AMHERST REGIONAL HIGH SCHOOL
PROGRAM OF STUDIES
2011-2012

AMHERST REGIONAL HIGH SCHOOL
MISSION STATEMENT

The Mission of Amherst Regional High School is to create a dynamic learning community where students and staff work together and where all students are supported and challenged to achieve their full potential in their intellectual, creative, social and civic endeavors. With parent and community participation, staff and students strive to ensure a safe environment and to promote respect and appreciation for the diversity of individuals, cultures and learning styles.

SCHOOL-WIDE LEARNING EXPECTATIONS

(These learning expectations are currently undergoing revision and development through the NEASC self study. They should still be considered in draft form as listed here.)

Fundamental to academic achievement is the development of critical thinking skills, a student's ability to apply skepticism and intellectual rigor to analyze information for accuracy, implicit meanings and potential biases and to access alternative perspectives and counter arguments in order to construct real knowledge. In an achievement based learning community students must be able to work collaboratively as well independently to acquire such knowledge.

ARHS students:

1. write effectively in a variety of formats.
2. speak knowledgeably, clearly and persuasively as a means of communication.
3. read and listen for understanding.
4. use quantitative reasoning skills to solve problems.
5. apply information literacy concepts and skills to select, access, evaluate, and use information critically and ethically.
6. express themselves creatively in a variety of media.
7. are informed, culturally aware and responsible local, national and global citizens.
8. demonstrate an understanding of historical and institutional injustice.
9. demonstrate self advocacy, self respect and respect for others.

GENERAL INFORMATION

INSTRUCTIONAL PROGRAMS

Core Programs

Elective Programs

AMHERST REGIONAL HIGH SCHOOL
21 MATTOON STREET
AMHERST, MA 01002-2192
TELEPHONE: 413-362-1700 / FAX: 413-549-9704
WEBSITE: HTTP://WWW.ARPS.ORG/HS/

ARHS REQUIREMENTS FOR GRADUATION

Enrollment
To receive a diploma from Amherst Regional High School, a student must be enrolled and in attendance at ARHS for his/her senior year (grade 12) for three trimesters.

Course Credit
Each student must earn a total of 88 credits in grades 9-12, including the following:

- **English:** 16 credits (at least 8 in literature courses and 2 in oral communication are required)
- **Social Studies:** 12 credits (4 of which must meet the U.S. History requirement)
- **Mathematics:** 8 credits
- **Science:** 8 credits in laboratory courses
- **Physical Ed.:** 2 credits (ninth grade requirement)
- **Health Ed.:** 2 credits (tenth grade requirement)

Most students take five academic subjects (four for students not taking a world language) worth 4 credits each, or the equivalent, each year. The equivalent of a four-credit subject may be two separate classes within the same department. Only credits earned during grades 9-12 count toward graduation. Most two trimester courses in grades 9-12 earn 4 credits and most one trimester courses earn 2 credits.

Note: High school graduation requirements are different than four-year college admission requirements.

MCAS
In order to earn a high school diploma, students must either earn a scaled score of at least 240 on the grade 10 MCAS ELA and Mathematics tests, or earn a scaled score between 220 and 238 on these tests and fulfill the requirements of an Educational Proficiency Plan (EPP). Also, students must earn a scaled score of at least 220 on one of the high school MCAS Science and Technology/Engineering (STE) tests: Biology, Chemistry, Introductory Physics, or Technology/Engineering. Students who are successful in the regular curriculum for ninth and tenth grades are generally well prepared to complete the MCAS tests.

Students who attempt an MCAS test three times and meet a score threshold and other requirements may be eligible to apply for a waiver from the state. Students who have not passed all of the required MCAS tests before the end of senior year and are not eligible for a waiver may continue to take the tests at any community college and earn a high school diploma upon successful completion of the tests. For more information about the MCAS tests, sample test questions, testing dates and school and district score information, please see the Massachusetts Department of Elementary and Secondary Education website at: http://www.doe.mass.edu/mcas/ .

PARTICIPATION IN THE GRADUATION CEREMONY

To participate in the graduation ceremony a student must complete all of the requirements for graduation by the last scheduled day of classes for seniors (usually one week prior to the graduation ceremony). Students who need to complete work beyond this date may graduate by the end of the school year or through participation in summer school but will not be eligible to participate in the graduation ceremony. Students who have met all of the credit and enrollment requirements but have not passed all of the required MCAS tests may participate in the graduation ceremony but will receive a certificate of completion rather than a diploma.

RECOMMENDED PROGRAM OF STUDY

Each year some families ask for advice as to the "correct" sequence of courses or the "best" program of study for students to follow. Clearly, advice about specific courses will vary according to the interests and achievement level of students, but our experience shows that most students should select the following:

- 8 trimesters of English (required)
- 1 trimester of physical education (required in the ninth grade)
- 1 trimester of health (required in the tenth grade)
- 8 trimesters of social studies (6 of which are required)
- 8 trimesters of mathematics (4 of which are required)
- 8 trimesters of laboratory science (4 of which are required)
- 6 trimesters of one world language (beyond the eighth grade)
- Elective courses

Students' programs of study will vary, and guidance counselors are available for individual consultation. For most students, a four-year program of study would look like this:

Subject Area	9th Grade	10th Grade	11th Grade	12th Grade
English	English 9: Writing and Literature A & B *	English 10:Literature as Social Criticism* & Oral Communication*	2 literature courses OR 1 literature course and 1 writing course	2 literature courses OR 1 literature course and 1 writing course
Social Studies	World Civ.*	U.S. History*	Social Studies Elective Social Studies Elective	Social Studies Elective Social Studies Elective
Mathematics	Algebra or IMP 1	Geometry or IMP 2	Algebra II or IMP3	Pre-calculus, IMP 4 or Alternatives
Science	Ecology and Environ-mental Science*	Biology	Chemistry or two science electives	Physics or two science electives
World Language	Continuation of language begun in grades 7 or 8 and/or beginning another language			
Physical Education/Health	PE 9*	Health*		
Electives	See specific listings under Art, Business Education, Computer Education, Family and Consumer Education Music, Performing Arts, Physical Education/Health and Technology Education.			

*Specific course required at the designated grade level.

COURSE REGISTRATION

Families should choose courses carefully during the registration period. Students will receive their course schedule for all three trimesters in August. They will also receive a Course Change Request form at that time. Students and families will be asked to carefully review their course schedule for all three trimesters and use the Course Change Request form if there is a need for any change. Course Change Request forms should be returned to the student's guidance counselor as early as possible.

Priority will be given to:

- Students missing major academics
- A placement error (for example, Spanish 1 versus Spanish 2)
- Students with unbalanced schedules (fewer than 3 academics in one term)
- Students who have failed courses and/or completed summer school
- Students with two directed studies in one term

Requests that will be considered but cannot be guaranteed:

- Students who did not get their first choice electives (including English and Social Studies electives)

Schedule changes will not be made for the following reasons:

- Students seeking a specific teacher, period, or term for a particular class
- Students seeking revision to an already balanced schedule (from 3/3/4 to 4/3/3)

After the designated first trimester Add/Drop period, only teacher-initiated, course-level changes will be honored.

SENIOR SCHEDULE CHANGES

Seniors should make sure that their schedules for all three terms are accurate when they are received in late August. Any errors or other special requests for changes should be made before the end of the Add/Drop period at the beginning of the school year.

Once transcripts have been submitted to colleges, no change that diminishes the academic rigor of a student's schedule (e.g. dropping academic courses, moving from honors to college preparatory classes) will be approved.

GETTING READY FOR POST-SECONDARY EDUCATION

- Continue study in all five academic areas (English, Math, Science, Social Studies and World Languages) at the most appropriate and most challenging levels you can **reasonably** manage.
- Develop computer and media literacy.
- Work at developing your critical reading and writing skills.
- Hone your critical thinking skills. Learn to present logical arguments to support your beliefs and opinions.
- Develop your research skills. Spend time in the library and learn how to use its resources.
- Know yourself. Analyze your strengths and weaknesses. Direct your efforts and involvements to maximize your strengths and to strengthen your weaknesses or learn to effectively compensate for them.
- Get involved (sports, extracurricular school activities, work, community service, music, hobbies, etc.). Depth is what is important here, not quantity. Choose a few activities that are of real interest to you and pursue them—in depth and over time.
- Become a good time manager. Get organized. Make up daily/weekly schedules of appointments and assignments and follow them. Employers and colleges want to know what productive use you have made of your time in school and outside of it.
- Begin thinking about what you might want to get out of post-secondary education. Talk to students about their experiences—what they have learned, what they would have done differently in high school, etc.
- Talk to people working in fields in which you are interested. Find out what their education and training have been. Use our electives program to explore career areas. Explore an internship in your junior or senior year, if possible.
- Take appropriate tests at appropriate times: PSAT, SAT, SAT subject tests, ACT, TOEFL, ASVAB (military aptitude), career/interest inventories, etc. All juniors should take the PSAT in October of the junior year to practice for the SAT and to be eligible for the National Merit Scholarship Program. Most students take the SAT for the first time in the spring of the junior year. Students who plan to apply to very selective colleges should take one to three SAT subject tests (in addition to the SAT) prior to December of the senior year. Guidance counselors can help you develop an SAT testing schedule that is best for you. Prepare as best you can for the tests but remember that many fine colleges are now test-optional.
- Pay attention to school announcements, read the College Collages included in the Hurricane Highlights newsletter, study the junior and senior college admission handbooks when appropriate, absorb materials posted online or distributed , e-mailed or mailed to you. Be sure to adhere to all deadlines.
- ARHS subscribes to Naviance, a comprehensive guidance software program. Naviance is a tool for career and college research, information sharing about the college admissions process, communication with students and parents, preparation for the SAT, management of college and scholarship applications, and statistical reporting. Juniors and seniors and their parents currently have access to the program. Ninth and tenth grade students will be using the career exploration features in the near future.

ACADEMIC POLICIES

Grade Promotion
In order for a student to be promoted to tenth grade, s/he must have earned 16 credits. To be promoted to eleventh grade, s/he must have earned 36 credits. To be promoted to twelfth grade, s/he must have earned 62 credits.

Instructional Grouping
Heterogeneously grouped courses are open to all students and may include students who have a wide range of abilities and interests. Departments also offer courses that are designated as Honors or Advanced Placement. Heterogeneously grouped courses, as well as those designated as Honors or Advanced Placement, are college preparatory courses**.**

Courses designated as Honors are characterized by an accelerated pace, an intensive examination of content, or both. Honors courses will demand substantial independent work, extensive use of supplementary materials, and sophisticated analysis and synthesis of ideas and information. A separate honors *course* is so noted in the course title. In some courses, the honors designation is an option within a heterogeneously grouped classroom. When an honors option is available within a classroom, it is noted *within* a given course description. Courses designated as Advanced Placement are courses that are similar to Honors courses in level of challenge and expectations but that follow the college-level AP curricula endorsed by the College Entrance Examination Board.

Grade Point Averages
Un-weighted grade point averages are computed for all Amherst Regional High School students. The GPA is determined during the second trimester of the junior year, at the end of the junior year, at the end of the first trimester of the senior year, and at the end of the senior year. All graded courses taken at Amherst Regional High School are included in these computations with the following exceptions: 1) P.E., 2) Alternative Learning Programs, and 3) special education academic support classes. Courses that extend over two or three terms are not counted in the GPA until they have been completed. Courses taken outside of ARHS (including college and university courses) are not included in a student's GPA. When reporting to colleges, the High School reports a student's individual GPA. Amherst Regional High School does not provide individual rank in class ratings.
The grades included in a grade point average are based on a 4.0 scale.

A	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D+**	**D**	**D-**	**F**
4.0	3.7	3.3	3.0	2.7	2.3	2.0	1.7	1.3	1.0	0.7	0.0

Homework
Homework is considered an integral part of the educational process in our school. Academic success requires that ARHS students are organized, disciplined and active participants in all classes. Students must come to school everyday on time and prepared to learn. Completing all assigned work inside and outside the classroom ensures academic preparation that leads to academic success.

Definition of Homework:

Assignments to be completed outside of class hours/rooms are considered homework. Homework can be assigned for many different purposes by teachers. Some of these purposes are:

- To encourage responsibility, self-discipline and independence.
- To expand the curriculum.
- To increase academic achievement.

Types of Homework:

The type of homework depends on the purpose behind it, as stated above. There are different types of homework to be completed outside of the classroom:

- Preparation
- Practice
- Application
- Extension
- Creativity

Teacher Responsibility:

- Teachers must be clear and specific with all students about what is required for homework, including due dates, assessment criteria for completed work, and relevance to course work.
- Teachers should assign homework assignments that are relevant, that reinforce and/or expand classroom work.
- Teachers should give students feedback on homework in a timely fashion and keep them informed regularly of their performance/status of their work.
- Teachers need to keep parents/guardians informed of students' class performance; therefore, they must report to them a pattern of not completing homework. This can be done through phone calls, e-mail, and/or Comment/Appraisal forms sent home after the student has failed to turn in multiple assignments.
- Teachers must inform students of missed work/homework upon their arrival back in class after an absence and inform them when the work is due.

Student Responsibility:

- Students must complete homework within the time limit assigned by the teacher.
- Students must try to provide the best possible quality of work within their ability.
- Students must alert their parents/guardians and/or teachers the moment they confront any difficulties in the process of completing homework.
- In the event of an absence, students are responsible for getting the work they might have missed upon their arrival. For each day of absence, students have two days to make up and/or make the necessary arrangements to complete missed homework.

Parent/Guardian Responsibility:

- Parents/guardians must provide a home environment that is conducive to effective homework/study time.
- Parents/guardians should monitor homework completion and promote a positive attitude at home regarding the importance of homework for academic progress.

Final Examinations

All courses of study will include some type of experience designed to evaluate student achievement of the overall curricular goals. Examination periods will be scheduled at the end of each trimester to facilitate the scheduling of such experiences. It should be noted that exams will not be given before the regularly scheduled exam period, so students having to leave school before the exam period begins must plan to take their exams when they return to school.

Report Cards, Progress Reports, and Comment/Appraisal Forms

Report cards are issued to students three times per year at the end of each trimester. Progress reports on all courses are distributed to students halfway through each trimester. Teachers can send Comment/Appraisal forms at any time up to, and including, the end of a marking period if a student's performance warrants comment. Comment/Appraisal forms are used any time a student is in danger of failing (lower than a C-) or when there is significant decline in performance, conduct, or attendance. Comment/Appraisal forms may also be used when a student has demonstrated improvement or success.

Parent/Guardian Concerns

If a parent/guardian has a concern about a particular class, the parent/guardian should first contact the teacher involved. Many problems can be resolved in this manner. If the parent/guardian continues to have a concern regarding his/her child's schedule, teacher, or course curriculum, the parent should call the child's guidance counselor (or liaison for students with IEPs) or the appropriate department head. After consulting with the teachers, department head and guidance counselor, a parent/guardian may wish to call the Assistant Principal or the Principal with questions or concerns. Contact information for all staff is available on the high school website.

National Honor Society

Students interested in becoming members of the National Honor Society during their junior or senior year should begin preparing as early as ninth grade year. Scholarship, leadership, service, and character are criteria for consideration of eligibility. Juniors and seniors with a cumulative average in all subjects of B+ (3.3) are eligible to apply for membership in National Honor Society. Eligible students receive an information packet, which includes the date and time of an informational meeting. Information is also mailed to parents/guardians of eligible students. Once interested students complete the eligibility questionnaire, parents/guardians and faculty members are given the opportunity to provide written statements in support of the students' applications. An appointed faculty council then reviews all pertinent information to determine whether each eligible student meets the criteria for membership.

SCHEDULING OPTIONS

Sabbatical Leaves
Procedures for withdrawal and reenrollment for sabbatical leave are available in the Guidance Office and from the Registrar. Families planning a sabbatical leave should meet with their child's guidance counselor; families returning from sabbatical leave should schedule an appointment with the Registrar.

Early Graduation
Considering the rich and varied course offerings, most students will find areas of interest and challenge in the curriculum for four years. However, in keeping with our philosophy that permits students to progress as rapidly as they are able, students who complete graduation requirements are permitted to leave school prior to the normal period of four years in grades 9-12. Times of termination are at the end of a trimester.

It is important to note that most competitive colleges and universities do not view early graduation as a plus in the admissions review, unless the student has exhausted the high school curriculum (e.g. completed the lab science sequence through physics, math through calculus, language through Advanced Placement, etc.). Most colleges and universities put more weight on the quality of a student's academic program than on other factors in the admissions process. Unless there is a specific purpose for leaving high school early, with plans for constructive use of time, most students would gain more by remaining in school, taking courses that they had not previously fit into their programs, or studying in greater depth subjects in which they have a strong interest.

Students interested in early graduation must follow the process outlined below during the junior year to be considered for early graduation during the senior year:

1. Meet with parent/guardian and guidance counselor to review graduation status, college/career and future plans.
2. Independently investigate college/career interests and the implications of early graduation.
3. Write a letter to the guidance department head.
   - Describe your reasons for requesting early graduation.
   - Explain how you will use the time between the completion of high school classes and the June graduation ceremony. Include evidence that arrangements for this time have already been made, or are well developed.
   - Describe your future plans and the implications of early graduation.
   - A parent/guardian must co-sign letter.
4. Meet with guidance department head and a parent/guardian to discuss plan.

If the plan is approved, you will need to meet with your counselor to adjust your course requests by June. You will also need to remember to discuss your plan for early graduation in your junior year college counseling meeting.

Students electing to graduate early may not participate in extra-curricular activities after their last day of full-time enrollment in the high school.

Alternative Learning Program (ALP)
The Alternative Learning Program (ALP) allows students to earn high school credits for experiences that make sense for their own intellectual development. The alternative learning program should supplement the standard high school curriculum and is designed to replace other electives in the student's schedule. In order to be approved for an ALP, students (most often juniors and seniors) must demonstrate readiness for independent work and develop a plan of study that is not available to them in the regular ARHS high school curriculum. For example, students may choose to develop a course of study utilizing the knowledge and expertise of members of the community, take a course at one of the Five Colleges, complete a comprehensive community service project or work with a faculty advisor or mentor to complete independent research or a project in an area of study to facilitate deeper learning than can be accomplished through the regular ARHS curriculum.

Under the Alternative Learning Program, there are five categories in which students can design an ALP for high school credit:

ALP Category	Type of Grade Assigned	Credits	Included in GPA
ALP: College Course	Letter Grade	2	NO
ALP: On-Line/Extension Course	Letter Grade	2	NO
ALP: Community Service	PASS/FAIL	1	NO
ALP: ARHS Service	PASS/FAIL	1	NO
ALP: Independent Study	PASS/FAIL	1	NO

To assist students in working out a viable learning contract, the following procedures have been established:

1. Students may obtain an ALP form from their guidance counselor.
2. The ALP contract must be fully completed, signed, and submitted five school days before the start of the trimester in which the ALP is being completed (or by the end of the Add/Drop period for the first trimester only).
3. Students should have alternate courses in their schedules should an ALP not be approved. Once the ALP is approved, the alternate course will be dropped from the student's schedule.
4. Students enrolling in a college or other course of study outside of ARHS must receive prior approval through the ALP application in order to receive ARHS credit for the course.
5. Students earn 1 credit for a service-based or independent study ALP and 2 credits for a college or extension course.
6. Grades are pass/fail except for college courses, on-line courses, and extension courses which will receive a grade. The grade will not be calculated in the GPA.
7. A student who wishes to design more than one ALP in a trimester must have special permission from the assistant principal supervising ALP contracts. The administration reserves the right to limit the total number of ALP credits and the type of ALP credit earned toward an ARHS diploma.

When a student is designing an ALP contract, s/he should fill out the application cover sheet completely and attach a program description. Students should be sure that they clearly understand what is expected by the faculty advisor; they should make certain that the criteria for evaluation are clearly outlined and understood by all parties. No ALP application will be approved unless the entire application has been completed and signed. Any changes or modifications in the ALP activity must be approved by the assistant principal supervising ALP contracts.

College Courses

Students are able to take courses at local colleges to extend their learning beyond the high school offerings as long as those college courses do not conflict with high school courses or responsibilities. With the approval of the Assistant Principal and the approval of the college or university, students may be allowed to enroll in one or more courses prior to graduation from high school. Students and parents/guardians are responsible for transportation and expenses.

Students should note that they cannot earn both high school ALP credit and college credit for a single college course. Credits earned on the college level can be used to satisfy high school graduation requirements only if arrangements are made in advance. To receive high school credit and maintain athletic eligibility, the student must complete an ALP contract. Application forms for Amherst College and permission forms for the University of Massachusetts are available in the guidance office.

Work Study

The Work Study Program is a cooperative effort between the high school and employers in the community under which junior or senior students combine school work with part-time, paid employment and receive credits toward graduation. With parent/guardian approval, a student may apply for Work Study, taking a minimum of three classes per trimester and then spending the remainder of the school day as an employee in business or industry. Students interested in this option should contact their guidance counselor. Once students are enrolled in Work Study, they are required to document at least 5 hours of work per week during school hours (before 3:30 pm, Monday to Friday) and submit time cards, signed by their supervisors, every 4 weeks. If a student requests Work

Study but does not have 5 hours of employment during school hours, s/he will be placed in a directed study or an open elective course.

EXPERIENTIAL EDUCATION 915 (2 CREDITS MAXIMUM PER ACADEMIC YEAR)

Seniors in good academic standing may choose to develop a plan for community-based experiential education to enhance their program of study at the high school. Typically students would schedule this course for E period and be permitted to leave the building to pursue their projects. Projects may range from internships to community service but must be approved by the Experiential Education coordinator. Students who are interested in this option should meet with their guidance counselor to discuss their proposed project and obtain the application form. The application consists of a project proposal, an identified supervisor or mentor, parent/guardian consent, and a completed application form that identifies the location, work hours, and project objectives along with an outline of student expectations. The application must be completed before August 15, 2011 in order to be scheduled for Term 1. Students choosing Experiential Education for T2 or T3 must have the application materials submitted two weeks in advance of the term beginning. These deadlines ensure that students have projects approved and can begin their work on the first day of the trimester. Students who register for Experiential Education but do not complete the application by the deadline will be placed in a directed study or an open elective course.

Once students are enrolled in Experiential Education, they are required to document at least five hours of work a week on the project, submit time cards and progress reports from their supervisor, complete written reflections and assignments and attend school-based seminars and classes. Final grades for Experiential Education will be Pass/Fail but throughout the terms students will earn grades for their work which will be reported on progress reports and will serve as the basis for the final Pass or Fail grade. Seniors are encouraged to register for only one trimester of Experiential Education but additional terms may be selected for no credit pending administrative approval of the project proposal.

This course is geared toward seniors but may be scheduled by a limited number of juniors with the approval of an administrator.

SUPPORT SERVICES FOR STUDENTS

Academic Achievement Center

ARHS offers eligible students support through the Academic Achievement Center. It is designed to support students who are developing the skills and habits necessary to be academically successful. Students who meet the criteria for needing extra support based on test scores, grades, and teacher recommendations may be scheduled in the Academic Achievement Center to receive help on a daily basis. Students and parents/guardians are encouraged to discuss this option with a counselor.

MCAS Preparatory and Academic Support Programs

For those students who need additional support, ARHS offers a variety of opportunities to improve academic skills, content knowledge, and test-taking strategies. For example, students may be placed in a three-trimester program in mathematics during their ninth or tenth grade year. Academic tutors may work with students during the school day as well as after school. In addition, summer school classes in English and math are designed to support the skill development students need to be successful in high school and on the MCAS examinations.

Project Challenge

Project Challenge is a mentoring program for students who seek more rigorous course work. Participating students meet one period a day with their Project Challenge mentor and a small group of peers to work on class assignments and develop successful strategies for academic success in upper level courses. Project Challenge particularly emphasizes personal responsibility and the skills of time management, goal setting and communication with teachers. Project Challenge students also address the social and cultural issues surrounding the under representation of students of color in honors courses. Project Challenge mentors monitor academic progress and establish regular communication with parent/guardians and classroom teachers. Most Project Challenge students are nominated for the program by academic teachers, but interested students and parents/guardians may contact their guidance counselor for more information.

Prep Academy
Prep Academy is a program designed to help ninth graders who may need additional support as they transition to the high school. It offers an academic support period in a small class setting with individual attention from teachers. The focus is primarily on improving study skills, sharpening academic weaknesses, and setting goals for the future. Students and parents/guardians are encouraged to discuss this option with a counselor.

Special Education Programs

The Special Education Department provides a comprehensive program of services for students with special needs. Options range from prescriptive specialized academic support to substantially separate programs. The process for determining eligibility for Special Education services is outlined in the general laws of Massachusetts, Chapter 71B. Eligibility is based on the following: (1) evidence of one or more disabilities, (2) student is not making effective progress in school and that lack of progress is a result of the student's disability *and* the student requires specially designed instruction in order to make effective progress in school or requires related services in order to access the general curriculum. If the student is found eligible for services, an Individualized Educational Program (IEP) will be developed by a special education team; the program includes student-centered goals, which are delivered in a variety of models. The following are examples of models used for delivering programs and services:

1. in-class support / consultation;
2. academic support and instruction in regular education settings, often known as inclusion programs;
3. academic support for regular education subjects within special education settings;
4. direct instruction in skill areas within special education settings; and
5. academic instruction in specific content areas.

Summer School
The Amherst Regional Schools sponsor a summer school program each year that provides opportunities for remediation in core subject areas and for enrichment in a variety of programs and disciplines. The summer school catalog is published in the spring of each year. Students and parents/guardians should consult with specific teachers and/or guidance counselors for more information. Scholarships may be available.

Students who fail one or more core academic subjects are strongly encouraged to enroll in a summer school program. Summer school courses in English/language arts and mathematics are specifically designed to build critical skills and help students gain the essential content knowledge needed to succeed at ARHS and to pass MCAS. Some students may be required to pass approved summer school classes in order to stay on grade level at ARHS. For example, students who have previously taken a two-trimester course in mathematics, social studies, and/or science and failed with a grade of at least 50 percent, can earn 4 credits if they pass the Summer School course and a departmental final exam. Students who have previously taken a one-trimester English course and failed with a grade of at least 50 percent, can earn 2 credits if they pass the Summer School course and a departmental final project. Successful completion of academic course requirements through the summer school program may enable students to advance to the next grade level.

A GUIDE TO THE COURSE OFFERINGS

Amherst Regional High School operates on a trimester schedule. Since a four credit course requires two trimesters to complete, students will receive four credits only after the successful completion of both trimesters. A two-credit course takes one trimester to complete. (A one-trimester course is the equivalent of a semester course and a two-trimester course the equivalent of a full-year course.) The daily schedule configuration includes five class periods each day. They are referred to as A, B, C, D, and E. All five periods meet every day of the week. Most ARHS courses meet every day for one trimester or two trimesters, with some exceptions. These exceptions are indicated within individual course descriptions. Students may be eligible to sign up for as many as five courses each trimester. Since seniors and juniors receive priority for elective courses, the number of options for ninth graders and sophomore students may be limited. Students who do not have a full schedule for a specific trimester will be scheduled for a directed study.

- Courses are listed within departments, in sections, according to grade level.
- Introductory courses are listed first, followed by the next level course in sequence.
- Honors and Advanced Placement courses are designated in the course title.
- Heterogeneously grouped courses that include "Honors Option" have the flexibility to allow students to move from college prep to honors, and from honors to college prep, without changing their schedule. Requirements for the honors option are specified within the course description. Students select either college prep or honors option during registration.
- Two-credit courses meet for one trimester, four-credit courses meet for two trimesters, and six-credit courses meet for three trimesters.

Course information is listed as follows:

COURSE TITLE	**COURSE #**	**(# CREDITS)**
Examples:		
WORLD RELIGIONS	**133**	**(2 CREDITS)**
GEOMETRY/HONORS	**318B**	**(4 CREDITS)**
PSYCHOLOGY (COLLEGE PREP)	**150A**	**(2 CREDITS)**
PSYCHOLOGY/HONORS OPTION	**150B**	**(2 CREDITS)**
AP BIOLOGY	**228C**	**(6 CREDITS)**

Please note: The listing of a course in this Program of Studies should not be interpreted as a guarantee that the course will run in 2011-2012. The school reserves the right to make any necessary adjustments to course offerings.

ENGLISH AND READING

Students are required to earn sixteen (16) English credits for graduation. At least four (4) credits in Writing and Literature A & B, six (6) additional credits in literature, and two (2) credits in oral communication are required. Special Education students must satisfy these requirements for graduation unless the individual education plan specifies an exemption *in advance*. **Students must be enrolled in English for two trimesters each year but may not enroll in more than one English course per trimester except by permission of the department head and the assistant principal.** Additionally, students must pass the MCAS English Language Arts test in order to earn a diploma.

NINTH AND TENTH GRADE ENGLISH

Students begin the high school English program by completing a two-part writing and literature course during ninth grade. In tenth grade, Literature as Social Criticism and Oral Communication are required. These courses provide students with intensive practice in the fundamentals of writing and with exposure to a variety of literary forms: poetry, drama, fiction, and nonfiction. Oral Communication stresses the improvement of speaking and listening skills. The ninth and tenth grade sequence, then, is:

Ninth Grade: Writing and Literature A / Writing and Literature B
Tenth Grade: Literature as Social Criticism / Oral Communication

Students must successfully complete the ninth and tenth grade program before enrolling in eleventh and twelfth grade elective courses.

ELEVENTH AND TWELFTH GRADE ENGLISH

The broad range of courses offered by the English department is intended to satisfy a variety of interests. However, it is important that students choose courses with care to ensure that they will have completed a balanced program by the time they graduate. To guide this selection, the department offers the following suggestions:

1. **Literature:** A **minimum** of two trimesters of literature (one each year) are required in the junior and senior years; it is strongly suggested that students choose at least one literature course from Category One and at least one literature course from Category Two in order to balance Classic and Modern Literature.

Category 1: The Classics	Category 2: Modern and Contemporary Literature
American Literature and Nature: Claiming the Self	African-American Literature
Ancient and Medieval Literature and Philosophy	American Literature and Society
Bible and Related Literature	Contemporary Literature and Multicultural Identity
British and Irish Literature	Gay and Lesbian Literature
Introduction to Shakespeare	Modern and Contemporary Poetry
Renaissance and Modern Literature and Philosophy	Women in Literature

2. **Writing: A writing course is not required, but** the department recommends that students take **one** writing course in the junior or senior year from the following offerings:
   Creative Writing
   Expository Writing
   Journalistic Writing

NOTE: All English courses are ungrouped. Students who wish to pursue English studies beyond the college prep requirements may do so through the honors portfolio process (see below).

ENGLISH COURSE PORTFOLIOS AND HONORS PROJECTS

All students in English classes will engage in a program of portfolio assessment. A portfolio is a compilation of exemplary work derived from class assignments. Students assemble a portfolio and reflect on their learning during each trimester English course. The student's teacher will review the portfolio at the end of each trimester and the accompanying comments will detail the student's progress.

Students who wish to engage in advanced, intensive study in English may do so through the honors project option. The honors project includes the course portfolio assignments and a guided independent study which reflects the content of the specific course. The honors projects are reviewed at the end of each trimester. In order to undertake the honors project, students must have earned at least a B- at midterm. At the beginning of each course, students receive information describing the course portfolio and honors project in more detail.

11/12 ENGLISH LITERATURE PROGRAM AND AP PROJECTS

The English department's 11/12 literature electives challenge students to examine texts through the multiple lenses of literary criticism. Each course syllabus includes works of literature from the suggested reading list provided by the College Board for Advanced Placement courses in literature. Students in these classes can pursue AP projects through substantial independent work as literary critics with selected texts. **Students who enroll in TWO literature classes over the course of their junior and senior years and successfully complete an Advanced Placement Project in both will receive AP credit on their transcripts. The equivalent of one full year [or two trimesters] of AP work is required to meet College Board Advanced Placement standards.** Students who choose only one of the literature electives in the 11th or 12th grades can receive honors credit for the successful completion of a single AP project. It is recommended that students opting for the AP option maintain a B- or better average in their English course. A third AP project is **not** required for students who have successfully completed two AP projects and enroll in a third literature course during the 11th and 12th grade.

Students who wish to fulfill AP credit requirements must choose one course from the Category 1: Classics list and one course from the Category 2: Modern and Contemporary Literature list.

MAKE-UP OF REQUIRED (9TH AND 10TH GRADE) ENGLISH COURSES

Eleventh and twelfth grade electives in English build on the skills and experiences acquired in the ninth and tenth grade courses. Therefore, students who fail these courses must fulfill the course requirements in one of the following ways:

1. Successfully completing the approved summer school course (e.g., Encounters in Literature, Essentials of Writing, or Oral Communication). Approval to take one of these summer school courses for English credit is based on the student earning a grade of 50% or better in the regular English curriculum or permission of an administrator.
2. Repeating the course (on a space available basis).

COURSE OFFERINGS

NINTH GRADE ENGLISH COURSES

WRITING AND LITERATURE A (ENGLISH 9) 002 (2 CREDITS)
WRITING AND LITERATURE B (ENGLISH 9) 003 (2 CREDITS)

NOTE: PRE-REGISTRATION FOR THE HONORS PORTFOLIO IS NOT REQUIRED. STUDENTS WILL SELECT THE HONORS OPTION DURING EACH TRIMESTER OF NINTH GRADE ENGLISH.

All ninth graders are required to take this two-part introductory writing and literature course, which may be taken in either order. Students experiment with a variety of personal, analytical, and imaginative compositions, emphasizing the writing process. Fundamentals of grammar and usage, paragraph and essay development, and the responsible use of outside sources for research assignments are introduced and reinforced. Students read a variety of genres selected to acquaint them with examples of great literature from ancient to modern times.

In Writing and Literature A, students read a classical epic, modern drama, autobiography, and poetry. In Writing and Literature B, students read a Shakespearean play, a modern novel, a memoir, and short stories. These works serve as models for students' own compositions.

TENTH GRADE ENGLISH COURSES

ORAL COMMUNICATION (ENGLISH 10) 005 (2 CREDITS)

NOTE: PRE-REGISTRATION FOR THE HONORS PORTFOLIO IS NOT REQUIRED. STUDENTS WILL SELECT THE HONORS OPTION DURING EACH TRIMESTER OF TENTH GRADE ENGLISH.

Required of all tenth graders, Oral Communication introduces various types of public speaking and oral interpretation of poetry, drama, and prose. Students analyze the communication process and ways to influence audiences. They also develop listening skills and participate in audience critiques of other speakers. The course emphasizes performance activities, but writing, reading of selected literature and use of library resources are integral parts of the curriculum.

LITERATURE AS SOCIAL CRITICISM (ENGLISH 10) 004 (2 CREDITS)

NOTE: PRE-REGISTRATION FOR THE HONORS PORTFOLIO IS NOT REQUIRED. STUDENTS WILL SELECT THE HONORS OPTION DURING EACH TRIMESTER OF TENTH GRADE ENGLISH.

Literature as Social Criticism, required for all tenth graders, is an introduction to critical literary studies. The reading encompasses classical tragedy, Shakespearean drama, novels, and short stories. The course features selected fiction by modern American writers of various backgrounds. Literary selections illustrate a variety of approaches to social and ethical issues such as maturation, gender roles, and race/class division and develop the student's sense of the author as social critic.

ELEVENTH AND TWELFTH GRADE LITERATURE ELECTIVE COURSES

Some of the 11th and 12th grade literature classes rotate from year to year, so students should consult the chart below when planning for course selection. This rotation is organized to provide three writing classes, two or three classic literature classes, and four contemporary literature classes in each year of the cycle.

11th/12th Grade English Electives for 2011-2012	11th/12th Grade English Electives for 2012-2013
African-American Literature	African-American Literature
British and Irish Literature	Ancient and Medieval Literature
American Literature and Nature	American Literature and Nature
American Literature and Society	American Literature and Society
Contemporary Literature and Multicultural Identity	Contemporary Literature and Multicultural Identity
Renaissance and Modern Literature	Gay and Lesbian Literature
Women in Literature	Creative Writing
Creative Writing	Expository Writing
Expository Writing	Journalistic Writing
Journalistic Writing	

AFRICAN-AMERICAN LITERATURE 010A (2 CREDITS)
AFRICAN-AMERICAN LITERATURE/HONORS 010B (2 CREDITS)

African-American Literature focuses on the development of black writing in America from folklore to contemporary fiction. Among the works studied are: Margaret Walker's *Jubilee*, selections from Booker T. Washington's *Up From Slavery*, W.E.B. DuBois's *Souls of Black Folk*, Nella Larsen's *Passing*, Richard Wright's *Native Son*, *The Autobiography of Malcolm X* as told to Alex Haley, and Toni Morrison's *Song of Solomon* or *The Bluest Eye*. The readings address the horrors of slavery; the riches of the Harlem Renaissance; black struggles against institutional racism; subsequent anger, activism, and radicalism; and, finally, African American contributions to contemporary life and literature.

AMERICAN LITERATURE AND NATURE: CLAIMING THE SELF 012A (2 CREDITS)
AMERICAN LITERATURE & NATURE: CLAIMING THE SELF/HONORS 012B (2 CREDITS)

The American sense of self, individuality, nonconformity, "rugged individualism," and freedom of self-expression is often connected with the American landscape itself; with open and sparsely inhabited spaces; with rivers, mountains, fields, and forests; with nature in all its diversity. American authors have associated great spiritual power and symbolic meaning with nature. This course celebrates works of nineteenth and twentieth century writers from a variety of regions and cultural and ethnic backgrounds, with readings from (among others):

Emerson, Thoreau, Douglass, Twain, Whitman, Dickinson, Chestnutt, Melville, Chopin, Jewett, Faulkner, and Silko. Students will be encouraged to develop their own understandings of the natural world as a symbol in literature and the connection of the natural world to the search for the true self.

AMERICAN LITERATURE AND SOCIETY **015A** **(2 CREDITS)**
AMERICAN LITERATURE AND SOCIETY/HONORS **015B** **(2 CREDITS)**
The American Dream. Truth or Illusion? American Literature and Society examines the urban culture of the United States as interpreted by writers representing a variety of viewpoints and backgrounds. Students discuss and write about significant themes rooted in the urban experience: identity (explicitly based on race, class and gender), individuality, and alienation, with particular focus on the American Dream. The course texts include classic and contemporary novels, short stories, poetry, drama, and film. The core readings for the trimester are Ellison's *Invisible Man,* Fitzgerald's *The Great Gatsby*, and Miller's *Death of a Salesman.* However, the diversity of American society will be discussed extensively in literary masterpieces by Morrison, Erdrich, Albee, Hemingway, Faulkner and a variety of poets.

ANCIENT AND MEDIEVAL LITERATURE & PHILOSOPHY **(NOT OFFERED 11-12)**
ANCIENT AND MEDIEVAL LITERATURE & PHILOSOPHY / HONORS **(NOT OFFERED 11-12)**

BIBLE AND RELATED LITERATURE **(NOT OFFERED 11-12)**
BIBLE AND RELATED LITERATURE/ HONORS **(NOT OFFERED 11-12)**

BRITISH & IRISH LITERATURE **019A** **(2 CREDITS)**
BRITISH & IRISH LITERATURE / HONORS **019B** **(2 CREDITS)**
This survey course includes selections of British and Irish Literature from its beginnings in the Middle Ages to the present, with a strong emphasis on the literary diversity of twentieth century. Class readings span several genres: medieval myth and epic, Shakespearean tragedy, comedy and satire, lyric poetry, modern drama, short fiction, and essay. The course texts include *Beowulf*, *The Canterbury Tales*, *Much Ado About Nothing*, Cavalier and Metaphysical poetry, *Pride and Prejudice*, Romantic and Victorian poetry, *Mrs. Dalloway*, short stories by Joyce and modern and contemporary Irish poetry. Novels are also included as group readings. In addition to discussing and writing about the literature, students learn about its historical and cultural context and trace the development of the English language.

CONTEMPORARY LITERATURE AND MULTICULTURAL IDENTITY **025A** **(2 CREDITS)**
CONTEMPORARY LITERATURE AND MULTICULTURAL IDENTITY/ HONORS **025B** **(2 CREDITS)**
In this course, students explore significant literary themes and issues which have developed in the last few decades. Students read fiction, short stories, poetry, plays, nonfiction, and essays that represent a *small* sampling of the voices of various cultures heard throughout the world today. Reading and writing their way into an analysis of contemporary culture, students will use their previous knowledge grounded in the classics of world literature to discuss themes such as redefinition of the family, obstacles to survival, the complexities of modern relationships, and the universality of human experience. The course focuses on texts by prize-winning contemporary authors such as Jhumpa Lahiri (India), Cristina Garcia (Cuba), Ruth Ozeki and Haruki Muraki (Japan), Yann Martel and Alice Munro (Canada), and Sherman Alexie (Indigenous).

GAY AND LESBIAN LITERATURE **(NOT OFFERED 11-12)**
GAY AND LESBIAN LITERATURE/ HONORS

INTRODUCTION TO SHAKESPEARE **(NOT OFFERED 11-12)**
INTRODUCTION TO SHAKESPEARE/ HONORS

MODERN AND CONTEMPORARY POETRY **(NOT OFFERED 11-12)**
MODERN AND CONTEMPORARY POETRY/ HONORS

RENAISSANCE AND MODERN LITERATURE & PHILOSOPHY **014A** **(2 CREDITS)**
RENAISSANCE AND MODERN LITERATURE & PHILOSOPHY / HONORS **014B** **(2 CREDITS)**
This course introduces significant texts from the Renaissance to the modern era. Students examine the nature of Western culture, unearth its foundations and explore alongside the great writers of the past such philosophical

questions as the nature of God, the nature of humanity, the meaning and purpose of human existence. In class discussions and written commentaries, students trace the history of Western thought from Shakespeare to the twentieth century and examine how the creative imagination has transformed ideas not only into literature but also into architecture, visual art, and music. The course texts include *King Lear*, *Paradise Lost*, *Tartuffe*, *Candide*, *A Vindication of the Rights of Women*, *Crime and Punishment*, and *No Exit*.

WOMEN IN LITERATURE **017A** **(2 CREDITS)**
WOMEN IN LITERATURE/ HONORS **017B** **(2 CREDITS)**
This course introduces significant classical and contemporary literary texts written by and about women. Among the works studied are Sylvia Plath's *The Bell Jar*, Alice Walker's *The Color Purple*, Margaret Atwood's *The Handmaid's Tale*, Henrik Ibsen's *A Doll House*, and Tennessee Williams' *A Streetcar Named Desire*. Students in this course examine the status of women, cultural stereotypes represented in literature, the nature of a female literary tradition, and a range of feminist theories. Since no work is written in isolation of its political, intellectual, social, and artistic milieu, attention will be given to the effects of sexism in the individual pieces of literature and during their time period. The course is organized into three main units: women and identity, autobiographical and immigrant literature, and marriage and motherhood. Course writings include analytical, imaginative, and personal essays.

MODERN AND CONTEMPORARY LITERATURE /AP **038** **(2 CREDITS)**
THE CLASSICS /AP **(NOT OFFERED 11-12)**
One or two AP elective courses will be offered each year. The 2011-12 AP elective will be African American Literature. These co-taught courses, which are paired with a heterogeneous class, are designed for students with a deep interest in literature, solid reading skills, and a desire to pursue the study of literature at the college level. The courses will include an examination of classic and modern literature, appropriate selections of modern literary criticism, and preparation for the CEEB Advanced Placement Literature examination. The course will include an intensive review of literary terms and concepts, and an AP research paper will be the culmination of the trimester's work. Students also have the option to complete an AP project in any of the other literature electives to earn AP credit.

ELEVENTH AND TWELFTH GRADE WRITING ELECTIVE COURSES

EXPOSITORY WRITING **034A** **(2 CREDITS)**
EXPOSITORY WRITING/HONORS **034B** **(2 CREDITS)**
In this course students write in a range of essay formats. Students regularly read and comment upon one another's work, then re-draft their work in light of comments from the teacher and one another. This close-contact with their readers is an opportunity for experimentation. The course has no textbook, but uses examples of short essays, both professional and by other students, to demonstrate writing techniques. Most classes will also use some form of reader's journal, to encourage each student to ponder styles and strategies encountered in books they read on their own, and all students complete a multi-genre research project.

JOURNALISTIC WRITING (FORMERLY JOURNALISM) **035A** **(2 CREDITS)**
JOURNALISTIC WRITING (FORMERLY JOURNALISM/HONORS) **035B** **(2 CREDITS)**
Like other writing courses, Journalistic Writing is dedicated to helping students improve their composition skills: clarity and economy, organization and style. In contrast, Journalistic Writing has a workshop format, and its main business is to produce real articles for a real audience. Students write stories for *The Graphic*, the award-winning school newspaper, which publishes approximately twice a trimester. Students learn the fundamentals of reporting and interviewing as well as news, editorial, and feature writing. In addition, students read extensively in regional and national newspapers, analyze the reporting of current events, and discuss the role of the media in society.

CREATIVE WRITING **036A** **(2 CREDITS)**
CREATIVE WRITING/HONORS **036B** **(2 CREDITS)**
This course is designed for students who want to be part of a community of writers, actively engaged in the world of creative writing. Thus, students will learn to read as writers, to generate new material, and to revise deeply. Studying a wide range of published poetry and short fiction, students will develop a deeper understanding of the craft of writing. In addition to reading, students will write extensively in both poetry and short fiction, and may explore other genres.

READING

INDIVIDUALIZED READING 045 (2 CREDITS)

This course is for students who need to develop their reading skills and who require individualized assistance. It is especially appropriate for students making the transition from other programs who need support before they enter the required English courses or eleventh and twelfth grade students who need direct support for their English electives. Topics of study reinforce reading comprehension, vocabulary development and enrichment, rate/fluency, and independent reading. The individualized reading curriculum supports the curriculum of regular English courses.

ENGLISH LANGUAGE LEARNING PROGRAM

The ELL Program is designed to meet the linguistic, academic and social needs of English Language Learners (ELLs) from more than 20 countries who attend Amherst Regional High School, either as temporary residents or as immigrants. The ELL Program creates a welcoming yet challenging learning community where students acquire proficiency in both conversational and academic English and master high–level academic content while developing the social skills necessary to thrive in a culturally diverse American high school. Students are enrolled in intensive ELL courses taught by certified ESL teachers and receive English, Social Studies and general credit for these courses. Students are also enrolled in the general curriculum where they receive native language clarification as needed. ELL courses are offered at the beginning, intermediate and transitioning levels and are aligned with Massachusetts state frameworks for English and Social Studies, with district curriculum, and with state standards for English language instruction (DESE, ELPBO).

IDENTIFICATION AND PLACEMENT OF STUDENTS

Identification and placement of students is made by the ELE staff, using English-language assessments and native-language assessments as needed. These assessments are administered upon enrollment and annually in order to determine each student's English language proficiency level and English learning needs. Students who are not yet proficient in English are placed in ELL courses at their appropriate level and meet with the guidance counselor to choose courses in the general curriculum, with the expectation that they will graduate from Amherst Regional High School and pursue post-secondary education.

ELL PROGRAM

There are five levels of ELL: new beginner, beginner, early intermediate, intermediate and transitioning. Students are assigned to one of these five levels. Students at the beginning levels enroll in ELL Communication, ELL Literature I, and ELL Composition I. Students at the intermediate levels enroll in ELL World Civilizations, ELL Literature II, and ELL Composition II. Students at the transitioning level enroll in either ELL World Civilizations Honors (9^{th} graders) or ELL Early US History (10^{th}-12^{th} graders), and ELL Composition and Literature III. Students progress from one level to the next as they acquire more proficiency in English. Progress is determined through the use of various assessments including a student's performance in class, annual proficiency assessments and standardized assessments required by Massachusetts Department of Education (MEPA R/W and MELA-O). Students receive ELL instruction until they are proficient in the areas of listening, speaking, reading, and writing in English, at which time they are exited from the ELL Program. ELL teachers monitor the academic progress of exited ELLs for two years.

CREDITS

All ELL courses are two-trimester (four credit) courses. A student enrolled in ELL courses may receive a maximum of four (4) English credits per year. Students receive general credit for additional ELL literature and composition courses. Students receive social studies credit for the ELL social studies courses. English credit is awarded in the following way:

Beginning Classes (Levels 1A and 1B): 2 literature credits and 2 composition credits.
(Beginner students will receive general credit if they remain at beginner levels for two years.)
Intermediate Classes (Levels 2A and 2B): 4 literature credits
(Intermediate students will receive general credit if they remain at intermediate levels for two years.)
Transitional Classes (Level 3): 2 literature credits and 2 composition credits

ELL Honors

Students who wish to engage in more advanced study in ELL may wish to do so through the honors project program. Honors projects may be undertaken in ELL classes at the transitional level only, with approval from and in consultation with the ELL teacher. An honors project must be completed in each trimester of the course. Honors work requires analytical thinking, strong writing skills and the ability to synthesize information from multiple sources. Students who elect to do honors must be able to work independently and be self-motivated. In order to receive an honors designation on the transcript, a student must also maintain a B- or better average in his/her ELL course.

The LAU Program

The LAU program provides bilingual tutorial clarification for students at the beginning and intermediate levels. Bilingual tutors are assigned to clarify instruction for academic classes (particularly health, math and science) Students continue to receive bilingual tutorial support until they are able to learn solely in English, at which time they are transitioned from this portion of the program.

Transitioning into English and Social Studies

To transition into regular English classes, students must complete Oral Communication and Literature as Social Criticism before taking English electives. To transition into regular Social Studies classes, exiting 9th, 10th and 11th graders are required to complete a US History class in the Social Studies department before taking Social Studies electives.

Course Offerings

ELL Communication 060B (4 credits)

ELL Communication is a two-trimester course for students with little or no proficiency in English. Through use of oral presentations, role-plays and functional language activities, students develop listening and speaking skills in English. Students learn to communicate daily personal needs and converse in social situations on familiar topics. Students are introduced to the fundamentals of English grammar. Students must achieve proficiency at this level in order to transition from the course.

ELL Literature I 064B (4 credits)

ELL Literature I is a two-trimester course for students with little or no proficiency in reading English. Students develop literacy skills and master essential vocabulary and grammar through reading in a variety of genres. Students read narratives, short stories, fables, folktales, and abridged novels. Students also read non-fiction including a unit on World Geography. Students are expected to read the assigned curriculum with comprehension in order to transition from the course.

ELL Composition I 065B (4 credits)

ELL Composition I is a two-trimester course for students with little or no proficiency in English. Students learn to express their ideas through the writing process beginning with single paragraphs and progressing to multi-paragraph compositions. Students learn to edit their own writing, study basic English grammar, and build vocabulary using various readings. Students must achieve proficiency at this level in order to transition from the course.

ELL Literature II 066B (4 credits)

ELL Literature II is a two-trimester intermediate level course in which students increase their English vocabulary, learn contextual reading skills, and improve reading strategies in English. Students read a variety of authentic and abridged literary texts: poetry, drama, short stories, mythology, novels and non-fiction. Students also learn to speak and write about literature. Students focus on improving pronunciation. Students must achieve proficiency at this level in order to transition from the course.

ELL Composition II 067B (4 credits)

ELL Composition II is a two-trimester course at the intermediate level in which students continue to improve their writing through the writing process. Students learn to write clear, correct, well-organized sentences, paragraphs, and short essays for a variety of purposes and audiences. Students also study English grammar and usage. Students must achieve proficiency at this level in order to transition from this course.

ELL COMPOSITION AND LITERATURE III 068B (4 CREDITS)
ELL Composition and Literature III is a two-trimester course at the transitioning level. Students use the writing process with an emphasis on revising and editing. Paragraph and essay writing, including analytical essay writing as well as effective, responsible research skills and oral presentation skills are stressed. Students also study complex grammar points and literary devices and read short stories, poetry, novels, plays and non-fiction works. Students must achieve proficiency at this level in order to transition from the course.
Honors: Honors work is possible and requires completion of an ELL Honors Project each trimester.

ELL WORLD CIVILIZATIONS 063B (4 CREDITS)
ELL World Civilizations is a two-trimester, content-based intermediate or transitioning level course designed to acquaint students with a variety of ancient and medieval cultures as they increase their vocabulary, improve reading and writing skills, and develop responsible research skills. Oral presentations are an integral part of the course. Ninth grade students at the transitioning level must enroll in the Honors section of this course. Honors students are expected to do additional reading, demonstrate more advanced writing, listening and speaking skills, and complete several extensions.

ELL EARLY UNITED STATES HISTORY (TO 1880) 061B (4 CREDITS)
ELL Early U. S. History is a two-trimester content-based course at the transitioning level in which students learn about the history and government of North America from pre-conquest Native American societies to Reconstruction (1880's). Students continue to build English vocabulary, improve reading, listening, writing and speaking skills, and develop research and writing skills. This course meets the US History graduation requirement for seniors only. All other students are required to take a US history course offered by the Social Studies department after successful completion of this course. **Honors:** Honors work is possible and requires completion of an ELL Honors Project each trimester.

SOCIAL STUDIES

Students are required to earn twelve (12) credits in social studies for graduation. All ninth graders are required to enroll in World Civilizations and all sophomores are required to enroll in U.S. History, at either the honors or college preparatory (CP) level. Students must pass the four (4) credit U.S. History requirement in order to graduate. New students who have completed some U.S. History at a previous school must determine with the department head what course enrollment will satisfy the U.S. History requirement based on an assessment of the student's prior course work.

Social studies courses are designed to develop a knowledge and understanding of world cultures and history and to introduce a variety of social science disciplines. Critical thinking, research, writing, organizational and study skills are taught and reinforced throughout the program. All courses integrate multicultural perspectives and activities into the curriculum and pedagogy. Active oral participation is expected in many courses. In order to select the most appropriate courses students should read course descriptions carefully and discuss their choices with their current social studies teacher and guidance counselor. Electives are divided into Essential Disciplines of history, government, and economics which form the foundation of our program and Specialized Electives, designed for later work, which explore narrower topics.

INSTRUCTIONAL GROUPING IN SOCIAL STUDIES

Courses are offered in several different configurations. Many courses are heterogeneous. Students in these courses will complete the same assignments and be assessed by uniform criteria. Other courses have an honors option. Students in these courses will be taught in heterogeneous groups, but students electing to complete the honors option will be expected to meet additional requirements explained in the course descriptions. Some courses have separate honors sections, although they may share some activities and presentations with other classes. One AP course is offered; students will not be required to take the AP Exam, but they may elect to do so. All students are encouraged to take at least one heterogeneous social studies class during the four years of high school.

FAILURE OF REQUIRED SOCIAL STUDIES COURSES

If a student fails the required ninth or tenth grade courses, the course requirements must be fulfilled by the successful completion of one of the following options or by a combination of them:

1. Successful completion of an approved summer school program (World Civilizations or US History). Approval to take one of these summer school courses for social studies credit and/or to meet the Massachusetts state requirement to pass US History is based on the student maintaining an average of 50% or better in the relevant social studies course.
2. Independent ALP contract or test-outs;
3. Repetition of the course, or as much of it as necessary to correct the deficiency; and/or
4. Such other alternatives as may be approved by the department head.

AVAILABILITY OF COURSE OFFERINGS

Offerings of elective courses will be determined by student interest and enrollment and the provision of a balanced social studies program. Specialized Electives courses in particular are subject to cancellation if there is insufficient enrollment or if other departmental needs in required or core courses warrant it.

COURSE OFFERINGS

NINTH GRADE COURSES

WORLD CIVILIZATIONS 104B (4 CREDITS)

This two-trimester course is designed to acquaint students with a variety of cultures in the ancient and medieval periods. Students will focus on developing grade level reading, test taking, and study skills as they learn about the history and culture of Ancient Near East, Greece, Rome and medieval Africa, Japan, and Europe. Students will also practice the skills of historical inquiry using primary sources and secondary sources to enrich their study. Special attention will be given to concepts of cultural universals, historical bias, and patterns of cultural development. Notebook management and structured short-term research projects are emphasized. Students also work on a variety of projects that develop productive group skills and a variety of creative presentation methods. Students should expect regular out of class assignments.

WORLD CIVILIZATIONS/HONORS 106B (4 CREDITS)
This two-trimester course integrates traditional content study of selected ancient and medieval cultures with a focus on primary sources and historical method. Students are expected to develop critical thinking skills as they study different types of evidence and interpretations of the past. Art, literature, and drama are used when possible to enrich the students' understanding and to expose students to the rich diversity of human creativity across various cultures. Work in this course requires a grasp of detail and an ability to integrate and analyze diverse materials. Students receive instruction in critical reading, detection of point of view and bias, and argumentation techniques. Readings are above grade level and projects require an ability to work flexibly, both independently and in groups.

TENTH GRADE COURSES

One of these courses is required of all sophomores and must be passed prior to graduation. These courses may also be elected by juniors and seniors who have not yet met their U. S. History requirement.

U. S. HISTORY 114B (4 CREDITS)
PREREQUISITE: WORLD CIVILIZATIONS, WORLD CIVILIZATIONS/HON OR PERMISSION OF DEPARTMENT HEAD
This two-trimester course covers United States history from Reconstruction to the 1980's. The curriculum emphasizes continuing development of social science inquiry skills including library research and analytical argument in both oral and written form. Reading assignments will be made in grade level primary and secondary source materials. Test taking, notebook management, listening skills and written and oral presentation skills will also be taught. Major themes include political, economic, and social development of the American nation, including patterns of race and ethnicity; class and gender relations, expansion, and political, economic and technological change.

U. S. HISTORY/HONORS 116B (4 CREDITS)
PREREQUISITE: WORLD CIVILIZATIONS, WORLD CIVILIZATIONS/HON OR PERMISSION OF DEPARTMENT HEAD
Honors U. S. History combines chronological study of American history from Reconstruction to the 1980's with a focus on historical methods and interpretations, using primary and secondary source readings that are significantly above grade level. Students will be expected to work independently on a variety of projects including library research, local history, group projects and an independent biography research project.

TOPICS IN UNITED STATES HISTORY (NOT OFFERED 11-12)

ELEVENTH AND TWELFTH GRADE ELECTIVE COURSES

Due to smaller staffing and declining enrollment, the Social Studies Department must reduce the number of courses, and therefore total sections, offered each year. As a result, many of the eleventh and twelfth grade elective courses are now on an annual rotation. The goal of this course rotation is to maximize efficiency in filling each class, while still preserving the richness of the electives program and access, over two years, to the full range of courses. Students will also still have access each year to courses taught at a variety of levels. The chart below details the rotation for the 2011-2012 and 2012-2013 school years.

2011-2012	2012-2013
History of Europe AP* Economics/Economics Honors* Consumer Economics* Psychology/Psychology Honors (seniors only) U.S. Politics and Government*	
Latin American History/Latin American History Honors* European History I* International Relations Honors* Anthropology/Anthropology Honors Democracy and Your Rights* Current Global Issues Constitutional Law and the Bill of Rights*	Asian History/Asian History Honors* American Society and Film European History II* The Holocaust/The Holocaust Honors World Religions Criminal Justice Constitutional Law and the Bill of Rights/ Honors*

* indicates a course designated as an "essential discipline"

ESSENTIAL DISCIPLINES

History, government, and economics form the core disciplines of the social studies program. Students should elect courses from the list below as a solid foundation for further study. Specialized electives are listed separately to clarify our expectation that you will elect these classes later in your high school program. One course, Psychology, is restricted to **seniors.**

HISTORY	GOVERNMENT	ECONOMICS
Asian History	Constitutional Law & Bill of Rights (CP and Honors)	Consumer Economics
European History I, II	Democracy and Your Rights	Economics
History of Europe AP	International Relations Honors	
Latin American History	US Politics and Government	

ESSENTIAL DISCIPLINE: HISTORY

ASIAN HISTORY **(NOT OFFERED 11-12)**
ASIAN HISTORY/HONORS **(NOT OFFERED 11-12)**

EUROPEAN HISTORY I **138** **(2 CREDITS)**

NOTE: THIS COURSE IS NOT OPEN TO STUDENTS WHO HAVE TAKEN HISTORY OF EUROPE/AP.
This course presents a broad-based chronological study of European history from the Renaissance to the 19th century. Units include the Renaissance, Reformation, Age of Absolutism, Enlightenment, and the French Revolution. Students will study Machiavelli's ideas of government, the emergence of social protest and dissent in the Reformation, the expansion of Europe and contact with other cultures in the First Global Age, and the development of constitutional and absolutist governments. The daily lives of the common people will also be included. Daily reading assignments in textbook and supplemental articles will form the basis for a variety of class activities, including a mock trial, panel discussions, mapping, essays and short research projects. Tests and quizzes will also assess student progress.

EUROPEAN HISTORY II **(NOT OFFERED 11-12)**

HISTORY OF EUROPE / AP **141B** **(4 CREDITS)**

NOTE: THIS COURSE IS NOT OPEN TO STUDENTS WHO HAVE TAKEN EUROPEAN HISTORY I OR II.
This two-trimester course employs an interdisciplinary approach to study European History from the Renaissance to the 20th century. Art, music, literature, social and intellectual history will be emphasized. Students are introduced to a variety of historical methods and problems, as well as to differing schools of historical interpretation. Instruction in the use of specialized reference works and periodicals, computer-assisted research, and the interactions of history as a discipline with other fields such as anthropology and psychology will be included. Evaluation will be based on a broad range of projects, papers and tests that require ability to analyze and interpret as well as recall information. Students who elect this course may take the AP Exam, but are not required to do so.

LATIN AMERICAN HISTORY **142A** **(2 CREDITS)**
LATIN AMERICAN HISTORY/HONORS **142B** **(2 CREDITS)**

This course presents a broad-based survey of Latin American history from Mesoamerican civilizations to the contemporary era. Students will examine the rich diversity of indigenous peoples, the onset and evolution of colonialism, liberation movements, and twentieth century political and cultural developments. Throughout the course students will be exposed to critical perspectives and incorporate primary sources. Daily reading assignments in textbook and a primary source reader will be reviewed in class discussion and provide the basis for a variety of individual and group projects. Active class participation is required for success in this course. Evaluation will be based on a broad range of projects, film critiques, tests and quizzes. Students will also be required to write an in depth analytical research paper.
Honors Option: Honors students will read additional sources as well as completing a term-long independent research project. Writing assignments will emphasize analysis and synthesis.

ESSENTIAL DISCIPLINE: GOVERNMENT

CONSTITUTIONAL LAW & THE BILL OF RIGHTS 126 (2 CREDITS)

NOTE: THIS COURSE IS NOT OPEN TO STUDENTS WHO HAVE TAKEN DEMOCRACY AND YOUR RIGHTS.

Should police be allowed to search a suspected terrorist's property without a warrant? Is affirmative action a form of racial discrimination? Should cross burning be protected as a legitimate form of free expression? Controversies surrounding freedom of expression, freedom of religion, discrimination and the rights of the accused are at the heart of this course about the operation, history and future of the Supreme Court and the Bill of Rights. Course work includes daily readings and regular tests. Research and analytical skills will be developed in small group and individual investigations that involve the evaluation of historical and contemporary sources including guest speakers. Students will present and defend their positions on constitutional issues and precedents in essays, a documented research paper, class discussions, panel presentations, debates and a simulated Congressional hearing.

CONSTITUTIONAL LAW & THE BILL OF RIGHTS/HONORS (NOT OFFERED 11-12)

DEMOCRACY AND YOUR RIGHTS 125 (2 CREDITS)

NOTE: THIS COURSE IS NOT OPEN TO STUDENTS WHO HAVE TAKEN CON LAW OR CON LAW/HONORS.

Is the US government controlled by wealthy special interests? How can your voice make a difference? What rights do you have as a citizen of the United States? Is it possible to protect unpopular groups and individual rights in a system in which the majority rules? In this course students will explore their rights and responsibilities as American citizens. Topics include the structure of our democratic system, the role of political parties and interest groups and current controversies over the rights guaranteed to citizens in the Constitution. Students will be expected to complete short descriptive reading assignments on a regular basis. Research and analytical skills will be developed in small group and individual investigations using historical and contemporary sources. Students will present and defend their understanding of issues in a variety of formats including reflective writing assignments, classroom simulations and debates.

INTERNATIONAL RELATIONS/HONORS 147 (2 CREDITS)

This course is an introduction to the discipline of international political science. The course explores the fundamental tools necessary for the study of international politics, with a focus on the theoretical constructs political scientists use to explain the workings of the international political system. Students will learn how to analyze decisions and events of international importance, the basics of international political philosophy, the workings of international organizations, and about national power and the changing nature of conflict in the world (including terrorism). This course is not a current events class. We will introduce current events where relevant, but our central focus is on the discipline of international political science. Most assignments, including the regular reading of scholarly articles and a demanding text, will be completed out of class. Evaluation will be based on a variety of papers, projects, and tests that require strong analytical skills. Active oral participation will also be expected, including participation in a long-term simulation of the United Nations.

U.S. POLITICS AND GOVERNMENT 158 (2 CREDITS)

Do you want to understand how our government works? This course examines the origins and practices of American government and political institutions in detail. Topics to be explored include the three branches of government, the federal system of divided power, the electoral process, and the way power is wielded to achieve political aims. Grade level readings of both primary and secondary sources will be used. Students will complete several research projects, make regular oral presentations, participate in numerous debates, and complete individualized outside reading assignments. Position papers on pending legislative and election issues will be included as well as quizzes on political and government terminology, structure and issues.

ESSENTIAL DISCIPLINE: ECONOMICS

CONSUMER ECONOMICS **128** **(2 CREDITS)**

Consumer Economics provides practical knowledge of how the American economy works and how to be a well-informed and an active participant in it. Topics include careers, taxation, consumer rights, advertising, budgeting, banking, investing, transportation, housing and renting, all forms of credit, insurance, savings and income management, the psychology of spending, competition, and sources of consumer information. Through all the ways you interact with the economy, as consumers, workers, internet users, taxpayers, insurance holders, renters, and credit card users, we will explore the workings of the economy to help you understand your relationship to money and your responsibilities with it**.** Special emphasis is placed on the role of the individual to earn income, consuming and acting as a globally concerned, socially concerned, and media-critical citizen. The intent is for you to recognize various economic and financial responsibilities that you already possess and provide for economic advancement in a progressive and highly competitive society.

ECONOMICS **135A** **(2 CREDITS)**
ECONOMICS/HONORS **135B** **(2 CREDITS)**

Our current economic crisis has brought down financial giants, changed the political landscape and frightened everyone who is paying attention. Empower yourself to understand and investigate issues in this crucial field of study. Economics introduces students to basic economic theories, covers key concepts in both micro- and macroeconomics and creates opportunities for students to apply these theories and concepts to contemporary economic situations. Microeconomic topics include supply, demand, market prices, as well as money, banking and financial markets. Macroeconomic topics include economic indicators, fiscal and monetary policy and economic globalization. Assignments require grade level reading and writing skills. Students are evaluated on class participation, understanding of economic vocabulary and concepts and the ability to apply economic concepts. Core assessments include quizzes, tests, homework, essays, cooperative projects and a documented research paper.

Honors Option: The Honors Option requires above grade level reading and writing assignments, active class participation and the completion of substantial independent reading and research components. Honors level tests, homework, essays, cooperative projects and the documented research paper will require the mastery of more authoritative sources and greater analytical depth of work with those sources than the College Preparatory equivalents.

SPECIALIZED ELECTIVES

These courses should be elected after you have established a foundation in the essential disciplines of history, economics, and government. One of these courses, Psychology, is restricted to **seniors only**.

SPECIALIZED ELECTIVES IN HISTORY
American Society and Film
The Holocaust

CITIZENSHIP
Current Global Issues

OTHER SOCIAL SCIENCES AND SPECIAL TOPICS
Anthropology
Criminal Justice
World Religions
Psychology (seniors only)

AMERICAN SOCIETY AND FILM **(NOT OFFERED 11-12)**

ANTHROPOLOGY **123A** **(2 CREDITS)**
ANTHROPOLOGY/HONORS **123B** **(2 CREDITS)**

This survey course explores a range of topics in cultural anthropology, focusing on variations among societies. Topics include: the construction of race and ethnicity, family systems, language and linguistic patterns, gender and status constructs, social and political organization, religion and ritual systems, physical adaptation, economic structures and cultural resilience and change. Students will practice observation skills and interview techniques and evaluate ethnographic articles and films to prepare for writing their own ethnographic study. Grade level readings will form the basis for a variety of class activities, including cross-cultural simulations, panel discussions, debates, and short research projects. Active class participation in both large and small groups is required.

Honors Option: The Honors Option will require a rigorous pace for independent completion of above grade level reading and writing assignments. A major research paper will be assigned out of class. Other writing assignments will emphasize analysis and synthesis.

CRIMINAL JUSTICE **(NOT OFFERED 11-12)**

CURRENT GLOBAL ISSUES **131** **(2 CREDITS)**

In a world of increasing complexity and interdependence, this course aims to build a sense of global citizenship through the examination of both significant global issues and current events in their historical and cultural context. Students will use grade-level readings, media analysis, and geography skills as they examine power distribution, resource management and conflict resolution in case studies from around the world. Although "breaking news" will be incorporated into the course, this is not a current events course. Oral presentations, simulations, and individual research projects will assess student progress. Tests and quizzes will require the ability to recall information, to analyze events, and to predict outcomes.

THE HOLOCAUST **(NOT OFFERED 11-12)**
THE HOLOCAUST/HONORS

PSYCHOLOGY **150A** **(2 CREDITS)**
PSYCHOLOGY/HONORS **150B** **(2 CREDITS)**

SENIORS ONLY: A LIMITED NUMBER OF SECTONS WILL BE OFFERED

Psychology is a course that explores the "science of the mind." Students survey the latest scientific advances on a wide range of topics such as biological bases of behavior, perception, learning, human development, social behavior and psychological disorders. The course will focus on the critical evaluation of psychological evidence—how do investigators gather data about intangible phenomena like love, intelligence and sanity? Can we trust their conclusions? Course work includes daily readings, regular tests, oral reports, experiment design, formal essays and a documented research paper. All major assignments emphasize the ability to evaluate evidence, communicate an interpretation and to defend a position using appropriate evidence.

Honors Option: Honors work requires challenging readings above grade level and a trimester-long independent research project culminating in a documented research paper. Honors students are expected to demonstrate consistent initiative and careful preparation in class discussions and activities.

WORLD RELIGIONS **(NOT OFFERED 11-12)**

MATHEMATICS

Eight (8) credits in mathematics are required for graduation. These can be earned only after the completion of Math 8 and **after** the student has completed the eighth grade. We recommend that every student complete either the study of Algebra I and Geometry or IMP 1 and IMP 2 (Interactive Mathematics Program) during their four years in order to prepare for the mathematics MCAS test. Students must pass MCAS mathematics in order to be eligible to earn a diploma in the state of Massachusetts. Additionally, students who do not score in the categories of "proficient" or "advanced" on the mathematics MCAS will have an Educational Proficiency Plan implemented. These students must enroll in and pass the equivalent of a full year's math course (8 credits) in each of their eleventh and twelfth grade years in order to earn a diploma. Students who plan to further their education should also plan to complete at least through Algebra 2 or IMP 3 and earn grades of C- or better, to be prepared for the 'new' SAT which was introduced for the class of 2006. Three years of math are required for admission to the state colleges in Massachusetts and to the University of Massachusetts.

DEPARTMENTAL REQUIREMENTS

Students who do not meet the grade prerequisites for the next course should register for a summer school course at ARHS. Students who earn a grade of D during the regular year are eligible to earn two general credits during summer school. Students who fail the course during the regular year and earn a final grade of at least 50% in the course are eligible to earn four math credits during summer school and must earn a C- in order to be eligible for the next course. Students not meeting these standards are expected to repeat the course during the next academic year. All grade prerequisites must be satisfied prior to beginning the next course in the sequence.

DEPARTMENTAL EXPECTATIONS

1. The mathematics department has high expectations for achievement for every student in all of its courses. The courses, therefore, may be expected to be rigorous and thorough.
2. Teachers will expect students to be competent in the arithmetic skills needed for each course, Algebra 1 and above. Students who have any weaknesses in computational skills must take responsibility for improving these skills and should consider enrolling in summer school to do so. Teachers are willing to assist students in planning a program for self-improvement.
3. Daily homework is an integral part of the learning process. Every student is expected to complete homework on time, and in an organized manner. The time needed to complete these assignments will vary from student to student and with the nature of the assignment. Typically, a minimum of 45 minutes per assignment will be required.
4. Assessment may include homework, notebook checks, class work, quizzes, tests, portfolios, projects or essays. In addition, students should be prepared to express their understanding of mathematical concepts and to describe in writing how they arrived at solutions.
5. Every student in IMP or Algebra 1 and above is expected to come to class daily with a scientific calculator. The Math Department offers a calculator loan program for students on free or reduced price lunch plans. Students should see their teachers for more information.

HONORS LEVEL COURSES

1. Students in Honors courses are distinguished for their energy, persistence, and interest in mathematics. Honors courses are demanding and require students to be serious about study habits and to use time effectively. Honors classes are designed for students who enjoy mathematics and are motivated to develop their mathematical thinking.
2. Students should expect the work in an Honors course to have a high level of abstraction and sophistication. The work will not be just harder problems; rather, it will be work at a different cognitive level. The teacher will help students to learn at this level and will consider it a major task of the course to provide students with extensive opportunities to improve their abilities in this area. Students, however, should understand that not everyone is ready to learn at a high level of abstraction.
3. Students who enter Honors level classes should have superior computational skills and are expected to have retained the vast majority of the material studied in previous mathematics courses. Teachers will not spend significant class time reviewing material taught in earlier math courses. Short-term help can be expected from the teacher, if asked for, but the student should not expect the teacher to provide long-term tutorial support for material from a previous course.
4. Students who are interested in more challenging course work by moving from college prep to the honors level, but who do not meet the grade prerequisite, must schedule a conference with their parent/guardian and the department head of mathematics. Department head approval is required before making that change.

Students who move from college prep to honors may need to spend additional time and effort in order to bridge the gap of skills and content acquisition either during the school year or during the summer. The department head or a designated math teacher will help students by carefully outlining expectations, providing materials and offering guidance.

ACCELERATING IN MATHEMATICS

We recognize that some students may wish to accelerate their math program. This option is demanding and should only be attempted by those students who are truly fascinated by mathematics, are highly independent, and who have a deep commitment to hard work.

1. A student may enroll in two mathematics classes during the same year. This is especially difficult because of the amount of homework involved, but the arrangement can work for a highly motivated mathematics student. The only way to exercise this option is to take Geometry Honors and Algebra II: Real and Complex Variables/Honors concurrently. Due to anticipated budget cuts, this may not be an option for the 2011-2012 school year.
2. In very rare cases a student may opt to do an independent study in mathematics. Students must meet a set of criteria and submit a proposal for approval by the Mathematics Department Head by May 1, 2011. There are NO EXCEPTIONS to this deadline. For details on the criteria as well as links to all necessary forms, please visit the Math Department website: http://www.arps.org/hs/Academics/Mathematics/AccelerationPolicy.php .

PREREQUISITES FOR MATHEMATICS COURSES

In an effort to ensure that students have the necessary background and readiness skills to be successful, most courses in mathematics have both course and grade prerequisites. It is important for students to be aware of these requirements so that they select the appropriate courses to match their interests and prior mathematical preparation. Because mathematics is so sequential in nature, most courses require that students earn a final grade of C- or better to continue on to the next course in the sequence. If a student does not earn the prerequisite grade for a course, he/she must either repeat the course for general credit or attend summer school and earn a grade of C- or better before continuing in the sequence.

INTERACTIVE MATHEMATICS PROGRAM (IMP)

The Interactive Mathematics Program (IMP) is a four-year sequence of courses. Each course is organized in four to six-week units around a central problem or theme. Motivated by this central focus, students solve a variety of smaller routine and non-routine problems that develop the underlying skills and concepts needed to solve the central problem. Students work in teams as well as individually to strategize, solve problems and present ideas both in writing and orally. Graphing calculators are used regularly.

IMP provides excellent preparation for the MCAS, SAT Reasoning Test and SAT subject tests. Students should plan to remain in IMP for at least three years. For more information on IMP, log on to their website: www.mathimp.org . Course descriptions may be found below.

IMP Honors is a program offered within all IMP classes for students wishing to go beyond the regular requirements of IMP. Participating students are expected to complete assignments at a higher level of abstraction, depth, generality and independence. IMP Honors appears on the student's transcript as such, with a different course number.

COURSE OFFERINGS

NOTES ON PRE-ALGEBRA COURSES

Transformational Geometry, Parameter Graphing and Number Patterns A comprise a three-trimester Pre-Algebra sequence for students who need to develop a stronger background in mathematics, greater confidence in mathematics, and stronger abstract reasoning abilities before attempting Algebra or IMP. These are challenging courses for many ninth grade students and success is dependent upon a solid foundation in math. For students who need to build a stronger foundation, it is strongly recommended that students take all three of these courses to develop the necessary confidence, skills and concepts to be ready for success in Algebra or IMP. Students who are almost ready for Algebra or IMP may take Number Patterns B in the first trimester, followed by Algebra 1 or IMP in the second and third trimesters.

TRANSFORMATIONAL GEOMETRY (FIRST TRIMESTER ONLY) 302 (2 CREDITS)
This course incorporates elements of algebra and geometry using computer software. Students use the coordinate plane to create their own shapes, and then use transformed copies of the shapes to build complicated designs. The course allows students to work at their own pace, with the level of challenge tailored for each student. It is appropriate for students preparing to take Algebra for the first time, or for students who have completed a year of Algebra but need more preparation before continuing with Geometry and Algebra II. An important theme in this study of transformational geometry is development of number sense. Students must choose appropriate values in order to make a shape move the way that they want it to on a graph. This forces students to deal with decimals and negative numbers, and greatly improves their numeration skills. To succeed in this course, the student must maintain a well-organized notebook, which comprises the textbook for the course. In addition, the students should be prepared to write frequently to explain their ideas. (ELL students must be at the level of Composition 2 or higher.)
Possible Next Courses: Parameter Graphing, Number Patterns or Algebra

PARAMETER GRAPHING (SECOND TRIMESTER ONLY) 304 (2 CREDITS)
This course serves either as a preparation for Algebra, or as a bridge between Algebra and Algebra II: Functions. Using both the computer and graphing calculators, students experiment with a wide variety of functions: linear, quadratic, trigonometric, and absolute value. They also establish links between graphs and corresponding flowcharts and data tables. In addition, the graphs, flowcharts, and tables provide a context for equation solving, which can be presented as a task of satisfying a set of given conditions. Numerical methods of solution are emphasized. To succeed in this course the student must maintain a well-organized notebook, which comprises the textbook for the course. In addition, the students should be prepared to write frequently to explain their ideas. (ELL students must be at the level of Writing II or higher.)
Possible Next Courses: Transformational Geometry, Number Patterns or Algebra,

NUMBER PATTERNS A (THIRD TRIMESTER ONLY) 306 (2 CREDITS)
NUMBER PATTERNS B (FIRST TRIMESTER ONLY) 307 (2 CREDITS)
This course gives students extensive practice in the study of patterns as well as an introduction to algebraic thought. Students learn how to use variables to generalize patterns; how to distinguish linear from non-linear patterns; and how to express rules using mathematical language. The course also includes a review of ratio, proportion and percent, as well as some study of elementary statistics and probability. Students learn to use calculators as well as estimation techniques in order to judge the reasonableness of calculator results. A primary focus of the course is on the development of independent thinking skills and problem solving strategies. Student responsibilities include regular attendance, completion of in-class projects, daily homework, and keeping an organized notebook.
Possible Next Courses: Number Patterns B, Algebra, or IMP 1

IMP MATH 1 351AB (4 CREDITS)
IMP MATH 1 HONORS 351BB (4 CREDITS)
Year 1 covers the ideas of variables, equations, expressions, graphs and solutions as students cross the Overland Trail with American migrants in the mid-1800's. Students use analysis and experiment to find the best strategies for games of chance as they develop concepts of theoretical and observed probability. Edgar Allan Poe's classic horror story, *The Pit and the Pendulum*, provides the central question for a unit on data and statistics, including standard deviation, the normal distribution and curve fitting. Similarity and right triangle trigonometry are covered in a unit that revolves around the geometry of light and shadows. Problems of the Week (POWs) explore a variety of topics, including number systems, discrete mathematics, logic and proof through extended investigations, reports and presentations.
Next Course: IMP 2

IMP MATH 2 352AB (4 CREDITS)
IMP MATH 2 HONORS 352BB (4 CREDITS)
PREREQUISITE: A MINIMUM OF C- IN IMP 1
Year 2 begins with a unit focusing on the solution of linear and non-linear equations by various techniques and in a variety of contexts. Students deepen their understanding of data and inference, using the chi-squared statistic to uncover a potential hoax and to evaluate the results of a soft-drink taste test in the unit, *Is There Really a Difference?* In, *Do Bees Build It Best?*, the structure of a honeycomb provides the central problem for a geometry unit integrating properties of polygons and solids, trigonometry, area, volume, proof and Pythagorean Theorem. In the *Cookies* unit, graphical and algebraic reasoning are used to solve a variety of optimization problems,

including a bakery that wants to maximize its profit. In the year's final unit, Lewis Carroll's *Alice in Wonderland* provides a model for understanding rules of positive, negative and fractional exponents, as well as logarithms, logic and proof.
Next Course: IMP 3

IMP MATH 3 **353AB** (**4 CREDITS)**
IMP MATH 3 HONORS **353BB** **(4 CREDITS)**
PREREQUISITE: A MINIMUM OF C- IN IMP 2
This year begins with a brief unit on quadratic functions, focusing on the flight of a *Fireworks* rocket. IMP 3 then returns to geometry, applying new and previously developed concepts in a coordinate framework by helping create an *Orchard Hideout*. *Meadows or Malls* takes lessons from the year 2 *Cookies* unit into higher dimensions. Students use matrices and technology to help decide the best mix of development and preservation for the community of River City. The problem of world (over)population is explored, along with exponential and logarithmic functions and the concept of a derivative in *Small World Isn't It?*
Possible Next Courses: IMP 4, Quantitative Reasoning, Mathematical Modeling, Trigonometry

IMP MATH 4 **354AB** **(4 CREDITS)**
IMP MATH 4 HONORS **354BB** **(4 CREDITS)**
PREREQUISITE: A MINIMUM OF C- IN IMP 3
Students learn circular trigonometry and some physics in *High Dive*, as they work to design a daring circus act. The *World of Functions* integrates many themes from the previous four years in a more formal look at the concept of function. The next unit is *Pennant Fever*, in which students learn about combinatorics and the binomial probability distribution, baseball and ice cream. The POW's in year 4 are especially challenging. Matrices, trigonometry, polar and rectangular coordinates, coordinate and projective geometry and programming are all combined as students create 3D animations on graphing calculators in the unit, *As the Cube Turns*.
Possible Next Courses: Calculus (Honors, AB, or BC), Quantitative Reasoning, or Mathematical Modeling

ALGEBRA I **312B** **(4 CREDITS)**
PREREQUISITE: OFFERED TO HIGH SCHOOL STUDENTS WHO HAVE ACHIEVED A MINIMUM OF C- IN ANY ONE OF THE FOLLOWING: MATH 8, NUMBER PATTERNS, TRANSFORMATIONAL GEOMETRY/PARAMETER GRAPHING.
This course will focus on teaching students to model real-world situations as they study the essential concepts of algebra. Students are expected to be competent in operations with fractions, decimals, and positive and negative numbers prior to entering the class. Students will investigate different types of patterns and learn to represent them algebraically. The major units of study include linear equations, systems of equations, linear inequalities, quadratic equations, exponential equations, and expressions involving exponents. Students will learn to graph a variety of functions on the coordinate plane using manual methods, graphing calculators and/or computers. All students are expected to have a scientific calculator for both in and out of class use. In order to proceed to Geometry or Algebra II, a student must earn a grade of C- or better in this course.
Possible Next Courses: Geometry, Algebra II: Functions

ALGEBRA I /HONORS **314B** **(4 CREDITS)**
PREREQUISITE: A MINIMUM OF B+ IN MATH 8 OR CONFERENCE WITH DEPARTMENT HEAD
In this course, students will be challenged to continue their exploration of algebra as a tool for describing real world situations. Students should expect to encounter highly abstract problems and be able to work independently. Using a variety of tools, including graphing calculators and computer software, students will do in-depth investigations of graphs, word problems, and equations for direct and inverse variations, linear, quadratic, absolute value, and exponential functions. Students will also explore inequalities, systems of equations, polynomial expressions, rational expressions, and expressions involving exponents. Through discovery of the relationship between the graph and the equation of a function, students will enhance their ability to solve multifaceted problems. In order to proceed to Geometry or Algebra II, a student must earn a grade of C- or better in this course.
Possible Next Courses: Geometry, Geometry/Honors, Algebra II: Functions, Algebra II: Real and Complex Variables/Honors

GEOMETRY 316B (4 CREDITS)

PREREQUISITE: A MINIMUM OF C- OR BETTER IN ALGEBRA I

The study of Geometry requires a solid background in Algebra. Geometry is a language intensive course in which students will investigate relationships and formulate and test hypotheses. Students are required to interpret what they read, develop a working knowledge of new vocabulary, and write observations, conjectures and logical supporting arguments. This course includes many hands-on investigations into the concepts of congruence, similarity, right triangle trigonometry, measurement of polygons and solid figures, transformations, circles, parallelism, perpendicularity, and applications to the real world. Geometric relationships will be investigated through the use of geometric constructions, physical models, and computer simulations.

Possible Next Courses: Algebra II: Functions, Algebra II: Real and Complex Variables/Honors

GEOMETRY/HONORS 318B (4 CREDITS)

PREREQUISITE: A MINIMUM OF C- IN ALGEBRA I HONORS OR B+ OR BETTER IN ALGEBRA I, OR CONFERENCE WITH DEPARTMENT HEAD

Geometry is a language intensive course. The focus of this course is to develop deductive reasoning skills that will allow students to construct logical mathematical arguments, and to improve each student's ability to visualize and understand abstract concepts. There is a significant emphasis on formal proof. Students are required to interpret what they read, to learn and use new vocabulary, and to write observations, conjectures and supporting arguments. This course treats geometry thematically by examining such topics as congruence, similarity, volume, and surface area of three-dimensional figures, transformations, parallelism and perpendicularity, coordinate geometry, circles and right triangle trigonometry. Students are expected to apply knowledge of both algebra and geometry to new and different situations. Geometric relationships will be investigated through the use of construction as a geometric tool, physical models, algebraic models and computer simulations.

Possible Next Courses: Algebra II: Functions, Algebra II: Real and Complex Variables/Honors

ALGEBRA II: FUNCTIONS 322B (4 CREDITS)

PREREQUISITE: A MINIMUM OF C- IN ALGEBRA

This course takes an in depth look at functions, including direct and inverse variations, linear, quadratic, higher degree polynomial, exponential, and logarithmic functions. Students explore these functions graphically, numerically and analytically, and enhance their ability to work with the symbols of algebra in solving practical, real-world problems. Students are expected to have access to a scientific calculator for use both in and out of class. **Possible Next Courses**: Trigonometry, Mathematical Modeling, Algebra II: Real and Complex Variables/Honors, Geometry, Quantitative Reasoning

ALGEBRA II: REAL AND COMPLEX VARIABLES/HONORS 324B (4 CREDITS)

PREREQUISITE: A MINIMUM OF C IN ALGEBRA I HONORS OR A- IN ALGEBRA I, OR B- IN ALGEBRA II: FUNCTIONS, OR CONFERENCE WITH DEPARTMENT HEAD

This course is a continuation and intensification of algebraic topics begun in previous courses. It is intended for students who have a strong commitment to the study of mathematics. Major topics include sequences, polynomials, rational and radical functions, exponential functions, logarithms, advanced graphing, complex numbers and matrices. Students will rigorously explore the course content by using graphical, numerical and analytical methods. Students are expected to have access to a scientific calculator for use both in and out of class. **Possible Next Courses:** Geometry, PreCalculus: Trigonometry and Analysis/Honors, Trigonometry, Mathematical Modeling, Quantitative Reasoning

TRIGONOMETRY 332 (2 CREDITS)

PREREQUISITE: A MINIMUM OF C- IN ALGEBRA II AND GEOMETRY OR IMP III, OR CONFERENCE WITH DEPT HEAD

This course explores how to use trigonometry as a tool to understand and solve problems in real life situations. Right triangle ratios are explored and then applied to sinusoidal motion, e.g., the motion of an object on a wheel. Graphs and functions are developed from the context of real-world applications, such as tides and the changing level of the sea. Other triangle-based situations are explored, such as finding the distance across a river without getting wet. The final unit of the course will relate probability to trigonometry, in preparation for Mathematical Modeling. Classwork involves the use of graphing calculators on a regular basis and may be supplemented with computer software. Access to a scientific calculator outside of class is necessary.

Possible Next Courses: Mathematical Modeling, Quantitative Reasoning

MATHEMATICAL MODELING **333A** **(2 CREDITS)**
MATHEMATICAL MODELING HONORS **333B** **(2 CREDITS)**

PREREQUISITE: A MINIMUM OF C- IN ALGEBRA II OR IMP 3 OR CONFERENCE WITH DEPARTMENT HEAD.

Did you ever wonder what you can really know from a set of data or statistics about say, racial profiling or global warming? Some people believe statistics are just a way to twist numbers and mislead others. This course challenges students to analyze real data and confront the assumptions, power and limits of statistical analysis. The course makes extensive use of Fathom data analysis software. Current issues are explored and students are invited to investigate their own areas of interest. Students analyze data, prepare reports and make presentations of their findings throughout the course. An honors option is offered for students who wish to pursue topics in greater depth. Students interested in researching a particular topic in more depth than allowed by the scope of this course may consider an ALP in collaboration with the instructor.

Possible Next Courses: Algebra II: Real & Complex Variables, Quantitative Reasoning

PRECALCULUS: TRIGONOMETRY/HONORS **334** **(2 CREDITS)**

PREREQUISITE: A MINIMUM OF C- IN ALGEBRA II: REAL & COMPLEX VARIABLES, AS WELL AS B- IN GEOMETRY OR CONFERENCE WITH DEPARTMENT HEAD.

This is a rigorous course designed for students with strong interests in the fields of science, mathematics and/or engineering. An analytical approach is used to study circle and triangle trigonometry, trigonometric functions, identities, equations, periodic functions and trigonometric formulas. Students are expected to have access to a scientific calculator both in and out of class.

Possible Next Courses: Precalculus: Analysis/Honors, Mathematical Modeling

PRECALCULUS: ANALYSIS/HONORS **336** **(2 CREDITS)**

PREREQUISITE: PRECALCULUS: A MINIMUM OF C - IN TRIGONOMETRY/HONORS OR CONFERENCE WITH DEPARTMENT HEAD

This is also a rigorous course designed for students with strong interests in the fields of science, mathematics, and/or engineering. The course is composed of selected topics needed for entry into a theory based Calculus course and include polar complex numbers, vectors, sequences and series, combinatorics, probability, limits, parametric equations, and an exploration of conic sections. Students are expected to have access to a scientific calculator both in and out of class.

Possible Next Courses: Calculus, Mathematical Modeling, Quantitative Reasoning

QUANTITATIVE REASONING **(NOT OFFERED 11-12)**
QUANTITATIVE REASONING/HONORS **(NOT OFFERED 11-12)**

INTRODUCTORY CALCULUS/HONORS **(NOT OFFERED 11-12)**

CALCULUS/AP (AB LEVEL) 2 TRIMESTERS **341B** **(4 CREDITS)**

PREREQUISITE : A MINIMUM OF B+ IN PRECALCULUS: TRIGONOMETRY/HONORS AND PRECALCULUS ANALYSIS/HONORS OR CONFERENCE WITH DEPARTMENT HEAD

A model rocket is launched straight upward at a velocity of 40 feet per second. How fast is it traveling 3.5 seconds later? What is the sum of infinitely many infinitely small quantities? Calculus investigates these ideas. Calculus AB prepares students to take the AB level of the CEEB Advanced Placement Exam. Based on a syllabus set by the College Board, this course contains topics taught in first-semester college calculus courses as well as some of the topics taught in the second semester. Students who are successful in this course will be prepared to take a second-semester college calculus course. Students who elect this course need a strong background in algebra, geometry and trigonometry. The ability to think abstractly is very important. Graphing calculators are used in class and on homework. It is expected that students have access to a graphing calculator outside of class. Review sessions during trimester 3 will be held so students can prepare for the AP exam in May.

Possible Next Courses: Quantitative Reasoning, Mathematical Modeling, College Class

CALCULUS/AP (BC LEVEL) 3 TRIMESTERS **342C** **(6 CREDITS)**

PREREQUISITE : A MINIMUM OF B+ IN PRECALCULUS: TRIGONOMETRY/HONORS AND PRECALCULUS ANALYSIS/HONORS OR CONFERENCE WITH DEPARTMENT HEAD

The BC level calculus course is an extension of the AB level course. (See description above.) It prepares students to take the BC level CEEB Advanced Placement Exam. BC calculus is an intensive course equivalent to most first-year college calculus courses. Students who are successful in this course will be prepared to take a multivariable calculus course (usually the third semester of a college calculus sequence). Because the AP exams are given in May, this extended syllabus (set by The College Board) must be completed by the end of April. Therefore, the course will move at a much faster pace than the AB level course. Students who elect this course need a strong background in the additional topics of polar and parametric equations and their graphs, logarithms, and finite and infinite series. It is expected that students have access to a graphing calculator outside of class.

Possible Next Courses: Quantitative Reasoning, Mathematical Modeling, College Class

SCIENCE

In order to graduate from ARHS, students are required to earn a minimum of eight (8) credits in laboratory science courses. We recommend that students take four years of science. Students entering the ninth grade are encouraged to make a four-year plan for their science course of studies in order to take advantage of the offerings that are best suited to their critical skill development, interests, and future college and career goals. The core courses in the Science Department are Ecology & Environmental Science, Biology, Chemistry, and Physics. Students may choose between College Prep, Honors, or Advanced Placement courses based on their interests and skill level.

Note: Three years of Science (two of which must be lab science) are required for admission to the State colleges in Massachusetts and to the University of Massachusetts.

MATHEMATICS PREREQUISITES

Many science courses draw, in part, upon a student's mathematics background. Please be aware of the mathematics prerequisites for science courses. Students who lack the specific prerequisite for a science course, but have comparable mathematics experience, must meet with the Department Head for review of materials and approval to enroll in that course.

SCIENCE AND TECHNOLOGY MCAS TESTING

Massachusetts requires that all students pass a Science or Technology MCAS exam in order to graduate from high school. Students will be tested in one of the following: Biology, Chemistry, Physics, or Engineering and Technology. ***Most ARHS students will take the Biology MCAS in 10th grade.**** The following courses are designed to prepare students for this test:

•9th Grade: Ecology & Environmental Science, or Ecology/Honors & Environmental Science/Honors

followed by

• 10th Grade: Biology or Biology/Honors

**Note: Students who plan to take the 3-trimester AP Biology course in 11th grade will take Honors Chemistry in 10th grade. As a result, these students will take the Chemistry MCAS.*

FOUR-YEAR SCIENCE SEQUENCES

All ninth graders are required to take Ecology & Environmental Science *or* Ecology/Honors & Environmental Science/Honors. Students can take a college preparatory course one year and an honors course the next (or vice versa). Listed below are two possible sequences that allow students to take all four of our core courses (remember to consider mathematics prerequisites when planning a sequence):

STUDENT #1: (STANDARD PATHWAY)

9th Grade		10th Grade (MCAS)		11th Grade		12th Grade
Ecology & Env. Sci. or Ecology & Env. Sci. /Honors		Biology or Biology/Honors		ChemCom or Chemistry or Chemistry/Honors or Electives (See p. 38)		Physics or Physics/Honors or Physics/AP or Electives (See p. 38)

STUDENT #2: (ALTERNATE PATHWAY)

9th Grade		10th Grade (MCAS)		11th Grade		12th Grade
Ecology & Env. Sci. or Ecology & Env. Sci. /Honors		Chemistry/Honors		Biology or Biology/Honors or Biology/AP (3-term)* or Electives (See p. 38)		Physics/Honors or Physics/AP or Electives (See p. 38)

COURSE OFFERINGS
CORE COURSES FOR GRADE 9

Note: Students should select either College Preparatory or Honors course for both *Ecology* and *Environmental Science*.

ECOLOGY **208** **(2 CREDITS)**
PREREQUISITE: NONE

ENVIRONMENTAL SCIENCE 9 **209** **(2 CREDITS)**
PREREQUISITE: SUCCESSFUL COMPLETION OF ECOLOGY OR ECOLOGY/HONORS OR PERMISSION OF THE DEPARTMENT HEAD.

Ecology deals with how living things interact with their physical and biological environments. In this college preparatory course, students will learn how the physical climatology of Earth creates major life zones, and how minerals and rocks become sources of nutrients to plants. Students will also investigate how energy is fixed biologically and transferred through food webs, how major elements cycle, how populations and communities vary in size and diversity, and how biomes vary in basic physical and biological characteristics. Labs in all units will require mathematical analysis, performed with appropriate guidance and support. Laboratory write-ups will comprise a major portion of the grade. Other assessments will include tests, homework, and projects. This course covers the Ecology learning standards required for the Biology MCAS test, and some introductory Chemistry learning standards required for the Chemistry MCAS test.

Environmental Science focuses on the quantitative analysis of how humans affect the physical, chemical, and biological function of ecosystems. Students will investigate how agriculture and land-use changes affect biodiversity, water and soils. Students will learn about global atmospheric change, including tropospheric warming and acid rain, in addition to present and future sources of energy. Labs in all units will require mathematical analysis, performed with appropriate guidance and support. Laboratory write-ups will comprise a major portion of the grade. Other assessments will include tests, homework, and projects.

ECOLOGY/HONORS **210** **(2 CREDITS)**
PREREQUISITE: SUCCESSFUL COMPLETION OF ALGEBRA I, OR A GRADE OF "B" OR BETTER IN EIGHTH GRADE MATH, OR BY PERMISSION OF DEPARTMENT HEAD

ENVIRONMENTAL SCIENCE 9 / HONORS **211** **(2 CREDITS)**
PREREQUISITE: SUCCESSFUL COMPLETION OF ECOLOGY/HONORS OR PERMISSION OF THE DEPARTMENT HEAD.

Ecology/Honors includes a greater depth of mathematical and physical analysis than does college preparatory Ecology. Students will learn how the physical climatology of Earth creates major life zones and how minerals and rocks become sources of nutrients to plants. Students will investigate how energetics controls the transfer of carbon and nutrients through food webs and major elements cycles. In addition, they will study how populations and communities vary in size and diversity, and the mathematics that describe their fluctuations. Labs in all units will require students to answer open-ended questions and to use basic statistics to analyze their results. A substantial part of the grade will be based on laboratory write-ups; other assessments will include tests, homework, and research projects. As part of the coursework, students will be expected to complete regular reading assignments from a textbook for advanced readers. The course is rigorous and requires a strong work ethic to be successful. This course covers the Ecology Learning Standards required for the Biology MCAS test, and some introductory Chemistry learning standards required for the Chemistry MCAS test.

Environmental Science 9/Honors includes a greater depth of mathematical and physical analysis than college preparatory Environmental Science 9. Students will investigate how agriculture and land-use changes affect biodiversity, water and soils. A mathematic approach is emphasized in analysis. Students will learn about global atmospheric change, including tropospheric warming and acid rain, in addition to present and future sources of energy and the physics that underlie them. Consideration of water and soil conservation and management, and global atmospheric change will be based on chemical and physical principles. Labs in all units will require students to answer open-ended questions and to use basic statistics to analyze their results. A substantial part of the grade will be based on laboratory write-ups; other assessments will include tests, homework, and research projects. As part of the coursework, students will be expected to complete regular reading assignments from a textbook for advanced readers. This course is rigorous and requires a strong work ethic to be successful. This course covers some additional Chemistry learning standards required for the Chemistry MCAS test.

CORE COURSES FOR GRADES 10-12

BIOLOGY 222B (4 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF ECOLOGY OR ECOLOGY/HONORS OR PERMISSION OF THE DEPARTMENT HEAD.

Biology is a comprehensive college preparatory course. Topics covered include cell structure and function, biochemistry, evolution and classification, modern and classical genetics, and selected topics in anatomy and physiology, with an emphasis on humans. Class format will consist of lectures, discussions, investigative hands-on laboratory exercises, and individual and small group activities. Assessments include homework assignments, quizzes, tests, lab reports, demonstration of microscopy skills, and projects. This course covers the molecular and organismal learning standards required for the Biology MCAS test.

BIOLOGY/HONORS 224B (4 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF ECOLOGY OR ECOLOGY/HONORS OR PERMISSION OF THE DEPARTMENT HEAD.

Honors Biology covers the topics covered in Biology at an accelerated pace, as well as additional topics, including a more in-depth study of biochemistry and molecular biology. This rigorous course requires a high level of commitment, maturity, and responsibility to be successful. Students will be required to do substantial independent readings from a textbook above grade-level. Assessments include daily homework assignments, quizzes, tests, lab reports, demonstration of microscopy skills, and projects. This course covers the molecular and organismal learning standards required for the Biology MCAS test.

BIOLOGY/AP (3 TRIMESTERS) 228C (6 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF CHEMISTRY (HONORS RECOMMENDED)

In this course, students with a strong interest in the biological sciences have the opportunity to complete both introductory Biology and Advanced Placement Biology in 3 trimesters. It incorporates all the topics of Honors Biology course at greater depth, and includes additional study in other areas, such as cellular energetics, plant biology and animal behavior. Formal lab reports and extensive reading at the college level will be required. Students who enroll will be expected to complete a major unit during the summer before the course actually begins the following fall. Mathematical analysis of data will be an integral part of the AP Biology laboratory program. The curriculum will prepare the student for the College Board Advanced Placement Exam in Biology given in May. **Note: this course is designed for students who have not yet taken a year of high-school Biology.**

CHEMISTRY IN THE COMMUNITY: WATER AND ATMOSPHERE 230 (2 CREDITS)
CHEMISTRY IN THE COMMUNITY: FUEL AND ENERGY 231 (2 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF ALGEBRA I OR IMP I

JUNIORS AND SENIORS ONLY

The goal of Chemistry in the Community is to help students realize the role chemistry plays in their daily lives, and to assist them in making informed decisions about issues involving chemistry, science, and technology. The course consists of a great number and variety of student activities, and emphasizes the major concepts, vocabulary, skills, and laboratory techniques expected in an introductory Chemistry course. Students will apply basic algebra skills, such as solving one-variable equations, to problem-solving, through hands-on laboratory investigations. Assessments will include tests and quizzes, laboratory reports, writing assignments, and problem-solving exercises. This course is primarily designed for students who are not planning to major in science in college. A student may elect to take either trimester of Chem Com, or both .

Chem Com: Water and Atmosphere will examine how everyday decisions can affect the quality of our air and water. Major topics will include water conservation, sources of common water contaminants, water testing and treatment, sources of common indoor and outdoor air pollutants, global warming and the greenhouse effect, stratospheric ozone depletion, and acid rain.

Chem Com: Fuel and Energy will provide an in-depth study of nuclear energy, petroleum and products made from petroleum, combustion of petroleum fuels, energy conservation, and alternative energy sources. We'll then examine how the human body acts as an energy-burning "machine" by focusing on nutrition and exercise, the concept of metabolism, and the chemistry of food.

CHEMISTRY 234B (4 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF ALGEBRA I OR IMP I; GEOMETRY OR IMP II RECOMMENDED

Chemistry provides a basis for further study after high school. Topics include atomic structure, bonding and molecules, the mole, the periodic table, chemical reactions, gases, solutions, and acid-base chemistry. Students will use algebraic methods to solve chemical equations, and will be expected to perform experiments and collect and analyze data. Assessment is based on tests and quizzes, lab reports, and homework assignments.

CHEMISTRY/HONORS 236B (4 CREDITS)

PREREQUISITE: CONCURRENT ENROLLMENT IN ALGEBRA II, IMP III, OR EQUIVALENT (HONORS RECOMMENDED)

Chemistry/Honors is designed to provide in-depth knowledge of the fundamental principles of Chemistry. Topics include atomic structure and modern atomic theory, bonding and molecules, the periodic table, chemical reactions, solutions, gases, thermodynamics, reaction rates, chemical equilibrium, and acid-base chemistry. Students should be able to solve multi-step problems and collect and analyze data mathematically, graphically, and verbally. In this course, independent work is required; significant out-of-class reading, homework, and study time is expected. Assessment is based on tests and quizzes, laboratory reports, and problem sets.

Note: Students should only enroll in Honors Chemistry as sophomores if they received a 'B' or better in Honors Ecology/Environmental Science; or by permission of the Department Head. Sophomores in this class must take the Chemistry MCAS in June.

PHYSICS 244B (4 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF GEOMETRY & ALGEBRA 1 OR IMP I, OR BY PERMISSION OF DEPARTMENT HEAD.

This course provides a broad overview of physics topics with an emphasis on conceptual development and applications of science. Topics will include classical mechanics, electricity and magnetism, thermodynamics, and modern physics. Less emphasis is placed on mathematical modeling than in the other physics offerings. Students will read, write, perform investigative activities, and solve problems using mathematical and conceptual reasoning. This course is recommended for all college-bound students.

PHYSICS/HONORS 246B (4 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF OR CONCURRENT ENROLLMENT IN PRE-CALCULUS: TRIGONOMETRY & ANALYSIS OR IMP IV

This course builds a strong conceptual framework of physics principles and provides an in-depth mathematical treatment of classical mechanics in preparation for further study after high school. Students will apply mathematical skills, including trigonometry and quadratic equations and systems of equations, to solve problems that model the physical world.

PHYSICS: MECHANICS C/AP 249B (4 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF HONORS CHEMISTRY OR APPROVAL OF SCIENCE DEPARTMENT HEAD;
CO-REQUISITE: SUCCESSFUL COMPLETION OF OR CONCURRENT ENROLLMENT IN AN AP CALCULUS COURSE

AP Physics-C Mechanics is a two-trimester lab science course, offering a rigorous, calculus-based overview of classical mechanics. The curriculum follows the guidelines set by the College Board and prepares students to take the College Board's AP test: Mechanics C, in May. Topics include motion in one and two dimensions, projectiles, forces and Newton's laws, work and energy, systems of particles and linear momentum, rotational motion and angular momentum, oscillations, and gravitation. Students will be expected to do a large amount of independent work, including regular reading assignments and problem-solving assignments. There will also be several written lab reports each trimester. Students will be required to complete a major summer reading assignment. This course is a calculus-based alternative to Honors Physics.

SCIENCE ELECTIVE COURSES

Elective courses will be offered based on student interest and staff availability. Students should choose electives based upon individual interest and skill level.

ANATOMY AND PHYSIOLOGY/HONORS 226B (4 CREDITS)

PREREQUISITES: BIOLOGY AND CHEMISTRY

This course is a study of the form and function of major systems of the human body. It will provide a solid background for students interested in the medical and health fields as well as those just interested in understanding how the human body works. We will start with a quick review of cell biology and biochemistry and then begin an in-depth study of the anatomy and physiology of histology and the skin, the skeletal system and articulations, muscular system, nervous system and special senses, excretory, cardiovascular and respiratory systems. As we study these systems students will gain a strong understanding of the related health issues, current events and disease processes such as heart disease, cancer, and diabetes. Students will be required to work independently outside of class reading, reviewing and studying course material. Assessments will consist of tests, quizzes, small research assignments, lab activities and practicals and a course notebook of completed assignments. This is a laboratory course that requires extensive animal tissue dissection.

ASTRONOMY 250A (2 CREDITS)
ASTRONOMY/HONORS 250B (2 CREDITS)

PREREQUISITE: ALGEBRA OR IMP I

This astronomy course investigates a number of the different components of the universe. Major topics include the celestial sphere, the solar system, the life of the stars, and a study of the organization and possible origins of the universe. A planetarium visit and evening observation activities outside of class will be required. Assessments will include tests, quizzes, homework, laboratory reports and projects.

Honors Option: Students electing the Honors Option should be comfortable using algebra and geometry to solve multi-step problems. Some homework and laboratory assignments will require supplemental independent reading and sophisticated computational skills. Quizzes and tests will include mathematical analysis of concepts in astronomy.

ENVIRONMENTAL SCIENCE/AP 255B (4 CREDITS)

PREREQUISITE: SUCCESSFUL COMPLETION OF BIOLOGY AND CHEMISTRY; ALGEBRA I OR IMP II

Advanced Placement Environmental Science is a four-credit, two-trimester, laboratory class that is the equivalent of a one-semester, introductory college course. This course provides students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Due to the quantitative analysis required in the course, students should be comfortable using algebra and performing calculations on tests without a calculator. Students are expected to complete nightly readings from the college-level text and other publications, and will participate in both short- and long-term research projects. Fieldwork focuses on our local environment. Summer reading will be required. The curriculum will prepare students to take the College Board AP Environmental Science exam, given in May.

PHYSICS: WAVES--SOUND, LIGHT AND COLOR 248A (2 CREDITS)
PHYSICS: WAVES--SOUND, LIGHT AND COLOR/HONORS 248B (2 CREDITS)

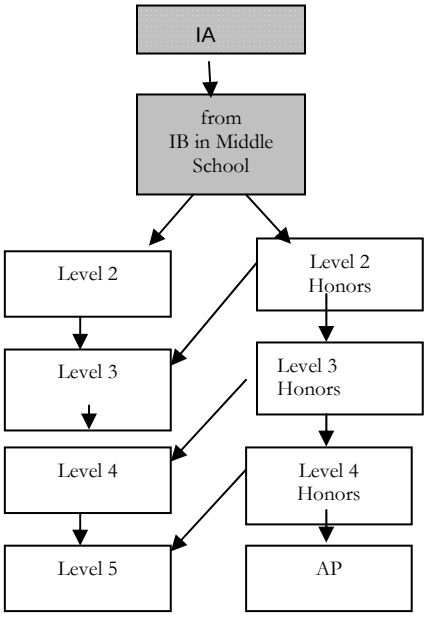
PREREQUISITE: SUCCESSFUL COMPLETION OF ALGEBRA I OR IMP I. FOR THE HONORS OPTION: SUCCESSFUL COMPLETION OF IMP 3 OR GEOMETRY AND ALGEBRA II, OR APPROVAL OF DEPARTMENT HEAD.

This one-trimester course provides a hands-on introduction to the physics of sound, light and color for students with a wide range of interests. The course will offer a conceptual framework for both the science of these natural phenomena, and for their applications in music, art and technology. All students will be expected to apply basic algebraic skills, such as solving one-variable equations, to practical problem-solving. The Honors option is a suitable introduction to these topics for more technically-oriented students considering careers in science and engineering.

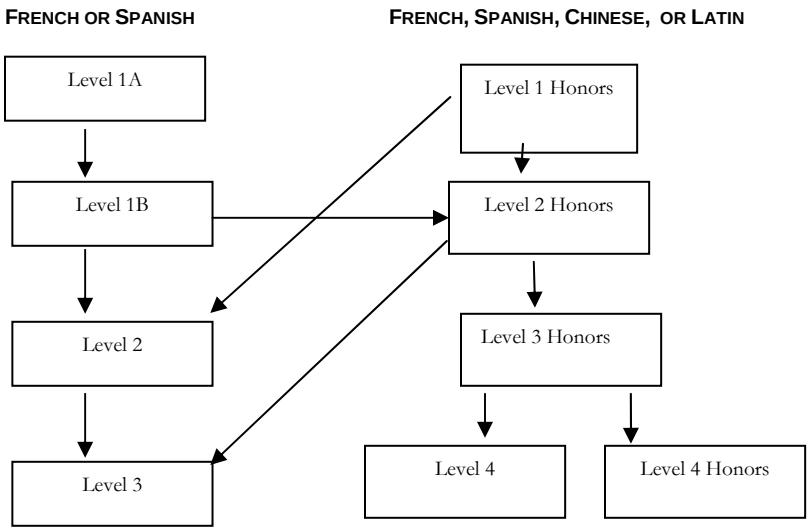
Honors Option: Students electing the Honors option should be comfortable using algebra, geometry and simple trigonometry to solve multi-step problems. Homework and laboratory assignments will require supplemental independent reading and sophisticated computational skills. Quizzes and tests will include rigorous mathematical analyses of the concepts covered.

WORLD LANGUAGES

BEGINNING A LANGUAGE IN MIDDLE SCHOOL



BEGINNING A LANGUAGE IN HIGH SCHOOL



All courses offered by the World Languages Department are sequential. Students are encouraged to follow the sequence of courses through 5/Advanced Placement. Amherst College and the University of Massachusetts provide additional opportunities for upper level courses in world languages for high school students, though special considerations for scheduling must be met. In exceptional cases, some students may wish to accelerate their World Language program. Interested students should submit a written proposal for approval to the World Language Department Head by May 1, 2011. When selecting a language at the beginning level, students should indicate a second choice preference.

PREREQUISITES

For Honors level courses, the reading ability in English should be significantly above grade level. For advancing in the honors sequence, students must achieve a minimum final grade of B-. Students must achieve a minimum grade of C- to continue in the sequence at the College Preparatory level.

COLLEGE REQUIREMENTS

All Massachusetts colleges and universities require that a student complete at least two years of the same classical or modern world language in high school. Private colleges and universities often require completion of Level 3 or 4. **To meet most college entrance requirements, students should begin studying a language no later than the ninth grade.** Students should check the catalogues of those colleges that interest them to determine their entrance requirements in world language.

SUPPLEMENTARY TRAVEL PROGRAMS

Several teachers sponsor travel and/or exchange programs that allow students to apply their language skills in real life situations and to experience another culture on its own terms. Currently, such programs include partnership exchange programs with Germany, France, and Spain, a service learning trip to Guatemala, and a school-to-school exchange with Petrozavodsk in the Republic of Karelia, Russia.

PLACEMENT TESTS

The Registrar's Office will inform the language Department Head of the names of students who are either new to the school system or returning to the school system and wish to continue in a classical or modern world language course. A written and oral examination will be administered to determine the appropriate level. The test for each level will be mutually agreed upon by all teachers of the language involved and approved by the Department Head. **Since this testing procedure is solely for placement purposes, NO CREDITS ARE AWARDED**. A placement test must be taken within the first two weeks of the student's entrance into the Regional Schools.

PROFICIENCY DESCRIPTIONS

All our modern language courses focus on developing oral proficiency. Students moving through our courses will progress according to the following sequence: a **novice speaker** is one who can satisfy basic survival needs, ask and answer simple questions and sustain short conversations on familiar topics. An **intermediate speaker** is one who is able to satisfy most survival needs and limited social demands. A person at this level can initiate and sustain a general conversation on factual topics and leisure-time activities and can talk about some past activities and future plans. An intermediate speaker can provide simple description and narration of present, past or future events. An **advanced speaker** is able to satisfy most work requirements and show some ability to communicate on topics relating to particular current public and personal interests, and can give autobiographical information. A person at this level shows ability to support opinions, explain in detail and hypothesize, as well as handle situations involving complications that arise in everyday life.

COURSE OFFERINGS

Beginning a New Language

Entry level language courses are designed for non-native speakers of the target language. Heritage speakers are encouraged to take a placement test to help us find the most appropriate course for their language ability. Students in beginning classes will master basic skills in speaking, listening, reading, and writing. In addition, students will use these skills to explore cultural topics essential to understanding the context of the target language, and in a broader sense, the elements common to world cultures.

The majority of our students begin language study at the Middle School. The following introductory courses will only be offered if there is sufficient enrollment. Please indicate a second choice if you are requesting a beginning language course. For example, if you register for French 1A, but we do not offer it, would you rather try Spanish 1A, Latin 1, Chinese 1 or French 1 Honors?

FRENCH 1A **421B** **(4 CREDITS)**

This course meets the needs of high school students, grades 9-12, beginning the study of French. Emphasis is on developing oral proficiency and listening comprehension; reading and writing skills will be addressed in introductory activities to reinforce oral and listening skills. Cultural aspects of the language will be introduced on an on-going basis. Homework is to be expected daily.

FRENCH 1 HONORS **420B** **(4 CREDITS)**

NOTE: THIS COURSE COMPRISES THE EQUIVALENT OF 1A AND 1B.

This course is designed for high school students beginning the study of French; it introduces the basic skills of listening comprehension, speaking, reading, and writing. This academically rigorous course is designed for students wishing an *accelerated* course of study, who read significantly above grade level in English, and/or who have significant experience in another world language. Emphasis is on communication skills, on developing oral proficiency and listening comprehension; reading and writing skills will be addressed to reinforce oral and listening skills. Cultural aspects of the language will be introduced on an on-going basis. Homework is to be expected daily. Students in this course must be highly motivated and self-directed to complete grammatical, vocabulary, and cultural materials. Students will be required to demonstrate mastery of the Novice level functions on an oral proficiency test given at the end of the year.

SPANISH 1A **480B** **(4 CREDITS)**

This course meets the needs of high school students, grades 9-12, beginning the study of Spanish. Emphasis is on developing oral proficiency and listening comprehension; reading and writing skills will be addressed in introductory activities to reinforce oral and listening skills. Cultural aspects of the language will be introduced on an on-going basis. Homework is required daily.

SPANISH 1 HONORS **481B** **(4 CREDITS)**

NOTE: THIS COMPRISES THE EQUIVALENT OF SPANISH 1A AND 1B.

This academically rigorous course covers both Spanish IA and IB in two trimesters. This accelerated course is designed for motivated language learners with strong language skills and background. This course is designed for students who read significantly above grade level in English. Emphasis is on communication skills; the core test is expanded to personalize instruction. Cultural supplements focus on the geography of Spanish-speaking countries and an introduction to Hispanic peoples and their family, religious and social customs. Daily homework is required. A minimum of B- is required to continue to Spanish 2 Honors.

LATIN 1 **463AB** **(4 CREDITS)**
LATIN 1 HONORS **463BB** **(4 CREDITS)**

This course is designed for students in grades 9-12 who wish to understand the essential structures and vocabulary of written Latin. Functional grammar is acquired and basic vocabulary developed to enable students to translate simple written Latin into correct English. Topics in Roman history and life are introduced. Regular review of derivatives and comparative grammar increases the student's knowledge and understanding of English grammar and vocabulary. Daily written homework is required. Homework will include the translation from Latin to English and English to Latin, as well as the production and use of proper forms. Chapter quizzes are given weekly. Class work will include oral vocabulary drill, oral reading of Latin, translation and analysis of grammatical structures. Both individual and group work is emphasized.

Honors Option: Students electing the Latin I Honors option will be required to complete additional translation assignments as well as Latin composition exercises.

CHINESE 1 HONORS **401B** **(4 CREDITS)**

NOTE: THIS IS A TWO TRIMESTER COURSE WITH INDEPENDENT WORK REQUIRED.

This course welcomes high school students who wish to begin an accelerated study of Chinese. This course is based on proficiency principles. It enables the students to acquire the ability to communicate with native Chinese speakers in realistic daily-life situations. Teaching methods will emphasize task-oriented activities. Cultural aspects of the language will be an integral part of the course. Instruction in pronunciation and character writing will also be provided. Students will participate in making visual aids needed in the course, such as videotapes and flashcards. Daily homework is required.

Continuing With a Language

Each of the following courses has a prerequisite course. To enroll in these courses, students must pass the prerequisite course with the grade indicated or take a placement test under the direction of the Department Head.

FRENCH 1A 421B (4 CREDITS)

See above, "Beginning a New Language."

FRENCH 1 HONORS 420B (4 CREDITS)

See above, "Beginning a New Language."

FRENCH 1B 422B (4 CREDITS)

PREREQUISITE: A MINIMUM GRADE OF C- IN 1A

This course is designed for high school students, grades 9-12, wishing to continue the study of French. The prerequisite course is French 1A, although upon special recommendation by the prior French teacher and approval by the Department Head, students from courses other than the above may be enrolled. Emphasis continues to be placed on developing oral proficiency and listening comprehension; reading and writing skills will be reinforced and cultural aspects of the language will be introduced regularly. Homework is to be expected daily. Oral Proficiency will be stressed and will be a major component of students' grades. Placement in French 2 or 2 Honors will be determined by teacher recommendation.

FRENCH 2 425B (4 CREDITS)

PREREQUISITE: A MINIMUM GRADE OF C- IN FRENCH 1B OR 1 HONORS

A continuation of beginning level French, this course is designed to increase basic communication skills, as well as reading and writing skills. Cultures of French-speaking people are further explored. Daily homework is to be expected. This course is taught mainly in French.

FRENCH 2 HONORS 426B (4 CREDITS)

PREREQUISITE: A MINIMUM GRADE OF B- IN FRENCH 1 HONORS OR TEACHER RECOMMENDATION UPON COMPLETION OF 1B

This course follows completion of French 1B in the Middle School, or 1 Honors in the High School. This course is designed for the needs of students who perform exceptionally well. Speaking, reading, listening comprehension and writing skills are expanded. Special assignments lead toward developing creative speaking and writing skills. Daily homework and special projects are to be expected. This course is taught entirely in French.

FRENCH 3 427B (4 CREDITS)

PREREQUISITE: A MINIMUM GRADE OF C- IN FRENCH 2

All four language skills are further expanded, with increasing development of reading and writing skills. Review and expansion of language structure is emphasized. Special readings, films and recorded cultural materials supplement core materials. Daily homework is required. This course is taught mainly in French. A minimum grade of C- is required to enter French 4.

FRENCH 3 HONORS 428B (4 CREDITS)

PREREQUISITE: A MINIMUM GRADE OF B- IN FRENCH 2 HONORS.

For students who possess an understanding of language structure and who have superior listening/speaking skills. All language skills are expanded through increasing class conversation, through discussion about contemporary culture and short literary readings and special writing activities. Daily homework and special projects are required.

FRENCH 4 429B (4 CREDITS)

PREREQUISITE: A MINIMUM GRADE OF C- IN FRENCH 3.

Skills developed and required in previous standard level courses are expanded. Previously learned language structure is reviewed and further developed. Cultural readings, films and selections from French literature supplement the core text. Daily homework and special projects are required.

FRENCH 4 HONORS **430B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF B- IN FRENCH 3/HONORS

Skills acquired in previous honors level courses are expanded, with increasing emphasis on reading (from newspaper articles to literature), writing and discussion. Essential grammar is reviewed and expanded; literary past tenses are introduced. Several important authors of the seventeenth and eighteenth centuries are studied (LaFontaine, Moliere, Rousseau, Voltaire), as well as the work of various cinematographers. Daily homework and special projects are required. Students will continue to develop skills which are typically tested in the national Advanced Placement Exam given at the end of the study sequence in French.

FRENCH 5 **431B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN FRENCH 4

This course is designed for students who have successfully completed French 4 or who have the recommendation of the Department Head. The course focuses on refining conversational skills and reviewing essential grammar points, as well as exploring advanced grammar and complex sentence structure. Contemporary francophone culture is highlighted. Key authors from the nineteenth and twentieth centuries are studied, as are the works of several French cinematographers such as Francois Truffaut, Eric Rohmer, and Claude Berri. Units on sociopolitical aspects of French history from 1789 to the present are examined. The role of France and francophone countries in contemporary international relations provides another facet of this course.

FRENCH AP **432B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF B- IN FRENCH 4/HONORS OR PERMISSION OF THE DEPARTMENT HEAD

In addition to following the French V course outlined above, this Advanced Placement course requires a high degree of competency in listening, speaking, reading, writing and recording. The students are trained equally in these five skills in order to be fully prepared for the national examination in the spring. It provides practice in contemporary usage through selected readings in culture and civilization and the development of writing and speaking abilities in extemporaneous contexts.

SPANISH 1A **480B** **(4 CREDITS)**

See above, “Beginning a New Language.”

SPANISH 1 HONORS **481B** **(4 CREDITS)**

See above, “Beginning a New Language.”

SPANISH 1B **483B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN SPANISH 1A

This course is designed for high school students wishing to continue the study of Spanish. The prerequisite course is Spanish 1A, although upon special recommendation by the prior Spanish teacher and approval by the Department Head, students from courses other than the above may be enrolled. Emphasis continues to be placed on developing oral proficiency and listening comprehension; reading and writing skills will be reinforced and cultural aspects of the language will be introduced regularly. Homework is to be expected daily. A minimum of C- is required to continue to Spanish 2.

SPANISH 2 **488B** **(4 CREDITS)**

PREREQUISITE : A MINIMUM GRADE OF C- IN SPANISH 1B OR SPANISH 1 HONORS

A continuation of the developing of all four language skills, with emphasis on oral communication, reviewing the present tense, and introducing both past tenses. Cultural aspects include foods and meals of Hispanic peoples, shopping, sports, music, transportation and holidays. Daily homework is required.

SPANISH 2 HONORS **489B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF B- IN SPANISH 1 HONORS OR TEACHER RECOMMENDATION UPON COMPLETION OF SPANISH 1B.

This course follows completion of Spanish 1B in the Middle School or 1 Honors in the High School. The four language skills are developed with emphasis on aural/oral communication, centered on a review of the present tense and an introduction to both past tenses and the present progressive. Extensive vocabulary supplements are used in the application of new vocabulary in writing. Cultural supplements include the study of education, economics, sports, music, art and holidays in Spanish speaking countries. Daily homework is required.

SPANISH 3 **490B** **(4 CREDITS)**

PREREQUISITE: SPANISH 2 WITH A MINIMUM OF A C-

This course is a continuation of Spanish 2, with increased emphasis on verb tenses and speaking. The present and past tenses are used in oral practice and readings, as well as the present perfect, future tenses and the conditional mood. Cultural presentations are based on readings on Central American and South American countries. Daily homework is required. A minimum grade of C- is required to proceed to Spanish 4.

SPANISH 3 HONORS **491B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF B- IN SPANISH 2 HONORS

This course is a continuation of Spanish 2 Honors, conducted entirely in Spanish. The present and past tenses are strengthened through oral and written use, and the present, past perfect, and future tenses and conditional mood are presented and developed. Vocabulary is expanded through supplemental work, including readings and recordings. Cultural supplements focus on the Central American and Caribbean nations. Daily homework is required.

SPANISH 4 **493B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN SPANISH 3

Grammatical structures and verb tenses presented in previous courses are reviewed and the passive voice is introduced during the first trimester. Cultural supplements include Latin America and Spain. During the second trimester, cultural readers, excerpts from literature, and short stories are introduced. Daily homework is required. Class is conducted primarily in Spanish.

SPANISH 4 HONORS **494B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF B- IN SPANISH 3 HONORS

This course provides an introduction to the histories and literature of the Spanish-speaking world. Verb tenses, other advanced points of grammar, vocabulary and idiomatic expressions are reviewed and studied in the context of short stories and poetry. Oral and written expression in Spanish are developed through discussion and narration of events and short essays. Class is conducted entirely in Spanish. Daily homework is required.

SPANISH 5 **496B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN SPANISH 4

For students who have successfully completed Spanish 4, this course provides a continued study of more advanced points of grammar, including the past tenses and the subjunctive, as well as continued development of vocabulary. Students are expected to work with readings and to write short essays as well as demonstrate an increased ability to express themselves orally with the language. Spanish 5 is conducted entirely in Spanish.

SPANISH AP **497B** **(4 CREDITS)**

PREREQUISITE: B- IN SPANISH 4 HONORS OR PERMISSION OF THE DEPARTMENT HEAD.

This Advanced Placement course requires a high degree of competency in listening, speaking, reading, and writing. The students are trained equally in these four skills in order to be fully prepared for the national examination in the spring. The course treats grammatical points as meriting attention and review because they are common structures that must be mastered. It provides practice in contemporary usage through selected readings in culture and civilization and the development of writing and speaking abilities in extemporaneous contexts. This course is conducted entirely in Spanish.

GERMAN 4 **446AB** **(4 CREDIITS)**

GERMAN 4 HONORS **446BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN GERMAN 3

All four language skills are further expanded, with continuing emphasis on aural/oral communication skills. Analysis of language structure is continued; special reading materials focus on contemporary culture and language. Recorded materials supplement aural/oral class work. Daily homework and a major oral presentation with extensive research are required.

Honors Option: Students within this class have the option of electing the course at the honors level. In addition to the course description above, at the honors level, special reading and listening materials provide the basis for practice of creative writing skills.

GERMAN 5 **447AB** **(4 CREDITS)**
GERMAN 5 HONORS **447BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN GERMAN 4

This course is designed for those students who wish to refine their skills in German and further their knowledge of culture, literature and history. It emphasizes the use of language for active communication. It improves language skills to allow students to communicate in everyday situations and to participate in intellectual discussions. Supplemental materials used to enhance language comprehension are: recordings (language lab), films, newspapers and magazines. The class will be conducted entirely in German and students will be assessed on class participation, homework, tests and quizzes, compositions and projects such as 10-15 minute long oral presentations.

Honors Option: Students within this class have the option of electing the course at the honors level. In addition to the course description above, at the honors level, special reading and listening materials provide the basis for practice of creative writing skills.

RUSSIAN 5 **475AB** **(4 CREDITS)**
RUSSIAN 5 HONORS **475BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN RUSSIAN 4

Reading from literature, history and contemporary sources will serve as the basis for conversational units. News and culture videos will also be used as a stimulus in furthering writing skills. Role play situations will be used to strengthen day-to-day vocabulary. Use of English will be discouraged. Successful completion of this course should enable students to enter a fifth semester college course.

Honors Option: Students within this class have the option of electing the course at the honors level. In addition to the course description above, at the honors level, students will continue to work with supplementary materials.

LATIN 1 **463AB** **(4 CREDITS)**
LATIN 1 HONORS **463BB** **(4 CREDITS)**

See above, "Beginning a New Language."

LATIN 2 **464AB** **(4 CREDITS)**
LATIN 2 HONORS **464BB** **(4 CREDITS)**

PREREQUISITE: A MIMINUM GRADE OF C- IN LATIN 1 OR 2 YEARS OF MIDDLE SCHOOL LATIN

This course is a continuation of Latin I or Middle School Latin. Through readings of Latin prose and poetry, this course develops more advanced skills in the translation and analysis of written Latin. The relationship of Latin to English grammar and vocabulary is stressed. Short examples of Latin literature are introduced. Translation homework will be assigned daily. Class work will include oral vocabulary drill, translation, and analysis of grammatical structures and composition, both individual and group work is emphasized. Students will have the opportunity to demonstrate their reading comprehension through a variety of media.

Honors Option: Students electing the Latin 2 honors option will be required to complete additional translation assignments as well as Latin composition exercises.

LATIN 3 **465AB** **(4 CREDITS)**
LATIN 3 HONORS **465BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN LATIN 2

This course is for students who have completed Latin 2. Students will build vocabulary and review syntax within the framework of reading specific authors. The first author read is Petronius, who introduces students to the culture of the wealthy freedmen of the early Empire. Students also read from Cicero, who introduces them to the political upheavals of the last days of the Republic. A close study of Cicero's Latin deepens an appreciation of his style and its influence on America's rhetoric. Translation homework will be assigned daily. Quizzes will be given on vocabulary, translation, syntactical analysis and political background. Oral reading of Latin will become increasingly important. Students will demonstrate their comprehension of the authors read through translations, essays on assigned topics, as well as posters, poems, videos and other projects.

Honors Option: Students electing the Latin 3 honors option will be expected to undertake a deeper analysis of the relationship between the structure of the language and the author's literary purpose.

LATIN 4 **466AB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN LATIN 3

This course is for students who have completed Latin 3 and wish to continue the study of Latin literature with advanced Latin readings, drawn from such authors as Catullus, Ovid, Horace, Pliny, Cicero, Livy and Caesar. Quizzes and tests will require translation, scansion, and literary analysis. Daily written translation, vocabulary practice and/or grammar review are required for homework.

LATIN 4 HONORS **466BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF B- IN LATIN 3 HONORS

This is a course for students who have completed Latin 3, and wish to pursue their Latin studies by extensive, close reading of such authors as Catullus, Ovid, and Horace. Students taking the course at Honors level need to have a strong base in grammar and syntax on which they will build a sophisticated understanding of the authors read. Oral reading and the memorization of brief Latin passages help develop an appreciation for the literary qualities of the prose and poetry. Quizzes and tests will require translation, scansion, thorough explanation of grammar and syntax and sophisticated literary analysis. Daily written translation, along with vocabulary building and grammar review are required for homework. Students at the honors level need a strong grounding in Latin grammar and vocabulary.

LATIN 5 **467B** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN LATIN 4

This course is for students who have completed Latin IV and wish to continue the study of Latin literature with Vergil. This course will be taught in conjunction with the AP Vergil course. Quizzes and tests will require translation, scansion, and literary analysis. Daily written translation, vocabulary practice and/or grammar review are required for homework.

LATIN AP—VERGIL **468B** **(4 CREDITS)**

PREREQUISITE: A B IN LATIN 4 OR 4 HONORS OR PERMISSION OF DEPARTMENT HEAD.

This course is for students who have completed Latin IV and wish to prepare for the AP exam in Latin by extensive, close reading of Vergil's *Aeneid*. This course will be taught in conjunction with Latin V. Class discussion will focus on translation, scansion, comprehensive review of grammar and syntax along with a review of those structures peculiar to poetry, analysis of the literary quality of the epic in general and of Vergil's Latin in particular, and exploration of the political and social context of the poetry. Students taking the course at the AP level need to have a strong base in grammar and syntax on which they will build a sophisticated understanding of Vergil's Latin. Oral reading and the memorization of brief Latin passages help develop an appreciation for the literary quality of the poetry. Quizzes and tests will require translation, scansion, thorough explanation of grammar and syntax, and sophisticated literary analysis based on class discussion and outside reading. The typical homework assignment will be to prepare a translation of 15-20 lines of the *Aeneid*. Students will also read the entire poem in English. Students choosing the AP courses need a strong grounding in Latin grammar and vocabulary and must be willing and able to commit significant time and effort to the work required by the AP curriculum.

CHINESE 1 HONORS **401B** **(4 CREDITS)|**

See above, "Beginning a New Language."

CHINESE 2 **402AB** **(4 CREDITS)**

CHINESE 2 HONORS **402BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN CHINESE 1 HONORS

Using the same teaching method as in Chinese 1 Honors, material will be presented that builds on the knowledge gained in the first level course. All four language skills of listening, speaking, reading and writing will be further developed. More sophisticated skills, such as sentence patterns and word order unique to the Chinese language, will be introduced. There will be more emphasis on reading and writing than there was in Chinese 1. As in Chinese 1, cultural aspects of the language will be an integral part of the course. Daily homework is required.
Honors Option: A continuation of Chinese 1 Honors, this course is designed for the needs of students who perform exceptionally well. Special assignments lead to developing active speaking and writing skills. Daily homework and special projects are to be expected.

CHINESE 3 **403AB** **(4 CREDITS)**
CHINESE 3 HONORS **403BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN CHINESE 2

This course is a continuation of Chinese 2, with studies in more advanced language structure. Students will be required to engage in oral communications in complex situations within the proper cultural context and background. More writing and character learning will be emphasized, leading to skills in writing compositions in Chinese. Daily homework is required.

Honors Option: For students who possess an advanced understanding of language structure and have superior listening and speaking skills. All skills are expanded through class conversation, discussion of contemporary culture and special writing activities.

CHINESE 4 **405AB** **(4 CREDITS)**
CHINESE 4 HONORS **405BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN CHINESE 3

This course is a continuation of Chinese 3. All areas of learning in Chinese 3 will be expanded and strengthened. After successful completion of this course, students can be expected to reach the level of skills equivalent to a second year university course in Chinese. Daily homework will be required.

Honors Option: In addition to the above, independent study on selected material from current newspapers and/or magazines, literary articles, essays, etc. from China and Taiwan will be required. Students will be expected to write term-paper projects and compositions in Chinese. Daily homework will be required.

CHINESE 5 **406AB** **(4 CREDITS)**
CHINESE AP **406BB** **(4 CREDITS)**

PREREQUISITE: A MINIMUM GRADE OF C- IN CHINESE 4

This course is a continuation of Chinese 4 with studies in more advanced language structure. Both Level 5 and Advanced Placement options require a high degree of competency in listening, speaking, reading, writing and recording. Students are trained equally in these five skills in order to be fully prepared for the national examination in the spring. This course provides practice in oral communications in complex situations within the proper cultural context and background. Authentic material will be emphasized. Reading and writing will encompass different genres and will be done all in Chinese characters. Daily homework will be required. This course is conducted entirely in Chinese.

HEALTH EDUCATION

Health Education provides a foundation in public health and medical knowledge and inquiry into how individuals and societies acquire and/or change their health-related knowledge, attitudes and behaviors. Within the range of health content areas, students learn much more than factual information. They develop skills in finding and evaluating information and resources; making decisions and setting goals; and acting in ways that promote their own health and the health of others. The trimester Health Education course (732) is required of all tenth grader students. Students who arrive at ARHS after completing the tenth grade in another district are not required to take Health Education.

HEALTH EDUCATION **732** **(2 CREDITS)**

GRADE 10

Health Education is a trimester course required of all tenth graders. Students will receive factual information and confront attitudes regarding responsibility to one's wellness, drug and alcohol use, human sexuality, STIs (sexually transmitted infections), including HIV/AIDS, and building healthy relationships. This course will provide students with the opportunity to discuss these issues and others of concern to them, to obtain accurate information through classroom and library research, and to develop strategies for maintaining a healthy lifestyle. Any parent or guardian objecting to his/her child's participation should write a letter explaining reasons for the request for exemption from the Health requirement and deliver it to the Assistant Principal's office no later than May 1, 2011. Students exempted from the Health requirement will be scheduled for a directed study, not an additional elective course.

PHYSICAL EDUCATION

The discipline of physical education addresses cognitive, social, and physical development. The physical education program is designed to help students to understand and value the benefits of regular physical activity; evaluate their level of fitness; design and maintain personal fitness programs; develop motor skills sufficient to enjoy participation; and respect differences among people in physical activity settings.

To enable teachers to meet the many needs and interests of students, a variety of activities are offered. In addition, all courses incorporate conditioning activities that will lead to the development of good cardio-respiratory fitness, muscular endurance, strength and flexibility.

COURSE OFFERINGS

PHYSICAL EDUCATION 9 **701** **(2 CREDITS)**

This course is required of all ninth graders, and includes a significant focus on Adventure Challenge. Adventure Challenge is a curriculum designed to build intellectual, emotional, physical and personal qualities. Activities are designed to build trust, communication, decision making and reflection as well as physical skills. The curriculum builds from team building challenges to the culmination of climbing and belaying. Safety and cooperation are emphasized as students are challenged to build their skills. In addition to Adventure Challenge there are units on personal fitness, individual/lifetime activities and team sports as part of this one trimester course.

PHYSICAL EDUCATION ELECTIVES

PE: WEIGHT TRAINING & FITNESS FOR A LIFETIME **710** **(2 CREDITS)**

Topics include: Benefits of physical activity exercise safety, principles of weight training, health related fitness, exercise and good health, weight control, nutrition and stress management. Students will evaluate their fitness and design an exercise program.

PE: TEAM SPORTS **713** **(2 CREDITS)**

This option offers a variety of traditional and non-traditional team sports such as basketball, volleyball, flag football, soccer, ultimate, softball and other recreational games. Activities presented will vary according to the time of year. Students will learn basic skills and strategies of critical thinking.

SPORTS AND RECREATION **714** **(2 CREDITS)**

NOTE: ACTIVITIES WILL BE SELECTED BASED ON THE EXPERTISE OF THE INSTRUCTOR AND INTEREST OF THE STUDENTS.
This elective course introduces students to a wide variety of team and individual sports, lifetime activities and wellness. Activities may include: basketball, badminton, pickleball, soccer, flag football, softball, ultimate frisbee, tennis, volleyball, self defense, dance, tai chi, golf, snowshoeing, jump roping, aerobic walking.
This class requires active participation. Students will learn to use heart rate monitor technology and will develop a fitness profile analyzing their own aerobic fitness, flexibility, muscular strength and endurance, and caloric intake/expenditure.

FAMILY AND CONSUMER EDUCATION

Courses in Family and Consumer Education prepare both male and female students for their transition to the adult world of work and family life. They empower students to address change and deal with the challenges of balancing work, family, commitment to community and self. All courses help students to apply academic and practical skills to learning experiences that lead to tangible results. They are concerned with the strength and vitality of families and the role of individuals in the workplace and as consumers of goods and services. This discipline teaches knowledge and life management skills related to human growth and development, parenting, child development, nutrition, consumer awareness, careers and employment, use of technology, textiles and clothing, and resource and environmental management.

GROUPING LEVELS

All courses in Family and Consumer Education are heterogeneously grouped. The curriculum in each course allows for individual learning styles and diversity among the students represented. Courses follow the interdisciplinary approach of family and consumer education goals helping students become aware of the connections between knowledge and skills. Students are provided with both hands-on and inquiry-based experiences.

COURSE OFFERINGS

CHILD DEVELOPMENT **761** **(2 CREDITS)**

NOTE: THIS ELECTIVE IS OPEN TO STUDENTS IN ANY GRADE.

Students in this course will study children through a variety of classroom experiences including reading, viewing videotapes, and conversations with guest speakers who work with children in various settings including home child care. Special emphasis will be on pregnancy and birth, language development and gender differences in early childhood. Students will also study special issues and social problems of particular interest to them that relate to the physical, intellectual, emotional and social development of children.

PRESCHOOL INTERNSHIP **763** **(2 CREDITS)**

PREREQUISITE: CHILD DEVELOPMENT OR PERMISSION OF PRESCHOOL TEACHER

Students who have completed Child Development

CLOTHING & TEXTILES 1 **765A** **(2 CREDITS)**

Clothing & Textiles I (one trimester) is an introductory course in which students learn about the clothing and textiles industry and practice basic construction techniques. Each student is expected to supply fabric and notions in order to complete a required number of projects that demonstrate a variety of design techniques. Students receive instruction on both conventional sewing machines and sergers and production.

CLOTHING & TEXTILES 2/3 **765B** **(2 CREDITS)**

Clothing and Textiles II (one trimester) is a course for the student who has mastered basic techniques and wishes to work beyond the beginner level. Projects include a wide range of applications that can be worn or marketed for consumer use. Experience gained in this course can help students to find practical and inexpensive ways to expand their wardrobes. Students will gain entry-level exposure to the clothing, textile and design industry.

FOODS & NUTRITION I **769** **(2 CREDITS)**

This course encourages students to broaden their understanding and appreciation of food. The major goal of this course is to learn a variety of food preparation techniques to make delicious and nutritious food for everyday. Students work in teams to practice decision-making and time management while cooperating in food preparation efforts. A study of current food trends and meal planning is included. A multi-cultural project is one of the major assignments in this course.

FOODS & NUTRITION II **770** **(2 CREDITS)**

This course provides the opportunity for students to experience advanced methods of food preparation. The laboratory experiences are designed to expand on skills, introduce new techniques and work with a wider variety of ingredients. Students also practice time management, recipe adjustment, personal creativity and sanitation practices. A unit on cake decorating will be included as well. Menu planning will be expanded upon to include

grocery shopping and budgeting. The curriculum will be enhanced by the use of professional videos, guest speakers and field trips when possible.

PROSTART/CULINARY ARTS 1 **773B** **(4 CREDITS)**

JUNIORS ONLY

PREREQUISITE: STUDENTS MUST MEET WITH THE INSTRUCTOR AND COMPLETE A PROCESS TO DEMONSTRATE INTEREST IN THE CULINARY FIELD. A MEETING WILL BE SCHEDULED IN MAY FOR ALL STUDENTS WHO REQUEST PROSTART I.

PROSTART/CULINARY ARTS 2 **775B** **(4 CREDITS)**

PREREQUISITE: CULINARY ARTS 1

ProStart is a school-to-career culinary arts program for juniors and seniors interested in careers in food services. The classroom provides the venue for instruction in 25 subject areas, ranging from basic food preparation, to accounting, cost control, sanitation and workplace safety. Through a partnership with local restaurants, paid internships during non-school hours provide job relevant experience. Job site mentors work with students to help them put into practice the skills and food service concepts they have learned in the classroom. Students also write first- and second-year national exams to receive industry-recognized certificates and to qualify for scholarships to colleges and universities offering programs in the hospitality industry. ProStart is a partnership with the Massachusetts Restaurant Association (MRA). Students who complete the two-year program and pass the exam will receive their certification through MRA.

PROSTART INTERNSHIP **774** **(2 CREDITS)**

Students who are pursuing the MRA certification (see ProStart/Culinary Arts course) are required to enroll in a two-credit internship.

ART

The following courses do not require any prerequisites and are available to all students.

- Foundations of Art: 2-D
- Foundations of Art: 3-D

The following courses do not require any prerequisites. Enrollment preference is given to seniors, juniors and then sophomores.

- Photography I
- Ceramics
- Sculpture

The art program has been designed to allow students to elect courses that concentrate on their specific interests. The following courses require that students take *one* Foundations course as a prerequisite:

- Printmaking
- Drawing
- Painting

These courses have as a prerequisite the related level I class.

- Ceramics 2
- Photography 2

The following class has a prerequisite of one foundation class and one other art elective.

- Art Portfolio

The following class has a prerequisite of Art Portfolio

- Advanced Art: Independent Study

COURSE OFFERINGS

FOUNDATIONS OF ART: 2D **606** **(2 CREDITS)**
FOUNDATIONS OF ART: 3D **607** **(2 CREDITS)**

These courses are designed to give all students an in-depth experience in a variety of art areas. Students will learn the essential concepts and skills to pursue art in an effective manner. Sequential assignments will systematically build skills in the following areas: drawing, painting, relief sculpture, 3-dimensional design, sculpture, printmaking and design. The projects in which the students will be involved are the foundation from which they can later expand to more specific subject areas. At the completion of these courses, students will be able to pursue art on their own and/or be prepared to continue electing art courses from all the art options available in this program. 2-D Foundations and 3-D Foundations can be taken in any sequence at any time. In addition to developing their technical skills, students will be challenged to think critically and creatively about their own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

2-D Foundations of Art: Students in this course will focus on the 'Elements of Art' and the 'Principles of Design' while exploring different two-dimensional media. The following concepts will be emphasized: line, shape, value, form, color, space, texture, rhythm, and compositional design. Students will create two-dimensional work in the areas of drawing, printmaking, and painting. In addition to larger projects, students will keep a sketchbook in which they will explore core course content.

3-D Foundations of Art: Students in this course will focus on the 'Elements of Art' and the 'Principles of Design' while exploring different three-dimensional media. The following concepts will be emphasized: line, shape, plane, volume, form, space, balance, harmony, and rhythm. Students will explore assemblage, armature, and additive sculpture while using wire, wood, paper, clay, and found object. In addition to larger projects, students will make drawings in a class sketchbook in which they will explore core course content.

CERAMICS **603A** **(2 CREDITS)**

NOTE: OPEN TO SOPHOMORES, JUNIORS AND SENIORS

This course gives the student a chance to explore a variety of clay sculptural forms, as well as functional objects. Throwing on the wheel and hand-building techniques are integral parts of this course. Various approaches to solutions of problems are presented to provide students with the basic art concepts, skills and techniques needed for translating their ideas into visual terms. In addition to the use of the design elements, emphasis is also placed upon developing an understanding and appreciation of artists, past and present, in the ceramic field. In addition to developing their technical skills, students will be challenged to think critically and creatively about their own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

CERAMICS 2 **603B** **(2 CREDITS)**

PREREQUISITE: CERAMICS I

This course is designed to offer students a structured environment in which they can continue to build on their ceramics skills in order to create more complex and more highly finished pottery with consideration given to functionality. Students will develop the skills necessary to create ceramic ware with well-crafted and suitable lids and be able to duplicate pottery forms to create sets and related multiples for projects that may include some of the following: mugs, pitchers, lidded vessels, bowls, and tea pots. Students will apply the techniques and skills of decorating and glazing to finish their work appropriately, mindful of attention to detail and the principles of function, design and aesthetics. Students will be introduced to Ceramics as a part of a variety of cultures and time periods. Students will have the opportunity to use a computer program to manipulate glazes. In addition to developing their technical skills, students will be challenged to think critically and creatively about their own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

PHOTOGRAPHY **609** **(2 CREDITS)**

NOTE: OPEN TO SOPHOMORES, JUNIORS AND SENIORS

This is an introductory course in black and white photography. Students will learn the techniques and skills associated with manual cameras, black and white film developing, enlarging, printing and dry mounting. Concepts like light, composition, contrast, depth, angles, patterns, textures and content will be explored with each assignment as appropriate. At the completion of each assignment students will be expected to participate in a class critique. Throughout the course students will be introduced to a variety of photographers and their styles by viewing slides, videos, movies, and books, and by doing research and giving a presentation to the class on the work of a famous photographer of their choice. There is a $23 fee for the class which includes film, photographic paper, and chemicals. Although not required, it would be helpful if students have use of a manual 35mm camera that uses 35mm film. Students who do not have access to a camera may borrow one from the school for a $10.00 maintenance fee. The school may provide financial assistance towards these fees for students on free or reduced lunch.

PHOTOGRAPHY 2 **(NOT OFFERED 11-12)**

SCULPTURE **612** **(2 CREDITS)**

NOTE: OPEN TO SOPHOMORES, JUNIORS AND SENIORS

This course introduces students to concepts, methods, and materials used in three-dimensional art. Design elements covered include negative and positive space, form, shape, balance, movement, texture, volume, repetition, & human proportion. Sculptural concepts taught include subtractive and additive, assemblage, and use of armatures. Students will use some of the following materials: wire, wood, plaster, string, cardboard, and clay. In addition, students will be introduced to the history of sculpture. In addition to developing their technical skills, students will be challenged to think critically and creatively about their own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

DRAWING **605** **(2 CREDITS)**

PREREQUISITE: EITHER 2-D OR 3-D FOUNDATIONS OF ART

Students in this course will learn to draw from direct observation, from photographic images, and from their own imagination. The following concepts will be emphasized: contour, shape, value, form, chiaroscuro, space, human proportion, and abstraction. Various drawing styles will be studied. Students will learn to use many drawing techniques such as shading, cross-hatching, and ink washes. Many drawing materials such as pen and ink, charcoal, pastel, graphite pencils, and colored pencils may be explored. Working on in-depth projects and in sketchbooks, students will be challenged to create original and authentic drawings grounded in creative thinking and rigorous study of fundamentals. In addition to developing their technical skills, students will be challenged to think critically and creatively about their own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

PAINTING **608** **(2 CREDITS)**

PREREQUISITE: EITHER 2-D OR 3-D FOUNDATIONS OF ART

This course will enable students to pursue painting techniques and styles in an in-depth manner and will include working from observation, imagination and reproduction. Understanding painting techniques and color theory will be emphasized through weekly sketchbook assignments and ambitious long term projects. Students will work in watercolors, acrylics, and oil paint as they explore the process of creating paintings from sketch to finish. In addition to developing their technical skills, students will be challenged to think critically and creatively about their

own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

PRINTMAKING 611 (2 CREDITS)

PREREQUISITE: EITHER 2-D OR 3-D FOUNDATIONS OF ART

This is a course for students who would like to explore a variety of printmaking techniques. Students will work with linoleum, woodcut or other relief printing techniques. Along with hand printing, students will learn to use a printing press to explore the following intaglio processes: monoprinting, drypoint etching, embossing and collograph. These techniques lend themselves to creating multiples of the same image or design. Experiments in ink color and paper type allow students to create exciting variations. This course will emphasize the following concepts: composition, contrast, theme & variation and color theory. Students will be encouraged to experiment creatively throughout the course. In addition to developing their technical skills, students will be challenged to think critically and creatively about their own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

ART PORTFOLIO 601 (2 CREDITS)

NOTE: JUNIORS AND SENIORS ONLY

PREREQUISITE: EITHER 2-D OR 3-D FOUNDATIONS OF ART AND ONE ADDITIONAL ART ELECTIVE.

This course is designed for the serious art student and is recommended for juniors and seniors. It will cover a variety of art methods and materials. Part of the course will be structured to ensure a high level of competence in specific skill areas such as drawing from life. Students will also explore career options and learn to present art work properly for job interviews and college admissions by photographing their work in slide form. Projects created in this class, as well as art work that was completed previously, will be gathered and evaluated for a portfolio if students wish to do so. Representatives from various art schools will give presentations to this class and will offer students feedback on the students' art work. Over the course of the trimester, students will be expected to create 10-12 portfolio quality pieces. Students should expect to do substantial work outside of class. In addition to developing their technical skills, students will be challenged to think critically and creatively about their own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

ADVANCED ART INDEPENDENT STUDY 614 (2 CREDITS)

NOTE: JUNIORS AND SENIORS ONLY

PREREQUISITE: ART PORTFOLIO (601)

Advanced Art Independent Study is intended for highly motivated students who are seriously interested in the study of art. Students will expand and challenge their visual thinking through in depth exploration of formal and conceptual issues. Students will continue to develop their technical skills with an emphasis on quality while exploring artistic elements and principles. The student and teacher will agree on a preplanned set of goals and objectives based on the student's interests. Ongoing critical analysis, through individual and group critiques will enable both student and teacher to assess the strengths and weaknesses in the work. Students should expect to do substantial work outside of class. In addition to developing their technical skills, students will be challenged to think critically and creatively about their own work and the work of their peers. They will be expected to participate actively in class critiques and discussions.

PERFORMING ARTS

COURSE OFFERINGS

MUSIC CLASSROOM PROGRAM

MUSIC OF THE AMERICAS: FROM BLUES TO HIP-HOP **665** **(2 CREDITS)**
GRADES 9- 12
Through a variety of class activities, guest artists and frequent engagement with many songs and musicians, students will learn about the styles and origins of the music that has been a part of the many different cultures found in North, Central and South America. The course will help students discover the background of various cultures, major influences on the different areas (i.e., African, European, Native Indian) and the musical growth of the various areas. Music to be explored could include: Calypso, Soca, Reggae, Salsa, Merengue, Samba, Jazz/Rhythm & Blues, Musical Theater, Motown/Disco/Rap/Hip-Hop, Rock & Roll.

BEGINNING STEEL DRUMS **667** **(2 CREDITS)**
GRADES 9- 12
In this class, students will learn to play steel drums, learn music reading and fundamentals of music theory including small-scale arrangements and common repertoire for steel drums. Students will be evaluated on academic work as well as performance. An outside performance by the class **may** be included as part of the course requirement at the end of the trimester.

MUSIC THEORY 1 **668A** **(2 CREDITS)**
MUSIC THEORY 2 **668B** **(2 CREDITS)**
GRADES 9- 12
PREREQUISITE: DEMONSTRATED MUSIC READING SKILLS AT THE DISCRETION OF THE INSTRUCTOR
Chords, scales, intervals, composing for one or two voices, ear training, elementary counterpoint and sight singing are the principle content of the first trimester, which builds from simple structures through increasingly complex techniques. In the second trimester, such topics as advanced harmonic structures and techniques, composition, and analysis are considered. Any student considering further music study should take this course. The Advanced Placement Music Theory Exam is available to students who enroll in this class. Students interested in pursuing AP Music should take both trimesters. This is a challenging academic course.

MUSIC ENSEMBLES

The musical ensembles in the Amherst-Pelham Regional Schools are unique among the course offerings, since their culminating activities involve performances in which all students participate together. Each person in the ensemble not only participates in but also contributes to the final result. **Performances are the central activities of these ensembles.**

Each September, every student enrolled in a performing ensemble receives a schedule for the year of after-school performances and after-school rehearsals of the ensemble. This schedule is meant to be shared with parents/guardians.

If a concert is missed, the student must present a note to the director immediately upon return to school. **Failure to participate in a performance will result in a significant reduction of the student's grade for the marking period in which the absence occurs.** Excused absences also deprive the student of a culminating activity that cannot be replicated. In the event of an excused absence from a performance, the student will be asked to perform a portion of the concert repertoire for the Director. Having completed this, the student will receive **partial credit** for the performance missed. Failure to notify the Director will result in the student receiving no credit for the performance part of the grade for that quarter. **The performance part of the grade is worth 35% of the overall term grade.** This policy is fully explained in the course expectations provided by teachers at the beginning of each ensemble course.

A student attending a school-sponsored exchange trip must still follow the requirements listed in the course expectations concerning proper notification to the Director. Upon completion of this, the student will have the opportunity to make up the credit in full for a performance missed during the exchange trip.

AUDITIONS

Students are required to audition for acceptance into the following High School Music Ensembles: Hurricane Singers, Chorale, Symphonic Orchestra, Wind Ensemble and Jazz Workshop. Students interested in auditioning should contact the appropriate ensemble director to find out more about the audition process and schedule. Students should prepare as follows:

- **Symphonic Orchestra**
  Students who wish to audition for Symphonic Orchestra must be prepared to sight read and perform a three-octave scale and a solo piece that meets the criteria set by the ensemble director.
- **Wind Ensemble and Jazz Workshop**
  Students who wish to audition for the Wind Ensemble and/or Jazz Workshop must be prepared to perform all major scales and an audition piece assigned by the ensemble director.
- **Hurricane Singers and Chorale**
  Students who wish to audition for Hurricane Singers and/or Chorale must be prepared to sight read, sing major scales and perform a solo piece that meets the criteria of the ensemble director.

Students must meet with the appropriate ensemble director prior to registering for an audition-only ensemble.

THE CHORAL PROGRAM

Any student in the high school, regardless of prior experience, may sing in a choral ensemble. Participation in Chorale and Hurricane Singers requires an audition and acceptance by the Director. Auditioning for the Concert Choir is **optional**, but **recommended**, so that the director may place the student's voice in the appropriate category. Students who choose not to audition will automatically be placed in the Concert Choir. Before enrolling in any of the choral ensembles, however, students should check the performance requirements.

CONCERT CHOIR — 662C — (4 CREDITS)

GRADES 9-12

This is a mixed-voice choral ensemble open to ninth grade students and students with limited ensemble experience who wish to sing. The repertoire includes, but is not limited to, classical music of various periods, folk songs, spirituals and contemporary selections. No audition or performing experience is necessary. The ensemble will be involved in the end of the year concert with the other ARHS Choral ensembles.

HURRICANE SINGERS — 660C — (4 CREDITS)

PREREQUISITE: AN AUDITION

SOPHOMORES, JUNIORS AND SENIORS

This Ensemble, a full year class, is a performance-based class that is open to students in Grades 10-12. Students must audition for enrollment into this select chorus. The repertoire will explore music from a variety of styles including: Popular/Broadway, World Cultures, Gospel, and the Classical realm. Students will work toward learning musical skills to include: both melodic and rhythmic sight-reading, singing in multiple parts (SSA, SSAA), and development of ensemble sound. The ensemble will perform a minimum of 3 to 5 concerts throughout the year. The ensemble will be involved in the end of the year concert with the other ARHS Choral ensembles.

CHORALE — 661C — (4 CREDITS)

PREREQUISITE: AN AUDITION

SOPHOMORES, JUNIORS AND SENIORS

This is a mixed-voice choral ensemble open to any student in grades 10-12 who wishes to sing and has a successful audition. The repertoire will emphasize *a cappella* (unaccompanied) chamber music of various styles. Prior choral experience is recommended. Familiarity with music notation is a necessity. Chorale gives a minimum of four concerts each year. The student entering the ensemble should be able to perform music at the Grade V or VI level in accordance with the New York State Music Association Manual. For further explanation of skills needed, see Director. The ensemble will be involved in the end of the year concert with the other ARHS Choral ensembles.

THE INSTRUMENTAL PROGRAM

All instrumental music courses are elective performing ensembles. Students should read the performance attendance requirements listed above, under Music Ensembles, before registering for these courses. Students must have prior performing experience on an instrument appropriate to the ensemble.

PHILHARMONIA 669C (4 CREDITS)

GRADES 9-12

The Philharmonia is open to students in grade 9-12 who play the violin, viola, cello or double bass. The ensemble performs three evening concerts each year. In addition, the ensemble performs less formal daytime concerts in the Hampshire County area. The repertoire consists of varied musical selections, drawn from the classical orchestra tradition, from the Baroque to the contemporary, as well as music representing world music traditions and popular music of the United States.

SYMPHONIC ORCHESTRA 670C (4 CREDITS)

PREREQUISITE: AN AUDITION

SOPHOMORES, JUNIORS AND SENIORS

The Symphonic Orchestra is a select ensemble open to students in grades 10-12 who play the violin, viola, cello or double bass. The ensemble performs three evening concerts each year. The repertoire consists of the finest music from the Baroque to the Contemporary periods. The student entering this ensemble must have played for at least on year in the Philharmonia or a similar orchestral ensemble. The student entering this ensemble should be able to perform music at the Grade V or VI level in accordance with the New York State Music Association Manual. Admission is based on an audition with the Director or participation in the Western District Senior Orchestra.

SYMPHONY BAND 671C (4 CREDITS)

GRADES 9-12

Symphony Band offers a high school band experience to wind and percussion students in grades 9-12. The subject matter consists of a representative selection of culturally diverse repertoire from a variety of musical styles and periods. Tone, intonation, phrasing, and interpretation are stressed in this class, as aesthetic sensitivity becomes a focal point in the individual and ensemble experience. For further explanation of skills needed, see Director.

WIND ENSEMBLE 672C (4 CREDITS)

PREREQUISITE: AN AUDITION

GRADES 9-12

Wind Ensemble offers a select ensemble experience for wind and percussion students in grades 9-12. The repertoire consists of the finest music for winds and percussion, including standards/classic repertoire, contemporary music, and music from a wide variety of cultures and time periods. The student entering this ensemble should be able to perform music at the Grade V or VI level in accordance with the New York State Music Association Manual. For further explanation of skills needed, see Director.

JAZZ WORKSHOP 664C (4 CREDITS)

PREREQUISITE: AN AUDITION

SOPHOMORES, JUNIORS AND SENIORS

Jazz Workshop offers an intensive jazz education for students interested in applying their musical ability to the performance of jazz. Class activities include improvisation; rehearsing/arranging music in the jazz idiom; the study of jazz theory, including an understanding of jazz scales and chords; and ear training. Frequent public performances are given.

THEATER PROGRAM

ACTING 638 (2 CREDITS)

In Acting, students will be introduced to basic theater techniques and styles, with particular emphasis on fundamentals of acting. The course will teach fundamentals of voice, the use of the body, stage orientation and direction, developing characters on stage, actual performance, and working with a director. Much of the material used in the course will be generated by the students in the form of improvisations, scene ideas, or real life observations. Students in Acting will work on theater games and exercises, develop improvisational skills, and work on their own scripts during some exercises. Students will have an opportunity for formal and informal performances, as well as being encouraged to take part in ARHS productions.

ACTING II 639 (2 CREDITS)

PREREQUISITE: ACTING OR PERMISSION OF THE INSTRUCTOR

In this one trimester course, students will demonstrate an advanced level of understanding of the acting process by applying the fundamentals learned in Acting I to the technical demands of verse and comedy performance, as well as the production of a full-length play. Students will learn advanced techniques that supplement the fundamental acting method learned in the Acting course in regards to objectives, emotion, and reflection. Students will practice working in stage scenarios involving different styles of staging, lighting and sound usage. As students progress through the course, they will practice organizing their observations and reflections on acting theory and practice through the use of a daily journal. As a final project students will, in either large groups or the whole class, prepare and perform a lengthy one-act or full-length play in class that demonstrates their use of advanced acting technique through a substantial dramatic work.

STAGECRAFT 637 (2 CREDITS)

Stagecraft will introduce students to the technical facilities and skills involved in stage productions. Students will study the use and design of the technical elements of plays: scenery, painting, props, lighting, costumes, makeup, sound and special effects. Students in Stagecraft will read and discuss plays, especially those currently under production at ARHS or other local stages. Students in Stagecraft will work on technical crews for those productions whenever possible.

DANCE PROGRAM

CONJUNTO DE BOMBA: AN AFRO-PUERTO RICAN ENSEMBLE 635B (4 CREDITS)

This is a two trimester performing ensemble that presents the Afro-Puerto Rican tradition of Bomba. Topics covered include: the sacred drum/dance of African Palo as a foundation, the diverse styles of Bomba that have evolved in Puerto Rico since the 1600's, and the less formal community traditions of street Bomba. The Conjunto will perform at various community functions in the Pioneer Valley.

INTRODUCTION TO DANCE 631 (2 CREDITS)

Students in this class will acquire a basic knowledge of ballet, jazz, three styles of modern, hip-hop, partner, and folkloric dance forms. Students will gain an understanding of the history of dance forms and view video clips relevant to the curriculum. Physical coordination, fitness, and flexibility will be developed while the students acquire the listening skills necessary to synchronize movements to the various music genres. The final exam consists of students developing and performing an original piece of choreography that demonstrates knowledge and experience gained over the course of the trimester. NO PRIOR DANCE TRAINING IS NECESSARY.

THE WORLD OF DANCE 632 (2 CREDITS)

This course exposes students to a variety of dance genres from around the world. Introducing the various dance forms from an artistic and anthropological perspective, the course presents dance as a universal means of expression, communication, and an integral tool for the preservation of cultural traditions. Social, political, cultural, and aesthetic elements of dance will be explored. The curriculum will include dance of Brazil, Puerto Rico, Haiti, Cuba, West Africa as well as European and North American forms such as ballet, jazz, modern, and hip-hop. The final exam consists of students creating and performing an original piece of choreography that demonstrates knowledge and experience gained over the course of the trimester. NO PRIOR DANCE TRAINING IS NECESSARY.

DANCE THEATER ENSEMBLE/CHOREOGRAPHY 636 (2 CREDITS)

PREREQUISITE: COMPLETION OF ONE OR MORE DANCE COURSES OR PERMISSION OF THE INSTRUCTOR.

In this one trimester performance class students will learn the foundational skills of choreography and putting original dance works on stage. Students will be asked to conceptualize, construct, notate, edit, teach, and perform dance works in a variety of dance genres and place their work into an overall theater container or theme for the show. Students will develop the skills necessary to effectively critique, teach, and direct their work.. Students will also develop the skills necessary to dance/perform in a variety of movement disciplines under the directorship of their peers. Self and ensemble assessment will be ongoing throughout the year.

OTHER ARHS COURSES RELATED TO THE PERFORMING ARTS

FAMILY AND CONSUMER EDUCATION
Clothing

TECHNOLOGY EDUCATION
Video & Audio Technology I
Advanced Video Production

BUSINESS EDUCATION

Courses in the Business Education Department are designed to prepare students for success in academic classes and to meet the challenges of an automated society in business, industry and post-secondary education in the information age. Broad-based content and transferable skills are emphasized, as well as the attitudes necessary to pursue educational and career goals. Development of skills in communications, problem solving, decision making, computer literacy, career information and understanding of basic business and economic concepts are integrated throughout the curriculum.

The curriculum in the Business Education Department is being developed and redefined on an ongoing basis. Each year, courses are designed or redesigned to build a base of marketable school-to-career technology skills and to provide a robust preparation for college level or technical school work. Business courses prepare students thoroughly for employment through hands-on and activity-based learning. Students master the tools of technology, produce professional documents, and apply critical thinking in all areas of study. All courses have incorporated various sections of the Massachusetts Department of Education Frameworks.

COURSE OFFERINGS

ACCOUNTING 1 — 561B — (4 CREDITS)

This course is an introduction to the financial language of business for sole proprietorships, partnerships and personal use. The course is designed to accommodate students preparing for a career in accounting as well as students who plan to pursue a career in any aspect of business and/or marketing at the college level, for students pursuing a business career, or for those seeking a practical business and/or personal background. Students will learn the systematic methods of keeping records both in business and for personal use. The complete accounting cycle is studied for both a service and merchandising business. Students will complete several comprehensive simulative activities and set up multiple projects on the computer that relate to the accounting cycle. The course is geared to critical thinking, problem solving, cooperative and student-centered learning with an introduction of technology to prepare students who continue in business.

ACCOUNTING 2 — 562B — (4 CREDITS)

PREREQUISITE: ACCOUNTING 1 OR TEST-OUT

Accounting 2 is a continuation of the equation and systems approach used in Accounting 1. The course content includes forms of business and accounting concepts to perform advanced accounting procedures using technology and accounting knowledge needed for making business decisions. Topics include internal control, cash receivables and payables, plant and equipment inventory valuation, and payroll accounting. Course content includes analysis of all types of business transactions journalizing and posting procedures, and preparation and interpretation of financial reports. Through simulations, students maintain the financial records for a company using actual source documents. Articulated community college credit may be awarded upon successful completion of a sequence of both courses.

BUSINESS LAW — (NOT OFFERED 11-12)

KEYBOARDING AND WORD PROCESSING A — 565 — (2 CREDITS)

Keyboarding and Word Processing is a trimester course designed to develop essential skills in word processing using Microsoft Word, as well as proficiency in the touch typing system of keyboarding. The ability to utilize the basic functions of Microsoft Word is becoming increasingly essential for everyone, both in academics and for business. This course has been suggested by the English Department as a way to build greater confidence and efficiency when using the computer for individual and class writing assignments.

KEYBOARDING AND WORD PROCESSING B — 566 — (2 CREDITS)

This course will explore the uses and potential of the Microsoft Office program. The class will use a series of simulations, exercises and assignments from other classes to review and build on keyboarding skills. Students will develop an understanding of Microsoft Word, Microsoft Excel and Microsoft Power Point. In addition to improving keyboard efficiency students will learn how to document and format letters and papers, create tables and graphs for reports and labs in Excel and prepare basic Power Point presentations. Grading will consider on-task time, class notebook or portfolio, worksheets, quizzes, tests, projects and activities, reports (oral or written), class participation and care and use of the equipment.

HOSPITALITY AND SPORTS MANAGEMENT 569 (2 CREDITS)

Hospitality and Sport Management is an exploratory course for students with an interest in the fields of hospitality and sports. The goal of the course is to understand the marketing concepts and theories that apply to the hotel, restaurant, travel, tourism, retail and sport industries. Students will explore the history and economics of the industries; study advertising and promotion ideas; develop sales promotion campaigns; examine concessions and merchandising venues; prepare media and promotion, public relations, and event management; and execute the operation of several events and simulations. This is a project-based course designed to give students opportunities to learn what it would be like to work in the hospitality and sports industries. Students working in teams will plan, implement and execute activities for athletic and hospitality programs at the high school. The class will also research and work with businesses and organizations in the community. There will be a variety of field trips to sports arenas, hotels, restaurants and retail sites. Working cooperatively on large- and small-group projects is required. Evaluation will be based on a broad range of projects, papers and tests. Students will be expected to prepare and present research projects using the computer and Internet sources.

MARKETING MANAGEMENT 567 (2 CREDITS)

This course is intended to introduce students to the dynamic world of marketing. Marketing is one of the fastest growing business segments in the country. The system of marketing activities will be introduced through fundamental principles, concepts and student applications. Students will work throughout this course to create a marketing plan for their own individualized product or service. Computers will be utilized for research, application and presentation of material. Some of the topics to be covered in this class are the marketing mix, sales, promotion, advertising and display.

ENTREPRENEURSHIP 568 (2 CREDITS)

Entrepreneurship is a one-trimester survey course created to introduce potential entrepreneurs to the full process of starting a business. Entrepreneurs are the cornerstone of the American free enterprise system. This course will expose the students to the factors that are involved in becoming an entrepreneur—business terminology, basic entrepreneurship concepts, fundamental operating principles, ethical issues and e-commerce as they develop their own business plan. Assessment tools will include case studies, tests and business plan presentations. Computers will be utilized as a tool in this course to explore and finalize ideas. Based on the information in this course, students can then select appropriate avenues for further study or go ahead and "take the plunge" and start that dreamed of venture.

COMPUTER EDUCATION

The goal of the Computer Education Department is to serve the needs of increasing numbers of students in the secondary schools with interest in learning computer programming, computer graphics, yearbook production, and web design. Some students may wish to take a course of an introductory or overview nature for general background. Students wishing such a general introduction or overview are encouraged to consider the following courses:

- Computer Programming 1
- Computer Graphics (see Technology Education)
- Keyboarding and Word Processing
- Web Design
- Web Design 2

Students who have a strong interest in computer programming or an area of study in which computers are extensively used should consider taking additional courses in the programming sequence:

- Computer Programming 2, 3, 4

Students wishing to further expand their background in computer programming should consider the possibility of taking computer science courses at the University of Massachusetts while receiving credit through the ALP program at the high school.

COURSE OFFERINGS

COMPUTER PROGRAMMING 1 591 (2 CREDITS)

PREREQUISITE: MINIMUM OF C IN ALGEBRA I, IMP I OR TRANSFORMATIONAL GEOMETRY/PARAMETER GRAPHING

Games and every other piece of software that you use are based on the science of computer programming. When you play a video game, how does it work? How does the computer actually "know" that the asteroid hit your spaceship? In this introductory course, students work at their own pace using workstations in the school's computer classroom. Programming is both intriguing and challenging; you have to apply analytical reasoning in order to get your program to work. During the first part of the course, students complete lab activities including the following topics: variables, repetition loops, decision structures, subroutines, and user interaction. Using the programming language of Python or Visual Basic, the activities incorporate a strong emphasis on graphics, so that students can learn to draw complicated designs on the screen. In the second part of the course, students design their own programming project in order to apply the concepts they have learned.

COMPUTER PROGRAMMING 2 592 (2 CREDITS)

PREREQUISITE: COMPUTER PROGRAMMING I

This course emphasizes cultivation of good programming habits and communication skills in a team programming environment. The curriculum focuses on large important ideas in programming, such as recursion and modularization, independent of a particular language. While all of the coding for this class will be done in the language of Visual Basic,, students will also do a comparative study to see the implementation of common constructs in other languages such as PHP, Perl and Javascript. With extensive use of user-defined types, students begin the transition to object-oriented thinking and prepare for the next course in the programming sequence.

COMPUTER PROGRAMMING 3 593 (2 CREDITS)

PREREQUISITE: MINIMUM OF B IN COMPUTER PROGRAMMING II (OR PERMISSION OF INSTRUCTOR)

This course introduces students to the object-oriented paradigm of computer science. All coding will be done in Java, which is now the language used in the Advanced Placement curriculum. Learning Java is a challenge, as it requires a significant amount of abstract thinking. Topics include: variables, operators, flow control, arrays, methods and classes. Students will apply these concepts to develop their own programming projects.

COMPUTER PROGRAMMING 4 594 (2 CREDITS)

PREREQUISITE: MINIMUM OF B IN COMPUTER PROGRAMMING III

This course continues the object-oriented focus of Computer Programming III. Students learn to maximize the flexibility and reusability of code. Topics include: inheritance, polymorphism, encapsulation, abstract classes, implementation of interfaces, and exception-handling. Students in this course may also elect to work on the Advanced Placement Computer Science A curriculum. These students will devote more time to the prescribed AP curriculum, including an extensive case study, and less time to individual programming projects.

COMPUTER GRAPHICS **580** **(2 CREDITS)**

This introductory one-trimester course is designed to help students develop presentation skills in visual/graphic arts and publications. Using industry standard applications Adobe Illustrator and PhotoShop, you will study the elements of digital imaging and graphic design . You will learn how to integrate images and text to produce high quality publications and computer-based presentations. The curriculum covers photo retouching and image compositing, typography, color, magazine and web advertisement production, and logo design, among other projects. It is recommended that students who enroll in this class type at least 20 words per minute.
See website for more information. http://www.arps.org/users/hs/moriartm/

COMPUTER REPAIR **(NOT OFFERED 11-12)**

WEB DESIGN 1 **586** **(2 CREDITS)**

This one-trimester course is designed to introduce students to the fundamentals of Web site design and creation. Organization and navigational design, visual layout, and selection of material will be covered. Students will learn the HyperText Markup Language (HTML), and will also work with Expression Web and Dreamweaver, web authoring software applications. Students will design and create websites from a variety of perspectives including the personal, business and educational. This is a hands-on course that requires time at a computer workstation to fulfill all class project objectives. In order to succeed, students may have to spend time after school in a computer lab. A community service project involving the design and creation of a web site for a local person or organization is required. See website for more information. http://www.arps.org/users/hs/moriartm/

WEB DESIGN 2 **589** **(2 CREDITS)**

PREREQUISITE: C+ OR BETTER IN WEB DESIGN 1 OR PERMISSION OF INSTRUCTOR

This one trimester course is designed to expand and deepen the web design skills students developed in Web Design 1. This course is not for beginning level web design students. The following topics will be covered: Advanced HTML, Professional Layout and Design, Advanced Cascading Style Sheets, as well as some Java Scripting. Students will participate in both personal and public projects. This is a hands-on course that requires time at a computer workstation to fulfill all class project objectives. In order to succeed, students may have to spend time after school in a computer lab.

TECHNOLOGY EDUCATION

The Technology Education Department offers a variety of heterogeneously grouped classes. All classes are interdisciplinary in nature and provide significant reinforcement of traditional academic classes. The strongest linkages are with science and mathematics. Most classes are presented using a problem-solving approach to better meet the needs of many learning styles. While all of the courses in the Technology Education program respond to the content and skills mandates of the Science and Technology/Engineering Frameworks, the Engineering & Technology classes most closely reflect the content in the state curriculum document. More focused classes are organized into Communications, Wood Technology, and the Energy & Transportation clusters. Students taking a series of courses can get started on a career path or build skills and knowledge in a leisure activity. All classes in the department are activity and lab-based. Classes in the areas of electronics, video and engineering have homework requirements. Some classes work mostly in small groups while others have students working individually. Many classes are closely linked to other departments in the school: Video & Audio Technology, Computer Graphics and Wood Carving & Sculpture have significant art content while Electronics, Computer Aided/Mechanical Drafting and Engineering & Technology incorporate significant amounts of mathematics and/or science. The department has arranged for articulation credit with the Art Institute-Boston in the Video area making it possible to earn 6 college credits while at ARHS.

The Engineering and Technology 1/ 2 sequence is designed to prepare students for the MCAS Engineering Subject Test, which is one way to meet the MCAS Science graduation requirement.

COURSE OFFERINGS

COMMUNICATION TECHNOLOGY CLUSTER

COMPUTER GRAPHICS 580 (2 CREDITS)

(See description, listed under Computer Education.)

YEARBOOK PRODUCTION (FORMERLY DESKTOP PUBLISHING) 550 (2 CREDITS)

PREREQUISITE: COMPUTER GRAPHICS, STRONGLY RECOMMENDED

The focus of this trimester-long class is the production of the Amherst Regional High School yearbook, *The Goldbug*. Students in the yearbook class will be involved in multiple aspects of yearbook production. Assignments include the design and formatting of templates, photography, scanning, photo retouching with Adobe PhotoShop, marketing, theme development, ad sales, ad design, the generation of art and titles, typing, caption writing, financial record keeping and proofreading. All pages are created using Adobe InDesign. Fall Term focuses on completion of the Student Life, Fall Sports, Performing Arts, Superlatives, Dividers, Advertising, Supplement, and Senior Sections. Winter Term involves completion of Underclassmen, Winter Sports, Faculty, Events and Club sections. Completion of Computer Graphics is recommended, but not required.

YEARBOOK PRODUCTION 2 551 (2 CREDITS)

PREREQUISITE: YEARBOOK PRODUCTION

Students will be expected to take a leadership role in managing the planning and production of the school yearbook, *The Goldbug*. Emphasis will be on editorial and creative decision-making. Students will also be responsible for training and helping Desktop Publishing I students design and layout pages in Adobe InDesign; taking digital photographs, scanning and manipulating images using Adobe PhotoShop and other software; accounting, proofing and submitting pages to the publisher.

VIDEO AND AUDIO TECHNOLOGY I 520A (2 CREDITS)

In this class, you will explore the media of digital sound and video to create stories and messages. You will learn the basics of video camera operation, the art of cinematography, the use of sound mixers, microphones, lighting and digital editing. You will produce a radio public service announcement, a "how-to" video and a television commercial. All work is completed in groups of 2-3 This class will require some work outside of class, including homework, filming and/or editing. Grading for this class considers quizzes, preproduction and finished projects, cooperation, productivity, effort and care of equipment. About 70% of this class is activity or lab based.

ADVANCED VIDEO PRODUCTION (FORMERLY VIDEO AND AUDIO TECH 2) 520B (2 CREDITS)

PREREQUISITE: VIDEO AND AUDIO TECHNOLOGY I OR PERMISSION OF THE TEACHER

This class offers students who already know the basics of cinematography, camera operation, lighting and sound equipment and non-linear editing an opportunity to focus on the technology or art of filmmaking and develop greater proficiency. Students will work on 2-3 in-depth activities in small groups. The emphasis will be on the documentary and music video and the use of special effects and storytelling techniques used in those genres. You will learn how to use green-screen, compositing, as well as sharpen your editing skills. This class requires a commitment of after-school time some outside of class time to film and edit required pieces.

BROADCAST JOURNALISM (FORMERLY VIDEO STUDIO PRODUCTION) 521 (2 CREDITS)

PREREQUISITE: VIDEO & AUDIO TECHNOLOGY I

This class introduces students to live television studio production techniques. We will plan and produce weekly thirty-minute news programs for redistribution on ACTV. Students will take on the roles of director, producer, lighting technician, sound technician and camera operator, news anchor, weatherperson and sportscaster. The program will include pre-recorded journalistic pieces. Production teams will develop scripts, as well as complete the technical work as part of this class. The ability to work in cooperative teams as well as the ability to take individual responsibility for producing an assigned segment of a show is essential. Time may be needed outside of class to complete projects. Curriculum will also cover broadcasting history and operations, media ownership, censorship, current issues in broadcast journalism and will include a field trip to a local television station.

ENGINEERING CLUSTER

COMPUTER AIDED/MECHANICAL DRAFTING & DESIGN 1 530A (2 CREDITS)

PREREQUISITE: GEOMETRY (PRIOR TO TAKING COURSE OR CONCURRENT)

Students will learn how to create and interpret a variety of formal drawings such as isometric, perspective, oblique and orthographic as well as becoming more skilled in geometric construction, lettering, dimensioning and composition. They will also learn how to create cross sections, multi view drawings and the complexity of the line alphabet. Roughly half of this course involves traditional hand drawing skills that will help support the students' computer based work. Students will learn the ProDESKTOP CAD software package. This is a very versatile program commonly used in industry. Most assignments come in the form of design tasks such as buildings, vehicles, electronic products, furniture, etc, or problems that require creativity on the part of the student to solve. The class is fast paced, deadline oriented, competitive and it aims to mimic the working environment of a CAD professional. Good math and measurement skills are helpful as is an eye for detail and an interest in design.

COMPUTER AIDED/MECHANICAL DRAFTING & DESIGN 2 530B (2 CREDITS)

PREREQUISITE: COMPUTER AIDED/MECHANICAL DRAFTING & DESIGN 1, MINIMUM B GRADE

This course is a continuation of CAD 1. Students will continue to investigate a variety of complex drawing methods both on the drawing board and computer. The design tasks or problems given to the students will be more challenging and the expectations for accuracy and quality of presentation will be higher. This course will provide students with a wide range of useful skills that could be utilized in a number of exciting fields of study or employment such as engineering, interior design, architecture, industrial design and video game design. The class is fast paced, deadline oriented, competitive and it aims to mimic the working environment of a CAD professional. Good math and measurement skills are helpful as is an eye for detail and an interest in design.

COMPUTER AIDED/ MECHANICAL DESIGN IN ARCHITECTURE 1 532A (2 CREDITS)

PREREQUISITE: Computer Aided/Mechanical Drafting & Design 1 and 2

This course is designed to introduce the student to the basic layout concept of computer aided or mechanical architectural design and drafting. Students will learn to design and redesign houses, as well as become more skilled in dimensioning, scaling and quality lining with traditional drafting boards and drafting tools. Students will learn how to use specific architectural design computer software and produce accurate three dimensional renderings of the buildings they design. Students will also learn about construction and architectural technology. . Good measurement and math skills as well as a good sense of design are helpful to students in this course.

ENGINEERING & TECHNOLOGY 1 536 (2 CREDITS)

Engineering and Technology 1 introduces students to the basic principles of engineering through real life problem solving activities. Beginning with a definition what engineering is and what it entails we will look at a variety of career paths, study organizational systems, hydraulics, electrical theory, mechanics, robotics, structures and forces. Visual communication will be studied through the creation and use of informal sketches, formal drawings and Computer Aided Design.

Studying the basic properties of engineering materials such as elasticity, density, plasticity, conductivity, thermal conductivity, hardness, and melting points will enable students to choose the right material for their projects. There will be extensive time in the lab building prototypes in groups and individually where students will learn how to use tools and equipment safely as well as to solve real life problems. This is the first of two courses that prepares students for the Technology/Engineering MCAS test option.

ENGINEERING & TECHNOLOGY 2: POWER AND ENERGY 537 (2 CREDITS)

PREREQUISITE: ENGINEERING AND TECHNOLOGY 1

This activity and research based class continues to explore the methods and practices used in engineering relating to power and energy and, more specifically, alternative energy systems. Activities include the continued refinement of skills in ProDesktop and the investigation and application of heat transfer, electrical, hydraulic, pneumatic principles in the development of useful alternative energy devices. Activities are completed by engineering teams and a prototype is produced which is presented to the class as a Power Point upon completion. To complete the prototype, students will brainstorm a solution to a power and energy problem, complete research on the materials used, do a limited patent search, apply the laws of science and mathematics, learn how to safely use the equipment needed to make the prototype and verify the solution with mathematics and scientific laws. This is the second of two courses that prepares students for the Technology/Engineering MCAS test option.

ELECTRONICS 1 **(NOT OFFERED IN 11-12)**

WOODWORKING TECHNOLOGY CLUSTER

WOOD TECHNOLOGY 1 **522A** **(2 CREDITS)**

This course provides an opportunity for students to explore the basics of wood technology. While working with wood, students will study careers in the wood industry, learn lab safety, the use of basic hand and power tools, lathe turning, cabinet making techniques, a variety of finishing techniques and more. Approximately 70% of class time will be devoted to project and lab work, and students will design and complete their own creative projects. These projects can include any of the hundreds of items made from wood, such as tables, benches, and speaker cabinets. Students will utilize many of the principles learned in science and mathematics courses in Woodworking Technology I.

WOOD TECHNOLOGY 2 **522B** **(2 CREDITS)**

PREREQUISITE: WOOD TECHNOLOGY 1

This course is a continuation of the concepts covered in Wood Technology I. Students will build on their knowledge of basic tool use by working with advanced machine operations and computer controlled machines. Student projects will be on a much larger scale than those completed in Wood Technology I and may include instrument making, timber frame building, and large-scale items such as sea kayaks and desks. An in-depth study of the wood industry will include the concepts of architectural styles and millwork, material testing.. Approximately 70% of class time will be devoted to project design and lab work.

WOOD TECHNOLOGY 3 & 4 **524A/524B** **(2 CREDITS EACH)**

PREREQUISITE: WOOD TECHNOLOGY 1 AND 2

This course is designed for the serious Wood Technology student who might be thinking of related careers. We will be exploring career paths in the fields of Wood Technology and Forestry. The course will be project-based and will focus on the building of a portfolio for application presentation to post-secondary schools and workplaces. Projects will include timber frame construction, architectural design, instrument making, lumber retailing, forestry, boat building and wood technology testing. We will also work on a research project of the student's choice.

WOOD CARVING AND SCULPTURE 1 **526A** **(2 CREDITS)**

This trimester course will allow students to explore wood carving, including letter, relief and three-dimensional sculpture, with a focus on free form and individual creativity. Students will be exposed to tool selection and use, safety, sharpening, properties of wood, studio safety, gluing and finishing. Each student will be guided through the design and carving of an individual piece.

WOOD CARVING & SCULPTURE 2 **526B** **(2 CREDITS)**

PREREQUISITE: WOOD CARVING & SCULPTURE 1

For those who really enjoyed Wood Carving and realized that one trimester was not enough time to do the really great projects you had ideas for, this course will be an in depth study of carving in the round, including wildlife, figure, abstract sculpture, folk art, and indigenous people art carving. Project and studio work comprises about 80-90% of the class time.

TRANSPORTATION CLUSTER

CONSUMER AUTO 516 (2 CREDITS)

NOTE: OPEN TO SOPHOMORES, JUNIORS AND SENIORS ONLY

Consumer Auto aims to prepare the student for the responsibilities of car ownership. The course covers the basic functions of the automobile, routine maintenance, repairs and trouble shooting. Students will also learn about researching and buying automobiles, financing, insurance, state inspection and the economic implications of ownership. Working safely both in school and at the roadside during an emergency will be covered as will how to handle car dealers and mechanics. The emergence of new automotive technology will also be discussed. With this knowledge the student will have the ability to save money and make a wise decision regarding a major investment. An ideal class for students looking to prepare themselves for car ownership, improve their mechanical skills or as an introduction to advanced level auto technician training. This is a "hands on" course and students are expected to take a full part in lab activities.

ADDITIONAL ELECTIVES

SURVIVAL LIVING 258 (2 CREDITS)

JUNIORS AND SENIORS ONLY

REQUIREMENT: A CURRENT PHYSICAL EXAMINATION REPORT IS REQUIRED **PRIOR** TO BEGINNING THIS COURSE. A SCHOOL SPORTS PHYSICAL EXAMINATION COMPLETED IN THE FALL IS ACCEPTABLE.

This after-school course provides students with the necessary skills and self-confidence to cope with a situation in which they must live with minimal food and equipment. Topics will include: group dynamics, fires, edibles, shelters, first aid, orienteering, and keeping warm. Many of these topics will be studied in an outdoor experiential format. The culminating event will be a three-day solo camp-out. The class meets for three hours after school twice each week, and camp-outs are part of the curriculum. This schedule precludes student participation in spring athletics. Students in music and drama groups often have performance conflicts that make participation in this course very difficult or impossible. This course cannot be taken for physical education credit.

MSAN LEADERSHIP SEMINAR 930 (2 CREDITS)

JUNIORS AND SENIORS ONLY

PROCESS: Students who request the Minority Student Achievement Network (MSAN) Leadership Seminar will be considered based on meeting the prerequisites and the space available. Typically, students are nominated for the program by ARHS faculty, but interested students are encouraged to contact their guidance counselor without being nominated.

PREREQUISITE: Students must meet with the instructor and demonstrate readiness to critically examine the essential question, *Why does the Achievement Gap persist?* A meeting with the instructor will be scheduled in May for all students who request MSAN Leadership.

This course is designed to prepare and support students taking on leadership roles as agents of change at ARHS. The course examines the national and local experiences of students of color and low income students, focusing on measures of school achievement. Using sociology to develop a framework for understanding of the key concepts of race, ethnicity, gender and class, organizational change, and educational processes, students examine how these concepts influence educational outcomes. Students develop and implement action plans to address the achievement gap.