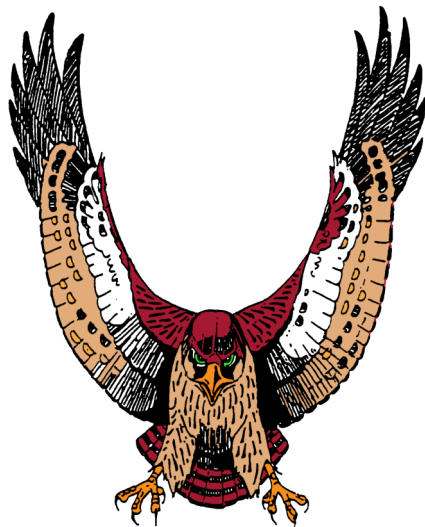


PROGRAM OF STUDIES

2012-2013



Home of the Falcons

BOW HIGH SCHOOL
32 White Rock Hill Road
Bow, NH 03304-4219

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Program of Studies 2012-2013

Bow High School

32 White Rock Hill Road
Bow, New Hampshire 03304-4219
Phone: (603) 228-2210 Fax: (603) 228-2212
www.bownet.org

SCHOOL PROFILE

Bow High School is a comprehensive public high school that will start its sixteenth year in September of 2012. Our student population will be approximately **535** in grades 9-12.

The emphasis of our curriculum is meant to provide students with a rigorous and relevant approach to their learning. We intend to develop students who are independent thinkers that use their minds well. The process of learning is embraced with the same vigor as its product.

Bow High School has earned its accreditation by the New England Association of Schools and Colleges and has been fully approved by the New Hampshire Department of Education.

As a member of the NH Interscholastic Association, Bow High School's athletic teams compete in Division 3 (enrollments of 350 to 650 students) in the majority of sports. The most common opponents are Hopkinton and Kearsarge.

Mascot - Falcon

School Colors - Navy Blue, Gold & White

CEEB # 300059

Principal-John House-Myers

Assistant Principal-Gay Longnecker

Director of Guidance-Colleen DesRuisseaux

Dean of Humanities-Jacqueline Coe

Dean of Math, Science, Technology, and Business-Dr. Don Gage

Athletic Director-Jim Kaufman

The Bow School District and School Administrative Unit # 67 govern Bow High School.

Bow School District
32 White Rock Hill Road
Bow, New Hampshire 03304-4219
Phone (603) 224-4728 Fax (603) 224-4111

Superintendent of Schools - Dr. Dean Cascadden

Business Administrator - Duane Ford

Director of Special Education - Dan Ferreira

School Board Members - Pansy Bloomfield, Chairperson
Robert Louf, Vice Chairperson
Debra Alfano
June Branscom
Thomas E. Keane

Welcome to BOW HIGH SCHOOL

Dear Students, Parents, and the School Community,

Welcome to the 2012-2013 Program of Studies and course registration process. In all likelihood you are reading this letter online, so you are well aware that the student course registration process is now conducted online. This has improved our efficiency and has also produced financial savings. As you review the courses in the Program of Studies, you may notice that despite the student population decline over the past several years, we have continued to add courses to our Program of Studies, as we have once again for the coming school year. However, many of these course offerings may only run with one section, so please be sure to choose alternate course selections carefully.

I would like to highlight some of the changes that can be found as we enter the 2012-2013 school year.

We have continued to add courses that offer both college and BHS credit through Concurrent Enrollment. This will enable students to take BHS courses that satisfy graduation requirements while also earning college credit upon successful completion of the course. This is an exceptional opportunity for students, and could potentially lead to dramatic cost savings for students entering college. This is further described in greater detail on the Concurrent Enrollment page, located on page 10.

Additional courses that have been added for the first time to the 2012-2013 Program of Studies include *Introduction to the Hospitality and Tourism Industry* and *Interactive Virtual Environments – An Intro to Gaming*, which are both semester long courses that can be found under the Computer and Business Applications section of the Program of Studies. In addition, we have added a semester long Humanities course – *Writing and Art* – that can be found under the Humanities Electives section of the Program of Studies.

There have also been changes to our World Language program. While we will continue to offer a full sequence of Spanish and French classes, beginning in the 2012-2013 school year, only Latin I and II will be offered. In addition, Chinese I, II, and III are now being offered as a fully funded language program; Chinese I will also be offered for the first time at Bow Memorial School. We expect to see this program grow steadily over the next few years.

There are many changes taking place in 21st century high schools, and Bow High School now offers many opportunities for students that did not exist just a few years ago. These include the Internship program, which has become very popular for students interested in obtaining alternative credit exploring a career field of interest. We have also streamlined our Extended Learning Opportunity process, which will allow students to develop credit bearing courses of study that they are interested in pursuing that fall outside the course listings contained in these pages. These and other Alternative Options for Learning are further described in the pages that follow.

In closing, I would like to encourage students to be ambitious in selecting courses, and challenge yourselves to learn, to grow, to achieve. Consider joining the Band or Chorus, pique your interest in engineering by taking a Project Lead the Way course, or take the Art course you've always thought about. Join a team, or get involved with the performing arts. Join a club, or better yet, start a club! These four years will go by much more quickly than you imagine, so I encourage everyone to engage, explore, and discover.

Sincerely,

John House-Myers
Principal

MISSION STATEMENT

The mission of our school community is to develop knowledgeable, inquiring and caring young people who become confident life long learners.

CORE VALUES STATEMENTS

We believe that our students will be curious, independent learners who embrace academic challenges and think in a creative and critical manner.

We believe that our students will be effective and proficient communicators.

We believe that interdisciplinary coursework strengthens the depth of student knowledge.

We believe that promoting student empowerment fosters collaborative leadership and decision-making.

We believe heterogeneity enhances the academic, social and cultural experience and fosters tolerance and a diversity of ideas, perspectives and opportunities.

We believe that learning through experience helps us to gain respect for others and ourselves.

We believe that well-rounded students participate in co-curricular activities, including arts, athletics, and community service, in order to develop a balanced and healthy lifestyle.

We believe that we are all citizens in a global community and are committed to social responsibility.

We believe that maintaining active community partnerships enriches and benefits students, the school, and our community.

We believe that accepting challenges through risk taking prepares students to face the demands of the 21st century.

EXPECTATIONS FOR STUDENT LEARNING

Students will embrace responsibility for their education by challenging themselves to take risks.

Students will effectively analyze and synthesize information from diverse sources.

Students will be confident and effective communicators through written, verbal, digital and creative expression.

Students will exhibit mastery application of problem solving and critical thinking skills.

Students will demonstrate collaborative and adaptive capabilities.

Students will show evidence of personal, social, civic and global responsibility.

GRADUATION CREDIT REQUIREMENTS

Graduation Requirements:

Humanities	8 credits (Which includes 2 credits in the Studies in Humanities, 2 credits in American Studies, 2 credits in World Studies, ½ credit in English , ½ credit in Senior Seminar and 1 credit of Humanities elective which may include ½ credit in Information, Communication & Tech.)
Math, Science, Technology and Business	8 credits (Which includes a minimum of 3 credits of Mathematics through Algebra I, 2 credits of Science (met by IST 9 and IST10) and may include ½ credit in Information, Communication and Tech.)
B.E.S.T (Building Essential Skills for Tomorrow)	2.5 credits (Which includes a 2.5-year program of Physical Education, Health/Wellness, Career Guidance, Child Development and Nutrition)
Electives	5.5 credits (Which includes any course successfully completed and not yet used to fulfill a requirement listed above.)
Total	24 credits

As mandated by the New Hampshire State School Approval Standards, May 2005

GRADUATION NON-CREDIT REQUIREMENTS FOR ALL STUDENTS

Digital Portfolio

A Digital Portfolio will be required for all graduates. The components of this Portfolio will be determined in each of the student's required classes. For more information please visit the Bow School District's website: <http://www.bownet.org/ict/DigiPorts.htm>

Senior Project/Presentation

All students must successfully complete and present a senior project in order to graduate from Bow High School. Students will prepare for their Senior Project in their required Senior Seminar. The purpose of the Senior Project/Exhibition is to provide seniors with the opportunity to explore and experience interdisciplinary topics of their choice, demonstrating knowledge and public presentation skills.

Community Service

20 hours minimum; pro-rated at 5 hours per year for those students not attending Bow High School for 4 years.

Career Exploration Requirements

20 hours minimum; pro-rated at 5 hours per year for those students not attending Bow High School for 4 years.

Intersession

Intersession is a unique three-day learning experience, which allows students the opportunity to explore interests outside of the confines of the school environment. Activities are planned, organized and supervised by BHS staff. Intersession participation is recorded on the transcript as SP-Successful participation, EP-Excused or exempt participation or NP-Non participation.

POST SECONDARY ADMISSIONS

If you are considering post-secondary education the following matrix can be used as a guide. Admissions standards vary from school to school so it is important for you to research the schools that you are interested in pursuing. Our school also uses Naviance, a web based program, that lists all colleges and their recommendations and requirements. Please go to *Family Connection to Naviance* on our Bow High School web page.

Admission to post-secondary schools is based on several criteria including strength of program, grades, honors options, SAT/ACT scores, co-curricular participation and recommendations.

Admissions Table

Type of College	English	Social Studies	Math	Science	Foreign Language
2 Year College	4	3	3	2+	-
4 Year College/University (Example: UNH)	4	3+	4	4	4
Most Selective College/University (Example: Tufts)	4+	3+	4+	4+	4+

HONORS OPTION

Our intention at Bow High School is to challenge each student academically. Some students, however, may wish to challenge themselves beyond the general curriculum requirements. For these students, Bow High School offers an honors option. Students may choose to complete an honors option in any course not designated Advanced Placement. Upon successful completion of honors option requirements, students will receive an honors designation on their academic records. For more information please visit the Bow High School Website at www.bownet.org

ADD/DROP POLICY

Students may add or drop courses with parent permission during the first five days of each semester. After the five day add/drop period a dropped course will be noted on the transcript as a WP (withdraw pass) or WF (withdraw fail).

STANDARDIZED TESTING PROGRAMS

All Freshmen and Sophomores will take the Accuplacer in the spring. This computerized assessment identifies areas of need as well as academic achievement in mathematics and writing.

All Sophomores and Juniors have the opportunity to take the Preliminary Scholastic Aptitude Test in October. The **PSAT** is an assessment in the areas of critical reading, math and writing and serves as a predictor of performance on the **SAT**. The PSAT score is also used for scholarships with NHSQT.

All Juniors will take the New England Common Assessment Program (NECAP) test in October and May.

All students have the opportunity to take the Scholastic Aptitude Test (SAT) and/or the ACT test. The **SAT Reasoning** test is a measure of critical reading, mathematical reasoning and writing skills. The **SAT Subject** tests are one hour long subject specific tests. Some colleges will require that you take two or three **SAT Subject** exams as well as the **SAT Reasoning** exam. Register on line at www.collegeboard.com. The **ACT** test is a set of four multiple-choice tests which cover English, mathematics, reading, and science achievement. The **ACT** also offers an optional Writing Test. Register on line at www.actstudent.org. **SAT and ACT** tests are usually taken in the spring of your junior year and the fall of your senior year.

Advanced Placement tests are administered to students that have completed an Advanced Placement course. These tests are administered in May during the following weeks: May 7 - 11, 2012 and May 14 - 18, 2012.

Spring 2012 SAT Test Dates

January 28, 2012 - SAT I and SAT II	May 5, 2012- SAT I and SAT II*
March 10, 2012 - SAT I only	June 2, 2012 - SAT I and SAT II*

Anticipated SAT Test Dates for the 2012-2103 School Year

October 6, 2012 - SAT I and SAT II*	March 9, 2013 - SAT I only
November 3, 2012 - SAT I and SAT II*	May 4, 2013- SAT I and SAT II*
December 1, 2012 - SAT I and SAT II	June 1, 2013 - SAT I and SAT II*
January 26, 2013 - SAT I and SAT II	

The College Board has recognized Bow High School as a testing center. Students will be able to take the SAT exams at Bow High School during the months of May, June, October, and November. If you would like to use Bow High School as your test center, enter the **Bow test center #: 30-108 when registering with the College Board.*

PSAT Test Dates

Wednesday, October 17, 2012 and Saturday, October 20, 2012 (*BHS Test Date*)

Spring 2012 ACT Test Dates

February 11, 2012	*April 14, 2012	June 9, 2012
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Anticipated ACT Test Dates for the 2012-2013 School Year

*September 8, 2012	December 8, 2012	*April 13, 2013
October 27, 2012	February 9, 2013	June 8, 2013

Students will be able to take the ACT exams at Bow High School during the month of September and April. If you would like to use BHS as your test center, enter the **Bow test center #: 217460 when registering with the ACT.*

NH STATE SCHOLARS INITIATIVE

Bow High School joined the NH State Scholars' Initiative in 2010, a state program designed to encourage and recognize students who achieve a rigorous course of study while in high school. New Hampshire has joined other states in the State Scholars Initiative. This is a Federal grant-funded program developed and administered through a partnership between the New Hampshire College and University Council, the New Hampshire Forum on the Future, the New Hampshire Department of Education and the National State Scholars Initiative Network.

If students have completed the specific courses needed, they will be recognized as a New Hampshire Scholar by the State in May of their senior year. We will recognize these seniors on Senior Awards Night with a gold medalion which will be worn at graduation. Seniors who are Pell grant eligible in the college financial aid process may also receive a higher grant due to being a state scholar. For more information about the NH Scholars program please go to www.NHscholars.org

Students must complete the following number of credits in each area in order to become a state scholar. The core course of studies at Bow High School, including Studies in the Humanities, American Studies and World Studies, covers 3 credits of English and 3 credits of social studies. Integrated Science and Technology 9 and Integrated Science and Technology 10 covers 2 of the 4 required science courses.

CORE COURSE OF STUDY	CREDITS
ENGLISH -	4
MATHEMATICS - Algebra I, Geometry, Algebra II or higher	3
SCIENCE – any 4 Bow High School science courses	4
SOCIAL STUDIES – any 3.5 credits of social studies	3.5
LANGUAGES - 2 years of the same language	2

CONCURRENT ENROLLMENT
(College Credit Opportunities)

Concurrent enrollment is an opportunity for a student to take college courses here at Bow High School and be awarded college credit. Currently we offer courses from Southern New Hampshire University (\$100.00 per course) and NHTI Concord's Community College (\$150.00 per course.) A student must express an interest in this option at the start of the course, register with the college/university, and pay the course registration fee. Then upon successful completion of the course, students are awarded college credit on a college transcript that is affiliated with the course. Once the registration period closes students will not be allowed to register for college credit. More information about registration and grades will be available from the classroom teacher.

Affiliation	College Course #	BHS Course	College Credits	Registration fee
SNHU	ECO-202	AP Macroeconomics	3	100.00
SNHU	ACC-201	Accounting	3	100.00
SNHU	OL-110	Business	3	100.00
SNHU	FIN-250	Finance I and Finance II	3	100.00
SNHU	MAT-201	AP Calculus	3	100.00
SNHU	HIS-113	AP US History	3	100.00
SNHU	HIS-114	AP US History	3	100.00
SNHU	COM-212	Public Presentation	3	100.00
SNHU	ENG-120	College Composition	3	100.00
NHTI	PLTW 101 IED	Intro. Eng. and Design	4	150.00
NHTI	PLTW 102 DE	Digital Electronics	4	150.00
NHTI	PLTW 103 POE	Principles of Eng.	4	150.00

Freshman	Sophomores	Juniors	Seniors
	Intro. Eng. and Design [NHTI 4 cr] Digital Electronics [NHTI 4 cr] Principals of Eng. [NHTI 4 cr]		
SNHU classes are not available to Freshmen.	AP Macroeconomics [SNHU 3 cr.] Accounting [SNHU 3 cr.] Business Management [SNHU 3 cr.] Finance [SNHU 3 cr.] AP Calculus [SNHU 3 cr.] AP US History [SNHU 3 cr.] Public Presentation [SNHU 3 cr.] College Composition [SNHU 3 cr.]		

ALTERNATIVE LEARNING OPTIONS

Please note that a maximum of 2 credits per school year may be obtained through ELOs, with a total of 3 credits earned toward graduation requirements at Bow High School.

EXTENDED LEARNING OPPORTUNITIES (ELOs)

Bow School Board policies IHBH and IMBC allow students to earn credit or course placement based on a student's demonstration of course competencies. Please refer to the policies which can be found on the Bow School District website for additional information pertaining to ELOs.

An Extended Learning Opportunity (ELO) is a chance for you to earn credit for educational experiences, with depth, that occur outside of the traditional classroom. It is an opportunity to learn something new in an unconventional manner. Following the ELO process you will develop a plan for your educational experience and for how you are going to demonstrate mastery of the material learned to your teacher and your community partner.

Your goal is to prove that you have mastered the competencies that you, your Highly Qualified Teacher and the ELO coordinator have agreed to in your ELO plan. A competency is a group of skills, concepts and knowledge essential to the course. Together, the course competencies are the minimum standard you must demonstrate to earn credit. The competencies are the heart of the ELO because everything from your research to your product will tie into them. You may choose to study something not offered in the Bow High School Program of Studies (**previously considered an Independent Study**) or to apply your ELO to a Bow High School class.

You may design an ELO with other students; however, each person in the group is personally responsible for his or her ELO plan and learning. The competencies may be the same or different for each member of the ELO group.

After you have your topic, you will need to get a teacher who is highly qualified (HQT) in the subject of your ELO to agree to work with you. You will enter into a formal agreement with the HQ teacher for the ELO. He/she will oversee your ELO plan, provide guidance and help, and will determine if you have met the competencies so that you can be awarded credit. This teacher, however, should not be your primary resource for the substance of the ELO. The ELO plan will include four general components: *Research, Reflection, Product & Presentation*.

Steps of the ELO Process

- A.) Sign up for an ELO on the course registration form – in February.
- B.) Meet with your Guidance counselor to determine your topic and to discuss possible HQ Teachers – in March.
- C.) Complete the ELO Program Contract, with HQT and parent signatures by May.
- D.) Meet with HQT to determine competencies and essential questions.
- E.) Make contact and sign an agreement with a community partner to work with you on your ELO.

CORRESPONDENCE COURSES

There are several online schools that offer courses for a fee that have been approved for transfer credit to Bow High School. These classes can be used for recovery credit or for advancement in a certain subject. Schools include Keystone High School and American School. Please see your guidance counselor for more information and registration materials.

VIRTUAL LEARNING

The Virtual Learning Academy Charter School is a state-funded High School. Any NH resident is allowed to take these online courses for free at anytime. To find a listing of these courses, please go to www.VLACS.org and click on course catalog. Courses can be started at any time during the calendar year. There are also 15+ dual enrollment courses available for both High School and college credit through VLACS. Students who wish to have these courses on their high school transcript must provide a VLACS official transcript to the registrar upon completion of the course.

BOW HIGH SCHOOL COURSES

B.E.S.T. COURSES (Building Essential Skills for Tomorrow)

B.E.S.T. (Building Essential Skills for Tomorrow) is an integrated health and physical education program designed to develop healthy individuals. One major focus of this program is to expose students to a variety of physical activities in hopes that they will be active for a lifetime. Listed in the course description below, are the health-related topics covered in the classroom. Students will be working to develop trust, communication skills, cooperation and team-building skills with a focus on understanding individual differences throughout their experience in these required courses. Some of the active offerings will include:

Tennis	Mt. Biking	Snowshoeing	Nordic skiing
Strength Training	Yoga	Ropes Course	Climbing Wall
Badminton	Rugby	Flag Football	Floorball
Basketball	Volleyball	Pickleball	Archery

B.E.S.T. 9

1 credit

Prerequisite: none

BEST 9 is a one-credit course in Bow High School's integrated health and physical education program (B.E.S.T.). This course develops student skills necessary to become certified through the American Red Cross in Adult, Child, and Infant CPR and First Aid. A major focus of this unit will be the prevention of disease transmission including HIV and STD's. Students will also be involved in goal setting and self-esteem building activities with our teachers and our School Assistance Counselor (SAP), and will work closely with our Guidance Department at the beginning of the school year and during course selection time.

B.E.S.T. 10

1 credit

Prerequisite: B.E.S.T. 9

BEST 10 is the second one-credit course in Bow High School's integrated health and physical education program. This course emphasizes healthy relationships and personal and social responsibility. Students study reproductive anatomy and physiology, sexually transmitted diseases, and prevention of teenage pregnancy and HIV/AIDS. Throughout the unit, students will engage in activities that recognize and promote the importance of self-respect within relationships. The drug and alcohol unit will focus on teaching students the physiology of addiction while emphasizing the dangers of adolescent experimentation. Students will engage in various initiatives, which will promote the value of having a positive self-esteem and self-concept throughout their lives. In addition, students will focus on the connections between self-worth and substance abuse in today's society. The SAP counselor will participate in instruction and activities focusing on Drug and Alcohol Awareness. The Guidance Department will work individually and with groups of students on course selection as they prepare for junior year. Students will have an opportunity to re-certify in CPR.

B.E.S.T. 11

.5 credit

Prerequisite: B.E.S.T. 10

BEST 11 is the final required half-credit course in Bow High School's integrated health and physical education program. This course emphasizes personal fitness, focusing on cardiovascular fitness, body composition, flexibility and muscular strength and endurance. Students will have the opportunity to write their own exercise plans and execute them in our Conditioning Center. Nutrition will be a major concentration in personal fitness, focusing on understanding healthy eating habits, making sensible food choices and recognizing the dangers of fad diets and supplements. The Guidance Department will work closely with the students regarding personal College/Career planning.

BEST ELECTIVES

B.E.S.T. 12

.5 or 1 credit elective

Prerequisite: B.E.S.T. 9, 10, 11

BEST 12, an elective course, is designed to allow students to further develop their existing skills and to learn new skills that will help them as they prepare to enter the next stage of their lives. BEST-12 is a balanced wellness curriculum designed to challenge the student with activities encouraging students to put their existing skills to use while applying new material presented in class.

BEST 12 will challenge students in the classroom with current topics in health-related fields. Areas of study will include human relationships, drug and alcohol awareness, stress management, lifetime fitness and other wellness topics related to student need based on their future plans. These topics may include college/job application process, meal planning and budgeting and related life skills.

Students will participate in many outdoor activities including team building through physical challenges, new games, lifetime and team sports fitness activities, as well as experiences from the new Challenge Course. The focus of these activities will be to continue to develop and refine the students' existing skills as individual and team participants to prepare them for activities they can participate in for a lifetime.

Team Sports and Society

.5 credit elective

Sports play a significant role in our school culture, and society in general. This class will explore the social and philosophical impact sports have on our lives. Current and historical events in the world of sport will be connected with societal concerns such as gender and racial equality, drug use, childhood obesity, professional salaries and mental health. In addition, students will continue to participate in a wide variety of familiar and new team sports that allow students to meet health recommendations for regular participation in physical activity.

Individual Fitness

.5 credit elective

This class will focus on individual activities and less competitive methods of maintaining and improving overall health and wellness. Areas of instruction will include healthy lifestyles, alternative medicine, stress management, disease prevention, health and fitness as we age, and weight management. Activities may include: strength training, walking/jogging, biking, yoga/Pilates, aerobics and flexibility, and individual sports such as tennis, bowling, bocce, golf.

Contemporary Issues in Health and Wellness

.5 credit elective

This semester course is designed to allow students to investigate a variety of health issues related to physical and mental wellness. Using classroom discussions, independent research, and current "best practice" techniques, students will explore stress management, health field careers, holistic healing, body image, alternative lifestyles, and societal influences and pressures. Students will have an opportunity to develop and to defend their individual philosophies on these topics.

COMPUTER AND BUSINESS APPLICATION COURSES

Courses that qualify for .5 credit Information, Communication and Technology (ICT) credit requirement are indicated with an asterisk ()*

The goal of our computer and business classes is to provide students with skills and opportunities to create solid foundations for careers in computer science and business. Finance I and II, Marketing, International Business, College-Level Accounting, Business Management-cut, Macroeconomics, AP Macroeconomics and Information Technology courses (Computer Applications, Programming, and AP Computer Science) provide a solid foundation for future business and computer science majors. Students considering a career in business or computer science are strongly recommended to explore these courses.

Most students, entering Bow High School, will have fulfilled the state requirement for basic computer literacy; therefore, the following courses will allow students to expand their knowledge beyond the basic level. Students will have the opportunity for further in-depth study of specific topics. The classes are open to all students and fulfill business and/or technology requirements.

Computer Literacy

.5 MSTB Credit

Typical Prerequisite(s): None

This course is intended for those students who have not yet completed their computer literacy requirement – the majority of students from Bow have completed this requirement at the middle school. This course will introduce students to the general structure and history of computers, the impact computers have had upon society and computer related career opportunities. Students will also have the opportunity to develop basic skills in word processing, spreadsheets, database management and desktop publishing.

Computer Applications*

.5 MSTB Credit

Typical Prerequisite(s): Computer Literacy (may have been completed in middle school).

This course will introduce students to various uses of the computer. Students will have the opportunity to work with Microsoft Office, access Internet resources that the school subscribes to, work on developing databases, spreadsheets, multimedia presentations, web sites, and photo editing.

Advanced Computer Applications*

.5 MSTB Credit

Typical Prerequisite(s): Computer Applications

Upon completion of Computer Applications, students may choose to take Advanced Computer Applications. This course will allow students to continue to develop their computer skills using a variety of applications. Emphasis will be placed on digital video, web design, and multimedia. Projects that have been designed for this course reflect best business practices.

Programming in C++*

.5 MSTB Credit

Typical Prerequisite(s): Computer Literacy (may have been completed in the middle school).

This course is designed as an introductory programming course. Students will use C++ as well as a visual programming package to design and implement computer programs. Students will develop problem solving skills that address basic programming concepts as well as an introduction to gaming.

AP Computer Science***1 MSTB Credit**

Typical Prerequisite(s): Programming in Pascal or C++

This course is designed for students interested in a career in computer science, engineering, science or math. Students will become familiar with applications of computing and use the programming language, Java, to implement computer-based solutions to problems. Because the development of computer programs to solve problems is a skill fundamental to the study of computer science, a large part of the course is built around the development of computer programs or parts of programs that correctly solve a given problem. The course also emphasizes the design issues that make programs understandable, adaptable, and, when appropriate, reusable. At the same time, the development of useful computer programs and program modules is used as a context for introducing other important concepts in computer science, including the development and analysis of algorithms, the development and use of fundamental data structures, and the study of standard algorithms and typical applications. In addition, an understanding of the basic hardware and software components of computer systems and the responsible use of these systems are integral parts of the course. This course will prepare students to take the Advanced Placement Computer Science (A) Exam in the spring.

Introduction to the Hospitality and Tourism Industry**.5 MSTB credit*****Concurrent Enrollment Option Available***

This is an introductory course providing an overview of the structure and scope of the travel/tourism and hospitality industries. This course examines the components of the tourism industry: transportation, accommodation, food and beverage, and attractions. Other topics include the history, political, social and cultural impacts tourism has on local, state and global environments. A section of the course is devoted to the State of New Hampshire Tourism environment. Students will review marketing, motivation and other forces that draw guests to the State of New Hampshire.

Interactive Virtual Environments – An Intro to Gaming***.5 MSTB credit**

This course introduces students to the underlying skills and concepts for manipulating virtual realities using a high level computer development environment. The “objects” in this world are both recognizable (e.g. dinosaur, tree, airplane) and also proper “objects” as the term is used in computer science. Students begin using an object-based environment, such as Alice or Scratch, and transition into a full object-oriented environment, such as Java, C++ or Basic. Students create interactive animations corresponding to specific objectives.

The Yearbook***.5 MSTB credit**

Typical Prerequisite(s): Computer Literacy (may have been completed in middle school)

The course is an interdisciplinary course, which combines the study of business, computer applications, English and design. Students will design and produce the school’s yearbook using a web based program. Students will also work on advertising, sales, layout, photography and design. The experience will culminate in the production and distribution of the school yearbook.

International Business**.5 MSTB Credit**

The economy in which businesses, large and small, now operate is a global one. This course introduces the world of international business. It provides a macro view of international business and an explanation of the international business environment. This course focuses on the broad cultural, economic, and political aspects of domestic and foreign environments and their effect on the international operations of business firms. Topics include the principles, patterns, and potential of international trade and investments; and the development of management strategies for international businesses. Students will prepare an evolving exporting plan for an international country as they proceed throughout the semester.

Business
Concurrent Enrollment Option Available

.5 MSTB Credit

Typical Prerequisite(s): None

This course introduces basic business functions such as ownership and management. Students will examine trends and directions in business, be introduced to the concepts of corporate social responsibility and ethical business decision-making, and gain an international perspective of business. A broad background in business practices, principles and economic concepts is discussed.

Marketing

.5 MSTB Credit

Typical Prerequisite(s): None

This semester course examines the basic functions involved in the exchange process designed to meet customers' needs. Such functions include marketing research, target market selection, product design, promotional and advertising activities, distribution, theories of consumer behavior and pricing.

Personal Finance and Investing*
Concurrent Enrollment Option Available

.5 MSTB Credit

Typical Prerequisite(s): Computer Literacy (may have been completed in middle school)

This course will focus on educating students to become financially responsible. Students will learn how to manage money, maintain a budget, keep a checkbook, build a personal financial plan, and invest in stocks, mutual funds and bonds. Students will also learn how to complete tax forms. Successful completion of this course (earning an 83 or better) , along with Finance II, will qualify for 3 college credits through Southern New Hampshire University.

Finance II*
Concurrent Enrollment Option Available

.5 MSTB Credit

Typical Prerequisite(s): Personal Finance and Investing

This course will build upon the concepts covered in Personal Finance and Investing. More emphasis will be given to investing strategies. Students will study the stock market in depth and learn to analyze different stocks using Value Line statistics. Students will use present value and future value calculations to map out a retirement plan for themselves. Successful completion of this course (earning an 83 or better) , along with Finance I, will qualify for 3 college credits through Southern New Hampshire University.

College-Level Accounting
Concurrent Enrollment Option Available

1 MSTB Credit

Prerequisite(s): Integrated Algebra I

Accounting stresses skills and techniques of keeping neat and accurate financial records for management decisions and orients students to advanced study in business administration. Accounting teaches students to understand the language of business; to analyze business transactions; to maintain journals and ledgers; to take a trial balance; to make adjusting, closing, and reversing entries; and to prepare financial reports of the business at the end of a fiscal period. During this process the student will also develop an understanding of the composition of basic asset, liability, equity, and income determining accounts, in accordance with current accounting concepts and principles. Students will be introduced to the fundamental mechanics of accounting for proprietorships, partnerships, and corporations.

As part of an articulation agreement with Southern New Hampshire University, students will be using college level textbook and supplementary materials. Students will take the Southern New Hampshire University Final Exam in

Accounting at the end of the year. If successful on this exam, the student will earn 3 transferable college credits in Accounting in addition to the high school credit. Accounting may be used to satisfy state math credit requirements.

AP Macroeconomics

1 MSTB/Humanities credit

Concurrent Enrollment Option Available

The purpose of an AP course in macroeconomics is to give students a thorough understanding of the principles of economics that apply to an economic system as a whole. Such a course places particular emphasis on the study of national income and price-level determination, and also develops students' familiarity with economic performance measures, the financial sector, stabilization policies, economic growth, and international economics.

Macroeconomics

.5 MSTB/Humanities credit

This course places particular emphasis on the study of national income and price-level determination, and also develops students' familiarity with economic performance measures, the financial sector, stabilization policies, economic growth, and international economics.

Internship Class

.5 elective credit

The Internship Course is a semester-long elective which offers an experiential learning opportunity in an approved business, government agency, or non-profit organization. Students will meet with the School to Career Coordinator to identify an area of interest and appropriate placement. The student, School to Career Coordinator, and work-site supervisor meet to identify learning goals and objectives designed to provide a thorough understanding of the profession. The class will meet on Mondays at BHS then students will be at their placements for the other 2 periods per week. The in-class experience will include topics such as interviewing skills, resume writing, workplace safety, dining etiquette, workplace ethics, and dressing for success. Weekly journals, a final paper and presentation will be part of the course requirements. The course may be repeated for credit.

FAMILY AND CONSUMER SCIENCE COURSES

Family and consumer science courses will provide students with the opportunity to attain life skills. The courses are meant to develop skills that students may use throughout their lives.

Introduction to Foods

.5 elective credit

This course is designed to have students learn about basic techniques in preparing food. Emphasis will be placed upon the value of knowing how to purchase, store, prepare and serve foods. Students will acquire skills that may be used in preparing foods on a daily basis. The student will be required to purchase the Betty Crocker cookbook as a classroom tool.

Creative Cooking

.5 elective credit

Prerequisite(s): Introduction to Foods

Students will take a creative artistic approach to cooking. The course will provide students with the opportunity to research, prepare and sample various types of food from around the world. Students will prepare both gourmet meals and ethnic cuisine. Skills related to cake decorating, the presentation of food and setting up buffets will also be explored. The student will have the opportunity to create and run a catering business.

Interior Design**.5 elective credit**

This course will provide students with the opportunity to explore various architectural styles and principles of interior decorating. Students will plan homes, floor plans and develop a portfolio for the interior of the home. Students will also have the opportunity to complete projects relating to home accessories.

Child Development**.5 Humanities/elective credit**

This course will provide students with the opportunity to study human development. Students will examine the various stages of personal growth and development psychologically. A focus will be placed on the development of human beings from children to adolescence. The importance of an individual's self-esteem and relationships with others will be stressed.

HUMANITIES COURSES

Courses that qualify for .5 credit Information, Communication and Technology (ICT) credit requirement are indicated with an asterisk () Concurrent Enrollment classes are also noted within the course description.*

GRADUATION REQUIREMENTS

Current: 8 credits in the Humanities-6 credits from Studies in the Humanities, American Studies, World Studies combined. ½ credit in English, ½ credit of Senior Seminar and 1 credit of any Humanities electives.

Humanities may be defined as the study of the liberal arts: literature, art, music, history, government and philosophy. Humanities courses will be taught through an interdisciplinary approach, often involving teams of two or more teachers from different academic backgrounds. At Bow High School, students will be exposed to the humanities through a variety of required and elective courses. All Humanities elective courses are offered on a rotating schedule, based on student interest.

It is highly recommended that students take a writing elective at some point during their time at BHS. Additionally, it is recommended that students take an additional Social Studies class, in order to qualify for the New Hampshire Scholars Program.

Studies in the Humanities**2 Humanities credits*****Required Grade 9***

Studies in the Humanities is a team-taught course which will introduce students to the study of the humanities. It will focus on integrating the study of the various genres of English, the writing process, history, government, economics, art and music. For example, students will examine major historic themes, such as Revolution and Romanticism, through literature, art and music.

American Studies**2 Humanities credits*****Required Grade 10***

American Studies is a team-taught, integrated course in which students will examine the history, literature, art and music of the United States from the 20th Century to the present. Students will have an opportunity to learn about the story of America's cultural heritage and the principles of our government and economic systems. A focus on culture will allow students to connect literary and artistic trends to the historical events of a given time. Emphasis will be placed upon developing critical thinking, writing, reading, and presentation skills. Students will also be required to demonstrate their understanding of American Studies through a process involving an exhibition of student work, and through the Sophomore Project.

World Studies
Required Grade 11

2 Humanities credits

World Studies is a team-taught, integrated course, which will explore the history, geography, politics, economics, literature, art and music of various countries around the globe. For example, students will study countries such as China through an examination of their culture: through the geography, literature, poetry, music and art of the region. Emphasis will be placed upon world “hot” spots, past and present. Students will continue to develop presentation skills, both in writing and orally. A major research project will be a component of the course. In addition, all students will participate in a World Fair and an integrated arts unit.

Senior Seminar
Required Grade 12

.5 English/Humanities credit

Senior Seminar is a semester-length course, which will allow students to reflect upon the school’s Core Values in developing a senior project. Students will be asked to develop and present a proposal, complete research, and have involvement with the community as part of their projects. The project will culminate in an exhibition, and written reflection paper. Students will also examine contemporary issues and gain insight into problems facing individuals in society today. Daily and weekly newspapers and news magazines will serve as the “textbooks” for the course.

HUMANITIES ELECTIVE COURSES

AP English Literature and Composition

1 English/Humanities credit

This course will focus on an in-depth study of Western literature, ranging from ancient to modern. Students will write weekly analytical essays in various forms of discourse based upon the significant themes encountered in their reading. The course objectives are geared to prepare students for the Advanced Placement Test in Literature and Composition, which is given by the College Board in the spring.

AP English Language and Composition

1 English/Humanities credit

This course will focus on developing students’ analytical and writing skills. Students will analyze the rhetoric of prose passages and will write weekly essays of varying lengths in different rhetorical modes. The objectives of the class are geared to prepare students for the Advanced Placement Test in English Language and Composition given by the College Board in the spring.

Creative Writing

.5 English/Humanities credit

This course will provide students with the opportunity to develop a style and voice that reflects their vision. The course will promote an individualized approach to writing poetry, short stories, and short plays, and include both fiction and non-fiction writing. The benefits of writing circle, peer editing and conferencing will be explored. Students will also have an opportunity to expand their knowledge of writing by reading other authors’ works.

Online Creative Writing

.5 English/Humanities credit

This course will provide students with the opportunity to develop a style and voice that reflects their vision. The course will promote an individualized approach to writing poetry, short stories, and short plays, and include both fiction and non-fiction writing. The course will be run through Moodle and students will be expected to participate in online writing circle, peer editing and conferencing. Students will also have an opportunity to expand their

knowledge of writing by reading other authors' works. Periodic class meetings and in-person conferences will be scheduled.

College Composition

.5 English/Humanities credit

Concurrent Enrollment Option Available

This course is the equivalent of a writing 101 course, required of first year students at most colleges, and may be taken for college credit. (See Concurrent Enrollment section for details). Students will be asked to complete a wide variety of assignments designed to explore different forms of writing: personal, college essay, analytical, definition, compare/contrast, and persuasive. Students will also work on devices of language and elements of grammar, structure and organization, report writing, analytical, personal narratives, descriptive, process analysis, and self-reflective writing. Students will be asked to conference, share their papers with others, edit and revise pieces of writing.

Elements of Writing

.5 English/Humanities credit

This course is designed to improve and enhance students' writing. A variety of writing skills and styles will be explored. These may include: working on devices of language and elements of grammar, structure and organization, report writing, analytical, personal narratives, descriptive, process analysis, and self reflective writing. Students will be asked to conference, share their papers with others, edit and revise pieces of writing.

Journalism*

.5 English/Humanities credit

This course will provide students with the opportunity to produce the school's newspaper. Students will learn the skills of reporting, editing and layout and design using PageMaker. Emphasis will also be placed upon writing news, feature stories and editorials for the paper. The experience will culminate in the production and distribution of the school newspaper.

Poetry Workshop

.5 English/Humanities credit

This course will include both the study of poetry and the writing of poetry. Students will be introduced to a wide variety of poems from various cultures and time periods. Upon further examination of works, students will begin to write and critique their own poetic works.

Public Presentation

.5 English/Humanities credit

Concurrent Enrollment Option Available

Prerequisite for concurrent enrollment: College Composition

This course will provide students with the opportunity to improve their oral communication skills. Students will be asked to prepare a variety of speeches (informative, persuasive, extemporaneous, impromptu and special occasion). Students will also be exposed to debate and develop listening skills in this course.

Writing and Art

.5 English/Humanities credit

Through mixed media and writing, students will explore who they are, how they relate to the world around them, and how their sense of self changes through time. Students will explore who they are through a combination of narrative writing, creative writing, poetry, journaling, photography, mixed media, drawing, painting, music, and theatre arts.

Film Critique**.5 English/Humanities credit**

This course will explore the genre of film. Students will view both American and foreign films, from the silent era to the present. Students will be asked to analyze the films based on a variety of perspectives. Critical evaluations, both orally and in writing, will be required on a frequent basis. Recommended for juniors and seniors.

Film Making***.5 English/Humanities credit**

This course is designed for students who are interested in filmmaking. Students will work on the four phases of film making including: development, pre-production, production and post-production. Work on video production will involve writing scripts, shooting segments, editing and viewing film. Films produced will include several genres. Not only will students produce films, they will view and analyze film footage as well.

Theater Workshop**.5 English/Humanities credit**

This course will provide students with a hands-on approach to the study of theater. Students will begin with an introduction to acting techniques and advance to directing procedures and responsibilities. Set design and construction, costumes, make-up, sound effects and lighting will also be an integral part of the course. The semester will conclude with a theater production.

Shakespeare**.5 English/Humanities credit**

This course will study not only Shakespeare's plays but also the world in which he lived and worked. We will be reading four plays: *Hamlet*, *Much Ado About Nothing*, *The Merchant of Venice*, and *The Tempest*. Learn about what Shakespeare and his contemporaries wore, ate, listened to, and did in their free time. Pretty soon you'll be quoting the Bard of Avon like a real pro!

Popular Fiction**.5 English/Humanities credit**

This course will be a study of popular fiction through the years. The books will include bestsellers from today and decades past. Students will explore a variety of literary sub-genres, such as fantasy and mystery, to identify the themes and conventions used to reach a broad audience.

Science Fiction/Fantasy Literature**.5 English/Humanities credit**

From Middle Earth to Tatooine, the speculative genres of science fiction and fantasy have captivated audiences with their imaginative worlds, complex characters, compelling scenarios, and thoughtful connections and allegories to our current world. Within this course, students will explore the imagination, science and story telling of the popular science fiction and fantasy genres and their sub-genres. Studies will focus on the archetypes and themes as well as the creation of story, characters, and setting providing students with the opportunity to develop and compose their own short science fiction and fantasy writings.

AP United States History**1 Humanities credit*****Concurrent Enrollment Option Available***

This course will focus on United States history from the period of colonization to the present. Students will examine the cultural, economic, philosophical, political and social development of the United States. Students will also be required to complete written and oral presentations. The course objectives are geared to prepare students for the Advanced Placement Test in United States History given by the College Board in the spring.

AP European History**1 Humanities credit**

This course will focus on European history from the period of the Renaissance to the present. Students will examine the artistic, musical, literary and intellectual growth of Europe through this period. The course objectives are geared to prepare students for the Advanced Placement Test in European History given by the College Board in the spring.

20th Century European History**.5 Humanities credit**

This course will focus on major historic developments of the 20th Century Europe. Students will examine distinct issues of the 20th Century, including: imperialism, World War I and World War II. Students will explore the complexities of the century through an examination of major works of literature, art and music of the time period.

Psychology**.5 Humanities credit**

This course will examine and study human behavior. Students will explore the topics of personality development and theory, psychological research and experimentation, altered states of consciousness and abnormal psychology.

AP Psychology**1 Humanities credit**

The AP Psychology course is designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. They also learn about the ethics and methods psychologists use in their science and practice. The course objectives are geared to prepare students for the Advanced Placement Test in Psychology given by the College Board in the spring.

Child Development**.5 Humanities / .5 FACS credit**

This course will provide students with the opportunity to study human development. Students will examine the various stages of personal growth and development psychologically. A focus will be placed on the development of human beings from children to adolescence. The importance of an individual's self-esteem and relationships with others will be stressed.

Sociology**.5 Humanities credit**

This course will examine the study of human social behavior. Students will explore the origins, organization, institutions and development of human society. Changes in society and how these changes affect the behavior patterns and thinking of individuals and groups in society will also be explored.

Law and Ethics**.5 Humanities credit**

This course will introduce students to the U.S. legal system, focusing primarily on the areas of criminal and juvenile law. Students will learn about laws that affect them. The distinction between criminal and civil law will be posed, along with the examination of felonies and misdemeanors, search and seizure rights and other constitutional and ethical issues. Students will participate in mock trials and meet with individuals involved with the field of law.

World Religions**.5 Humanities credit**

This class will explore the spiritual approaches of people around the world. The histories, practices, beliefs, and values of world religions will be the focus. Students will gain a clear understanding of how religion has informed the lives of people around the globe. Five major areas will be covered: Judaism, Christianity, Islam, Hinduism, and Buddhism. Texts include the Torah, Bible, Qur'an, Bhagavad-Gita, and Dhammapada. There will be several guest speakers representing the Faiths we study and students will have the opportunity to ask questions and discuss the religion.

Ancient Greece and Rome**.5 Humanities credit**

The class will explore the foundation and influence of the Greek and Roman civilization by examining the history, mythology, geography, culture, philosophy and art/architecture of the Greek world. The class will continue by examining ancient Rome, its growth, strength, and collapse. Readings will include *The Odyssey* and *The Aeneid*.

Contemporary Issues**.5 Humanities credit**

Ripped from the headlines.... International, national, state and local items will be examined with the intent of interpreting their significance. The course will attempt to place current events within a historical perspective and suggest future implications of these events. The news, in all mediums, will be our text.

Founding a Nation**.5 Humanities credit**

This course will explore the political, economic and social life of the United States post-Revolutionary War up until the Civil War (1880-1850) Students will learn about and analyze the formation of the nation, social classes and influences, conflicts within and with other nations, regional differences and expanding borders.

Civil War**.5 Humanities credit**

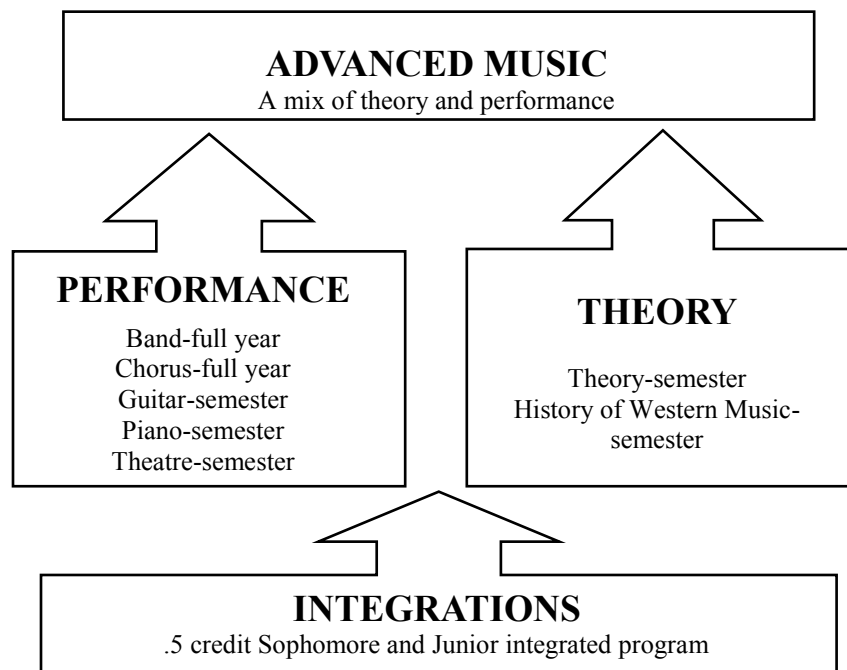
This course presents the major events and battles related to the War Between the States in chronological order. In addition, this course will set forth the major political issues and philosophies that set the stage for the Civil War, sustained the conflict, and continue to linger on to this day in the hearts and minds of most Americans. A list of the major figures related to the Civil War will be presented to highlight each notable person's contributions to the struggle itself and to the overall development of our nation. Finally, the ending of the war and the Reconstruction period will be studied, as will the lasting impact of the conflict on America.

THE VISUAL AND PERFORMING ART COURSES

Students will study the visual and performing arts as part of their required interdisciplinary humanities courses. Along with these courses, students have the opportunity to explore specific areas of the visual and performing arts through the courses listed below. These courses are open to all interested students and fulfill general elective requirements.

PERFORMING ARTS PATHWAY

Serious music students will be encouraged to take a mix of performance and theory classes, leading up to Advanced Music. They will also be encouraged to actively participate in the music co-curricular program. Co-curricular options include Orchestra, Select Choir, Jazz Band, String Ensemble, a Capella, Musical, and Fall Play.



THE PERFORMING ART COURSES

Concert Band

1 Humanities credit

This course is open to all students who play a woodwind, brass, or percussion instrument. Students will work to develop and refine their technical and musical skills, and will play a wide variety of band literature. Performances include formal concerts, football games, band shows, parades, and individual and group festivals. Attendance is required at all scheduled performances. Certain concert dress/uniform accessories, such as black shoes, tux shirt and bow tie, or black dress will be needed. Students must be members of concert band or concert choir if they wish to audition for jazz or classical all-state music festivals.

Concert Choir**1 Humanities credit**

This course will provide students with the opportunity to explore vocal music through participation in a choral group. This class is open to any student who is interested in performing quality choral music, and students are not required to have prior singing experience in order to join this ensemble. Choral music of all eras and styles will be performed and students will work on developing their technical and musical skills. Students will participate in formal concerts, individual competitions, festivals, and community events. Attendance is required at all scheduled performances. Certain concert dress will be needed, such as black shoes, tux shirt and bow tie, or black dress will be needed. Students must be members of concert choir or concert band if they wish to audition for jazz or classical all-state music festivals.

Music Theory***.5 Humanities credit**

This course is intended for those students interested in developing an understanding of the fundamentals of music. Students will study key signatures, scales, intervals, chord construction, musical analysis, rhythmic and melodic dictation, and composition.

Piano**.5 Humanities credit**

This course is open to students interested in learning to play the piano, as well as students who already study the piano and are interested in improving their piano skills. Students will work at their own pace to develop proficiency on the piano and will be evaluated according to individual growth. Various musical styles will be performed and students will be introduced to note and rhythm reading and basic music theory. Piano keyboards will be provided for student use.

Guitar**.5 Humanities credit**

This course is open to all students who are interested in learning to play the guitar. The course is designed for beginners. Students will learn how to read notes, rhythms, and guitar tablature, build chords, and tune and maintain their instrument. Various styles of music will be explored from folk to rock. Students are required to have their own acoustic guitar for this course.

History of Western Music**.5 Humanities credit**

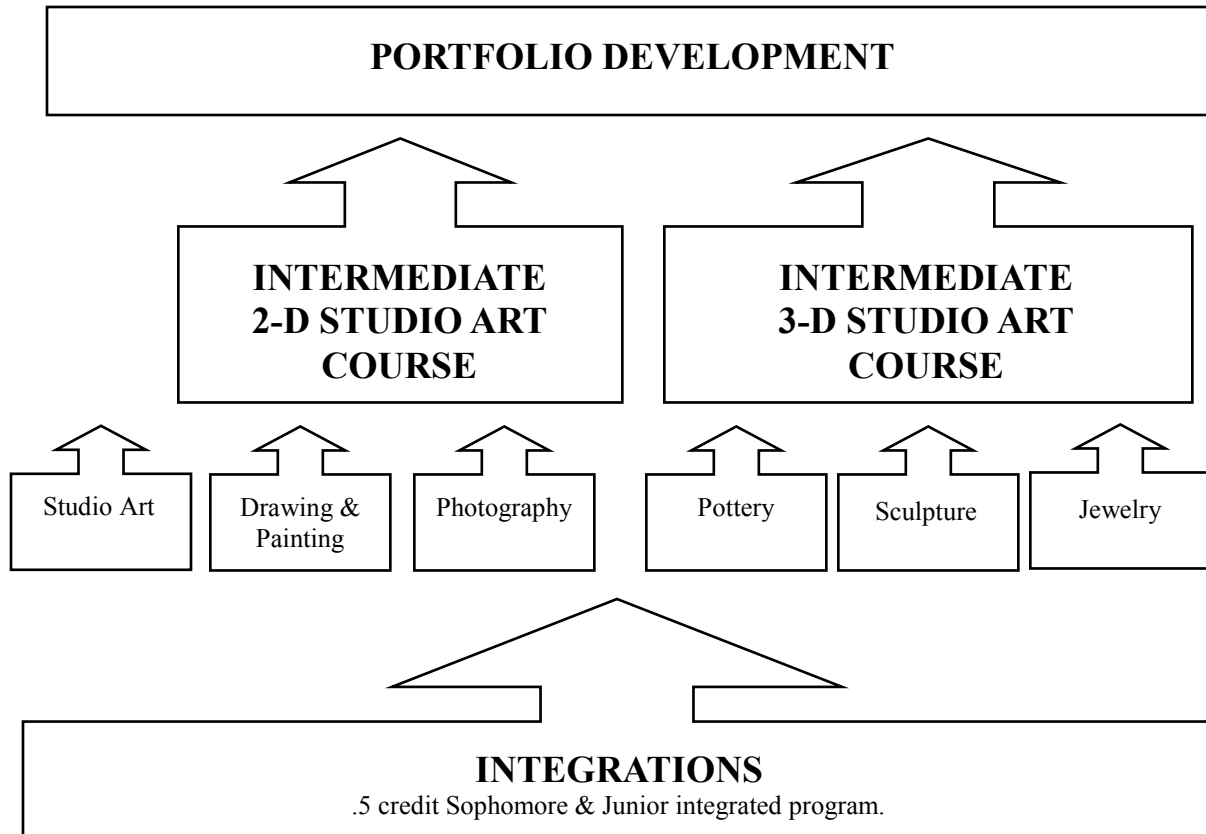
This course is designed for students who are interested in learning about the history of Western music. The class will include listening and music analysis, as well as a study of composers and the culture and time in which they composed. The course will focus primarily on European and American music from the medieval era through the 20th century.

Advanced Music**.5 Humanities credit**

This course is designed for students who have completed a semester of music theory and who have experience playing an instrument or singing in choir. Students will continue their study of the fundamentals of music, including more advanced music theory, ear training, and composition. Topics studied will include music analysis and music history. The class will also involve performance on the student's primary instrument or voice part.

VISUAL ARTS PATHWAY

For students with an interest in the arts, who may consider studying art in college, the development of a portfolio may be necessary. The following sequence of high school courses is recommended for portfolio development.



Introductory courses allow students to concentrate in a specific medium, allowing for more intensive progress and learning. Studio Art is designed for the student who does not seek a particular strand and wants a balanced, more general experience in art. The Studio Art student will be exposed to a wide range of introductory experiences in several mediums.

VISUAL ART COURSES

Studio Art*

.5 Humanities credit

Be smart...take art! Can't draw? Good! Come and learn. Try your hand at drawing, painting, photography, printmaking and computer graphics. Learn various techniques in each section of this introductory class. This course will focus on the elements of art including: line, form, color, texture, shape, value and space. Students will be introduced to many studio techniques using a wide variety of media including watercolor, pen and ink, pastel, paper, paint and clay. Student artwork will be displayed throughout the semester. This course is an excellent choice for students planning to take art classes such as photography, pottery, jewelry and drawing and painting.

Drawing and Painting**.5 Humanities credit**

This course will introduce students to a variety of drawing and painting techniques, which may include using pencil, charcoal, ink, conte, pastel, colored pencils, watercolor, and tempura. Along with drawing techniques, students will be exposed to many types of recognized artistic styles, both ancient and contemporary. Research will be an integral part of the course with an emphasis on the elements of and principals of art and the study of compositional development through design technique. Students will be required to keep a sketchbook and portfolio.

Jewelry**.5 Humanities credit**

This course will allow students to design and create jewelry using paper, clay and mixed metals. The setting of semi-precious stones will also be explored. Emphasis will be on design, use and care of tools, techniques and processes. Techniques such as soldering, annealing, cutting, forming, forging and polishing will be taught. Students will be asked to exhibit their work throughout the course. Students will be responsible for purchasing their own sterling and gems.

Photography***.5 Humanities credit**

This course will introduce students to the visual methods and technical skills needed to create, develop and print black and white and digital photographs. Students will learn how to use single lens-reflex cameras, darkroom equipment and chemicals and explore Photoshop. Emphasis will be placed on compositional development and the elements and principals of art including, line, shape, color, texture, balance and unity. Students will be asked to evaluate and display their own work. Students will need their own digital camera, 35 mm single-reflex camera and will be responsible for purchasing paper and films.

Pottery**.5 Humanities credit**

This course will introduce students to three-dimensional ceramic design using various clay bodies. Students will develop skills in the hand building of clay such as pinch, coil, and slab pots. Students will be introduced to the potter's wheel and will learn to throw a simple cylinder. Both functional and decorative projects will be assigned. Designing the surface of pots using glazing and decorative projects will also be taught using both high and low fire glazes. Students will be expected to exhibit and evaluate their own work.

Sculpture**.5 Humanities credit**

This class is a blast! Like to build stuff? Did you enjoy Lego's as a kid? Maybe this class is for you! Explore the world of three-dimensional design. Students will work with many types of media including wood, clay, paper, metals and plastics. Focus will be on design elements as they relate to building various art objects. Students will be asked to evaluate and display their work. A minimal lab fee may apply.

Intermediate 2-D Studio Art**.5 Humanities credit**

This course is designed to let students continue with skill development in a medium after completion of the introductory course. Students can concentrate in **Drawing, Painting or Photography**. Advanced methods and techniques will be taught. Emphasis will be placed on compositional development and the elements and principals of art. This class often requires studio time outside of regularly scheduled class time. Students will be expected to evaluate and display their work. Students may repeat this course in a different medium.

Intermediate 3-D Studio Art**.5 Humanities credit**

This course is designed to let students continue with skill development in a medium after completion of the introductory course. Students can concentrate in **Sculpture or Pottery**. Advanced techniques will be explored. Emphasis will be placed on compositional development and the elements and principals of art. This class often requires studio time outside of regularly scheduled class time. Students will be expected to evaluate and display their work. Students may repeat this course in a different medium.

Portfolio Development**.5 Humanities credit**

This is a culminating course designed to allow students to build an art portfolio. Successful students will need to be self-motivated and directed. Additional studio time will be necessary to fully develop an art school portfolio.

TV Broadcasting***.5 MSTB/Humanities credit**

This course will focus on the technical and performance aspects of television broadcasting. Camera operation, set design, script writing, research, and editing will be a focus. In addition to daily assignments, students will be responsible for the production of the BHS Morning News program including program development and production. Students enrolling in this course should be prepared to develop both highly technical, as well as creative skills. The course will be comprehensive including; creative writing assignments, as well as research based on a journalistic approach.

WORLD LANGUAGE COURSES

All students at Bow High School are encouraged to study one or more world languages. It is our belief that studying a language allows students to become more aware of the world. The goal of each world language is to promote enthusiasm for the language and culture represented, and to aid in the development of communication skills. Opportunities may exist for students to travel to other nations to practice their language skills and gain further understanding of other cultures. Most colleges recommend 3 or more years of a consecutive language. More competitive schools look for 4 or 5 years.

French I**1 credit elective**

This course will introduce students to the French language and culture. Students will learn basic vocabulary and grammatical concepts and concentrate on the six language skills: listening, speaking, reading, writing, performing and observing. Using French in the classroom will be an integral part of this course. The cultural emphasis will be on French-speaking Canada.

French II**1 credit elective**

This course will aid students in the further development of the six language skills beyond the basic level. Greater emphasis will be placed upon oral fluency; students will now be required to use French to communicate in the classroom. Students will continue to learn about French culture through short stories, readings and activities.

French III**1 credit elective**

This course will engage students in the development of all aspects of language proficiency, including more sophisticated structures and vocabulary. Assessments combine traditional testing with thematic projects related to French

culture. In addition to life-skills based content, French geography, history, politics and culture are integrated through literature, film and art.

French IV

1 credit elective

This course will aid students in the further development of language proficiency. Students will be expected to use only French in the classroom and in written assignments. Grammatical concepts, vocabulary and culture will be explored through literature. The practice of all six skills will continue.

French V

1 credit elective

This course will continue the study of French literature, and culture. Improved written expression will be encouraged through research projects, essays and journals. Students will continue to improve upon the six language skills. Reading selections will rotate every other year and will cover authors such as Sartre, Corneille, Anouilh, Duras, Moliere, La Fontaine, Baudelaire, Rimbaud, and Camus.

Spanish I

1 credit elective

This course will introduce students to Spanish language and culture. Students will learn basic vocabulary and grammatical concepts and concentrate on the six language skills: listening, speaking, reading, writing, performing and observing. Hispanic history, music and art will also be a focus of the course.

Spanish II

1 credit elective

This course will aid students in the development of the six language skills beyond the basic level. Greater emphasis will be placed upon oral fluency; students will now be required to use Spanish to communicate in the classroom. Students will continue to learn about Hispanic culture through short stories, advanced readings, films and activities.

Spanish III

1 credit elective

This course will allow students to review concepts previously mastered and learn new, more sophisticated grammatical structures and vocabulary. Students will also be involved with an in-depth study of the geography, history and culture of Spain and/or Latin America. Language proficiency will be emphasized and writing skills will continue to be developed.

Spanish IV

1 credit elective

This course will aid students in the further development of language proficiency. Students will be expected to speak Spanish daily. Grammatical concepts, vocabulary and culture will be explored through the reading of various genres and styles of Hispanic literature. The practice of all six skills will continue.

Spanish V

1 credit elective

This course will provide students with an opportunity for more in-depth study of literature. Greater emphasis will be placed on contemporary culture. There will also be further development of the finer points of grammar through reading, writing, listening and speaking.

Chinese I**1 credit elective**

This course will introduce students to the Chinese language, writing, and culture. Students will learn about real life and daily usage of the official language spoken in China, and basic writing techniques. Students will also learn basic vocabulary and grammatical concepts and concentrate on the six language skills including: listening, speaking, reading, writing, performing and observing. Students will also learn some basic aspects of Chinese culture and cooking.

Chinese II**1 credit elective**

This course will further aid in the development of the six language skills beyond the basic level. Greater emphasis will be placed upon oral and written fluency. Students will continue to learn about Chinese culture through short stories, readings and activities.

Chinese III**1 credit elective**

This course will build on the six language skills developed in Chinese I and II, with additional emphasis on oral and written fluency. Students will continue to study the geography, history and culture of China.

Latin I**1 credit elective**

Latin I is designed to give students an introduction to both the Latin language and culture. Students learn about Roman mythology, history, and daily life through their studies of the adventures of a senator's family on their journey to Rome. They also will study word etymologies and learn how Latin grammar is the basis for modern Romance languages.

Latin II**1 credit elective**

Latin II is designed to further the student's knowledge of Latin language and culture. Students continue to learn about the Romans through their readings, research, class discussions, videos, and activities. The textbook, [Ecce Romani](#), is a continuation of the series begun in Latin I.

MATH, SCIENCE, AND TECHNOLOGY COURSES

Students at Bow High School are required to successfully complete a total of 8 credits in the areas of math, science, and technology in order to graduate. Of these 8 required credits, students need at least 3 credits in math, including Algebra and 2 credits in science. Credits in technology and business may also be used to fulfill 3 of the 8 credits needed in MSTB. When planning your high school course of study, remember that colleges, universities, and employers may require or prefer more than Bow High School's minimum math (3), science (2), and technology requirements.

All math, science, and technology courses emphasize the application of specific skills and knowledge to real world situations. Acid rain, leasing vs. buying, and air bag problems are examples of real world situations which can stimulate and guide learning. Answering real world questions and solving real world problems require specific skills and knowledge in a variety of areas including language arts and social studies in addition to science, math, and technology. An individual course such as Chemistry, emphasizes the skills and knowledge specific to Chemistry AND the integration of these skills and knowledge with those of other disciplines to address real world situations.

All math, science, and technology courses are designed for students to experience required skills and knowledge through participation in sensory-rich, hands-on, minds-on activities. Students construct their own understanding from these experiences. Students also direct their own learning at times by planning and completing their own investigations. Math instruction emphasizes the use of mathematics to solve problems, communicate mathematically, and reason mathematically in real world situations. Science instruction emphasizes the use of observation and inquiry to pose and answer real world questions. Technology instruction emphasizes the design, construction, and use of materials and methods to solve real world problems.

OVERVIEW OF COURSES: MATH, SCIENCE, AND TECHNOLOGY WITH TYPICAL PREREQUISITES

Math Courses with Typical Prerequisites

Integrated Algebra I	Pre-Algebra
Integrated Geometry	Integrated Algebra I
Mathematical Modeling	Integrated Algebra I & Integrated Geometry
Integrated Algebra II	Integrated Algebra I & Integrated Geometry
Pre-Calculus	Integrated Algebra II
Calculus	Pre-Calculus
AP Calculus	Pre-Calculus
Probability & Statistics	Integrated Algebra I, Integrated Geometry & Integrated Algebra II
Accounting	Integrated Algebra I

Science Courses with Typical Prerequisites

Integrated Science & Technology 9	None
Integrated Science & Technology 10	IST 9
Chemistry	IST 9 and IST 10, Integrated Algebra I
AP Chemistry	IST 9 and IST 10, Integrated Algebra I, Chemistry
Physics	IST 9 and IST 10, Integrated Algebra I & Integrated Geometry
AP Physics	IST 9 and IST 10, Integrated Algebra I & Integrated Geometry, Physics
AP Biology	IST 9 and IST 10, Chemistry, Integrated Algebra
Human Anatomy & Physiology	IST 9 and IST 10
Environmental Science	IST 9 and IST 10
Biotechnology I	IST 9 and IST 10
Biotechnology II	IST 9 and IST 10, Biotechnology I

Engineering Courses with Typical Prerequisites

Intro to Engineering Design	Suggested 1 st Course for PLTW
Digital Electronics	Suggested 2 nd Course for PLTW
Principles of Engineering	Suggested 3 rd Course for PLTW
Engineering Design & Development	Suggested Capstone Course for PLTW

MATH COURSE SEQUENCE EXAMPLES

The following sequences of math courses represent SOME of the many opportunities to be aware of when planning and selecting courses. They do not represent all of the available options and may not represent the “best” options for any given student.

Freshman	Sophomore	Junior	Senior
Integrated Algebra I	Integrated Geometry	Integrated Algebra II	Pre-Calculus
Integrated Algebra I	Integrated Geometry	Integrated Algebra II	Accounting
Integrated Algebra I	Integrated Geometry	Mathematical Modeling	Probability & Statistics
Integrated Algebra I	Integrated Geometry	Integrated Algebra II	Probability & Statistics
Integrated Geometry	Integrated Algebra II	Pre-Calculus	Calculus
Integrated Geometry	Integrated Algebra II	Pre-Calculus	AP Calculus
Integrated Geometry	Integrated Algebra II	Pre-Calculus	Probability & Statistics
Integrated Geometry	Integrated Algebra II	Pre-Calculus	Accounting
Integrated Geometry	Integrated Algebra II	Pre-Calculus	Mathematical Modeling
Integrated Geometry	Integrated Algebra II	Mathematical Modeling	Pre-Calculus

MATH COURSES

Foundations of Math I, II, III, IV

1 MSTB Credit each

A math class offered to students with special recommendation from classroom teacher. This series of four courses meets the Algebra I state requirement. This series of courses will provide students with opportunities to:

- Demonstrate an understanding of the relative magnitude of real numbers [M(N&O)-10-2]
- Accurately solve problems [M(N&O)-10-4]
- Identify, extend and generalize a variety of patterns [M(F&A)-10-2]
- Demonstrate conceptual understanding of algebraic expressions [M(F&A)-10-3]
- Demonstrate conceptual understanding of equality [M(F&A)-10-4]
- Use a variety of mental computation strategies to solve problems...and to determine the reasonableness of Answers [M(N&O)-HS-6]
- Make estimates [M(N&O)-HS-7]
- Students will communicate their understanding of mathematics [M(CCR)-HS-1]

Integrated Algebra I

1 MSTB Credit

Typical Prerequisite(s): Pre-Algebra

At Bow High School, Integrated Algebra I is the first of a sequence of three courses that will cover the curriculum of a traditional Algebra I, Geometry, and Algebra II sequence using a non-traditional approach. The philosophy of the sequence is that algebraic thought, geometric thought, and data analysis are naturally connected. Successful completion of the three-year sequence will prepare students to pursue Pre-Calculus. Throughout the course of this three year sequence, students will explore linear, absolute value, probability topics, and exponential relationships through data collection and analysis. In Integrated Algebra I, the emphasis will be on linear relationships. In addition, students will learn techniques for solving the types of equations listed above both graphically and algebraically (excluding exponential, which will be covered in Integrated Algebra II). Also, students will become proficient in traditional symbol manipulation which is characteristic of algebra. In addition, *problem solving strategies and communication* of mathematics in both written and oral form, and the appropriate use of *technology* such as graphing calculators and computer programs are strands which will permeate the entire course.

Integrated Geometry

1 MSTB Credit

Typical Prerequisite(s): Integrated Algebra I

At Bow High School, Integrated Geometry is the second of a sequence of three courses that will cover the curriculum of a traditional Algebra I, Geometry, and Algebra II sequence using a non-traditional approach. The philosophy of the sequence is that algebraic thought, geometric thought, and data analysis are naturally connected. Successful completion of the three-year sequence will prepare students to pursue Pre-Calculus. Integrated Geometry is a course in which students will study the relationships among shapes and solids with the primary focus on Euclidean geometry and coordinate geometry. Topics include perimeter, area, volume, probability topics, ratio and proportion, similarity, congruence, trigonometry, circles, properties of two and three dimensional shapes, linear algebra, matrices, and logical reasoning. In addition, *problem solving strategies, probability, and communication* of mathematics in both written and oral form, and the appropriate use of *technology* such as graphing calculators and Geometer's Sketchpad are strands which will permeate the entire course.

Mathematical Modeling

1 MSTB Credit

Suggested Prerequisites: Integrated Algebra I and Integrated Geometry

The focus of this class will be to apply a problem solving strategy that will allow students to translate a problem in

the real world into a well formulated mathematical problem. The emphasis will be on collecting, analyzing, understanding and interpreting data to formulate solutions. For each problem presented, students will:

- determine what data is needed to solve the problem
- create or use the appropriate tool to gather data
- formulate a mathematical model of the data collected
- analyze the mathematical model
- interpret the results
- predict the behavior of the original system
- modify the model if necessary
- report out a possible solution to the problem

The course is designed to gather data through hands-on experiments, surveys, interviews, data mining, etc and then have students develop a viable mathematical model.

Integrated Algebra II

1 MSTB Credit

Typical Prerequisite(s): Integrated Algebra I and Integrated Geometry

At Bow High School, Integrated Algebra II is the third of a sequence of three courses that will cover the curriculum of a traditional Algebra I, Geometry, and Algebra II sequence using a non-traditional approach. The philosophy of the sequence is that algebraic thought, geometric thought, and data analysis are naturally connected. Successful completion of the three-year sequence will prepare students to pursue Pre-Calculus. Integrated Algebra II is a course in which students will explore linear, absolute value, polynomial, logarithmic, exponential, and rational relationships and functions through data collection and analysis. Students will create techniques for solving and graphing the functions listed above. The focus will be on non-linear relationships. In addition, the number system will be extended to include complex numbers, which are needed to solve quadratic equations. As time permits, students will be introduced to the discrete mathematical topics of sequences & series and probability & statistics. In addition, *problem solving*, *data analysis*, *communication* of mathematics in both written and oral form, and the appropriate use of *technology* such as spreadsheets and the TI-83 graphing calculator are strands which will permeate the entire course.

Pre-Calculus

1 MSTB Credit

Typical Prerequisite(s): Integrated Algebra II

Students will extend, integrate, and apply Algebra II and Geometry related skills and concepts in preparation for Calculus. Topics include: conic sections, composition of functions & inverse of a function, higher order inequalities, exponential & logarithmic function, the nature of graphs (transformations, asymptotes, symmetry, etc.). Trigonometric topics include: right triangle trigonometry, circular functions, graphs of the periodic functions, laws of sines and cosines, solving trigonometric equations, inverse trigonometric functions, identities, polar coordinates. In addition, *problem solving*, *data analysis*, *communication* of mathematics in both written and oral form, and the appropriate use of *technology* are strands, which will permeate the entire course. The Bow High School mathematics department encourages pre-calculus students to purchase their own TI-83 graphing calculator, or an equivalent thereof.

Calculus

1 MSTB Credit

Typical Prerequisite(s): Pre-Calculus

In this introductory calculus course, we will build conceptual understanding of topics by combining graphical, numerical, and algebraic viewpoints. This course follows the AP Calculus curriculum, but at an independent pace which will afford students a chance for in-depth understanding without the time constraint of AP. This strategy will permeate all areas of study so that students will gain a deep and useful understanding of the topics of differential and integral calculus. The spectrum of applications will be broad, ranging from the life & social sciences to business & economics to science & engineering. Topics will include limits and continuity; derivatives of algebraic, trigonometric, and transcendental functions; applications of the first and second derivative; integrals of algebraic,

trigonometric, and transcendental functions; applications of integrals; and separable differential equations. This course will successfully prepare students to take first-semester college calculus. Students must own a TI-83 or TI-84 calculator.

Advanced Placement Calculus

1 MSTB Credit

Typical Prerequisite(s): Pre-Calculus

In this course we will build conceptual understanding of topics by combining graphical, numerical, and algebraic viewpoints. This strategy will permeate all areas of study so that you will gain a deep and useful understanding of the topics of differential and integral calculus. The spectrum of applications will be broad, ranging from the life & social sciences to business & economics to science & engineering. Topics will include limits and continuity; derivatives of algebraic, trigonometric, and transcendental functions; applications of the first and second derivative; integrals of algebraic, trigonometric, and transcendental functions; applications of integrals; and separable differential equations. Students are expected to successfully conquer the Calculus AB AP exam in May. Students must own a TI-83, TI-85, or TI-86 calculator.

Probability and Statistics

1 MSTB Credit

Typical Prerequisite(s): Integrated Algebra I, Integrated Geometry & Integrated Algebra II

“What will this course be about?”, you ask. “I’ll tell you”, I reply. Delving into the world of probability and statistics should help you analyze card games like spades or bridge, verify the odds on winning the lottery, determine the likelihood of certain genetic mutations that lead to diseases, understand why certain codes are “breakable” but hard to break, explain how pollsters know that 73% (+/-3% margin of error) of all Americans feel that Curious George would make an excellent senator, determine whether or not a scientific hypothesis is valid, decide if a 3 point rise on nationwide SAT scores means anything, understand what the “bell curve” is all about, show that the odds of getting 2 heads in 4 coin flips really are different than the odds of getting 1 head in 2 coin flips, understand how semiconductor industries conduct quality control tests without testing every chip and wafer, be skeptical about statements like “the average salary of all people living in Piscataway is \$27,354, understand better a field of mathematics in which a 6th grader can pose “simple” problems that math majors might find surprisingly difficult to resolve. That’s what this course is about. Students are encouraged to own a TI-83 graphing calculator.

ENGINEERING AT BOW HIGH SCHOOL **Applying Math, Science, and Technology to Solve Problems**

In all engineering courses, students learn and math, science, and technology to solve problems. Engineering students at Bow experience college level coursework with an option to earn course credit from the Rochester Institute of Technology RIT. The courses are from a national high school engineering program, Project Lead The Way PLTW. More information about PLTW can be found at www.pltw.org Students do **NOT** need to commit to the entire engineering program of courses. Typical students are interested in engineering or in using some of the most

advanced technology in high schools to solve problems with a hands-on approach. Students work independently or in small groups at their own pace with limited whole-group instruction. Those who successfully complete activities before classmates, do not need to wait and are challenged to complete additional in depth work including honors options.

ENGINEERING COURSE SEQUENCES

The engineering courses include 3 foundation courses and the capstone course. The foundation courses are highly recommended in the order below beginning in the freshman or sophomore year to comprehensively prepare students for college engineering. The capstone course allows students to apply skills and knowledge of all the other engineering courses and pre-requisites to solve a problem of their own choosing. It should be taken during the senior year.

	Freshman	Sophomore	Junior	Senior
Foundation Courses	Introduction to Engineering Design IED	Digital Electronics DE	Principles of Engineering POE	
Capstone Course				Engineering Design and Development EDD

ENGINEERING COURSES

Courses that qualify for the required .5 credit Information, Technology and Communication credit requirement are indicated with an asterisk ()*

Introduction to Engineering Design (IED)* Foundation Course 1 MSTB Credit

Recommended Sequence: Course 1
 Typical Prerequisite(s): Completion or Current Enrollment in Integrated Algebra I.
 IED is a problem solving course. A variety of problems are solved using an engineering design process to guide thinking and actions from defining a problem to a final solution. Hand sketching, three-dimensional solid modeling software, and dimensioned drawings are used to document the design process. The course computer aided design CAD software is AutoDesk Inventor. Topics include: engineering design process, sketching and visualization, CAD 3-D part modeling, CAD assembly modeling, CAD model documentation, CAD model analysis and verification, student portfolio development, presentation, production, and marketing.

Digital Electronics (DE)* Foundation Course 1 MSTB Credit

Recommended Sequence: Course 2
 Typical Prerequisite(s): Algebra I and completion or current enrollment in Integrated Geometry
 DE is a problem solving course. Students learn digital electronics by simulating and building circuits. Students apply digital electronics to simulate and build circuits that do what students design them to do. The digital logic learned by students is the basis of all digital devices including: computers, calculators, etc. The circuit simulation software is an industry standard. Topics include: electricity and electronics, gates and circuit design, Boolean algebra and circuit design, sequential logic and circuit design, counters and shift registers, binary addition and subtraction, digital logic specifications and families, programmable logic devices, and microcontrollers.

Principles of Engineering (POE)***Foundation Course****1 MSTB Credit**

Recommended Sequence: Course 3

Typical Prerequisite(s): Completion or Current Enrollment in Integrated Algebra II

POE helps students understand the fields of engineering/engineering technology. Mechanical engineering is emphasized throughout. Exploring various technology systems and manufacturing processes helps students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change. Topics include: definition and types of engineering, communication and documentation, design process, engineering systems, statics and strength of materials, materials and materials testing in engineering, engineering for reliability, and an introduction to dynamics and kinematics.

Engineering Design and Development (EDD)***Capstone Course****1 MSTB Credit**

Recommended Sequence: Senior Year

Typical Prerequisite(s): Completion or Current Enrollment in Pre-Calculus

EDD is an engineering research and development course in which students work in teams to research, design, construct and test a solution to an open-ended engineering problem of their own choosing. Students apply skills and knowledge from previous engineering and pre-requisite courses. They must maintain an engineering notebook, assemble a project portfolio, and complete a variety of reports and presentations.

SCIENCE COURSES**SCIENCE COURSE SEQUENCE EXAMPLES**

Science course sequence: Students in their freshman year are required to take Integrated Science and Technology 9. Students in their sophomore year are required to take Integrated Science and Technology 10. All science courses are lab based courses and college preparatory. Students in their Junior and Senior year should make selections from the following Junior and Senior year course choices:

Freshman	Sophomore	Junior	Senior
Integrated Science & Technology 9	Integrated Science & Technology 10	Chemistry	AP Chemistry AP Biology
		Physics	Physics AP Physics
		Anatomy & Physiology	Anatomy & Physiology
		Environmental Science	Environmental Science
		Biotechnology I	Biotechnology I
		Biotechnology II	Biotechnology II

Integrated Science and Technology 9 and Integrated Science and Technology 10

These courses are designed to provide students with an in-depth knowledge in the areas of biology, chemistry, physics, and earth/space science, and to help students develop the skills necessary for success in upper level science courses. Taken in sequence, these two courses are equivalent to a year of college prep Biology and a year of college prep Physical Science and meet New Hampshire state requirements for science.

Integrated Science and Technology 9

1 MSTB Credit

Typical Prerequisite(s): None

Topics include: The Nature of Science, (including Observation, Inference, Experimental Design, The Scientific Method, and Scientific Models); Types of Energy, (including Mechanical, Electromagnetic, Chemical, Nuclear, and Heat); the Laws of Thermodynamics; Matter, (including: Classes, Properties, Structure, and Interactions); Global Cycles of Matter, which include: Cycles of Matter and the Flow of Energy in Living and Non-Living systems, (including Carbon cycle, Nitrogen cycle, Water cycle, Photosynthesis and Cellular Respiration); and Ecological Interactions, (including trophic levels and ecosystems). There is an emphasis on the appropriate use of and mastery of technology. Chemical bonding, ecology, cells, earth and space science and organisms are also studied.

Integrated Science and Technology 10

1 MSTB Credit

Typical Prerequisite(s): Integrated Science and Technology 9

Topics include: Introduction to Physics, (including Newton's 3 Laws of Motion, Quantifying Mechanical Energy, Accurate and Precise recording of measured observations, and Kinematics). Genetics and Genetic Engineering; Principles of evolution; Cellular Processes; and Causes of Disease are also studied.

Chemistry

1 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10, Integrated Algebra I

This course will enable students to review, extend, and apply chemistry related skills and knowledge. Topics include: properties of matter, molecules, atoms, ions, energy, energy transformations, types of reactions, stoichiometry, acids and bases, gas behavior, and an introduction to organic chemistry. The course is a balance of theoretical work, laboratory skills, and scientific inquiry.

Advanced Placement Chemistry

1 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10, Chemistry, Integrated Algebra II, Pre-Calculus or taken concurrently

Students in this course will develop and apply advanced chemistry related skills and knowledge with preparation for the Advanced Placement Test in Chemistry. Topics include: properties of matter, molecules, atoms, ions, energy, energy transformations, heat, temperature, entropy, kinetics and equilibrium. *This course follows the National Advanced Placement Curriculum which is equivalent to college inorganic chemistry.

Physics

1 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10, Integrated Algebra and Integrated Geometry

In this course, students will review, extend, and apply Physics related skills and knowledge. Topics include: energy and energy transformations, kinetic and potential energy changes, electrical forces and fields, laws of motion, friction, and forces influencing motion over long distances (gravity etc.), properties of waves, light, sound, relationship among heat, temperature, and entropy, kinetic theory, and heat transfer. Students interested in physics and/or a physics related career would be most thoroughly prepared by completing Physics as a junior and Advanced

Placement Physics as a senior.

Advanced Placement Physics

1 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10, Integrated Algebra I and II, Integrated Geometry, Physics

This course will allow students to develop and apply advanced physics related skills and knowledge with preparation for the Advanced Placement Test in Physics. Topics include: energy and energy transformations, kinetic and potential energy changes, electrical forces and fields, laws of motion, friction, and forces influencing motion over long distances (gravity etc.), properties of waves, light, sound, relationship among heat, temperature, and entropy, kinetic theory, and heat transfer. Students interested in physics and/or a physics related career would be most thoroughly prepared by completing Physics as a junior and Advanced Placement Physics as a senior.

Human Anatomy and Physiology

1 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10

Students in this course will develop and apply skills and knowledge related to the human body. Topics and systems include: Lexicon (the language of A&P), Cell Membrane/Regulation, Integumentary, Skeletal, Muscular, Nervous & Endocrine, Circulatory & Respiratory, Blood & Immunity Systems, Metabolism, and (time permitting), Reproduction and Development. The course examines how the body works to maintain homeostasis as well as malfunctions that may cause changes or problems in normal functioning. The structures, functions, interactions, and regulation of human body systems are examined. Topics will be explored through a variety of methods, including: modeling, dissection, lecture, and animations.

Advanced Placement Biology

1 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10, Chemistry, Integrated Algebra I and II, Integrated Geometry

This course will assist students in developing and applying advanced biology related skills and knowledge with preparation for the Advanced Placement Test in Biology. Topics include: the chemistry of living things, the dynamics of cells and cellular processes, the cycle of energy through biological systems, genetic diversity and evolution, principles of ecology including the interaction and diversity of organisms, populations and the environment. A strong emphasis is placed on laboratory experiences which provides practical application of topics explored.

Environmental Science

.5 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10

Students will use the basic concepts of ecology, case studies, and local field research to develop an understanding of complex global environmental issues. Students will also explore their own value systems regarding the environment and land use decision-making. Specific topics may include: recycling, environmental ecology, alternative energy, sustainability, and eutrophication. Environmental readings and writing will be required.

Biotechnology I

.5 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10

This course will focus on the fundamentals of biotechnology. Central dogma for D.N.A. will be the basis for this lab centered course. Students will learn safety, media preparation and cultivation of bacteria. Laboratory experience will lead to a pure culture, identification of bacteria(s) and selection of an appropriate chemotherapy to treat the identified bacteria(s). Students will also learn protocols for transformation.

Biotechnology II

.5 MSTB Credit

Typical Prerequisite(s): IST 9, IST 10, Biotechnology I

Students will use bacteria to produce plasmid copies which will then be used to create market-ready kits for D.N.A. fingerprinting labs. This will include writing SOP's, batch records, upstream and down stream methods. Purification of product and quality control will also be explored. PCR and ELISA techniques will be introduced. This course is designed to provide students with a biotechnology manufacturing experience.

CAREER & TECHNICAL EDUCATION (Concord Regional Technical Center)

Career & Technical Education course offerings:

Year One

Automotive Technology I
Construction Technology I
Cosmetology I
*Criminal Justice: Criminology/Criminal Procedure
Culinary Arts I
**Fire Science I
Graphic Arts and Digital Communications I
Health Science & Technology I
***Information Technology
 VEX Robotics
 Visual Basic Programming
Teacher Preparation I (formerly Exploring Teaching I)

Year Two

Automotive Technology II
Construction Technology II
Cosmetology II
*Criminal Justice: Criminology/Criminal Law
Culinary Arts II
**Fire Science II
Graphic Arts and Digital Communications II
Health Science & Technology II
***Information Technology
 Computer Repair
 Networking for Home and Small Business
Teacher Preparation II (formerly Exploring Teaching II)

***OFFERED IN A TWO-YEAR CTE SEQUENCE; STUDENTS CAN START IN EITHER YEAR: IN 2012-2013 STUDENTS WILL STUDY CRIMINOLOGY AND CRIMINAL PROCEDURE; 2013-2014 STUDENTS WILL STUDY CRIMINOLOGY AND CRIMINAL LAW. CTE COMPLETERS ARE EXPECTED TO FINISH BOTH YEARS AND ARE GIVEN PREFERENCE FOR ADMISSION.**

****NEW PROGRAM PROPOSED FOR 2012-13; FIRE SCIENCE II NOT OFFERED UNTIL 2013-2014.**

*****OFFERED IN A TWO-YEAR CTE SEQUENCE; STUDENTS CAN START AT ANY SEMESTER. IN 2012-13 STUDENTS CAN SIGN UP FOR PROGRAMMING OR ROBOTICS OR BOTH; 2013-14 STUDENTS CAN SIGN UP FOR COMPUTER REPAIR OR NETWORKING OR BOTH. CTE COMPLETERS ARE EXPECTED TO FINISH ALL FOUR SEMESTERS AND ARE GIVEN PREFERENCE FOR ADMISSION.**

Many of the Concord Regional Technical Center programs offer a dual enrollment option. Dual enrollment is the optional opportunity for students to earn college credits while in high school. One such program is the NH Community College System's *Project Running Start*. With Running Start, a relationship is formalized between one of our programs and a particular community college course. Once established, students pay \$150 (financial aid is available) at the start of our course and, upon satisfactory completion, earn college credit, as well as high school credit. This course is listed on a college transcript, which students receive in addition to their "regular" high school transcript. In most cases, the college course expectations are fully integrated into the class and no additional work is expected. In addition to *Project Running Start*, we have additional dual enrollment relationships with other colleges that work in a similar fashion. We strongly urge every student to participate.

All relationships are re-established on an annual basis and are not guaranteed until the start of the school year.

Present dual enrollment relationships include:

Automotive Technology: *Automotive III · Introduction to Automotive · State Inspection* (Project Running Start)
Cosmetology: Cosmetology students do not earn dual enrollment credit due to the structure of post-secondary Cosmetology Programs; but, upon successful completion of a competency exam (taken before starting a post-secondary program), students from our program are credited approximately 300 of the 1,500 hours required to earn their NH State Cosmetology License. Most post-secondary Cosmetology Schools embrace this opportunity.
Construction Technology: *Introduction to Hand and Power Tool Safety* (Dual Enrollment: Central Maine Community College) · *Credit towards Lab Time @ Manchester Community College*
Criminal Justice: *Introduction to Criminal Justice · Criminology* (Project Running Start)
Culinary Arts: *Sanitation and Safety · Culinary Fundamentals* (Project Running Start)
Teacher Preparation: *Introduction to Education* (Dual Enrollment: Southern NH University)
Graphic Arts and Digital Communication: *Introduction to Photoshop · Electronic Publications I* (Project Running Start)
Health Science and Technology: *Introduction to Exercise Science · Medical Terminology* (Project Running Start)
Information Technology: *IT Essentials: Hardware & Software · Visual Basic.NET* (Project Running Start)

To prepare students for success, our entire organization focuses its energies upon helping students to develop and improve both their hard skills (technical skills) and soft skills (personal and interpersonal skills). We take pride in establishing performance targets that are valued by industry and higher education. The CRTC specifically defines and measures the following soft skills for every student: collaboration; conduct and attitude; work readiness; feedback and improvement; and work ethic.

Demonstrating the best of these skills is emphasized and expected of all students. Many of our students earn the opportunity to complete an internship or job shadow experience, where possessing effective soft skills is a non-negotiable requirement, given that students will be interacting with valued customers, clients, and employees. Students who succeed at the CRTC understand these expectations and strive for feedback and improvement at all times.

AUTOMOTIVE TECHNOLOGY I

Full-Year

2 Credits/Year

SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

This course covers the fundamentals of the automobile and the internal combustion engine. A laboratory program provides students a “hands-on” experience using their own engines. It is recommended that obtain a used “salvage” engine (cost is approximately \$200; financial aid and/or payment plans are available) before entering the program. Students attain skills at using a variety of industry-standard tools as they disassemble and reassemble the engine. Students learn proper lab and shop safety techniques. Other areas of learning include: cooling, starting, charging, fuel, oil and ignition systems. Selected repair work will be done as it relates to lab experiences. Also covered will be basic fuel-injected systems, electrical systems, and on-board computers. After completing the Auto Technology I Program, the student will know all the parts of an internal combustion engine, the procedure for service and replacement of engine parts, timing procedures, basic electrical functions, how to read micrometers to take vital measurements, and basic engine-testing methods.

AUTOMOTIVE TECHNOLOGY II

Full-Year

2 Credits/Year

SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

This course emphasizes engine diagnosis, emission controls, front end alignment, brake service, electronic diagnostic equipment, and all phases of automotive repair and maintenance. Standard transmissions and transaxles will be covered, along with differential gears relating to automotive drivelines. Students participate in a shop environment where they will perform automotive repairs on vehicles scheduled in the facility. After com-

pleting the Auto Technology II program, the student will have acquired all the basic skills required to start working in a position as an entry level automotive technician. Students who demonstrate proficiency at the core competency will be prepared to be successful to enter a post-secondary school's Automotive Technology Program. All Automotive II students are required to participate in an internship involving shadowing a technician at a local dealership.

CONSTRUCTION TECHNOLOGY I **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

This course is designed to teach basic carpentry skills employed in residential home construction and, to some degree, commercial construction. In this program, students develop and sharpen safe construction skills while building a home or other structure, stick-built or modular. Learning experiences include house-framing (wood and metal), roofing, siding, sheet-rocking, and trimming. An introduction to blueprint reading, plumbing, heating, insulating, and residential wiring is also included. Students entering this program must be 16 years of age by the start of classes.

Students will develop competencies which include: measuring to within 1/16"; safely using hand and power tools; installing floor joists, studs, rafters, (installing wall & roof sheathing); laying roof shingles; applying siding; hanging drywall; and applying exterior trim. Experiences include further development in all aspects of home construction. Students completing this program will demonstrate competencies in working safely, job-seeking and job retention skills, leadership ability, framing deck systems, laying out rafter/truss systems, erecting walls and partitions, finishing wallboard, installing windows and doors, installing cabinets, and applying various finish materials.

CONSTRUCTION TECHNOLOGY II **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Dual Enrollment college credit-bearing course (approved on an annual basis with Central Maine Community College)

This course is designed to build on the basic carpentry skills acquired in Construction Technology I. In addition, students will sharpen their skills in aspects of carpentry work including: siding application, exteriors and interior trim, stair construction and kitchen cabinet and countertop application. Students will also learn "Green Building" techniques and its impact on the building industry. Students will participate in OSHA training and receive a ten-hour OSHA card. Students will become more involved with estimating materials, pricing for specific projects and employee/employer relationships. Students will participate in onsite construction jobs in the Greater Concord Area. Students completing this program will demonstrate competencies in working safely, job-seeking and job retention skills, leadership ability, framing deck systems, laying out rafter/truss systems, erecting walls and partitions, finishing wallboard, installing windows and doors, installing cabinets, and applying various finish materials.

COSMETOLOGY I **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

Cosmetology and Barbering are major components of a multi-billion dollar industry. Cosmetology is the art and science of beautifying hair, skin, and nails. Our program provides the opportunity to explore the variety of careers in this large and diverse field of study. The employment opportunities range from working behind the chair in a hair salon or barbershop to being a stylist on a major film production, or becoming a platform artist on stage. The possibilities are endless.

In Cosmetology I students are exposed to a blend of classroom instruction and hands-on learning experiences using a human hair mannequin in a simulated salon environment. Students learn a variety of hairstyling techniques, such as shampooing and scalp massage; nail design, and proper sanitation. Students will need to purchase an Internship License, and it is recommended they purchase a personal tools/supplies kit (cost is ap-

proximately \$100); financial aid and/or payment plans are available).

COSMETOLOGY II **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

In Cosmetology II students will continue learning and mastering their skills from the previous year, as well as cultivating new skills in the areas of manicures, pedicures, facials, waxing, hair design, and makeup. In addition, students will be exposed to the business side of the cosmetology industry and salon management. During the second year, students will have the opportunity to work directly with customers in the salon and job-shadow professional cosmetologists. Upon successful completion of this two-year program and the State competency exam, students will be able to transfer their hours to a post-secondary school. It is recommended that Second-year students purchase additional tools and supplies (cost is approximately \$50; financial aid and/or payment plans are available).

CRIMINAL JUSTICE (CRIMINOLOGY AND CRIMINAL PROCEDURE) **Full-Year** **2Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 days/Week

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

PLEASE NOTE: CRIMINAL JUSTICE IS OFFERED IN A TWO-YEAR CTE SEQUENCE; STUDENTS CAN START IN EITHER YEAR: IN 2012-2013 STUDENTS WILL STUDY CRIMINOLOGY AND CRIMINAL PROCEDURE; 2013-2014 STUDENTS WILL STUDY CRIMINOLOGY AND CRIMINAL LAW. CTE COMPLETERS ARE EXPECTED TO FINISH BOTH YEARS AND ARE GIVEN PREFERENCE FOR ADMISSION.

The Criminal Justice course is designed to provide the student with an overall understanding of the Criminal Justice system, to include: law enforcement, the court system, juvenile justice, and the corrections system. Students learn the history and theory of criminology and the historical origins and development of criminal law, as well as the constitutional issues. Students will have contact with professionals from law enforcement, the court system, juvenile justice, and corrections. In addition to classroom work, students will receive practical experience through crime scene investigation, role-plays, mock trials, hiring boards, background investigations, and field trips to local criminal justice agencies and correctional facilities.

CULINARY ARTS I **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

This course is designed to educate students to meet the ever-increasing demands of the food service industry. Culinary Arts I provides realistic hands-on experience in the principals of working in and operating a kitchen/dining room through the operation of our own Crimson Café restaurant. Areas of instruction covered in the first year of the program are: safety and sanitation, use and care of the equipment, recipe terminology, measurements and equivalents, and customer service techniques. The course also covers quantity preparation techniques for pantry station, short-order station, stock, soup, and sauce station, vegetable station and bakery station. Food service computer experiences are incorporated throughout the year. There is a fee of approximately \$75 to cover the recommended uniform(s) and appropriate shoes (financial aid and/or payment plans are available).

CULINARY ARTS II **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

In the second year of the program, students will gain advanced training in food service skills with an emphasis on management skills. Culinary Arts II provides the opportunity to obtain knowledge and experience needed to meet the requirements for entry into post-secondary education courses or jobs within the food service industry. The course reemphasizes safety procedures and introduces menu design and nutrition; food service math skills; record keeping; purchasing and receiving; quantity and cost controls; poultry, meats, fish and international cuisines. The second year students undertake the management responsibilities of kitchen supervisor, dining room supervisor, storeroom supervisor, menu planner and buyer. Extensive use of computers and research are incorporated into the class.

Students in Culinary Arts II receive instruction in the Servsafe Food Safety Sanitation course, sponsored by National Restaurant Association. Students have the option to take a certified Servsafe test and receive a Nationally recognized certification from National Restaurant Association Education Foundation.

FIRE SCIENCE I **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

Students in our Fire Science Program will have the opportunity to earn their Firefighter I and EMT Certificates. The program will be offered in partnership with the Concord Fire Department, the State Fire Academy, and other regional town fire departments. Instruction will be offered by certified Fire Department Staff and will take place at local fire stations and at the State Academy. Students seeking to enroll must be physically able to perform requirements associated with Firefighter I Certificate and must have medical permission. There is a small fee to purchase recommended uniform (shirts). Students are expected to have proper footwear also. The application process for this course involves an interview and a meeting.

FIRE SCIENCE II – *OFFERED IN 2013/2014* **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

Fire Science II will be a continuation of the Fire Science I course. Fire Science II will **NOT** be offered until 2013-2014.

GRAPHIC ARTS AND DIGITAL COMMUNICATION I* **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

This course is a broad-based curriculum designed to include a range of activities associated with the graphics arts industry. All projects will be industry standard and relevant. In the first portion of the course, students learn basic graphic design skills using the software applications found in Adobe Creative Suites. These operations will include learning and mastering: composition, graphic design principles, digital photography, and typography. Students will learn how to scan original artwork to create files in different formats. In addition to print media, students will also learn 2D Animation and website design in the first year. Major software used in this course includes Adobe Flash, Adobe Photoshop, Adobe InDesign, Adobe Illustrator, WordPress and Adobe Dreamweaver. The student should be prepared to work individually as well as within groups to produce clear and effective communication. Students will search and identify career opportunities in the graphic arts field as well as engage in portfolio preparation.

GRAPHIC ARTS AND DIGITAL COMMUNICATION II* **Full-Year** **2 Credits/Year**
SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

Students will continue to develop skills that lay the foundation for producing print-ready and web-ready com-

munications, including: graphic design principles, storyboards, web development, shared project management skills, such as interviewing and project scheduling, peer review, and redesign. Students will also learn about silk-screening and produce a t-shirt of their own design. Project activities focus on further developing effective communications that can be deployed either in print or on the web. Students develop a variety of graphical images, a web portfolio, and a client website. The key skills emphasized in this semester are: “soft” skills, such as interviewing and responding to feedback; designing a website for clients; problem-solving that helps support multiple perspectives; reflection about the design process; and effective communication.

During the second portion of this course, students learn introductory career and communication skills in digital video production. Students work to develop four key skill areas: project management and collaboration, design, research and communication, and professional video production using video tools. Students will edit and add effects to their videos. Students also have an opportunity to develop the technical skills and knowledge necessary to obtain entry level employment in the graphic arts industry, as well as be prepared for post secondary training. Students will continue portfolio development begun in Graphic Arts I. During the second year of the program, students will participate in school-based projects as well as job shadows in the community.

HEALTH SCIENCE & TECHNOLOGY I

Full-Year

2 Credits/Year

SCHEDULED TIME: 90-minute classes, 5 Days/Week

Health Science I covers all competencies associated with CHS Health II. Students who successfully complete Health Science I are exempt from Health II.

Students in this course will learn about job opportunities in the health profession. Students explore career options through research, self-assessment and guest speakers in a variety of healthcare professions. There is a strong academic emphasis in the following areas: Anatomy and Physiology, Medical Terminology, Infection Control, Safety and Blood Borne Pathogen training. Students will have hands-on experiences with medical equipment in the classroom. Classroom activities will include lectures, discussions, poster/PowerPoint presentations and research projects. Anatomy labs include some dissection, competitive games and audiovisual learning related to diagnosis, treatment and prevention of disease. Students will be able to perform vision screenings, take vital signs (blood pressure, temperature, pulse and respirations), and demonstrate gown-and-gloving technique and proper use of body mechanics. Students successfully completing Health Science and Technology I will demonstrate competencies in accordance with National Health Care Skills Standards. Students will become certified in CPR for the Professional Rescuer, First Aid & Automated External Defibrillation.

HOSA (Health Occupations Students of America) is an integral part of the program. Through HOSA, students develop leadership and teambuilding skills. It encourages both civic and social responsibility. Students involved with HOSA activities can become more involved with the State and National levels and attend the annual Leadership Conventions.

This program has an attendance policy and promotes responsibility, maturity, communication skills, and professionalism. Students considering any career in the health care field—such as physician, nurse, physical therapist, dental hygienist, veterinarian, or pharmacist—would greatly benefit from this course.

HEALTH SCIENCE & TECHNOLOGY II

Full-Year

2 Credits/Year

SCHEDULED TIME: 90-minute classes, 5 Days/Week (plus additional hours to do clinical experiences outside the school day to fulfill LNA/EMT Licensure)

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

Health Science & Technology II continues with the completion of studies in Anatomy and Physiology, Safety and Blood Borne Pathogen Training. Attention is focused on the development of specialized tasks and skills for individualized career goals. Students will explore, in more depth, the areas of anatomy & physiology, mental health, wellness, health care consumerism, the aging process and individualized career development. Students will continue with HOSA and participate in a monthly experience at a long-term care facility.

As part of the Health Science & Technology II course, beginning in the second semester, students may choose

to participate in the Licensed Nursing Assistant (LNA) Program or an independent study. The Emergency Medical Technician (EMT) program might also be an option. The EMT and LNA programs have an enrollment fee associated (financial aid and/or plans are available); students are also required to attend some evening and weekend clinical experiences. Upon completion of the LNA or EMT program, and passing the corresponding State license exam, the student is licensed. Students who elect an independent study will arrange a clinical experience related to their field of interest and be required to do a formal presentation to the instructor, mentor and Director of the program, as well as present a research paper.

Upon successful completion of Health Science & Technology II, students will demonstrate all competencies outlined for the program in the Standard Competency Profile and those in accordance with National Health Care Skills Standards.

The State of New Hampshire requires an annual Mantoux T.B. test and physical exam for all students entering a clinical setting during the program. This course may satisfy the graduation requirement for health.

INFORMATION TECHNOLOGY*

**Full-Year
Or Semester**

**2 Credits/Year
1 Credit/Semester**

PLEASE NOTE: INFO TECH IS OFFERED IN A TWO-YEAR CTE SEQUENCE; STUDENTS CAN START AT ANY SEMESTER. IN 2012-13 STUDENTS CAN SIGN UP FOR PROGRAMMING OR ROBOTICS OR BOTH; 2013-14 STUDENTS CAN SIGN UP FOR COMPUTER REPAIR OR NETWORKING OR BOTH. CTE COMPLETERS ARE EXPECTED TO FINISH ALL FOUR SEMESTERS AND ARE GIVEN PREFERENCE FOR ADMISSION.

SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Project Running Start college credit-bearing course (approved on an annual basis with the NH Community College System)

Semester I: VISUAL BASIC PROGRAMMING

Students will use the Microsoft Visual Studio object-oriented development environment to create basic business applications, websites, and games in Visual Basic.NET. Students start by creating programs that run under the Windows Operating System and then move on to creating Web Applications using ASP.NET. In the process, students learn about object-oriented programming, form design, common form controls and properties, decision structures, looping, event handling, arrays, debugging, HTML, and CSS. Students taking this course will also develop problem-solving and logical thinking skills as they use their programming skills to solve common business problems.

While the above classes will be very beneficial for anyone pursuing a career in a technology field, students will also find that a strong foundation in Information Technology is often required and is very useful in many other career fields such as finance, entrepreneurship, and business management. Students can set their targets to be completers and do all four quarters; but we also allow students to take a single semester of coursework.

Semester II: VEX ROBOTICS

This course provides an introduction to The Engineering Process and a solid foundation in Robotics. The course uses the VEX Robot Platform and the Carnegie Mellon University-developed RobotC programming language. Students will work in small teams to design, build, test, and program their robots. Students use both radio control and an easy to use, advanced, C-Based Programming Language to allow their robots to navigate various obstacle courses and other challenges. The robots will employ a variety of sensors—bumper switches, ultrasonic rangefinders, and light sensors—to enable them to sense and react to their environment. Through these stimulating and challenging activities (including competitions) with Robotics, students will learn about safety, programming, the engineering process, teamwork, project management, problem solving, soldering, basic electronics, and other important skills.

INFORMATION TECHNOLOGY – (2013-2014 SCHOOL YEAR)* 2 Credits/Year · 1 Credit/Semester

PLEASE NOTE: THESE TWO CLASSES ARE LISTED HERE SO STUDENTS UNDERSTAND THE SEQUENCE. NEITHER ARE OFFERED IN 2012-2013, BUT WILL BE OFFERED IN 2013-2014.

SCHEDULED TIME: 90-minute classes, 5 Days/Week

OFFERED IN 2013/2014:

Semester I: COMPUTER REPAIR

This course offers students an in-depth exposure to Personal Computer hardware and operating systems. Students learn the functionality of hardware and software components as well as best practices in maintenance and safety issues. Through hands-on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, add peripherals, upgrade hardware and software, and troubleshoot hardware and software problems. Students also receive a brief introduction to networking, and learn communication skills. This course helps prepare students to take the CompTIA A+ certification exam.

Semester I: NETWORKING FOR HOME AND SMALL BUSINESS

This course teaches students how to build and support a home or small business network with wired and wireless technologies. Students learn the fundamental concepts of networking through extensive hands-on interaction with PC and networking equipment. Students will build and test network cables and will use test equipment and software to troubleshoot basic network problems. The course prepares students for entry-level IT jobs through the use of interactive and engaging instructional approaches that help to understand the theory and to gain practical experience. Students completing the course should be able to install a small network and connect it to the Internet, share resources among multiple computers, recognize and mitigate security threats, configure and verify common Internet applications, and configure basic IP services.

TEACHER PREPARATION I (formerly Exploring Teaching I)

Full-Year 2 Credits/Year

SCHEDULED TIME: 90-minute classes, 5 Days/Week

This course is designed for students interested in pursuing a career in education. Teacher Preparation I introduces students to basic teaching skills, such as classroom management, lesson planning, and guidance and discipline techniques. Students divide their time equally between classroom instruction and student-teaching in the laboratory school, *Crimson Tide Preschool*. Classroom instruction includes lectures, notes, handouts, projects, hands-on activities, and unit tests. Teacher Preparation I units include: Responsive Classroom, Differentiated Instruction, Instructional Practices, Curriculum Planning, Classroom Management, Educational Psychology, and Growth and Development.

The State of New Hampshire requires an annual Mantoux T.B. test and physical exam for all students entering the program. Students will be required to undergo a criminal background check at the N.H. Department of Safety in order to participate in the internship component of the program.

TEACHER PREPARATION II (formerly Exploring Teaching II)

Full-Year 2 Credits/Year

SCHEDULED TIME: 90-minute classes, 5 Days/Week

A proposed Dual Enrollment college credit-bearing course (approved on an annual basis with Southern NH University)

Students entering Teacher Preparation II are expected to have mastered or be proficient in the basic teaching skills learned in Teacher Preparation I. Students divide their time between classroom instruction, student teaching in the laboratory preschool, and participation in internships. Students choose to intern for approximately 12 weeks in preschools, elementary, middle, or high school. Classroom instruction includes lectures, notes, handouts, projects, hands-on activities, and unit tests. Teacher Preparation II units include: Curriculum Planning using Understanding by Design, Special Education, Advanced Instructional Practices, and Observation Skills. Teacher Preparation II student-teaching experiences focus on circle time, art lessons, science lessons, and social studies lessons. At the conclusion of Teacher Preparation II, students will create a professional portfolio to

demonstrate the competencies they have achieved.

The State of New Hampshire requires an annual Mantoux T.B. for all students entering the program. Students will be required to undergo a criminal background check at the N.H. Department of Safety in order to participate in the internship component of the program.

ATHLETICS
Varsity Programs offered

<u>Fall Season</u>	<u>Winter Season</u>	<u>Spring Season</u>
Cross Country (B)	Alpine Skiing (B)	Baseball
Cross Country (G)	Alpine Skiing (G)	Lacrosse (B)
Field Hockey	Basketball (B)	Lacrosse (G)
Football	Basketball (G)	Softball
Golf	Ice Hockey	Tennis (B)
Soccer (B)	Indoor Track (B)	Tennis (G)
Soccer (G)	Indoor Track (G)	Track & Field (B)
Spirit	Nordic Skiing (B)	Track & Field (G)
	Nordic Skiing (G)	
	Spirit	
	Swimming (B)	
	Swimming (G)	
	Wrestling	

GO FALCONS!

CLUBS AND ACTIVITIES

Art Club	Granite State Challenge	Ping Pong Club
Astronomy Club	Hood & Jesses	Snowboard Club
Class Government	Interact	Spanish Club
Color Guard	Jazz Band	String Ensemble
Drama	Latin Club	Student Government
Environmental Service Club	Literary Journal	Youth and Government
French Club	Math Club	Wiffle Ball Club
Frisbee Club	National Honor Society	
Garden Club	Peer Outreach	

NCAA INITIAL ELIGIBILITY REQUIREMENTS

To be considered a qualifier at a **Division I** institution and to be eligible for financial aid, practice, and competition during the first year of college, the student must:

- Complete the NCAA Eligibility Request Form, available online @ www.eligibilitycenter.org by the end of your junior year.
- Graduate from high school.
- Present a minimum combined test score on the SAT I critical reading and math sections or ACT and present a minimum grade point average in English, math, social studies and science courses.
- Test scores must be reported directly to the Eligibility Center from the ACT or SAT by the student. Use code 9999 so the scores come directly to the Eligibility Center at no extra charge. NCAA rules require that all scores must be reported the Eligibility Center.

CORE GPA	SAT I	ACT Combined Score
2.5 or above	820	68
2.375	870	72
2.25	920	77
2.0	1010	86

DIVISION I

16 Core Courses:

- 4 years of English.
- 3 years of mathematics (Algebra I or higher).
- 2 years of natural/physical science (IST 9 and IST10).
- 1 year of additional English, mathematics or natural/physical science.
- 2 years of social science.
- 4 years of additional academic courses.

To be a qualifier at a **Division II** institution, the student must:

- Graduate from high school
- Present a minimum grade point average of 2.0 in at least 14 core courses in the same areas noted below.
- Present a minimum 820-combined test scores on the SAT I critical reading and math sections or a minimum ACT sum score of 68.
- Test scores must be reported directly to the Eligibility Center from the ACT or SAT. Use code 9999 so the scores come directly to the Eligibility Center at no extra charge. NCAA rules require that all scores must be reported the Eligibility Center.

DIVISION II

14 Core Courses:

- 3 years of English.
- 2 years of mathematics (Algebra I or higher).
- 2 years of natural/physical science (IST 9 & IST10).
- 2 years of additional English, mathematics or natural/physical science.
- 2 years of social science.
- 3 years of additional academic courses

DIVISION II

16 Core Courses (2013 and After)

- 3 years of English.
- 2 years of mathematics (Algebra I or higher).
- 2 years of natural/physical science (1 year of lab if offered by high school).
- 3 years of additional English, mathematics or natural/physical science.
- 2 years of social science.
- 4 years of additional courses (from any area above, foreign language or comparative

For more important details please refer to the NCAA website at <http://www.ncaa.org>

SEXUAL HARASSMENT POLICY

The Bow School District, in compliance with administrative Rule E 203.01(b) of the New Hampshire Department of Education, has adopted a policy, which guarantees an environment free of sexual harassment. Any person desiring a copy of the Bow School District Sexual Harassment Policy can do so through the Principal's office at Bow High School. Any person wishing to lodge a complaint relative to sexual harassment should contact SAU 67.

TITLE IX-EDUCATION AMENDMENT, 1972

Title IX states; "No person in the United States shall on the basis of sex be excluded from participation in, be denied benefits of, or be subjected to discrimination under any education program or activity receiving Federal Financial assistance. . ."

The administration of the Bow School District does not discriminate on the basis of sex in any education program or activity receiving federal financial assistance and is in compliance with the requirements of Title IX. This affirmation of non-discrimination extends to employment and admissions.

Questions about the application of TITLE IX - SECTION 504 or complaints alleging non-compliance within Bow High School should be directed to the Superintendent of Schools, the Title IX Coordinator for Bow High School. They will explain how complaints will be handled by the district to people who feel they may have a complaint.

NOTIFICATION OF DRUG FREE WORKPLACE

The Bow School District complies with all of the provisions required under the Drug Free Workplace Act of 1988. The public is hereby notified that the manufacture, distribution, possession, sale, and/or use of any controlled substance or look alike by any student or staff member is strictly prohibited. A copy of this policy is on file and can be obtained through the Principal's office.

NOTICE OF NONDISCRIMINATION

The Bow School Board hereby notifies all parents/guardians and students that the Bow School District does not discriminate in its educational programs, activities or employment practices on the basis of race, color, national origin, age, sex or handicap under the provisions of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1967, Title IX of the Educational Amendment of 1972, Section 504 of the Rehabilitation Act of 1973 and the Education for all Handicapped Children Act of 1975. Any person having inquiries concerning compliance with the regulations implementing these laws may contact:

The Superintendent of Schools
Bow School District
32 White Rock Hill Road
Bow, New Hampshire 03304-4219
Phone: 224-4728

Any person may also contact the Assistant Secretary for Civil Rights, U.S. Department of Education, or the Director, U.S. Department of Education, Office for Civil Rights, Region I, Boston, Massachusetts.

DIRECTORY INFORMATION

The Bow School District may, at its discretion, release to the media, to area civic organizations and commercial enterprises whose principal place of business is in Bow or Concord, New Hampshire and to recruiters for the armed services (in compliance with federal statute) the following information about its students:

Name
Address
Name of parent(s) or guardian(s)
Class membership
Major field of study
Participation in officially recognized activities and sports
Weight, height, and performance record of members of athletic teams
Dates of attendance
Degrees, honors and awards

If a parent/guardian or student over the age of eighteen does not wish any portion of this information released, please inform the principal in writing by the last day of September for the current school year.

RESIDENCY

Bow High School students must be residents of the Town of Bow. All registration documents must list specific street or highway addresses (not a PO Box). Any non-resident student wishing to attend Bow High School must make a formal request to the Bow School Board through the Superintendent of Schools.

CHILD FIND NOTICE

As mandated by the EDUCATION FOR ALL CHILDREN ACT - public schools must provide special education for all children determined to be educationally handicapped. The law also requires a school district to identify such children from birth through 21 years of age. This law applies to all children including those in non-public schools, pre-schools and hospital settings.

If at any time you suspect your child might have an educationally handicapping condition, you are encouraged to contact your child's school to discuss your concerns. School personnel will provide you with information on the procedures for determining if a child is educationally handicapped and in need of special education services.

For more detailed information about the policies, procedures and services established in your school district for special education, the Bow School District SPECIAL EDUCATION PLAN is available for review at the Superintendent's Office.

BOW HIGH SCHOOL HANDICAPPED ACCESSIBILITY

This policy is designed to insure that school facilities and programs provide access for physically handicapped students, parents, and guests.

All students who have educational disabilities and who attend Bow High School will have an equal opportunity to complete a course of studies leading to a high school diploma.

NOTES