on and are designed to allow the student to express themselves creatively.

0481 Business Technology Shop 9th Grade Shop Credits: 8 Level: 3

The main focus of this course is for students to develop competency in using a wide variety of business computer applications to communicate and perform common business tasks. Students begin their study of Microsoft computer applications such as Word, Excel, and PowerPoint. As the "official language of business," accounting is introduced during grade 9, and continues for the four years the student is in BT. The freshman BT student begins his/her retail sales training in the school store, learning cash management, customer service, and store operations skills. Freshmen year students will take the **MS Excel MOS Certification exam.**

4801 Business Technology 9th Grade Related Credits: 1 Level: 3

The goal of this related class is to develop an understanding of customer service and office skills and practices. Essential office skills such as customer service, proper communication etiquette, messaging, time management and effective office operations are covered during this freshman year.

0482 Business Technology 10th Grade Shop Credits: 8 Level: 3

During the sophomore year in Business Technology, students experience more extensive training in accounting, and QuickBooks computerized accounting software is introduced. We continue to develop advanced competencies in Excel, Word, and PowerPoint. Students become well-versed in desktop publishing and produce informational brochures, flyers, business cards, and a variety of other business/marketing related documents. At the conclusion of the sophomore year, students will take the **MOS certification exam** in both **Word** and **PowerPoint**. Access, Microsoft's database management software, is introduced during the sophomore year. Students are actively engaged in the daily operation of the school store which aids them in the development of their retail, advertising, and customer service skills.

4802 Business Technology 10th Grade Related Credits: 1 Level: 3

Tenth grade related classes begin with safety training – all students will receive OSHA 10-Hour General Industry certification. *Introduction to Business* is the cornerstone course during related. Students will be introduced to economic principles, business ownership, and marketing; human, financial, and natural resource management; and the role of the consumer in the local and world markets. Through the use of realistic projects, activities, oral presentations, discussions, and case studies, students will gain introductory competency in business management.

0483 Business Technology 11th Grade Shop Credits: 8 Level: 3

The eleventh grade BT student is introduced to Web Design in Adobe Dreamweaver and HTML. The student will complete their **MS Access** database training during this year in preparation for the **MOS certification exam.** Accounting is continued, utilizing Intuit's QuickBooks computerized software. They continue their work in the school store, managing inventory, training new employees (freshmen), handling ordering, pricing, and the marketing of the store.

4803 Business Technology 11th Grade Related Credits: 1 Level: 3

The 11th Grade class will beginning developing and running the School Store's E-Commerce Site. Students will develop and purchase product, design the customer facing portal, maintain a customer database, market products, provide customer service, and process and fulfill orders.

0484 Business Technology 12th Grade Shop Credits: 8 Level: 3

This course is designed to provide students with the opportunity to go into an actual work situation where they employ the skills learned during the previous three years. This is achieved through our cooperative employment program in which eligible students are employed by local businesses during their shop cycle. For students not participating in the cooperative program, the curriculum further enhances their skills using technology and business management. More in-depth study is given in the area of electronic presentation, web design, and advanced database management. Students will also be assigned in-house business/office-related assignments that enable them to gain experience in working with clients.

4804 Business Technology 12th Grade Related Credits: 1 Level: 3

A variety of hands-on activities, writing assignments, and oral presentations are utilized to help students achieve the goals of the course. They will continue to perform all the tasks necessary to manage the E-Commerce site. The senior student will engage in developing a business plan for a business of their choosing. This final senior project shall demonstrate the student's Business Technology competencies within the frameworks as well as the integration of the principles of business: planning, organizing, staffing, leading, and controlling. Lastly, the Business Technology Electronic Senior Portfolio is prepared and fine-tuned during the related class.

Construction Technology

3300 Construction Technology Exploratory

This one-week course provides students with the basic knowledge and relevance of safety, estimating, and career paths in the field of construction technology. Students receive instruction in hand tools and their applications and general shop safety. Students will put in to practice what they have learned by building an assigned project. Critical thinking skills are emphasized throughout the course.

0331 Construction Technology 9th Grade Shop Credits: 8 Level: 3

This is a two-trimester course, providing construction technology students with basic knowledge and relevance of shop safety. Students are introduced to blueprint reading and working from measured drawings. Students receive instruction in hand tools, hand applications, and are introduced to power tools. Critical thinking skills are emphasized throughout the course. A sawhorse project is used to review the students' progress in the general knowledge of blueprint reading and the use of hand and stationary power equipment.

3301 Construction Technology 9th Grade Related Credits: 1 Level: 3

This two-term course, meeting one period per day during the shop cycle, provides students with the basic knowledge of estimating and relevance of safety as well as state and local building codes. Students receive instruction in both hand and power tool safety and application. Students are introduced to interpreting blueprints and measured drawings. Critical thinking skills are emphasized throughout the course. Reading, writing and math assignments related to construction technology theory are an integral part of this class. Throughout every phase of instruction, deliberate effort is made to acquaint students with working conditions they can expect to find on an actual job. Safety is stressed at all times.

0332 Construction Technology 10th Grade Shop Credits: 8 Level: 3

This course builds on the skills students have acquired as freshmen. Students begin to interpret blueprints, learn components of platform framing and hone their hands on skills as they embark on construction of a scale model of a house. Tool and worksite safety is an integral part of the shop curriculum. Students learn estimating and are introduced to state and local building codes. Students are evaluated by their performance on individual and group projects.

3302 Construction Technology 10th Grade Related Credits: 1 Level: 3

This three term course meets one period per day during the shop cycle. Students receive instruction in blueprint reading and interpreting "to scale" drawings. Tool and jobsite safety includes the use of portable power tools, and an introduction to state and local building codes, including 10 hours of Career Safe (an online course involving 65 tests). Reading, writing, and math assignments related to the construction technology profession are integrated with academic frameworks during this class. Students also learn the basics of forming and pouring concrete for residential and commercial construction.

0333 Construction Technology 11th Grade Shop Credits: 8 Level: 3

This course provides the construction technology student with advanced knowledge in the areas of shop and worksite safety, estimating, and state and local building codes. Students will have the opportunity to work in two different training settings. Students rotate from working on projects within the shop to working on off-campus sites in which they will be engaged in community service construction projects within the district's 13 sending towns. The emphasis of instruction and projects is on residential house framing and finishing procedures.

3303 Construction Technology 11th Grade Related Credits: 1 Level: 3

This three term course, meeting one period per day during the shop cycle, provides the construction technology student with advanced knowledge in the area of safety, estimating, and state and local building codes. The main concentration for instruction includes residential house framing. There will be a strong emphasis on interpreting blueprints as well as state and local building codes. Reading, writing, and math assignments related to the construction technology professions are integrated with academic frameworks during this class.

0334 Construction Technology 12th Grade Shop Credits: 8 Level: 3

This course provides the construction technology student with advanced knowledge in the areas of safety, estimating, and state and local building codes. The goal of this course is to provide each student with the technical knowledge and experiences essential to secure employment as a carpenter and or transition to a post-secondary institution. Students rotate from working on projects within the shop to working on off-campus sites within the district's 13 sending towns, engaged in community service construction projects. Students also have the option to participate in the co-op and work-study programs.

3304 Construction Technology 12th Grade Related Credits: 1 Level: 3

This three term course, meeting one period per day during the shop cycle, provides construction technology students with advanced knowledge of relevance of safety and estimating, blueprint reading, as well as state and local building codes. Instruction in house planning is emphasized. Research, which includes reading, writing and math assignments related to construction technology professions, is integrated with academic frameworks during this class.

Cosmetology

0210 Cosmetology Exploratory

This one week introduction provides the 9th grade student with an introduction to the cosmetology program. The student is introduced to safety, sanitation, life skills/communications, anatomy, color theory, hair design as well as career opportunities within the industry. Practical Instruction includes roller setting, blow drying, braiding, up-dos, manicuring, basic perm wrapping, mock highlighting, and nail art. Hands on performance testing, safety and written tests are used to determine the student's potential success in the cosmetology industry.

0211 Cosmetology 9th Grade Shop Credits: 8 Level: 3

When students enter permanent placement, this course provides the student with basic knowledge and skill training necessary for success in the cosmetology industry. Students receive practical instruction on equipment safety, and sanitation. Practical work on mannequins includes draping, shampooing, rinsing, braiding, manicuring, pedicuring, wet and thermal hairstyling.

2101 Cosmetology 9th Grade Related Credits: 1 Level: 3

Related instruction for the 9th grade student includes basic technical instruction and studies including the history of cosmetology and opportunities, life skills, professional image, infection control, hairstyling, and nail structure and diseases. Instruction includes demonstrations, hands on practice, writing assignments, weekly vocabulary words, projects and portfolio work.

0212 Cosmetology Shop 10th Grade Shop Credits: 8 Level: 3

This course is designed to further develop the basic skills and knowledge needed for success in the cosmetology field. Practical work includes facials, make-up application, hair removal, advanced hairstyling, haircutting, and artificial nails, including tips, wraps, gel nails and nail art.

2102 Cosmetology 10th Grade Related Credits: 1 Level: 3

This course is designed to further develop the comprehension of basic cosmetology theories and technical instruction. Students receive instruction in properties of the hair and scalp, principles of hair design, anatomy and physiology, skin structure and disorders, hair removal, facials, facial make-up, chemistry and electricity, advanced nail techniques, and haircutting. Instruction includes demonstrations, hands on practice, writing assignments, weekly vocabulary words and projects.

0213 Cosmetology Shop 11th Grade Shop Credits: 8 Level: 3

This course is designed to give the students the opportunity to advance their knowledge and technical skills in the cosmetology program. Students receive advanced instruction in facials, make-up application, manicures, pedicures, advanced nail techniques, wet and thermal styling, haircutting, chemical texturizing, waxing, hair coloring, chemical use and precautions, foil and cap highlighting, as well as sanitation practices. Upper level students meeting state board hourly requirements will have an opportunity to provide human services in *"Salon at BVT"* which is open to the public.

2103 Cosmetology 11th Grade Related Credits: 1 Level: 3

This course is designed to give the students the opportunity to advance their knowledge and technical skills in the cosmetology program. Students receive instruction in reception training, communication, chemical texture services, hair coloring, state board review as well as reviews in freshman sciences and nail theory. Instruction includes demonstrations, hands on practice, writing assignments, weekly vocabulary words and projects.

0214 Cosmetology Shop 12th Grade Shop Credits: 8 Level:3

This course is designed to provide students with the opportunity to master their technical skills and comprehension level in the cosmetology program. Students meeting state board hourly requirements will provide human services in *"Salon at BVT"* that is open to the public. Qualified seniors who are in good standing vocationally and academically, who have successfully passed the state board exam, can participate in our cooperative program. Students may be offered the opportunity to apprentice in a paid off-campus position. Qualified seniors will gain industry experience and an opportunity to master their knowledge and skills in a professional workplace.

2104 Cosmetology 12th Grade Related Credits: 1 Level: 3

This course is designed to prepare the student for state licensure and the professional workplace. Students receive instruction on the salon business, employability, on-the-job training, resume writing, managing money, management and entrepreneurship, state board review, as well as life skills; familiarizing the students with all aspects of the industry. After completing the Massachusetts state board hourly requirement of 1000 hours, and successfully passing the state board written and practical exam, the student will be a licensed cosmetologist. For those graduates who wish to continue their education at the college level, recommended courses of study are small business management, marketing, or other business related courses. Other educational opportunities would include advanced post-secondary training in nail techniques, barbering, wigs and extensions and aesthetics that would award a specialty license.

0450 Culinary Arts Exploratory

This one-week course provides the 9th grade student with an introduction to the food and beverage industry from four vantage points: kitchen, restaurant, cafeteria and bakeshop. The student spends time in each area learning hands-on applications. The student is introduced to safety, sanitation, personal hygiene, table settings, order taking, bakery, and basic cooking methods and basic knife skills. Instruction utilizing demonstrations, hands-on performance assessment, and written tests and quizzes are used to help determine the student's potential success in the food and beverage industry.

0451 Culinary Arts 9th Grade Shop Credits: 8 Level: 3

This course provides the 9th grade student with the basic knowledge and skill training necessary for continued success in the Culinary Arts program. Students receive instruction in career opportunities, shop operational procedures, personal hygiene and safety, equipment identification, basic cooking methods, introduction to table service, weights and measures, cooking temperatures, wash methods, yeast dough, knives and cuts, and chemical use and storage. Instruction utilizes presentations, demonstrations, notebook inspections, and hands-on performance tests in the above areas to determine achievement of competencies.

4501 Culinary Arts 9th Grade Related Credits: 1 Level: 3

This course provides the 9th grade student with the basic technical knowledge and studies in the Culinary Arts program. Students explore career opportunities, the history of culinary arts, the brigade system and its operation, utensil and equipment identification, safety and sanitation, personal hygiene, and HACCP temperatures. Instruction utilizes presentations, demonstrations, notebook inspections, hands-on performance tests, writing assignments, quizzes, and tests in the above areas to determine achievement of competencies. Reading, writing, and math assignments related to Culinary Arts theory are an integral part of this class.

0452 Culinary Arts 10th Grade Shop Credits: 8 Level: 3

This course provides students with further development of the basic skills and knowledge in the Culinary Arts program. Students receive instruction in cooking methods, service techniques and styles, salad and sandwich preparation, frylator, bread dough, pastry crusts, basic cake mixes, sanitation, food storage, vegetable and fruit preparation, dessert presentation, and institutional cooking. Instruction utilizes presentations, demonstrations, notebook inspections, hands-on performance tests, writing assignments, quizzes, and tests to determine achievement of competencies.

4502 Culinary Arts 10th Grade Related Credits: 1 Level: 3

This course provides students with further development of the basic knowledge and theory in the Culinary Arts program. Students receive instruction in cooking methods, service techniques and styles, weights and measurements, meat identification, basic sauces and their families, and customer service. Students also spend time earning their 10 hour OSHA certification card. Instruction utilizes presentations, demonstrations, notebook inspections, hands-on performance tests and writing assignments. Reading, writing and math assignments are integrated with academic frameworks.

0453 Culinary Arts 11th Grade Shop Credits: 8 Level: 3

This course provides students the opportunity to advance their knowledge and skills in the Culinary Arts Program. Students receive advanced instruction in broiling, baking and sauté, specialty desserts, cake icings and decorating, meat butchering, seafood portioning, soup and sauces, ordering and inspection of products, banquet service, buffet set-up and service, off-sight catering, service of large parties, and breakfast cooking. Instruction utilizes presentations, demonstrations, notebook inspections, and hands-on performance tests to determine achievement of competencies.

4503 Culinary Arts 11th Grade Related Credits: 1 Level: 3

This course provides students with the opportunity to advance their knowledge in the Culinary Arts program. Students receive advanced instruction in meat and seafood identification, sauce families, restaurant reviews, booking catering functions, buffet set-up and service, introduction to menu design, and basic plate presentation. Junior students will be required to successfully complete the National ServSafe Certification as administered by the National Restaurant Association. Instruction utilizes demonstrations, notebook inspections, hands-on performance and writing assignments. Reading, writing and math assignments related to the Culinary Arts professions are integrated with academic frameworks during this class.

0454 Culinary Arts 12th Grade Shop Credits: 8 Level: 3

This course provides students with the opportunity to master their knowledge and skills in the Culinary Arts program. Students receive advanced instruction in food and beverage management, operating the kitchen line, maître d', pastry chef, handling money, problem solving, menu design, Garde manager, tableside cooking, bistro cooking and service. Students who have shown proficiency in all areas of the shop are allowed to focus their time and education in the area(s) of most interest to them. Instruction incorporates demonstrations, notebook instructions, and hands-on performance tests to determine achievement of competencies. Students are graded daily on a rubric comprised of attendance, attitude, production, safety, sanitation, and shop operation.

4504 Culinary Arts 12th Grade Related Credits: 1 Level: 3

This course provides students with the opportunity to advance their knowledge and skills in the Culinary Arts program as a manager. Students receive instruction in cost controls, menu development and design, creating theme dinners, presentation, management theories, resume development, restaurant marketing, introduction to wines and wine pairings. Research, which includes reading, writing and math assignments related to the culinary professions, is integrated with academic frameworks during this class. Students will be taught ServSafe Alcohol standards and have the opportunity to take the ServSafe Alcohol exam for certification. For a portion of the senior related program, students may choose to an area of focus and attend a smaller class with students of the same focus. Notebook inspections, hands-on performance tests, writing assignments, quizzes, and tests are used to determine achievement of competencies.

Dental Assisting

0220 Dental Assisting Exploratory

This week long course introduces students to the dental assisting profession. Students are exposed to various principals of clinical, laboratory, and clerical dental assisting. This program allows students to determine whether their abilities and interests are compatible with this technical area. During this course, students explore the many career opportunities in the dental field. Shop safety and program orientation is provided.

0221 Dental Assisting 9th Grade Shop Credits: 8 Level: 3

When students enter permanent placement in the Dental Assisting program, the course of study provides an orientation to the dental facility. Safety is of the utmost concern and is stressed and practiced during every year of the dental assisting program. Students are introduced to infection control, dental morphology, tooth numbering systems and identification. In addition, basic chairside, laboratory and clerical procedures are taught, with an emphasis on preventative dentistry, oral hygiene instruction, nutritional counseling, and interpersonal communications. Students travel to elementary schools and daycare facilities to provide dental health education.

2201 Dental Assisting 9th Grade Related Credits: 1 Level: 3

The Dental Assisting related theory instruction is intended to complement the vocational instruction and laboratory projects taught during the freshman year. The course of study provides additional instruction in the areas of dental history, the dental team, industry based professional organizations, dental specialties, communication, and administrative practices. Instruments, equipment, procedures and Dentrix software are introduced.

0222 Dental Assisting 10th Grade Shop Credits: 8 Level: 3

Students review and expand upon materials previously studied. Areas of study include an introduction to dental charting, preparation for patient care, mouthguard fabrication, patient education, and dental office management. Students also receive instruction in maintaining patient records, dental instrumentation, chairside techniques, and responding to client needs. Students travel to local middle schools to provide dental health education. Qualified students receive Infection Control Certification from the Dental Assisting National Board. Two year certification in adult, child and infant CPR/First Aid is attained.

2202 Dental Assisting 10th Grade Related Credits: 1 Level: 3

The Dental Assisting related theory instruction is intended to complement the vocational instruction and laboratory projects taught during the sophomore year in the Dental Assisting program. Topics taught during freshman year will be built upon. In order to prepare for The Dental Assisting National Board Infection Control Certification, infection control and health and safety practices will be a large part of this year's related instruction. Students receive instruction in the areas of oral pathology, microbiology, disease transmission and infection prevention and management of hazardous materials. Reading, writing, and scientific research assignments related to infectious diseases are integrated in this course. Students receive certification from Careersafe, an online 10 hour OSHA safety course. The goal of the Careersafe program is to teach younger workers how to stay safe in the workplace.

0223 Dental Assisting 11th Grade Shop Credits: 8 Level: 3

Students receive an eight week clinical rotation providing hands on experience with review and expansion of materials previously studied. Topics of study include chairside procedures, clinical records, dental anesthesia, and four-handed dentistry techniques and healthcare office management procedures. Students are taught the skills necessary for externship and employment. During this year considerable instruction in the production of traditional as well as digital dental radiographs is given. Components of the dental x-ray unit, digital sensors, safety precautions, film identification, film placement using both bisecting and paralleling techniques, and film processing and mounting are all studied. Qualified students receive radiology certification from the Dental Assisting National Board.

2203 Dental Assisting 11th Grade Related Credits: 1 Level: 3

The Dental Assisting related theory instruction is intended to complement the vocational instruction and laboratory projects taught during the junior year in the Dental Assisting program. Head and neck anatomy, pharmacology, management of pain and anxiety, and employability are taught. Students receive instruction in the areas of application of dental materials, restorative procedures, prosthodontic procedures, laboratory procedures, preventative measures, oral surgery, and review and expand upon materials previously studied. Program topics include radiation health and safety, dental specialties and oral pathology. To prepare for the Dental Assisting National Board Radiation Health and Safety Certification, all aspects of dental radiography are a large part of the junior year related instruction.

0224 Dental Assisting 12th Grade Shop Credits: 8 Level: 3

Qualified seniors participating in the cooperative education program gain industry experience in paid positions off-campus. To participate in the cooperative education program, students must meet all co-op requirements and be in good academic and vocational standing. Students may participate in a clinical affiliation with both specialty and general practice dental offices. Students receive continued instruction in the areas of dental science and business office procedures. Students travel to geriatric facilities to provide dental health education. Two year certification in adult, child and infant CPR/First Aid is attained.

2204 Dental Assisting 12th Grade Related Credits: 1 Level: 3

The Dental Assisting related theory instruction is intended to complement the vocational instruction and laboratory projects taught during the senior year in the Dental Assisting program. Students review and expand upon materials previously studied. Program topics include radiation health and safety, dental specialties and oral pathology.

Drafting and Engineering Technology

0340 Drafting and Engineering Technology Exploratory

This is a one-week course that provides students with an overview of ***Computer Aided Drafting and Engineering Technology***. Students are introduced to sketching, geometric construction, orthographic projection, reproduction, solid modeling, shading/rendering, architectural floor plans, as well as careers in drafting and engineering technology. Instruction incorporates presentation, demonstration, and hands on performance testing.

0341 Drafting and Engineering Technology 9th Grade Shop Credits: 8 Level: 3

This course provides students with an introduction to the basics of Drafting and Engineering Technology. Students receive instruction in career opportunities, personal and shop safety, geometric construction, orthographic views, auxiliary views, sectional views, dimensioning, isometrics and an introduction to parametric solid modeling, using the latest, "state of the art" computer software. Instruction incorporates presentation, demonstration and hands-on performance testing in the areas of geometric construction, orthographic views, auxiliary views, sectional views, dimensioning, and isometrics. Reading, writing and math assignments related to Drafting and Engineering Technology are an integral part of this class.

3401 Drafting and Engineering Technology 9th Grade Related Credits: 1 Level: 3

This course provides students with the theory behind the basics of Drafting and Engineering Technology. Students receive instruction in career opportunities, personal and shop safety, geometric construction, orthographic views, auxiliary views, sectional views, dimensioning, isometrics and an introduction to parametric solid modeling. Instruction incorporates presentation and demonstration in the areas of geometric construction, orthographic views, auxiliary views, sectional views, dimensioning, and isometrics. Reading, writing and math assignments related to Drafting and Engineering Technology theory are an integral part of this class.

0342 Drafting and Engineering Technology 10th Grade Shop Credits: 8 Level: 3

This course provides students with an introduction to the components of mechanical design. This full-year course expands on the basic drawing techniques of the freshmen year while providing a foundation for mechanical design projects that follow in the junior year utilizing both 2D and 3D solid modeling CAD applications. Students gain knowledge of threads and threaded fasteners including bolts, screws and nut drawings, welding drawings, and spring drawings. Students also learn about power transmission including spur, bevel and worm gear drawings, as well as cam drawings. Various shop processes are introduced including casting, forging, welding, sheet metal parts, along with the use of various measuring instruments including micrometers and verniers. Advanced tolerancing techniques are introduced. Instruction incorporates presentation drawings including shading, perspective, and exploded assembly drawings. Students are introduced to the product design process. Instruction incorporates demonstrations and applied performance testing in the areas of Drafting and Engineering Technology utilizing advanced CAD software, mechanical detailing, and design. Reading, writing and math assignments related to them and architectural Drafting and Engineering Technology professions are integrated with academic frameworks during this class.

3402 Drafting and Engineering Technology 10th Grade Related Credits: 1 Level: 3

This course provides students with an introduction to the theory relating to components of mechanical design. This full-year course expands on the basic drawing techniques of the freshmen year while providing a foundation for mechanical design projects that follow in the junior year utilizing both 2D and 3D solid modeling CAD applications. Students gain knowledge of threads and threaded fasteners including bolts, screws and nut drawings, welding drawings, and spring drawings. Students also learn about power transmission including spur, bevel and worm gear drawings, as well as cam drawings. Various shop processes are introduced including casting, forging, welding, sheet metal parts, along with the use of various measuring instruments including micrometers and verniers. Advanced tolerancing techniques are introduced. Instruction incorporates presentation drawings including shading, perspective, and exploded assembly drawings. Students are introduced to the product design process. Instruction incorporates demonstrations and applied performance testing in the areas of Drafting and Engineering Technology utilizing advanced CAD software, mechanical detailing, and design. Reading, writing and math assignments related to the Drafting and Engineering Technology professions are integrated with academic frameworks.

0343 Drafting and Engineering Technology 11th Grade Shop Credits: 8 Level: 3

This course provides students with an introduction to residential architectural drawing and design. The first half of the year teaches students the skills required to generate plot plans, floor plans, foundation plans, exterior elevation plans, roof plans and the necessary sectioning and detailing to provide the required drawing needed for the building permit process. The remainder of the school year focuses on reinforcing the students' skill in mechanical drawing and design. The emphasis will be on shop processes common to Drafting and Engineering Technology and design like sheet metal, thermoplastics, weldments, forgings and castings. Students will continue to develop their CAD skills though out the year using the latest 2D and 3D CAD software available to them.

3403 Drafting and Engineering Technology 11th Grade Related Credits: 1 Level: 3

This course is comprised of two half-year segments; the first half provides students with an introduction to theory relating to residential architectural drawing and design. Students learn to recognize the architectural styles of buildings, identify different building techniques; wood, concrete and steel frame. Students become familiar with floor joist, roof rafter and ceiling joist sections, as well as girder, header and ridge beam design with traditional lumber, laminated lumber, and steel beam construction. The remainder of the school year focuses on reinforcing the students' skill in mechanical drawing and design. Students are introduced to theory related to identifying the manufacturing processes and the key elements that impact the design. Classroom instruction includes reading, writing and mathematics assignments related to the Drafting and Engineering Technology profession.

0344 Drafting and Engineering Technology 12th Grade Shop Credits: 8 Level: 3

This course is comprised of two half-year segments; the first half provides students with advanced studies in residential architectural drawing and design and the second half provides students with advanced studies in mechanical drawing and design. The architectural segment is comprised of an in depth look into residential house design and construction. Students develop civil site design and plans, plumbing plans, electrical plans, and HVAC plans. Final projects will require students to design a residential house with a complete set of documentation house plans. For the remainder of the school year, students are introduced to electro-mechanical packaging and how all aspects of Drafting and Engineering Technology come together. Students are introduced to schematic drawings, wiring diagrams, block diagrams, wiring harnesses, printed circuit (PCB) design, PCB layout, and PCB drawings. Much of the subject matter is integrated with manufacturing, engineering and electronics technology. This gives students a firsthand understanding of the processes behind mechanical and electrical design. Final projects will require the student to package electronic components into a mechanical enclosure with a complete set of documentation drawings.

3404 Drafting and Engineering Technology 12th Grade Related Credits: 1 Level: 3

This course is comprised of two half-year segments. The first half provides students with advanced theory related to residential architectural drawing and design and the second half provides students with advanced theory related to mechanical drawing and design. The architectural segment identifies the components and considerations of civil design, including the applications related to surveying and mapping. The mechanical segment provides students with theory relating to mechanical design and electrical/electronic packaging. Career opportunities in Drafting and Engineering Technology are discussed in the related class. Class includes reading, writing and mathematics assignments related to the Drafting and Engineering Technology profession.

Electrical

0410 Electrical Exploratory

Students explore the electrical program for a one-week cycle. Students are introduced to basic electrical theory and projects. Using basic electrical hand tools, students demonstrate the skills required for: Romex wiring, splicing wires, junction box installation, device wiring consisting of single pole and three way switches, duplex receptacle, and lighting sockets. Students also will finish the week wiring a multiple wiring method project and connecting it to 120volt electricity. Emphasis is placed on hand tool and electrical safety.

0411 Electrical 9th Grade Shop Credits: 8 Level: 3

This course provides students with the fundamentals in wiring methods. Using basic hand tools, students demonstrate the skills required for basic 120/240 volt circuitry. Students will wire projects using many different wiring methods including Romex, MC cable, Wiremold, Flex, and EMT. Students will learn to install single pole switches, 3-way and 4-way switches, light sockets and duplex receptacles. Students learn how to draw and follow a wiring diagram. Electrical and hand tool safety is an integral part of the course.

4101 Electrical 9th Grade Related Credits: 1 Level: 3

Students are introduced to basic electrical theory and will study electron flow, voltage, amperes, ohms, power, series and parallel circuits. The Massachusetts Electrical Code is introduced and students are introduced to Art 100 - definitions, Art 110 - requirements for electrical installations, Art 300 - wiring methods, Romex, B.X., E.M.T., Flex, and Wiremold. Safety is emphasized in this course and the students learn to comply with all safety practices. Reading, writing, and math assignments related to electrical theory are an integral part of this class.

0412 Electrical 10th Grade Shop Credits: 8 Level: 3

In the sophomore year, students will expand their knowledge in residential wiring. They will wire projects in open stud walls (new work) and fish in wires (old work). Students will also be trained to wire different types of electrical services (100 amp overhead, 100 amp underground and 200 amp). Emphasis is placed on the proper and safe use of hand tools and electrical testing equipment. This course covers the installation and maintenance of equipment for light, heat and power in residential, commercial, and industrial locations. Students study the Massachusetts Electrical Code, which governs the installation of electrical equipment. Students also read blueprints, create schematic and wiring diagrams, create layouts, and estimate electrical installations.

4102 Electrical 10th Grade Related Credits: 1 Level: 3

Students study the theory and basic safety procedures for the installation of equipment in residential, commercial and industrial locations. Students will be trained to properly wire all rooms in a house by means of the Massachusetts Electrical Code and they will be taught how to calculate electrical demand factor loads for a home or business. Students learn how to take out an electrical permit as well as a service request form from the utility companies. Safety and the Massachusetts Electrical Code, which governs electrical installations, are stressed. Reading, writing, and math assignments related to the electrical professions are integrated with academic frameworks during this class.

0413 Electrical 11th Grade Shop Credits: 8 Level: 3

This course builds upon the 10th grade training and expands to include oil burner controls, basic motor control projects using 2-wire, 3-wire pilot devices, and over current protection control of various 1-phase and 3-phase motors. Proper use of various multi-meters is taught including all safety practices.

4103 Electrical 11th Grade Related Credits: 1 Level: 3

This course provides students with the theory of control circuits for motors as well as electrical code theory. Magnetic motor control circuits are taught with different types of manufactory equipment and various wiring schematics. Students learn about various types of commercial lighting systems. Commercial wiring methods with blueprint construction plans are used. Reading, writing, and math assignments related to the electrical professions are integrated with academic frameworks during this class.

0414 Electrical 12th Grade Shop Credits: 8 Level: 3

This course is a continuation of 11th grade training with advanced motor control training. This includes designing control schematics for various motors using electrical code standards. Students are instructed in transformer wiring, single-phase and three-phase power, and Wye and Delta connections. Live work projects are featured requiring safe work practices. The co-op experience is also available to electrical students meeting the requirements of this program.

4104 Electrical 12th Grade Related Credits: 1 Level: 3

Electrical code, safety rules and practices are taught on the installation of electrical work. Students learn basic fire alarm control, transformer use, connections, diagrams, and theory. Students study advanced motor control; forward and reverse, timing; two-speed, and reduced voltage circuits are taught. Battery and emergency power circuit procedures are also introduced. Research, including reading, writing and math assignments related to the electrical professions, is integrated with academic frameworks during this class.

0350 Electronics and Engineering Technology Exploratory

This program introduces the practical aspects of the science and industry of electronics to the inexperienced student. Students receive practical instruction encompassing basic circuits, components, equipment, materials and safety. Students construct three projects including an LED flasher, Tingler and an alien game. Students do live work to accentuate learning. During the related portion of this course, students are instructed in the theoretical aspects of the science and industry of electronics. Students observe demonstrations, view videotapes, and listen to guest speakers. Students are introduced to fundamental concepts such as current, voltage, resistance, power, semiconductors, and integrated circuits. Students also learn how to solve problems using the VEX IQ robotics.

0351 Electronics and Engineering Technology 9th Grade Shop Credits: 8 Level: 3

The freshmen year introduces the practical aspects of the science and industry of DC electronics as well engineering. Students will build upon the skills acquired during the exploratory cycle. Students will be introduced to DC theory, electronic components, circuit analysis, various engineering and electronic equipment, engineering design process, mechanical design, and reverse engineering. This program will teach the student Multi-sim (labview) a simulation package that delivers quick, efficient, and effective tools for learning complex circuit design and analysis. They will also utilize the Autodesk software for mechanical design projects. Major components are the construction of a multi-meter and other electronics engineering projects utilizing the engineering design process.

3501 Electronics and Engineering Technology 9th Grade Related Credits: 1 Level: 3

This course introduces the theoretical aspects of the science and industry of DC electronics and builds upon the skills acquired during the exploratory cycle. Students learn about DC circuits, components, equipment, materials, and safety. All related work is closely integrated with shop work and is immediately applied in the laboratory. Students are trained to design, prototype, assemble, test, and troubleshoot DC circuits such as resistive series, parallel, series-parallel, and parallel-series configurations utilizing CAD and the engineering design process. Reading, writing, and math assignments related to electronics theory is an integral part of this class.

0352 Electronics and Engineering Technology 10th Grade Shop Credits: 8 Level: 3

This program introduces students to concepts in AC Theory and the analysis of AC circuits. Electronic concepts learned in the sophomore year include waves, magnetism, capacitance, AC circuits, etc. It will also begin to expand on engineering concepts learned in the freshman year. Students will explore statics and other mechanical concepts using the engineering design process. Other engineering material covered this year will include materials, kinematics, process control, and various energy uses and sources.

3502 Electronics and Engineering Technology 10th Grade Related Credits: 1 Level: 3

This program introduces the theoretical aspects of the engineering and science of AC electronics and mechanical applications building upon the skills acquired during the freshman program. Students receive related instruction on AC circuits, components, equipment, materials, with Impedance, AC/DC Waveforms, Phase Angle, Inductance/Inductive Reactance, Transformer, Capacitance and Capacitive Reactance, RC Time Constants, RC/RL Wave Shapes, Magnetic Poles, Magnetic Lines of Force, Electromagnets and Solenoids, Control Circuits, Latch Circuits, Buzzers and safety. All related work is closely integrated with shop work and is immediately applied in the laboratory. Students are trained to design, prototype, assemble, test, and troubleshoot AC circuits and mechanical systems. Reading, writing, and math assignments related to the engineering and electronics professions are integrated with academic frameworks during this class.

0353 Electronics and Engineering Technology 11th Grade Shop Credits: 8 Level: 3

This program introduces Semiconductors to the students and continues to build on engineering concepts and electronic knowledge. Students will learn about diodes, wave rectification, transistors and other electronic components and equipment. Pneumatics will be focus areas that students will learn much about and continue applying design principles to for projects. Students will also be introduced to digital electronics in the latter part of the year. They will learn about and apply basic digital electronic concepts, components, and equipment.

3503 Electronics and Engineering Technology 11th Grade Related Credits: 1 Level: 3

This program introduces the theoretical aspects of the science and engineering of analog electronics and mechanical applications. Students receive related instruction on semiconductor circuits, components, equipment, materials, diodes and Half-Wave Rectification, Full-Wave Rectification with Power Supply, Filters, Zener Diode Regulator, Diode Waveshaping, Voltage Doubler, Transistor Junctions, PNP DC Bias, and Transistor Load Lines. The course provides comprehensive, classroom instruction in electronics and engineering terminology, semiconductor applications, pneumatics, renewable energy, and safety. All related work is closely integrated with shop work and is immediately applied in the laboratory. Students are trained to design, prototype, assemble, test, and troubleshoot analog circuits such as power supplies, amplifiers, and oscillators as well as complex mechanical systems. Reading, writing, and math assignments related to the engineering and electronics professions are integrated with academic frameworks during this class.

0354 Electronics and Engineering Technology 12th Grade Shop Credits: 8 Level: 3

This program will continue from the students' junior year within the realm of Digital Electronics. Students will learn more complicated concepts and components and apply these to challenging projects that utilize both the engineering design process and knowledge of electronics. Some topics will include basic logic gates, flip-flops, counters, registers, and adders. Students will be asked to complete a major capstone project that utilizes the design process from start to finish along with all other skills and knowledge learned in the previous years. This will be a college level project that students will work in teams in order to complete.

3504 Electronics and Engineering Technology 12th Grade Related Credits: 1 Level: 3

This program introduces the theoretical aspects of the science and industry of electronics and builds upon the skills acquired during the junior year. Students receive related instruction on digital circuits, components, equipment, materials, AND/NAND, OR/NOR, XOR/XNOR, SET/RESET Flip-Flop, D-Type Flip-Flop, JK Flip-Flop Tri-State Output, TTL/CMOS Comparison BCD Decimal Decoder, BCD Priority Encoder, ADC, DAC, Multiplexer, Demultiplexer, 7-Segment Driver and Display, Parity Generator and Checker, Asynchronous Ripple Counters, Synchronous Counters, 4-Bit Shift Registers, 4-Bit Adders, and 4-Bit Comparators, and safety. All related work is closely integrated with shop work and is immediately applied in the laboratory. Students participate in cooperative education to accentuate learning. Students are trained to design, prototype, assemble, test and troubleshoot digital circuits such as counters, registers, coders, drivers, multiplexers, controllers, and processors. Research, which includes reading, writing and math assignments, related to the electronics professions, is integrated with academic frameworks during this class.

Engineering Technology

0380 Engineering Technology Exploratory

This one-week course provides the 9th grade student with an introduction to the many fields of engineering and the different careers that exist within industry. Through a combination of classroom instruction and hands-on projects, the student will be introduced to the engineering design process, engineering principals, product design and manufacturing, robotics, process automation, and reverse engineering. Students will learn a variety of engineering principles and then demonstrate what they've learned by producing several different projects and a final presentation. This exploratory week will give students a good understanding of what to expect over the next few years in the Engineering Technology program.

0381 Engineering Technology 9th Grade Shop Credits: 8 Level: 3

The Engineering Technology program utilizes Project Lead the Way (PLTW) as a base for its curriculum. The first year of the program introduces students to a variety of topics through the PLTW "Introduction to Engineering" course. Students will learn about engineering design & problem solving, project management, computer aided design (Autodesk Inventor), and reverse engineering. Through a variety of hands-on projects, students will design solutions to proposed problems, document their work using an engineer's notebook, and communicate solutions to peers and faculty.

3801 Engineering Technology 9th Grade Related Credits: 1 Level: 3

Students will learn about engineering careers as well as engineering practices and theories. This course provides the 9th grade student with the basic technical knowledge and studies in the Engineering Technology area. Students will explore engineering case studies, research the history of engineering, and learn about the multiple career opportunities that await them in the engineering field. Instruction utilizes presentations, demonstrations, engineering notebook inspections, hands-on performance tests, writing assignments, quizzes, and traditional tests in the above areas to determine achievement of competencies. Reading, writing, and math assignments related to engineering theory are an integral part of this class.

0382 Engineering Technology 10th Grade Shop Credits: 8 Level: 3

The Engineering Technology program utilizes Project Lead the Way as a base for its curriculum. The second year of the program introduces students to additional engineering topics via PLTW's "Principles of Engineering" course and the "Computer Integrated Manufacturing" course. Both courses are taught throughout the year and students will engage in project-based instruction on topics including energy, motion, material properties, robotics and cnc-machining. VEX is used as the platform for classroom instruction and students will have the opportunity to compete in local robotics events. Students will also have the opportunity to get involved with SkillsUSA.

3802 Engineering Technology 10th Grade Related Credits: 1 Level: 3

This course provides the foundation and theory behind many engineering concepts that will be used later on in future PLTW classes. Students will continue to develop problem solving skills and will apply their knowledge to design and create solutions to various challenges on a host of engineering topics. Students will become well versed in the history of computer modeling, manufacturing equipment, process and robotics automation.

0383 Engineering Technology 11th Grade Shop Credits: 8 Level: 3

The Engineering Technology program utilizes Project Lead the Way as a base for its curriculum. The third year of the program introduces students to additional engineering topics via PLTW's "Civil Engineering and Architecture" course and the "Digital Electronics" course. Both courses are taught throughout the year and students will engage in project-based instruction on topics including architectural design, sustainability, alternative energy, robotics, automation and circuit board design.

3803 Engineering Technology 11th Grade Related Credits: 1 Level: 3

This course provides instruction on various software programs that will aid students in developing skills necessary to design and develop 3D model houses and structures. In the DE class, students will explore modern electronic devices including computers, digital cameras and MP3 players and will learn how those devices work. Students are introduced to digital logic design & control, engineering standards and technical documentation.

Grade 12 Curriculum will be phased in for 2017-2018:

0384 Engineering Technology 12th Grade Shop Credits: 8 Level: 3

The Engineering Technology program utilizes Project Lead the Way as a base for its curriculum. The final year of the program introduces students to additional engineering topics via PLTW's "Aerospace Engineering" course and the "Engineering Design and Development" course. The AE course provides students with the opportunity to analyze, design and build aerospace systems. The EDD course is a capstone course that is designed to allow students to design and develop an original solution to a valid, open-ended technical problem by applying the knowledge that they have gained throughout the PLTW program.

3804 Engineering Technology 12th Grade Related Credits: 1 Level: 3

Students in the EDD course will be shown various project and time management strategies and software applications to help aid them in the design and development of their capstone projects. Students will have the opportunity to continue to develop these 21st century learning skills while working alongside their peers in the AE class. In the AE class, students will explore the evolution of flight, navigation & control, flight fundamentals, space travel, and orbital mechanics.

Health Services

0490 Health Services Exploratory

The Health Services Exploratory acquaints students with many content areas taught throughout the program including nursing, anatomy and physiology, vital signs and emergency care, and aging. After learning about and discussing aging issues, students have an opportunity to go out into the community and work with clients in health care facilities. During exploratory week, students will learn about the various career options within the health services field.

0491 Health Services 9th Grade Shop Credits: 8 Level: 3

The freshman year incorporates a basic introduction to the Health Services curriculum. Students focus on nursing, anatomy and physiology, medical terminology, aging, and nutrition. In addition, they are introduced to the role of the Certified Nursing Assistant, their role as part of the healthcare team, and the different types of healthcare facilities. Students will begin learning the skills they are required to obtain prior to performing hands-on care per the Department of Public Health for the approved Certified Nursing Assistant Certification portion of the Health Services Curriculum. Working in the community is also a very important aspect of the Health Services curriculum. Freshmen volunteer at local health care centers where they put theory into practice while gaining valuable communication skills. .

4901 Health Services 9th Grade Related Credits: 1 Level: 3

Nutrition Assistant certification is offered for the related component. Students may receive certification upon completion of an exam and become eligible to be a nutrition assistant after they turn 16 years of age.

0492 Health Services 10th Grade Shop Credits: 8 Level: 3

The sophomore year continues to focus and expand upon nursing, anatomy and physiology, disease processes, human growth and development, medical terminology, aging and nutrition. Students continue learning the skills they are required to obtain prior to performing hands-on care per the Department of Public Health for the approved Certified Nursing Assistant Certification portion of the Health Services curriculum. Students practice clinical nursing skills in the Health Services nursing lab. There is a community clinical practicum where the students apply the theory they have learned in class. Students volunteer at a local nursing home completing communication projects with the residents.

4902 Health Services 10th Grade Related Credits: 1 Level: 3

Focus is on attaining several certifications. Students become certified in OSHA, CPR and First Aid, and Alzheimer's care. Students receive a certificate of completion in an immunization course. Sophomores also complete assignments related to an assigned book.

0493 Health Services 11th Grade Shop Credits: 8 Level: 3

The junior year of Health Services focuses on completing the remaining required skills and didactic learning needed to prepare the students for the Massachusetts State Nursing Assistant Certification exam administered by the Red Cross. The shop portion of junior year involves serious review and practice of nurse assistant care skills, which are applied in real clinical settings under the direction and supervision of a nurse instructor. Clinical sites include a rotation through three different long-term care settings. After completion of the CNA curriculum, students receive an additional 50 hours of instruction to receive third party validation Home Health Aid Certification.

4903 Health Services 11th Grade Related Credits: 1 Level: 3

Students will learn the theory behind the nurse assistant care skills. These topics range from professional work behavior in the health care field, safety, infection control, care of the elderly resident, nutrition and hydration in long term care, mobility, comfort measures and elimination. In addition, the students will relate all of the body systems to the care they are performing in the lab and on clinical.

0494 Health Services 12th Grade Shop Credits: 8 Level: 3

The senior year of Health Services focuses on advanced nursing skills as well as exploring various health occupations through clinical rotations at acute care hospitals, sub-acute care centers, Alzheimer's centers, rehabilitation centers, and developmental disability centers. Students who qualify for Cooperative Education will be able to pursue work as a C.N.A. in one of the numerous long-term health care facilities in the Blackstone Valley. Students who do not go on co-op will be afforded the opportunity to be active in the healthcare setting through affiliations and externships. In addition, students will be able to participate in a comprehensive introductory EKG program that prepares the students for future study as EKG Technicians. Successful completion of the EKG Tech program will be accompanied by a certificate of completion.

4904 Health Services 12th Grade Related Credits: 1 Level: 3

Students review the systems of the body, complete an Alzheimer's-Dementia sensitivity Certification Program and complete projects relating to "Infectious diseases throughout the world, Genetics and Developmental Disabilities, as well as Preventing violence in the community.

HVAC&R

0440 HVAC&R Exploratory

The HVAC&R Exploratory Program is designed as a one week overview of several disciplines within this trade. Students gain specific knowledge and skills to explore the many career opportunities in the Heating, Ventilation, and Air Conditioning, and Refrigeration fields.

0441 HVAC&R 9th Grade Shop Credits: 8 Level: 3

This course encompasses all basic refrigeration practices including piping, proper use of refrigeration tools, and refrigerant handling according to EPA guidelines. Also included in this course: compressor testing and dismantling, basic electrical projects, and the use of basic controls. The shop program is CBVE based utilizing all standard safety procedures practiced in the HVAC&R industry. This course provides fundamental knowledge necessary for continued success in this field. Shop instruction is project based and hands on in nature.

4401 HVAC&R 9th Grade Related Credits: 1 Level: 3

Students are instructed in all basic refrigeration theories, specific requirements for piping, types and uses of HVAC&R tools, and federal laws regarding refrigerant handling. Electrical theory as applied to the HVAC&R industry is studied, as well as wiring diagrams and descriptions of various mechanical-electrical controls. Reading, writing, and math assignments related to HVAC&R theory are an integrated part of this class. This class supports all lab/shop projects performed during freshmen year in the HVAC&R program. The material is presented utilizing various methods including lectures, hands-on, term projects and select audio visual resources. Safety instruction is addressed in all units presented.

0442 HVAC&R 10th Grade Shop Credits: 8 Level: 3

Students are instructed in heat energy theories, basic and advanced refrigeration components, advanced refrigerants, and refrigerant handling. Students design and install an advanced refrigeration system with accessories as well as a complete central air conditioning system. Students study electrical theories and applications used in the HVAC&R industry including pressure controls, starting relays, and circuit identification. Refrigeration system troubleshooting is a major component throughout the sophomore year. The shop program is CBVE based utilizing all standard safety procedures practiced in the HVAC&R industry. This course provides the fundamental knowledge necessary for continued success in this field. Shop instruction is project based and hands on in nature.

4402 HVAC&R 10th Grade Related Credits: 1 Level: 3

This course examines heat energy theories and operational functions for advanced refrigeration systems and components. Instruction is provided on the complete installation and startup of a central air conditioning system. Various applications of refrigeration systems are researched as well as special refrigeration components. This course also reviews electric motor types and usage as well as motor relay and control operation. Troubleshooting skills are applied to problems encountered in the HVAC&R field. Reading, writing, and math assignments related to the HVAC&R professions are integrated with academic frameworks during this class. This class supports all lab/shop projects performed during freshmen year in the HVAC&R program. The material is presented utilizing various methods including lectures, hands-on, term projects and select audio visual resources. Shop instruction is project based and hands on in nature.

0443 HVAC&R 11th Grade Shop Credits: 8 Level: 3

Students test and install various types of heating systems including oil, gas, electric, heat pumps and alternative heat sources. Heat transfer systems using hydronic principles and forced air delivery systems are also assembled and tested. Several projects and tasks are focused on troubleshooting heating controls and equipment. The shop program is CBVE based utilizing all standard safety procedures practiced in the HVAC&R industry. This course provides fundamental knowledge necessary for continued success in this field. Shop instruction is project based and hands on in nature.

4403 HVAC&R 11th Grade Related Credits: 1 Level: 3

Energy requirements and estimation for winter climate control, and operation of all types of heating systems are major component of this course. Students examine theories of fluid dynamics & heat transfer such as hydronics and air systems. Students also perform heat loss calculations and design a modern residential heating system. They are introduced to, and compare heat pumps, alternative energy, gas, and oil fired systems. Reading, writing, and math assignments related to the HVAC&R professions is integrated with academic frameworks during this class. This class supports all lab/shop projects performed during junior year in the HVAC&R program. The material is presented utilizing various methods including lectures, hands-on, term projects and select audio visual resources. Safety instruction is addressed in all units presented.

0444 HVAC&R 12th Grade Shop Credits: 8 Level: 3

During the senior year, students are instructed in advanced troubleshooting techniques of heating/cooling systems. Students received instruction in preventative maintenance, indoor air quality as well as psychometrics. This course also includes introduction to pneumatic and digital controls, blueprint reading, and senior project presentations. Seniors on co-op will have an adjusted shop grade based on their co-op experience. The shop program is CBVE based utilizing all standard safety procedures practiced in the HVAC&R industry. This course provides fundamental knowledge necessary for continued success in this field. Shop instruction is project based and hands on in nature.

4404 HVAC&R 12th Grade Related Credits: 1 Level: 3

This course examines advanced heating/cooling system design, computerized heat load/gain estimation, blueprint reading, and job estimating. Students examine air flow, air system design, and psychometrics as applied to air conditioning systems. Specific instruction will be offered to students seeking training in a specialized HVAC&R field. Students are required to complete one or more HVAC&R term projects. The subject of these projects will concur with lab or Co-Op related projects. Research, which includes reading, writing, and math assignments related to the HVAC&R professions, is integrated with academic frameworks during this class. Seniors on co-op will have an adjusted related grade based on their co-op experience. This class supports all lab/shop projects performed during senior year in HVAC&R program. The material is presented utilizing various methods including lectures, hands-on, term projects and select audio visual resources. Safety instructions are addressed in all units presented.

Information Technology

0230 Information Technology Exploratory

The focus of this exploratory program is to introduce students to the basic knowledge and skills necessary to pursue study in the Informational Technology program. Basic instruction in shop safety and IT program orientation is provided. Students learn the necessary skills that open the way to the various career options for the IT professional. They develop an understanding of the scope of the program and the technology systems involved.

0231 Information Technology 9th Grade Shop Credits: 8 Level: 3

The focus of the freshman year is to start A+ training with the A+ Guide to Managing and Maintaining Your PC book. The focus of the Freshman A+ training includes: health and safety, underlying principles of technology, hardware, problem solving and troubleshooting basics, network terminology and design, operating systems, introduction to web design, HTML, computer programming with JAVA, word processing, spreadsheets, databases, using internet resources and e-mail, digital images and graphics, incorporating digital video and audio, employability and management and entrepreneurship. The later Cisco courses introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum.

All students will have the opportunity to earn the PC Pro and CompTIA A+ certifications having successfully completed the course and the additional content of LabSim in their sophomore year.

2301 Information Technology 9th Grade Related Credits: 1 Level: 3

The Information Technology related theory instruction is intended to complement the vocational Instruction, and laboratory projects. Students have the opportunity to learn the principles and theories related to their hands-on activities and projects conducted in the laboratory during the freshman school year. This will also include the following assignments every week: Homework, Chapter key term presentations, Daily Pop Quiz's, and End of Chapter Exams, this will be posted on their BVT Moodle web site. In the 9th grade year, after the exploratory classes are completed, we will be covering the first half of the A+ training focusing on the hardware of the PC's.

0232 Information Technology 10th Grade Shop Credits: 8 Level: 3

The focus of the sophomore year is to finish the A+ training with the A+ Guide to Managing and Maintaining Your PC book and the Cisco course "Introduction to Networking". The focus of the Sophomore A+ training includes: health and safety, underlying principles of technology, hardware, problem solving and troubleshooting basics, network terminology and design, operating systems, introduction to web design, HTML, computer programming with JAVA, word processing, spreadsheets, databases, using internet resources and e-mail, digital images and graphics, incorporating digital video and audio, employability and management and entrepreneurship. The Cisco course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. All students will have the opportunity to earn the PC Pro and CompTIA A+ certifications having successfully completed the course and the additional content of LabSim.

652 Computer Science – Programming 10

This course introduces applied programming languages and basic programming techniques to Grade 10 students in the Information Technology shop. Students learn simple programming commands and sequences during shop and related theory classes and build a base of programming fundamentals through both graphical and text based programming languages.

2302 Information Technology 10th Grade Related

Credits: 1 Level: 3

The Information Technology related theory instruction is intended to complement the vocational Instruction, and laboratory projects. Students have the opportunity to learn the principles and theories related to their hands-on activities and projects conducted in the laboratory during the sophomore year. This will also include the following assignments every week: Homework, Chapter key term presentations, Daily Pop Quiz's, and End of Chapter Exams, this will be posted on their BVT Moodle and Netacad.com websites. In the 10th grade year we will be covering the second half of the A+ training focusing on the software of the PC's, as well as completing the first Cisco course, "Introduction to Networking"

0233 Information Technology 11th Grade Shop

Credits: 8 Level: 3

The focus of the junior year is to continue the Cisco training with the next two college level courses "Routing and Switching Essentials" and "Scaling Networks". This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single- area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. This course describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure the opportunity to earn the CompTIA A+ and Net+/ CCENT certification having successfully completed the Routing and Switching Essentials.

2303 Information Technology 11th Grade Related

Credits: 1 Level: 3

The Information Technology related theory instruction is intended to complement the vocational Instruction, and laboratory projects. Students have the opportunity to learn the principles and theories related to their hands-on activities and projects conducted in the laboratory during the junior year. This will also include the following assignments every week: Homework, Lab reports, Chapter presentation and quizzes, this will be posted on their Netacad.com web site

653 Computer Science – Programming 11

This course expands upon applied programming languages and basic programming techniques for grade 11 students in the Information Technology shop. Students learn high level programming commands, sequences and languages during shop and related theory classes and build their knowledge of coding, scripting and embedded systems.

0234 ***Information Technology 12th Grade Shop*** Credits: 8 Level: 3

Seniors who do not participate in the cooperative program will receive instruction to further their knowledge in Cisco networking. Up to the final course, Connecting Networks, studies for the CCNA certification. Upon completion of their course they will be studying for the CCNA certification exam(s). Upon graduation all students will have the opportunity to earn the CompTIA A+ and Net+/ CCENT certification and/or up to the full Cisco Certified Network Associate (CCNA) certificate qualified seniors participating in the cooperative program will gain industry experience in paid positions off-campus. Participation in the cooperative program requires students to meet all coop requirements and be in good academic and vocational standing. Seniors also have the opportunity to work with the school's technology staff on the configuration and service of equipment on the school's network and on community related projects.

2304 ***Information Technology 12th Grade Related*** Credits: 1 Level: 3

The Information Technology related theory instruction is intended to complement the vocational Instruction, and laboratory projects. Students have the opportunity to learn the principles and theories related to their hands-on activities and projects conducted in the laboratory during the senior year. This will also include the following assignments every week: Homework, Lab reports, Chapter presentation and quizzes, this will be posted on their Netacad.com web site.

654 Computer Science – Programming 12

This course prepares students for careers and continued learning in programming languages as well as future AP JAVA courses. Students learn high and low level programming commands, sequences and languages during shop and related theory classes and continue to build their knowledge of coding, especially code efficiency and security.

360 ***AP Computer Science A*** Credits: 2 Level: 1

This is an optional course for seniors in the Information Technology shop only. This course is delivered in shop during shop week. Students who elect to take this course will receive two (2) credits for this course and six (6) credits for shop. Students who take this course agree to take the AP Exam in the spring of their senior year. A qualifying score of three (3) or better on the AP exam may earn a student college credit.

The AP Computer Science A course is an introductory course in computer science. Because the design and implementation of computer programs to solve problems involve skills that are fundamental to the study of computer science, a large part of the course is built around the development of computer programs that correctly solve a given problem. These programs should be understandable, adaptable, and, when appropriate, reusable. At the same time, the design and implementation of computer programs is used as a context for introducing other important aspects of computer science, including the development and analysis of algorithms, the development and use of fundamental data structures, the study of standard algorithms and typical applications, and the use of logic and formal methods. Course consists of 20+ hours of hands on laboratory experience solving real problems in a socially responsible way.

Manufacturing and Engineering Technology

0360 Manufacturing and Engineering Technology Exploratory

This one-week course provides students with the basic knowledge and skill level used in manufacturing technologies today. Students receive instruction in personal and shop safety, tool usage, measuring, cutting metal, introduction to lathe operation, and gas metal arc (GMAW) welding while making special projects. Students receive instruction through a combination of presentations, demonstrations, and hands-on performance.

0361 Manufacturing and Engineering Technology 9th Grade Shop Credits: 8 Level: 3

This two-trimester course provides students with the basic knowledge and skill training necessary for continued success in the Manufacturing and Engineering Technology program. Students receive instruction in career opportunities, shop operational procedures, personal and shop safety, tool usage, basic operation of machine tools, oxy-acetylene welding processes, shielded metal arc welding (SMAW), simple fabrication operations, and use of hand and power tools. Students receive instruction through a combination of presentations, demonstrations and hands on performance.

3601 Manufacturing and Engineering Technology 9th Grade Related Credits: 1 Level: 3

This two-trimester course provides students with the basic knowledge and skill training necessary for continued success in the Manufacturing and Engineering Technology program. Students receive instruction in career opportunities, shop operational procedures, personal and shop safety, tool usage, basic math and measuring skills, related theory in machining tools, and oxy-acetylene welding processes. Students receive instruction through a combination of presentations, demonstrations, video equipment and hands-on activities. Students receive instruction through a combination of presentations, demonstrations and hands-on performance.

0362 Manufacturing and Engineering Technology 10th Grade Shop Credits: 8 Level: 3

This course provides students with the basic knowledge and skill training necessary for continued success in Manufacturing and Engineering Technology program. Students are instructed in surface grinding, milling, hand tools, measuring tools, Computer Numerical Control (CNC), power saws, lathes, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), resistance spot welding, press brake, 20-ton punch and the related theory that will cover these metal working processes. Students receive instruction through a combination of presentations, demonstrations and hands-on performance.

3602 Manufacturing and Engineering Technology 10th Grade Related Credits: 1 Level: 3

Students are instructed in basic mathematics, linear measurement, tolerances, basic blue print reading, geometry and applied mathematics. Related theory also covers surface grinding, milling, hand tools, measuring tools, Computer Numerical Control (CNC), power saws, lathes, welding symbols, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), resistance spot welding, press brake, and the 20-ton punch. Students receive instruction through a combination of presentations, demonstrations, hands-on performance, field trips, and guest speakers. Reading, writing and math assignments related to the Manufacturing and Engineering Technology professions are integrated with academic frameworks during this class.

0363 Manufacturing and Engineering Technology 11th Grade Shop Credits: 8 Level: 3

This course provides students with advanced knowledge and skill training necessary for continued success in the Manufacturing and Engineering Technology program. Students receive advanced training in milling, lathe, grinding, CAD/CAM, Computer Numerical Control (CNC) Programming, Gas Metal Arc Welding (GMAW), introductory Gas Tungsten Arc Welding (GTAW), welding symbols, advanced fabrication, and related theory. Students receive instruction through a combination of presentations, demonstrations, and hands-on performance.

3603 Manufacturing and Engineering Technology 11th Grade Related Credits: 1 Level: 3

This full year course provides instruction in trigonometry, Computer Numerical Control Programming (CNC), metal working formulas, metallurgy, heat treatment of metals and employment skills. Related theory also covers advanced milling, lathe, grinding, CAD/CAM, Gas Metal Arc Welding (GMAW), gas tungsten arc welding and advanced fabrication. Students receive instruction through a combination of presentations, demonstrations, hands-on performance, field trips, and guest speakers. Reading, writing and math assignments related to the Manufacturing and Engineering Technology professions is integrated with academic frameworks during this class.

0364 Manufacturing and Engineering Technology 12th Grade Shop Credits: 8 Level: 3

This course provides students with instructions and skill training necessary for continued success in the Manufacturing and Engineering Technology program. Students receive instruction in the areas of Computer Numerical Control (CNC) plasma cutting, advanced welding and machining skills, and participate in outside live work utilizing skills acquired. Job placement and opportunities in the cooperative program are available for those whose skill level and academic achievement meet all school requirements for the cooperative program. Students receive instruction through a combination of presentations, demonstrations, and hands on performance testing.

3604 Manufacturing and Engineering Technology 12th Grade Related Credits: 1 Level: 3

This course provides twelfth grade students with instructions in geometry and trigonometry utilizing machining formulas, blue print reading, advanced welding techniques, and Computer Numerical Control (CNC) plasma arc cutting. Instruction utilizes presentations, demonstrations, hands-on performance, field trips and guest speakers. Research, which includes reading, writing and math assignments related to the Manufacturing and Engineering Technology professions, will be integrated with academic frameworks during this class.

Multimedia Communications

The Multimedia Communications department emphasizes visual design and production from a problem-solving and strategic point of view utilizing the latest technologies and techniques. Students receive training in visual design, Web design and development, photography, animation, videography, illustration, marketing, advertising, pre-press design, and digital print production, as well as business, marketing, concept development, design theory, color theory, typography, and outsourcing techniques.

Using state of the art digital imaging software and equipment, students learn to apply their creativity and production skills to communications media. Students are introduced to a variety of software programs such as Adobe's Illustrator, Photoshop, InDesign, Dreamweaver, Flash, and Premiere. Principles of design and color theory, outsourcing, desktop publishing, digital photography, illustration, animation and web-based portfolio preparation is emphasized. Projects include logo/identity design, illustration, commercial photography, animation, packaging design, advertising, web and human interface design, print production theory and techniques, pre-press, silk screen printing, storyboarding, filming and digital video, special effects design, and many other assignments that require creativity, technology, production and communication skills, as well as the ability to meet tight production deadlines.
Students will also explore psychological research related to the marketing and branding of products and services. This gives the student a deeper understanding of how the media affects the people who experience it. Upon completion of the Multimedia program, each student will turn their projects into a complete multimedia experience, gathering all of their concepts, designs, animations, video, sounds, and graphics into a CD-ROM interactive portfolio. Each student will also have an opportunity to become Adobe certified (ACA) by taking various exams offered in Visual Communications, Production, Rich Media, and Web Design.

0620 Multimedia Communications Exploratory

This one-week course provides the 9th grade exploratory student with an opportunity to explore the world of digital media. Students experience instruction in the digital media labs using Adobe design software and Apple computer technology. Students are introduced to a wide variety of techniques for graphic design, animation, photography, web design, and marketing.

Various business professionals, designers, and producers from all media will be showcased. Students receive instruction through a combination of demonstrations and individual hands-on experiences.

0621 Multimedia Communications 9th Grade Shop Credits: 8 Level: 3

Students will utilize digital tools necessary to compete in the world of visual communication, graphic design, Web design, animation, photography, video, digital printing and publishing. Topics include: Introduction to Adobe Illustrator; Introduction to Adobe Photoshop; Introduction to Adobe InDesign; Intro to digital print design and production; Intro to HTML/CSS; Editorial Design, drawing techniques; and storyboarding.

Students are evaluated based on their performance on projects that provide opportunities for students to make connections between tools, techniques, and related theory. Emphasis is placed on skill development, safety, and time management.

6201 Multimedia Communications 9th Grade Related Credits: 1 Level: 3

In this course, students will learn the Foundations of Design including: Elements and Principles of Design, Color Theory, and Typography. Students will be introduced to and demonstrate the Creative Process, focusing on concept development, brainstorming, and design thinking strategies. Students will also receive a theoretical and historical overview of the communications industry.

Student evaluation incorporates attendance, test and quiz grades, time on task, skill development, and completion of all homework/written assignments. Students receive instruction through a combination of demonstrations, guest speakers, self-study, and small group activities.
Integrated academic assignments related to digital design and communication theories are an integral part of this course.

0622 Multimedia Communications 10th Grade Shop Credits: 8 Level: 3

Students build upon the introductory skills and knowledge acquired freshmen year and continue to develop skills related to concept development and design thinking techniques. Topics include; branding and marketing through graphic design, fashion design, illustration, web design, stop motion animation, digital photography, video, editorial design, and portfolio development.

Students are evaluated based on their performance on projects that provide opportunities for students to make connections between tools, techniques, and related theory. Emphasis is placed on skill development, safety, and time management. Students will also have the opportunity to earn Adobe Certified Associate credentials in Adobe Illustrator and Adobe Photoshop.

6202 Multimedia Communications 10th Grade Related Credits: 1 Level: 3

In this course students will develop advanced skills using Adobe Photoshop including: advanced portrait retouching, application of special effects, motion media, and optimization for print and web workflows. Students will also develop skills in design thinking and problem solving through the use of type, space, and image.

Student evaluation incorporates attendance, test and quiz grades, time on task, skill development, and completion of all homework/written assignments. Students receive instruction through a combination of demonstrations, guest speakers, self-study, and small group activities.
Integrated academic assignments related to digital design and communication theories are an integral part of this course.

0623 ***Multimedia Communications 11th Grade Shop*** Credits: 8 Level: 3

Junior year students will focus on applying their skills through beginning to work on live work projects for actual clients. Students will develop projects from start to finish utilizing the Creative Process. Projects will become client focused with strong marketing objectives. Students will further enhance their employability skills through participation in various instructional workshops related to customer relationship management and formal presentation of concepts.

Students will develop integrated branding and production of professional products across many media, including print, web, and photo/video. Portfolio development for college entrance and/or career entry positions will be required for promotion to senior year.

All juniors will also have the opportunity to work within the BVT Design and Print Center, producing products for clients from all over the district. Students will gain experience in scanning, layout and design, copyediting, digital pre-press, digital print production and customer service. Emphasis is placed on the development of quality standards and safe operating procedures. Additionally, students may apply for a cooperative education internship within the BVT Design and Print Center. Students will also have the opportunity to earn Adobe Certified Associate credentials.

6203 ***Multimedia Communications 11th Grade Related*** Credits: 1 Level: 3

Juniors in this course will develop skills in web design and user-interface (interactive) design as well as print production best practices through a variety of instructional workshops. Information architecture development planning and documentation is explored and demonstrated. Activities include role-playing and formal communication with a variety of audiences for both interpersonal communication and formal proposal presentation.

Student evaluation incorporates attendance, test and quiz grades, projects, time on task, skill level, and completion of all homework/written assignments. Students receive instruction, in a cooperative learning environment, through a combination of demonstrations, guest speakers, self-study, small group projects, live work, and individual hands-on experiences. Integrated academic assignments related to digital design and communication theories are an integral part of this class.

0624 Multimedia Communications 12th Grade Shop Credits: 8 Level: 3

Through demonstration of mastery of concepts seniors prepare to continue their education and skills. Students must complete a long-term senior project working with a client to develop design concepts and marketing materials to establish or enhance brand identity. Products will include a variety of media based on a plan developed collaboratively with their client. Strict adherence to the Creative Process and documentation of all phases will be required. Finally, students will present their completed project and documentation to a panel consisting of advisory members and school administrators. Students will also have the opportunity to earn Adobe Certified Associate credentials.

Eligible students will have the opportunity to participate in the Cooperative Education Program.

6204 Multimedia Communications 12th Grade Related Credits: 1 Level: 3

Students focus on portfolio development and growth. Presentation skills, creative writing, copy writing, design, marketing, branding, and advanced printing process skills are further enhanced through instructional workshops. Students are required to produce portfolio materials optimized for a variety of media including: web, interactive, and print. A final portfolio will be submitted to meet graduation requirements.

Student evaluation incorporates attendance, test and quiz grades, projects, time on task, skill level, and completion of all homework/written assignments. Students receive instruction, in a cooperative learning environment, through a combination of demonstrations, guest speakers, self-study, small group projects, live work, and individual hands-on experiences.

Integrated academic assignments related to digital design and communication theories are an integral part of this class.

Painting & Design Technologies

0460 Painting & Design Technologies Exploratory

This one-week program provides students with an overview of several disciplines within this occupational area. Students gain specific knowledge and skills that enable them to explore various opportunities available in the painting and design field. Students are exposed to a cross-section of hands-on training in surface preparation, painting, furniture finishing, spray-painting, and faux techniques.

0461 Painting & Design Technologies 9th Grade Shop Credits: 8 Level: 3

This two-trimester course provides students with the introductory knowledge and skill training necessary for the modern day trade of painting and design technologies. Students attain basic skills in surface coatings, wall applications and furniture refurnishing. OSHA safety regulations and practices are introduced as well as Material Safety Data Sheets safety procedures. Students will practice mixing techniques and develop understanding of color schemes using the color wheel as well as hand drawing with perspective and shading Critical thinking skills are emphasized throughout the course.

4601 Painting & Design Technologies 9th Grade Related Credits: 1 Level: 3

This related course introduces print reading, fundamentals of evaluating floor plans, introduction to paints, coatings and sealants, and graphic applications and sign art. Students' school and professional portfolios are developed. Reading, writing and math assignments related to the Painting Design Technologies are an integral part of this class.

0462 Painting & Design Technologies 10th Grade Shop Credits: 8 Level: 3

This course provides fundamental knowledge necessary for continued success in this field. Shop instructions are project-based and hands-on in nature. Instruction includes wall covering and textiles, spray painting, drywall repair, and decorative finishes. Computer aided design is introduced using Adobe Illustrator and various sign industry software to create signage and full color digitally printed artwork. Learning to cut, print and apply digital graphics to various substrates will enhance the technical side of the Paint & Design trade. The students will also learn how to design, estimate, produce, and install various sign and painting jobs, as we are a "live" shop and work on many projects requested from the school and local communities.

4602 Painting & Design Technologies 10th Grade Related Credits: 1 Level: 3

This class supports all shop projects performed in the Painting Design Technologies Program. Students receive instruction through a combination of presentations, hands-on activities and term projects, and select audiovisual materials. Safety instructions are addressed in all units. Students receive instruction in job planning, supervision, and presentation. Reading, writing and math assignments related to the Painting Design Technologies are an integral part of this class. Students acquire their OSHA 10 hour card.

0463 Painting & Design Technologies 11th Grade Shop Credits: 8 Level: 3

In addition to reinforcing previous skills, instruction expands to assist students in gaining mastery level competency in painting, sign making, interior design, estimating, planning, scheduling, and communicating will be key during this class. As part of the interior design component students will design residential and commercial plans. The students use a professional 3D architectural software to design and remodel offices, kitchens, bedrooms, bathrooms, and other living areas according to the needs and wants of the client. The students also use the program to estimate projects with an understanding of tool lists, materials lists, process flow, and labor requirements. Students further develop their skills in the trade by working on school facility and community based projects.

4603 Painting & Design Technologies 11th Grade Related Credits: 1 Level: 3

Students receive instruction through a combination of lectures, hands-on, term projects, and select audio-visual materials. Students acquire their OSHA 10 hour card. Small business management skills are developed and foreperson's duties/leadership roles are fostered. Reading, writing and math assignments related to the Painting Design Technologies are an integral part of this class.

0464 Painting & Design Technologies 12th Grade Shop Credits: 8 Level: 3

Students focus on an in depth review of previous instruction. The goal is to strengthen student knowledge in preparation for involvement in the cooperative vocational educational program. The students further develop their skills in computer based sign design for digital printing on various substrates as well as cut vinyl. Students will use the available professional 3D architectural software and the principals and elements of design to produce presentations that will show their work. Their presentations include technical drawings, both computer generated and hand drawn renderings as well as samples and concept details describing a finished project. They further their design abilities by identifying the distinguishing features of period furniture and becoming knowledgeable in materials and functional requirements of fabrics, window treatments and home textiles.

4604 Painting & Design Technologies 12th Grade Related Credits: 1 Level: 3

Students strengthen skills in career planning, relationships with employers, employees, and customers. Competencies learned in grade 11 are reviewed and reinforced, specifically safety and shop procedures, applied math, working drawings and vocabulary. Reading, writing and math assignments related to the Painting Design Technologies are an integral part of this class. Workplace competencies include job-hunting, resume writing, and interview techniques.

Plumbing

All instruction is in accordance with the Commonwealth of Massachusetts Fuel, Gas, and Plumbing Code including Section II (Educational Tier Curriculum) and current Massachusetts Career Vocational Technical Education (CVTE) Frameworks guidelines. For Additional guidelines and curriculum requirements, refer to "248 CMR 11.00 Education and Experience Standards and Requirements for Licensure" on the mass.gov website.

0430 Plumbing Exploratory

This one-week exploratory related program is designed to enhance student awareness of the plumbing field. Synchronized use of video, instructor presentation, and relevant literature is provided to the student. Multiple basic shop tasks are being performed on an individual basis along with team work projects.

0431 Plumbing 9th Grade Shop Credits: 8 Level: 3

Students in this two-semester program are given basic orientation in career opportunities, shop-marking procedures, tool crib procedures, and hand tool safety. Students receive instruction in understanding a ruler/tape measure. Procedures on how to measure, cut and preparation of steel, copper, and cast iron piping with various fittings and joining methods.

4301 Plumbing 9th Grade Related Credits: 1 Level: 3

This course provides related theory instruction closely aligned with the students' shop tasks. This allows for the enhancement of the academic discipline related to a particular task. . The understanding of basic mathematical requirements pertaining to linear measurements determining diameters, sizes, types, connections and uses within the industry of steel, copper and cast iron pipe and fittings.

0432 Plumbing 10th Grade Shop Credits: 8 Level: 3

Students receive a full school year of instruction in the areas of power tool safety, water heaters, hot and cold water distribution systems, drainage waste, and venting system, installation of rough and finish plumbing for residential plumbing fixtures, valve repair, power threading, equipment and safety. Process piping on both steel and copper using multiple styles of hangers and supports.

4302 Plumbing 10th Grade Related Credits: 1 Level: 3

Students are instructed in theory continuing within the Tier I curriculum on related shop tasks including water heaters, hot and cold water distribution systems, basic drainage waste and vent systems, residential blueprint reading, and valve characteristics. Reading, writing, and math, assignments related to the plumbing professions are integrated with academic frameworks during this class.

0433 Plumbing Shop 11th Grade Shop Credits: 8 Level: 3

Students are instructed in the areas of sizing and installing gas piping, introduction to drain-cleaning, introduction to the installation of commercial plumbing fixtures, and an introduction to residential gas hydronic heating systems. In addition to shop tasks, students perform plumbing facility maintenance work under direct instructor supervision.

4303 Plumbing 11th Grade Related Credits: 1 Level: 3

Students continue plumbing related theory in accordance with their shop tasks. This includes sizing gas piping, cleanouts and cleanout locations, laws pertaining to commercial plumbing fixtures, and residential heating system design. Reading, writing, and math assignments related to the plumbing professions are integrated with academic frameworks during this class.

0434 Plumbing 12th Grade Shop Credits: 8 Level: 3

Students focus on an in-depth review of previous instruction. The goal is to strengthen student knowledge in preparation for involvement in the cooperative vocational educational program. In addition, students may be involved in school facility maintenance work.

4304 Plumbing 12th Grade Related Credits: 1 Level: 3

The related program is designed to fine-tune the students plumbing studies to date. An in-depth study of heating system design, gas piping design, hydraulic data, and plumbing code license preparation is the focus of instruction. Research, which includes reading, writing, and math assignments related to the plumbing professions, is integrated with academic frameworks during this class.

Minimum Admissions Requirements For Massachusetts State Universities and Undergraduate UMASS Campuses

The minimum admissions standards for the state universities and undergraduate UMass campuses were established for several primary reasons: first, to emphasize the importance of successfully completing a rigorous academic course of study in high school (such as MassCore, a recommended program of studies that includes specific numbers and types of courses across academic subjects); second, to ensure that students are well prepared to complete college courses and their degrees; and third, to increase consistency across the state universities and undergraduate UMass campuses.

Again, these standards are minimum requirements. Eligibility for admission is not an entitlement of admission for any applicant; as such, meeting the minimum standards does not guarantee admission, since admissions officers consider a wide range of factors in when reviewing students' applications, and the state universities and UMass campuses can establish additional requirements. For information about any additional requirements, please contact the admissions office at the institution(s) to which the student is interested in applying.

Note: These standards do not apply to the community colleges, which implement open admissions and enrollment policies. For additional information about admissions policies at the community colleges, please contact the admissions office at the institution(s) to which you are interested in applying.

Freshman Applicants

The admissions standards for freshmen applicants at Massachusetts public four year institutions have three primary components:

1. Successful completion of required academic courses in specific subjects; and
2. A minimum average and weighted grade point average (GPA) earned in high school level academic courses;
3. The submission of SAT or ACT scores.

Academic Course Requirements for Entering College Freshmen

All freshman applicants are required to successfully complete the following courses in each academic subject. Currently, these applicants are required to have completed 16 courses; starting with students who are enrolling during the fall of 2016, the number of required courses will increase to 17 given the required completion of four mathematics courses in high school.

The table below provides detailed information about the course requirements for each academic subject.

<table>
<tr><th rowspan="2">Subject</th><th colspan="6">Requirements for Entering College Freshmen</th></tr>
<tr><th>Fall 2012</th><th>Fall 2013</th><th>Fall 2014</th><th>Fall 2015</th><th>Fall 2016</th><th>Fall 2017 and beyond</th></tr>
<tr><td>English</td><td colspan="6">4 Courses</td></tr>
<tr><td>Mathematics</td><td colspan="4">3 courses (Algebra I & II and Geometry or Trigonometry or comparable coursework)</td><td colspan="2">4 courses(Algebra I & II and Geometry or Trigonometry or comparable coursework) including mathematics during the final year of high school</td></tr>
<tr><td>Sciences</td><td colspan="4">3 courses (from Natural Science and/or Physical Science and/or Technology/ Engineering, including 2 courses with laboratory work).</td><td colspan="2">3 courses (from Natural Science and /or Physical Science and/or Technology/Engineering), including 3 courses with laboratory work</td></tr>
<tr><td>Social Sciences</td><td colspan="6">2 courses (including 1 course in U.S. History)</td></tr>
<tr><td>Foreign Languages</td><td colspan="6">2 courses (in a single language)</td></tr>
<tr><td>Electives</td><td colspan="6">2 courses (from the above subjects or from the Arts & Humanities or Computer Sciences</td></tr>
</table>

Note: comparable courses are defined as coursework that is equal to or beyond the content defined in the Massachusetts Curriculum Frameworks.

If a high school designates a course as a comparable mathematics course or designates a science course as a science laboratory course, college admissions officers must accept that the course meets the above requirements. High school transcripts should clearly indicate that the course(s) are mathematics or science courses.

MINIMUM GPA REQUIREMENT

The minimum average GPA for freshman applicants, weighted for accelerated (Honors and Advanced Placement) courses, is 3.0 for both the state universities and the UMass undergraduate campuses. Detailed information about calculating the weighted GPA is presented in the Appendix, pages 13 - 18.

This GPA is based on all courses completed and grades received for courses in which the student is currently enrolled (for example, mathematics courses in which the student is enrolled during the senior year of high school).

SAT/ACT SCORE REQUIREMENTS FOR APPLICANTS WHO DO NOT MEET THE GPA REQUIREMENT

All freshman applicants who meet the minimum average GPA requirement of 3.0 and are within three years of their high school graduation must submit their SAT scores (for Critical Reading and Mathematics) or ACT scores.

For freshman applicants who do not meet the minimum GPA requirement, they must earn the following SAT or ACT scores in order to be eligible for admission.

NOTE: NO APPLICANT WITH A HIGH SCHOOL GPA BELOW 2.0 MAY BE ADMITTED TO A STATE UNIVERSITY OR UMASS UNDERGRADUATE CAMPUS.

Table 2: Required SAT or ACT Scores for Freshman Applicants to UMass Undergraduate Campuses

Weighted Average GPA	Combined SAT Score (Critical Reading and Mathematics)	ACT Score
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

Table 3: Required SAT or ACT Scores for Freshman Applicants to State Universities

Weighted Average GPA	Combined SAT Score (Critical Reading and Mathematics)	ACT Score
2.51 - 2.99	910	19
2.41 - 2.50	950	20
2.31 - 2.40	990	21
2.21 - 2.30	1030	22
2.11 - 2.20	1070	23
2.00 - 2.10	1110	24

EXCEPTIONS AND ALLOWANCES FOR SPECIFIC GROUPS OF STUDENTS

APPLICANTS WHO ARE ENGLISH LANGUAGE LEARNERS

An English language learner or limited English proficient student is defined as a student who does not speak English (or whose native language is not English) and is not currently able to perform ordinary classroom work in English, or a student who was identified as an English language learner or limited English proficient student at any point during his or her high school career. Students who were English language learners during high school must complete all required high school level academic courses with two exceptions:

1. They may substitute up to two electives for the two required foreign language courses; and
2. They may substitute up to two years of English as a Second Language courses for English courses.

APPLICANTS WITH LEARNING OR OTHER DISABILITIES

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. However, these applicants must complete all required academic courses and earn a minimum average GPA of 3.0 or present other evidence of the potential for academic success.

Note: an applicant with learning or other disabilities may substitute two electives for the two required foreign language courses if s/he has submitted to the high school the results of an evaluation, completed within the past three years, that indicates a specific diagnosis of a learning disability that affects the ability to learn a foreign language.

APPLICANTS ENROLLED IN CAREER/VOCATIONAL TECHNICAL HIGH SCHOOL PROGRAMS

Applicants enrolled in career/vocational technical high school programs must complete the required number of 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 and technical courses may be used to fulfill the two required electives.
2. Applicants who do not complete the two required foreign language courses must complete an additional elective course, for a total of three such courses, and also satisfy one of the following options:
   - Complete at least one full academic year of study of foreign language or
   - Complete a fourth full academic year of study of science technology/engineering, which need not be a laboratory course; or
   - Complete one full academic year of study of computer science.

For more information on State College and University Admissions, go to
http://www.mass.edu/forstufam/admissions/admissionsstandards.asp