



The **CRLS** Experience 2011-2012

A Guide to Curricula and Extra-Curricular Activity

OPPORTUNITY, DIVERSITY, RESPECT



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The Cambridge Public Schools is an equal opportunity employer and is committed to the provision of quality educational programs for all students. CPS does not discriminate on the basis of race, color, sex, religion, national origin, disability, genetic information, age, or sexual orientation.

Introduction



■ FROM PRINCIPAL CHRIS SAHEED

On the pages of this catalog are many exciting opportunities to learn more about yourself and the world around you, to become a well educated and informed person, prepared for your post secondary plans.

As you choose courses and programs, think about challenging yourself to use your mind well and stretching yourself beyond the familiar. We are proud to offer such a rich variety of opportunities to prepare you well for life after CRLS. I wish you all of the happiness that will come with your anticipated success.

Sincerely,
Chris Saheed

■ PARENT LIAISON

The primary role of the CRLS Parent Liaison, Greta Hardina, is to facilitate school-to-home and home-to-school communication. Parents should feel free to call with questions, concerns, comments and ideas. The Parent Liaison can also help parents become involved at CRLS through volunteering, joining a committee, or running for School Council.

TO CONTACT GRETA HARDINA, CRLS PARENT LIAISON:

Phone Number 617-349-6660
Fax Number 617-349-6749
E-mail Address: ghardina@cpsd.us

■ MISSION STATEMENT

The mission of the Cambridge Rindge and Latin School is to provide a quality education to every student through rigorous, comprehensive, and personalized teaching and learning. Working in partnership with families and the wider community, we maintain a nurturing, respectful, and safe environment where educators and students hold themselves to high standards. We value academic excellence, creativity, diversity, perseverance, collaboration, and responsible decision-making. Within and across our learning communities, we prepare lifelong learners who participate thoughtfully, responsibly, and productively in a global, democratic society.

■ QUICK FACTS

Number of Students	1,594
Number of Staff	177
Student - Teacher ratio	9:1

CRLS: Cambridge Rindge & Latin School is a comprehensive high school divided into four learning communities (LCs), the High School Extension Program (HSEP), and the Rindge School of Technical Arts (RSTA).

- » Designed to promote high levels of learning and achievement for all students
- » Each LC has from 350 to 400 students
- » Honors courses offered in all core subjects (English, history, mathematics, science and world languages); Advanced Placement courses available to 11th and 12th grade students
- » Utilizes college-like, 4x4 block scheduling
- » Offers “Physics First” to all Freshmen that includes an open Honors option
- » Multiple awards won in athletics, academics and performing arts
- » Social, academic, career and college counseling available for all students
- » Over 30 clubs and extra-curricular activities

RSTA: Rindge School of Technical Arts offers fully-approved Career & Technical Education (CTE) programs of study in ten different areas, as well as a number of elective, one semester courses in Business, Computers, and some of the technical areas.

- » Technical Arts Exploratory course for freshmen
- » Student certifications available in several programs of study

HSEP: High School Extension Program provides students with an alternative option for pursuing a high school diploma.

- » Located in a Cambridge Public School facility
- » Course curriculum, academic requirements and eligibility for graduation aligned with state guidelines

■ SCHOOL REGISTRATION

Admission to the Cambridge Public Schools is done at the Family Resource Center (FRC). The FRC also connects families with local services.

PHONE: 617-349-6551 or 617-349-6068

OFFICE HOURS:

Registration takes place from 8:30am–3:30pm all year long, except holidays.

NEW TO CAMBRIDGE PUBLIC SCHOOLS?

Families moving to Cambridge or transferring from a charter or private school need to complete a full application package, including a language assessment, if necessary. Detailed information on school registration can be found on the Family Resource Center's web site located at www.cpsd.us.

■ FAMILY INVOLVEMENT

CRLS SCHOOL COUNCIL: The State Education Reform Act mandates that there be an elected School Improvement Council in each public school made up of parents, teachers, students and community representatives, and co-chaired by the principal. The CRLS School Council usually meets on

the last Tuesday of the month and is responsible for advising the principal in setting educational goals, identifying educational needs, reviewing the school's budget and creating a school improvement plan. Parents/guardians serve staggered 2-year terms so that some members are always new and some are experienced. Elections are well publicized each spring, and interested candidates must submit a nomination form in order for their names to be included on the ballot.

FRIENDS OF CAMBRIDGE ATHLETICS: The Friends of Cambridge Athletics (FOCA) is a non-profit, volunteer group of parents and community members who support the CRLS Department of Health, Physical Education and Athletics, teams and coaches. Their goals include: ensuring gender equity by increasing athletic opportunities for girls, guiding the development of new teams and enhancing ninth-grade and Club sports, and sponsoring recognition of student-athletes and coaches at an annual event. FOCA sponsors three main fundraising events: the Walk-a-Thon in the fall, the Winter Raffle and the CityRun in the spring, and also sells athletic gear throughout the year. Funding for teams and clubs is provided by the FOCA Development Fund. More information is available at the CRLS Athletic Office: 617-349-6690.

ARTS COMMITTEE: The CRLS Arts Committee is a parent group developed to help support the students, programs, performances and exhibits of the Visual and Performing Arts Department. Activities include providing receptions for the opening night of arts events, staffing performances by ushering or selling tickets and publicity.

FRIENDS OF CRLS: FOCRLS is a 501(c)3 tax-deductible non-profit public charity founded by two parents in January '07. Its mission is to raise private funds from within the Cambridge community to support and enrich the academic and social development programs at Cambridge Rindge and Latin School and in so doing promote achievement for all students and a greater community investment in the future of Cambridge youth.

COMMUNICATIONS: CRLS Administrators and staff continue to develop and implement ways to provide parents and families reciprocal opportunities to communicate with CRLS administration, faculty and staff. Some of the sources of information about CRLS include the CRLS website, CRLS Newsletter, Automated Phone Calls, School-wide Parent Forums and letters from the Principal. We also encourage families to read the daily news bulletin, Did You Know, which is available in print to all students and available every day on the website. Stay tuned to Cambridge Educational Access TV, Cambridge cable channels 98 and 99 for sports and event coverage, and school news and information. For schedule info and online viewing visit cpsd.us/mas.

For translation services, the CRLS International Center and the district's Family Resource Center provide resources.



Contact Information www.cpsd.us/crls/

CRLS Main Office 617-349-6630

Dr. Christopher Saheed, Principal	349-6630
Robert Tynes, Assistant Principal	349-6707
Rindge School of Technical Arts (RSTA)	349-7782
Dr. Michael V. Ananis, Executive Director RSTA	349-6766
High School Extension Program (HSEP)	349-6880
Family Liaison	349-6660
Director of Security	349-6772
Adolescent Parenting Program	349-6740
Athletics	349-6690/6691
Career and College Resource Center	349-6697
Coordinator of Guidance, Lynn Williams	349-6697
International Center	349-6667
Library	349-6781
MCAS Coordinator	349-6796
Project 10 East	349-6486
Scholarships & Awards	349-6697
Special Education	349-6734
Teen Health Center	349-6719
War Memorial Pool	349-6237

Learning Community "C" 349-6674

Dean of English Curriculum & Program, Linda Mason	349-6676
Secretary, Debbie Gentile	349-6674
Dean of Students, Susie Espinosa	349-6681
Secretary, Jean Kuropatkin	349-6680
Guidance Counselor, Stephanie Richards	349-6642
Guidance Counselor, Dr. George Finn	349-6671

Learning Community "R" 349-6661

Dean of Social Studies Curriculum & Program, Damon Smith	349-6662
Secretary, Martha Sennott	349-6661
Dean of Students, Maria DiClemente	349-6738
Secretary, Melissa Sousa	349-6736
Guidance Counselor, Michael Tubinis	349-6757
Guidance Counselor, Lorraine Davis	349-6684

Learning Community "L" 349-6638

Dean of Science Curriculum & Program, Allan Gehant	349-6637
Secretary, Miriam DaSilva	349-6638
Dean of Students, Maria Filomena Silva	349-6664
Secretary, Yvette Jackson	349-6663
Guidance Counselor, Larry Poirier	349-6666
Guidance Counselor, Janani Nathan	349-6641

Learning Community "S" 349-6652

Dean of Mathematics Curriculum & Program, Jeff Gaglione	349-6650
Secretary, Terry Gist	349-6652
Dean of Students, Jamal Prince	349-6723
Secretary, Donna DiTucci	349-6704
Guidance Counselor, Dan Weathersby	349-6758
Guidance Counselor, Jodi Mace	349-6655

DEPARTMENT COORDINATORS AND LEAD TEACHERS

Arts, Visual and Performing:	349-6788
Dr. Elaine Koury, Coordinator	349-6788
Susan Holm, Teacher-In-Charge	349-6788
Athletics: Maryann Cappello	349-6690
AVID Coordinator: Leslie Davis	349-6797
Career and Technical Education, RSTA:	349-6782
Clare Garman, Career Counselor	349-6765
Jaci Rubin, Cooperative Education	349-6884
English Language Acquisition: Michelle Madera	349-6473
English Language Arts: Janice Tingle	349-7762
Guidance: Lynn Williams	349-6698
Health Education: Kim DeAndrade	349-6851
Mathematics: Mark Healy	349-6791
MCAS Coordinator: Gail Stein	349-6796
Media Arts Studio: Ginny Berkowitz	349-6744
Physical Education: Scott Cody	349-6690
Science: Lisa Scolaro-Santy	349-3012
History/Social Science: Wendell Bourne	349-6731
Special Education: Christine DeYeso	349-6734
Tutoring Center: Rene Meshon	349-4873
World Languages: Dr. Salvatore Trapani	349-6718



Student Life

■ CLUBS

While academics are the foundation of CRLS, students have numerous opportunities through clubs, student government, the arts, and athletics to enhance their experience.

There are over 30 clubs for students to develop new skills, support one another, engage in community service projects, and have fun. Some of the clubs at CRLS include:

- | | |
|---------------------------|--|
| » Alpine Ski & Board Club | » Latino Club |
| » Asian Club | » Math Club |
| » Best Buddies | » Media Arts Studio:
Animation, Falcon Sports
Weekly, Radio, Youth View
Cambridge |
| » Biotechnology Club | |
| » Chess Team | |
| » Club 4 | » Minority Student Achievement
Network |
| » Creative Writing Club | » Model United Nations Club |
| » Culinary Club | » Music Production Club |
| » FIRST Robotics Club | » Peer Mentors |
| » Future Teachers Club | » Project 10 East (Gay-Straight
Alliance) |
| » Global Awareness Club | » Register Forum (school
newspaper) |
| » Global Citizenship Club | |
| » Haitian Club | » Science Team |
| » Health Care Club | » Speech and Debate Club |
| » Irish Heritage Club | » Student Government |
| » Italian Club | » Wilderness Club |
| » Latin Club | |



Athletics

As a member of the Greater Boston League (GBL), the mission of the CRLS Athletic Department is to develop and maintain a culturally sensitive, comprehensive interscholastic sports program as an integral component of the total educational process.

Currently, students in grades 9-12 are provided the opportunity to participate in 32 competitive athletic teams or club sport activities.

■ ATHLETIC FACILITIES

The CRLS athletic facilities are shared with the city. The War Memorial Pool and the Frisoli Field House and tennis courts are open to city residents when not in use by the high school. Athletic fields are located in North Cambridge at Danehy Park and Russell Field. The golf team practices at the Thomas P. O'Neill, Jr. Municipal Golf Course at Fresh Pond and the crew team uses the Cambridge Boat House.

■ FALL

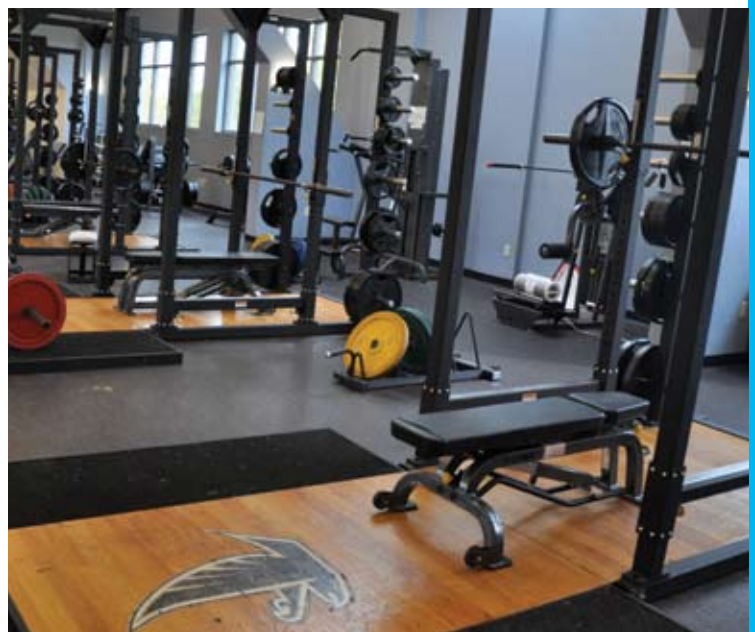
- Boys Cross Country
- Cheerleading (Football)
- Golf
- Girls Soccer
- Girls Volleyball
- Learn to Sail
- Girls Cross Country
- Football
- Boys Soccer
- Learn to Row

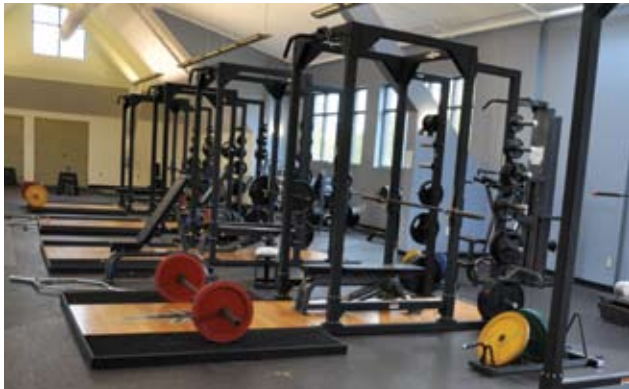
■ WINTER

- Boys Basketball
- Cheerleading (Basketball)
- Gymnastics
- Girls Ice Hockey
- Girls Indoor Track
- Girls Basketball
- Cheerleading (Ice Hockey)
- Boys Ice Hockey
- Boys Indoor Track
- Girls/Boys Swimming & Diving
- Wrestling

■ SPRING

- Baseball
- Boys Lacrosse
- Boys/Girls Outdoor Track
- Softball
- Girls Tennis
- Crew
- Girls Lacrosse
- Sailing
- Boys Volleyball





Visual & Performing Arts

In the Visual and Performing Arts students can choose from over 40 courses to learn in an atmosphere much like a conservatory.

The **Drama and Dance Programs** at CRLS offer a carefully sequenced program of studies. There are four levels of acting, four levels of modern dance, and an independent study option in technical theatre and design.

Drama and Dance students present several major productions each year and participate in the Massachusetts High School Drama Festival. In addition, advanced-level dance students present concerts of original choreography. Professional actors, dancers, and performing companies are invited to the classes on a regular basis to work with and perform for students.

The **Music Program** has a concert band, a string orchestra and a chorus. Through the study of a wide range of music literature (baroque, classical, folk, jazz, rock) students can become intelligent consumers, producers, and/or creators of music. Students perform in assemblies, competitions, concerts and civic affairs.

Unlike many other school systems, Cambridge provides music, accessories, and use of high school owned instruments free of charge. Solo, ensemble and chamber music performances are encouraged.

The **Visual Art Program** strives for excellence in instruction. Offerings are varied and provide both a solid grounding in the visual arts and scaffolding in all areas to reach a high degree of competence in several visual art disciplines. Disciplines include Two-Dimensional Art, Fashion Illustration, Ceramics, Three-Dimensional Art, and Photography.

■ FACILITIES

Cambridge Rindge and Latin School has exceptional facilities to support the arts on campus. In addition to a beautiful theater for performances, there are numerous classrooms, studios, labs, practice rooms and rehearsal halls.

■ THE ARTS, AFTER-SCHOOL

DANCE

The CRLS Modern Dance Company is a place for students to learn and perform modern dance works created by advanced students, faculty, alums, and professional guest artists. The company meets after-school 2-3 times per week for several hours each session. Public performances are staged throughout the year. Participation is by audition only.

DRAMA

Mainstage drama productions present an after-school opportunity for students interested in performance and technical theater. Productions are mounted in the fall, winter and spring, and are open to any student in the school regardless of previous experience. Students are also eligible for positions on the technical staff and crew.

MUSIC

Additional music opportunities at CRLS include two jazz ensembles, Drumline, and a cappella singing groups. Participation is by audition.



Media Arts Studio



The Media Arts Studio is a fully equipped, state-of-the-art digital media production facility located on the CRLS campus. This award winning facility is home to Cambridge Educational Access TV and the Rindge School for Technical Arts Media Technology Program, and offers students real world access to Cambridge Educational Access TV - two Cambridge cable channels, Smart TV98 and CPS TV99. And our website, www.cpsd.us/mas.

The Media Arts Studio provides media art education both in school and after the school day, and is unique in our emphasis on programming the TV channels and website with student-produced work. Students are involved in first hand experience with professional media makers and our work includes many school, community, and university collaborations designed to create content for the channels.

Students learn to plan, research and script media programs, and develop an understanding of the creative process. Students acquire field and studio production skills including use of digital video cameras and editing, and proficiency in industry standard multi-media software. Related areas of learning include animation, music production, web development, and on-line content management.

Media Arts Studio course listings begin on page 39.

■ MEDIA ARTS STUDIO – AFTER SCHOOL

Media Technology classes are also offered through the Rindge School of Technical Arts. See page 48 for listings.

ANIMATION CLUB

Come create 2D animations and video art. We will experiment with programs like Flash, Photoshop, SAM animation and processing, create digital images and video feedback. This club offers a chance to create animated pieces that will air on Cambridge Educational Access TV.

MEDIA JOURNALISM PROGRAM

Falcon Sports Weekly

Since the launch of Cambridge Educational Access TV, students have been exercising their on camera talents in the fun, fast paced environment of Falcon Sports Weekly. With a focus on CRLS athletics, the FSW team covers a variety of sports in the field and in-studio. If you love sports and love to talk about them, this club is for you! Biweekly episodes are cablecast on SmartTV98. Go Falcons!

Youth View Cambridge

Youth View Cambridge is student-produced news programming for Cambridge Educational Access TV. YVC producers create segments about topics that matter and learn the fundamentals of broadcast journalism while developing production skills and practicing reporting techniques. Bimonthly episodes combine current events with local and school news in an engaging, dynamic format that includes guest interviews, field reports and news analysis. Each episode is shown on SmartTV98 and online at www.cpsd.us/mas. Students are welcome to come work on an episode, produce a single piece about clubs, classes and events or help shape the whole season. Note: A Media Journalism Lab is offered during the school day for elective credit, see page 40.

PRODUCTION ASSISTANT WORK-STUDY PROGRAM

This is a paid work experience held in collaboration with the RSTA work-study program. Production Assistants work at the Media Arts Studio after school up to 10 hours a week. Camera, studio, and editing training are provided. Responsibilities include taping and editing school news, sports and events, creating station promos, and special projects.

■ INTERNSHIPS AND INDIVIDUAL PROJECTS

The Media Production Internship offers an intensive media making experience using state-of-the-art technology. Students have the opportunity to understand the media making process from concept to TV debut. Learning camera skills, editing and use of other multi-media software, students contribute to programming for SmartTV98. (Students may arrange to receive credit through the Internship and Service-Learning Office.) Students can propose an individual project, and develop concept and content to create their own narrative or documentary style production.

■ THE MEDIA FAIR

The school year culminates in our annual Media Fair with teachers, students and parents gathering in our studio to view media produced from across the district. Highlights are shown and student producers are available to answer questions about their productions.

CRLS Graduates

■ COLLEGES CURRENTLY ATTENDED BY THE CRLS CLASS OF 2010

» American International College	» Hamilton College	» Technology	» Vassar College
» American University	» Harvard-Radcliffe College	» Rutgers University	» Virginia Polytech Institute & State University
» Art Institute	» Haverford College	» Salem State College	» Virginia Wesleyan, Norfolk
» Art Institute of Boston	» Hesser College	» School of Art Institute of Chicago	» Wentworth Institute of Technology
» Bates College	» Jireh Preparatory School	» Simmons College	» Westfield State College
» Bay State College	» Johns Hopkins University	» Skidmore College	» Wheaton College
» Becker College	» Johnson and Wales University	» Southern New Hampshire University	» Whittier College
» Benjamin Franklin Institute of Technology	» Johnson County Community College	» St. Anselm's College	» Worcester Polytechnic Institute
» Berklee College of Music	» Kalamazoo College	» Stanford University	» Yale University
» Boston College	» La Salle University	» Suffolk University	
» Boston University	» Lasell College	» Swarthmore College	
» Brandeis University	» Le Cordon Bleu College of Culinary Arts	» Syracuse University	
» Bridgewater State College	» Lee Academy	» Temple University	
» Brown University	» Loyola Marymount University	» Trinity College	
» Bryn Mawr College	» Massachusetts Bay Community College	» University of Massachusetts Amherst	
» Bunker Hill Community College	» Massachusetts College of Art	» University of Massachusetts Boston	
» Carleton College	» Massachusetts College of Pharmacy & Allied Health	» University of Massachusetts Dartmouth	
» Centre College	» Massachusetts Institute of Technology	» University of Massachusetts Lowell	
» Clark University	» McGill University	» Union College	
» Colby Sawyer College	» Middlesex Community College	» Universidad del Turabo	
» Colgate University	» Montserrat College of Art	» University of Colorado—Denver	
» College of the Holy Cross	» Mount Holyoke College	» University of Denver	
» Colorado College	» Mount Ida College	» University of Maine	
» Columbia University - Barnard College	» New England Institute of the Arts	» University of Michigan	
» Curry College	» New York University	» University of Mississippi	
» Dean College	» Newbury College	» University of New Haven	
» Drexel University	» Northeastern University	» University of Pretoria	
» Eckerd College	» Pace University	» University of Rhode Island	
» Emory University	» Paul Smith College	» University of San Francisco	
» Fairfield University	» Pine Manor College	» University of the Arts	
» Fordham University	» Princeton University	» University of Vermont	
» Framingham State College	» Regis College	» University of Virginia	
» Franklin Pierce College	» Rochester Institute of	» Vanier College	
» George Washington University			
» Georgetown University			
» Georgian Court University			

Student Services

■ ADOLESCENT PARENTING PROGRAM (APP)

The Adolescent Parenting Program is specifically designed to meet the needs of teenage mothers and fathers, and teenagers who are pregnant. A fully staffed and certified daycare program as well as parenting classes are available to all eligible students. The program also offers early childcare internship opportunities.

■ ENGLISH LANGUAGE ACQUISITION PROGRAM

The Sheltered / English Language Acquisition Program has been established to meet the academic, linguistic and social needs of English Language Learners (ELL) in compliance with recently adopted federal and state regulations. It provides an environment in which students can progress academically through an intensive sequence of English language courses, supplemented where necessary with native language facilitation. Students' programs also include coursework in math, science, health, business preparation, social studies and culture. It follows a carefully designed sequence of courses that enables students from over 20 countries to develop fluency in English, master the academic skills needed for successful integration into the standard curriculum, and become familiar with American culture. Some language arts courses are especially suitable for standard curriculum students and graduates of two-way and modified programs who have developed advanced-level proficiency in Spanish, Portuguese, Haitian Creole, or Chinese.

■ INTERNATIONAL STUDENT & FAMILY CENTER

The International Student & Family Center has a mission to provide families whose first language is not English full access to school services and programs. The Center fosters the direct participation of families by providing informational seminars, evening classes and support in meeting with school officials. The warm, informal atmosphere in the Center and the presence of a skilled, committed staff make it a gathering place for students, teachers, counselors, mentors, community people and families.

■ PROJECT 10 EAST (GAY-STRAIGHT ALLIANCE)

Project 10 East is an informal, social support group for gay, lesbian, bisexual, transgender, questioning, and straight students. The club's goals include creating an open, safe and supportive environment for the students, regardless of sexual orientation, discussing issues pertaining to GLBTQ people, and participating in activities that create a sense of community.

■ SECURITY

The Department of Security and Safety is dedicated to the effort of ensuring a safe, secure, disruptive-free learning environment for all who attend CRLS. The primary role of a Safety Specialist is to support students with any safety related issues, concerns, or problems, from providing directions to performing mediations. The department of thirteen people includes representatives speaking Haitian Creole, Spanish, Portuguese, French and Italian.

■ SPECIAL EDUCATION

The Office of Special Education provides support services to students with special needs. Under the state's education law, Chapter 766, students may receive a range of support to meet the requirements of the regular academic program. Students may receive services for academic, emotional

and physical needs until the age of 22 years, or until the student receives a high school diploma, at which time special education services end.

Students qualify for services by having an educational disability as identified under state statutes; or, not making effective progress or would not make progress without specially designed instruction.

CRLS provides a variety of special education supports which range from the Special Educator assisting and providing direct special education instruction in conjunction with the General Educator, as well as, by helping to modify the instruction, performance criteria, methodology and content, based on the students needs. There are also a variety of self-contained programs taught by Special Educators. These programs have been established to meet the needs of students whose learning, cognitive, social/behavioral and functional needs require significant specialized instruction outside of the general education setting.

If a student requires special educational support services, an Individual Education Plan, (IEP) is developed with student, parent/guardian and staff input. The IEP specifies the student's learning style, the length of time for each special education service, and any modifications that are required of the student's regular education program. This information is shared with the student's classroom teachers.

The IEP also includes information about plans for post school transition for all students 14 years of age or older. Three years prior to the expected date of graduation, or by the student's 16th birthday, a referral may be made through the Chapter 688 process to two vocational rehabilitation counselors. Chapter 688 is a law developed to provide a two-year planning process for young adults with severe disabilities. This law creates a single point of entry into the adult human services system by developing an individual transition plan (ITP).

Some students may be eligible for an Accommodation Plan (Article 504 of the American with Disabilities Act) even if they are not eligible for special education services. An Accommodation Plan delineates the accommodations that must be provided. The parent and the evaluating team determine whether an Accommodation Plan is appropriate for the student in order for a student to have access to his/her education. Accommodations can be recognized through either physical adaptations of the school environment or support in the classroom.

For a description of the various Special Education Programs that are offered, see the Special Education course listings on pages 56-57.



Student Services

The Teen Health Center offers school health services for all CRLS students, sports physical exams for team members, primary medical care for teens who are registered as patients, and counseling services on a wide range of problems commonly encountered by teenagers.

■ YOUTH EMPLOYMENT CENTER AND WORK STUDY

The Youth Employment Center brings information and applications into the school from youth employment programs located around the city. Also offered are assistance with job search skills, workplace skills, and after-school or summer job placement. A work-study program is coordinated and administered through Rindge School of Technical Arts (RSTA) by the Cooperative Education Instructor.

■ OTHER SERVICES

Food Services: Breakfast is available each school day in the main cafeteria. Lunch is served in the cafeteria each day. Free and reduced meals are available for qualified students.

Transportation: There is no school bus service for CRLS students. Passes for the MBTA buses are available on a monthly basis at a discounted student rate.



Academic Support

■ GUIDANCE DEPARTMENT

The mission of the Cambridge Rindge and Latin School Guidance Department is to foster academic and skills development along with individual responsibility and sound decision making, while preparing students for educational and career opportunities beyond high school. Working in partnership with families and community resources, students are guided in areas of personal/social development and academic/career post-secondary planning as they become responsible and civic-minded members of a very diverse and rapidly changing world.

Guidance counselors provide the following services to address student needs:

- » Schedule courses
- » Develop a four year academic plan
- » Monitor academic progress
- » Refer students for tutoring services
- » Recommend and assist in the CORE evaluation process
- » Provide counseling and referral services
- » Provide career and college counseling
- » Coordinate the college application process
- » Inform student of educational opportunities

Parents/guardians should feel free to contact their child's guidance counselor whenever they have concerns or questions regarding student program and progress.

Coordinator of Guidance, Lynn Williams: (617) 349-6697

■ AFTER SCHOOL SUPPORT

After school academic centers are open several days a week to help students who are feeling lost in a class, need help with homework or writing, want to accelerate their work, or just want a quiet place to study after school.

■ CAMBRIDGE SCHOOL VOLUNTEERS & THE TUTORING CENTER

The Cambridge School Volunteers are available to tutor students in any subject. Students are encouraged to come to the Tutoring Center before and after school to request help. The Tutoring Center also sponsors a Drop-In Math Support Program.

■ MIT UPWARD BOUND

CRLS participates in the MIT-Wellesley Upward Bound and the MIT Educational Talent Search programs, which are federally sponsored, year-round, educational programs that provide academic support and career and college advising to low-income and/or first generation college bound youths who wish to continue their education beyond high school.

■ LIBRARY & MEDIA SERVICES

The Pearl K. Wise Library's mission is to ensure that students are effective users of ideas and information. Library teachers collaborate with classroom teachers to provide instruction to classes, small groups and individual students in utilizing library resources and navigating the research process. All ninth graders receive an orientation to the resources and policies of the library. The library has a collection of 21,000 books for students to use in course assignments as well as to read for personal interest and pleasure. There are thirty computers for students to use in accessing the library's large collection of research databases, free Web resources, and Microsoft Office applications. Research databases are available outside the campus with passwords available from the library. Extended hours before and after school daily from 7:30-4:00 allow students to check books in and out, finish homework, or just relax and read. The CRLS Homework Center meets in the library after school and provides students with tutorial help.

Library faculty, Alice Chen and Holly Samuels: (617) 349-6781

■ CAMBRIDGE-HARVARD SUMMER ACADEMY

The Cambridge-Harvard Summer Academy represents an exciting and innovative partnership between Cambridge Rindge & Latin School and Harvard University. The program, which is designed to provide academic assistance to students at CRLS, pairs veteran educators and Harvard Teacher Education Program interns as teachers in the classroom. The program allows for personalized instruction in four subject areas: language arts, social studies, science and mathematics. The program is free and open to all current CRLS students, as well as rising 9th graders from Cambridge Public Schools, private and charter schools.

■ CAREER AND COLLEGE RESOURCE CENTER

The CCRC is stocked with catalogs and videos from all over the country. Resources describing careers for which college graduation is not required are available. Counselors and peer tutors are on hand to help access information on the Internet and assist with every step of the college application and financial aid process. The CRLS Scholarship Program offers a variety of scholarships to seniors who apply. Information about external scholarship opportunities is updated throughout the academic year.

■ MCAS SUPPORT AND THE MCAS CENTER

The MCAS Center offers review classes for students who have not passed the MCAS. Instruction is individualized based on students' areas of weakness.

The MCAS Coordinator is responsible for implementing the appeals process including portfolio development and cohort appeals. Parents and students are encouraged to call **Mrs. Gail Stein with MCAS questions. She can be reached at (617) 349-6796.**

Academics

■ STUDENT LEARNING EXPECTATIONS

ACADEMIC

The Cambridge Rindge and Latin School student proficiently:

1. Reads for information and understanding;
2. Communicates as a writer and speaker;
3. Represents ideas through an expressive medium;
4. Uses deliberate thinking processes to solve problems and develop ideas;
5. Applies a variety of technologies to build and convey understanding.

SOCIAL

The Cambridge Rindge and Latin School student:

1. Demonstrates interpersonal skills that enable him/her to build positive, respectful, and productive relationships;
2. Recognizes and respects the physical, social, linguistic, and cultural differences of others;
3. Pursues a lifestyle that fosters physical, emotional, and psychological health.

CIVIC

The Cambridge Rindge and Latin School student:

1. Understands and exercises his/her rights and responsibilities as a citizen in a democratic and multicultural society;
2. Takes responsibility for his/her own actions and behavior in every setting.

■ CORE CLASSES

CORE academic classes include English, History, Mathematics and Science. Students may choose to take College Preparatory or Honors level classes in each of these subject areas.

Membership in a CRLS Learning Community allows for students to be known well by their teachers and fosters the ability for teachers and students to develop long term relationships throughout their high school career.

■ ENHANCED SENIOR YEAR

Success beyond high school in the 21st century requires skills and aptitudes beyond “traditional” classroom academics and career training of the past. College students and young professionals must be prepared to meet the challenges of communities and workplaces where vast amounts of information are available at the click of a mouse; where cultural perspectives and ideas vary widely; and where innovation, creativity and critical thinking are valued and widely sought after. With this in mind, CRLS is developing an *Enhanced Senior Year*, a program that offers opportunities for seniors to link the traditional classroom setting with the professional, creative, and academic experiences that await them as young adults. A number of projects and opportunities are being piloted in the coming semesters to ensure that all students have access to opportunities that will enhance their high school experience and further prepare them for life after they leave CRLS. Current opportunities include Internship Projects, Teaching Assistantships, and Independent Graduation Projects.

■ AUTHENTIC INQUIRY PROJECT COURSES (AIP)

The following courses are designated as offering an Authentic Inquiry Project (AIP) as a part of the curriculum. Embedded within each of these courses is a rigorous, content-related project that is designed to teach students inquiry and 21st century project management skills. Students are supported to develop a project and presentation based on questions and ideas that arise for them out of the course content. Courses with an AIP designation are excellent preparation for additional Enhanced Senior Year opportunities (see page 62).

E409	CP Senior Project in African American Literature (Honors Option)
E402	Guided Senior Project in English (English Language Arts)
L721	HN Conflictos y Comunidades del Mundo Latinamericano (World Languages)
H415	CP Leadership and Community Action-STARs (History)
S422	HN Modern World History (History)
H404	CP United States Civics (History)
S408	CP Marine Biology (Science)
S418	CP Oceanography (Science)
M412	HN Advanced Mathematics (Mathematics)
A465	AP Studio Art /Portfolio Art (Visual Arts)
A962	Art of Fashion 2 (Visual Arts)

■ THE 4X4 BLOCK SCHEDULE

Block scheduling provides many benefits for our students:

- » The ability to accelerate in academic and elective courses
- » More time for student-teacher interaction
- » Longer classes to allow time for deeper understanding of subjects
- » More time for labs and advanced topics with motivated students
- » Fewer class changes during the day; more passing time between classes

- » Fewer subjects to focus on or prepare for at one time
- » A longer lunch period

The CRLS schedule consists of four blocks that meet each day for one semester. Most classes are one semester in length. Students will have one 30 minute lunch period. The lunch period is determined by where they are located during period three.

In addition to their CORE academic classes, students must also take Health Education, which alternates each day for one semester with grade nine physical education or Dance 1. Students also choose a World Language and an elective such as Art , Music or RSTA Exploratory.

■ BLOCK SCHEDULE EXAMPLES

GRADE 9

Semester 1	Semester 2
RSTA Exploratory	HN World History 2
CP Algebra 1	CP Algebra 1
HN English 9	Foundations of Art
Physics	PE/Health

GRADE 10

Semester 1	Semester 2
AVID/PE	AVID/PE
HN English 10	HN US History 1
HN Geometry	Chemistry
Latin 1	Latin 2

GRADE 11

Semester 1	Semester 2
AP US History	Biology
French 3	AP Literature
Algebra 2	Photography 1
HN English 2	Pre-Calculus

GRADE 12

Semester 1	Semester 2
AP Science	AP Science
AP Composition	AP European History
Physical Education	Sculpture
AP Calculus	AP Calculus

■ BLOCK SCHEDULE EXAMPLES FOR RSTA STUDENTS.

Modifications may be made in Level 3 with permission of the RSTA Exective Director.

GRADE 9

Block	Semester 1	Semester 2
1	Exploratory	World History 2
2	HN Algebra 1	Foundations of Art
3	PE/Health	Physics
4	Language 1	HN English 9

GRADE 10

Block	Semester 1	Semester 2
1	HN Geometry	Chemistry
2	RSTA Level 1 Engineering with Embedded PE	
3	English 10	US History 1
4	Language 2	Algebra 2

GRADE 11

Block	Semester 1	Semester 2
1	US History 2	English 11
2	Biology	Language 3
3	Elective	Math Elective
4	RSTA Level 2 Engineering HN with Embedded PE	

GRADE 12

Block	Semester 1	Semester 2
1	Elective	AP Physics
2	English Language and Composition AP	Calculus
3	RSTA Level 3 Engineering HN with Embedded PE	
4	RSTA Elective Level 3 Engineering w/FIRST Robotics	Elective

■ PROGRESS REPORTS

Parents/Guardians will be sent progress reports at the mid point of each marking period.

■ GRADING AND REPORT CARDS

Most of CRLS courses are one semester in length. During the semester, students will earn grades each marking period (every 45 days.) At the close of the semester, the marking period grades will be calculated to compute the final grade for the class. A passing final grade is required to earn credit.

CRLS courses that are one year in length will issue four grades (two marking periods each semester) and a final grade will be calculated based on all four marking period grades. A passing final grade is required to earn credit.

CRLS ISSUES LETTER GRADES BASED ON THE FOLLOWING SCALE:

A+	97-100	C+	77-79
A	93-96	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
P	Passing	F	Failing (50)
I	Incomplete	NR	Never Reported
WP	Withdrawn Passing	WF	Withdrawn Failing

COURSE CREDIT

Each semester long course that meets every day is worth 10 credits. Courses that meet for one year earn 20 credits. Additional credit and distribution information is listed with each course description.

DIRECTED STUDY AND INDEPENDENT STUDY

Students earn grades of Pass or Fail for these courses. Directed Study courses do not earn credit. Independent Study courses earn general credit and cannot be counted towards distributional credit. Students may not be scheduled into more than one Directed Study or Independent Study course per school year.

COURSE REQUESTS

CRLS would like to offer every course listed in the catalog. However, because of certain constraints, we cannot offer courses for which not enough students register.

COURSE CHANGE POLICY

Add/Drop week is an opportunity for students to meet and discuss their schedule with their counselors. Add/Drop occurs during the first five days of school each semester. Students may withdraw from courses during this week without penalty. Once Add/Drop week has passed, only changes to a more appropriate level in a course will be approved. At the close of the marking period, students who require a course change that is within the same discipline (Honors Math to College Preparatory Math for example) will carry their marking period grade to the new course and the grade will be averaged with the marking period grade earned in the new course to produce a final grade. For semester long courses, credit will be awarded for the new course. When a student changes to a semester-long course that is not within the same discipline, (Spanish to Art for example) the student will keep the marking period grade earned in the first class and be issued a final grade of WP-Withdrawn Passing or WF-Withdrawn Failing. Credit will be issued for the new course and will be pro-rated based on placement time. Students who enroll in a full year course are required to complete the course in order to earn credit. Once the Add/Drop week has passed, only

those requests for course changes that satisfy the guidelines listed below will be approved:

- » To change to a more appropriate level in a course
- » To correct an error
- » To balance a students academic courses over 2 semesters
- » Medical necessity
- » To drop or add a course as a result of summer school or a scheduling gap
- » To add a required course
- » As a result of a Special Education Team decision

CRLS ATHLETIC PARTICIPATION

The MIAA academic eligibility standards are designed to ensure that a student is fully enrolled in school and actively engaged in his/her academic life on a consistent basis throughout the school year. While the MIAA standards are used as a baseline for eligibility, individual school districts are permitted to develop their own standards for participation. CRLS has adopted the following requirements for student athletic participation:

- » **Students must have at least a 70 GPA**
- » **Students must pass 3 of their 4 classes and earn the appropriate credits (or be on track to earn credits)**
- » **Student athletes enrolled in physical education classes must receive a passing grade**

To be eligible for the **winter athletic season**, students are required to have a 70 GPA in the first marking period and continue to remain eligible through second marking period by maintaining a 70 GPA.

To be eligible for the **spring athletic season**, students are required to have a 70 GPA in the second marking period and continue to remain eligible through third marking period by maintaining a 70 GPA.

The academic eligibility of all students shall be considered as official **“only on the date when report cards for that marking period have been issued to parents”**.

Any student athlete who falls below the academic eligibility standards may be eligible for an appeal following a probationary period.

ACADEMIC PROBATION

PROBATIONARY CRITERIA

For a student to have the opportunity to appeal the following must be met:

- » A GPA between the range of 67.5 - 69.49
- » 95% school and class attendance (absence/tardies)
- » No class cutting
- » Documented attendance at tutoring/homework center
- » 2 weeks of completed progress reports that show appropriate progress
- » ALL homework assignments, tests, quizzes and projects must be completed and submitted on time.

A student that falls below the established CRLS academic eligibility standards for athletic participation will be allowed a probationary period commencing the day that report cards are issued. **This will consist of a two week period of time in which the student will not participate in interscholastic contests and will be required to attend tutoring/home-work center.** Students may be able to practice “but only with Athletic Director consent”. All homework assignments, projects, tests and quizzes must be completed on time and submitted to appropriate staff and faculty. Additionally during this probationary period, the student must complete a weekly progress report and submit it to the Athletic Director. Following this probationary period a review of the student will take place that may lead to an appeal hearing in regard to restoring athletic eligibility. Following the successful completion of the probationary period, the appeal process will be heard by the Principal and the Athletic Director.

PROGRESS REPORTS

ALL student athletes are required to complete progress reports on a bi-monthly basis and submit to coaches in a timely manner. (Some student athletes may be asked to submit on a weekly basis.) If student athlete does NOT turn in progress report he/she will NOT be permitted to play in next game. Coach will CAREFULLY check progress reports and communicate with the Principal and Deans of Students (via email) any unsatisfactory progress or behavioral concerns of team members. Coaches will also email Staff members as needed to assist in student achievement.

HOMEWORK CENTERS

Returning student athletes that have less than a 73 GPA will be required to attend homework center in the evening. Contracts clearly defining responsibilities will be signed by student athlete, parent/guardian, coach and Dean of Students. All student athletes in danger of failing and/or not making satisfactory progress are required to attend homework centers.

■ NATIONAL COLLEGE ATHLETIC ASSOCIATION ELIGIBILITY

DIVISION 1 SCHOOLS

If you enroll in a Division I college and want to participate in athletics or receive an athletics scholarship, you must meet the following academic standards:

- » Graduate from high school;
- » Present a minimum required grade-point average in your core courses; and
- » Achieve a combined SAT or ACT sum score that matches your core-course grade-point average in the grade point average and test score index,
- » Complete the 16 core courses listed below;
 - Four years of English;
 - Three years of mathematics (Algebra 1 or higher level);
 - Two years of natural or physical science (including one year of lab

science if offered by your high school);

- One extra year of English, mathematics or natural/physical science;
- Two years of social science; and
- Four years of extra core courses (from any category above, or foreign language, nondocrinal religion or philosophy).

DIVISION 2 SCHOOLS

If you enroll in a Division 2 college and want to participate in athletics or receive an athletics scholarship, you must meet the following academic standards:

- » Graduate from high school;
- » Present a 2.0 grade-point average in your core courses; and
- » Achieve a combined SAT score of 820 or a sum score of 68 on the ACT.
- » Complete the 14 core courses listed below (beginning 2013, 16 core courses will be required);
 - Three years of English;
 - Two years of mathematics (Algebra I or higher level);
 - Two years of natural or physical science (including one year of lab science if offered by your high school);
 - Two extra years of English, mathematics or natural/physical science;
 - Two years of social science; and
 - Three years of additional courses (from any category above, or foreign language, nondocrinal religion or philosophy).

Be sure to look at CRLS' list of NCAA approved courses on the eligibility center's website to make certain that courses taken have been approved as core courses. The web site is www.eligibilitycenter.org



CRLS Graduation Requirements

■ SAMPLE COLLEGE ADMISSION REQUIREMENTS

CRLS students must pass the MCAS exam and earn 224 credits in order to receive a diploma.

College admission requirements vary among schools. Students should consult with their counselors and read the college catalog for the admission requirements for a specific college or university.

*LISTED HERE ARE SAMPLE COLLEGE REQUIREMENTS.

SUBJECT	CRLS GRADUATION REQUIREMENTS: Students must earn a minimum of 224 credits. Those credits must include the following distributional requirements.	MINIMUM COLLEGE PREPARATION*	STATE UNIVERSITIES AND OTHER SELECTIVE COLLEGE REQUIREMENTS*	HIGHLY SELECTIVE COLLEGE RECOMMENDATIONS**
English	40 Credits	4 years, with emphasis on essay/theme writing	4 years, with emphasis on written/oral communications and literature	4 years at the Honors/AP level when possible
Health	5 Credits			
Math	30 Credits	3 years, including Algebra 1, Algebra 2 and Geometry	3 years, including Algebra 1, Algebra 2 and Geometry	4 years, including Trigonometry and Pre-Calculus
Physical Education	Must take and pass each year			
Social Studies	30 Credits 10 from U.S. History	2-3 years, including 1 year of U.S. History and 1-2 years from other social sciences	2-3 years, including 1 year of U.S. History and 1-2 years from other social sciences	3-4 years, including 1 year of U.S. History, 1 year of World or European history
Science	30 Credits	2 years of lab science: Biology, Chemistry, or Physics	3 years (2 years of lab science: Biology, Chemistry, or Physics)	3-4 years of lab science, with 1 year each of Biology, Chemistry, and Physics
Foreign Language	20 Credits of the same language	Some programs require 2 years of one language	2 years of one language	3-4 years of one language
Fine, Performing or Technical Arts	20 Credits	2 years of Fine, Performing or Technical Arts	2 years of Fine, Performing or Technical Arts	2 years of Fine, Performing or Technical Arts
MCAS	Must pass English and Math exam with a minimum score of 240, and a Science exam with a minimum score of 220		Massachusetts State schools require successful completion of the MCAS exam.	



Courses

	Course Designation/Level	Course Title
Course Number	S406	CP
Course Description	Why are some diseases “catching”? Why do some diseases affect many people quickly? How does my body fight off invaders? What kind of organisms can and do invade my body? Why do Third World countries experience more diseases than developed countries? What does our government do to help fight disease? How has biotechnology contributed to making new treatments for these diseases? How will health care reform affect research and treatment of infectious disease? Students use current lab techniques, read current literature and participate in research projects and the design of an epidemiologic study.	
Length ¹		
Credit Assignment ²		
Grade Level(s) ³		
Pre/Co-requisite(s) ⁴		
	¹Length: One semester; ²Credits: 10; ³Grade: 11,12; Prerequisites: Physics, Chemistry and Biology	

Course Designation/Level: Course designations appear on all grading and transcript records to help identify the level and type of course. These designations include:

AP	Advanced Placement
AS	Academic Support or Test Preparation
CP	College Preparatory
ESY	Enhanced Senior Year Initiative
HE	Health
HN	Honors Level (Intensive pacing for independent learners)
HRV	Harvard University Extension School or Harvard College
IN	Internship
IS	Independent Study
PE	Physical Education
PF	Portfolio Art
SE	Sheltered English / Bilingual
SUM	Summer School
TC	Technical / Rindge School of Technical Arts
UM	University of Massachusetts

Course Title: This is the title of the course. This will appear on all grading and transcript records along with the course prefix designation.

Course Number: Each course is assigned a number for scheduling purposes. These numbers begin with a letter representing the department which offers the course.

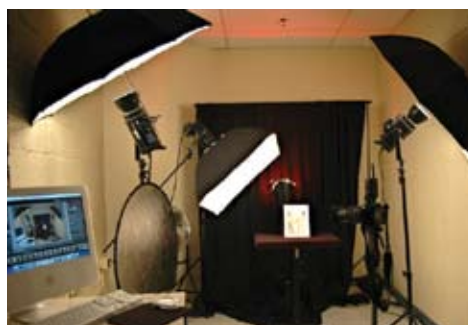
Course Description: Each course provides a description in order to guide you in the course selection process and in choosing the appropriate class based on your needs and interests.

Length: The length notes how long the course will meet (one or two semesters).

Credit Assignment: The credit assignment is how many credits a student will earn upon successful completion of the course.

Grade Level(s): Students must be in one of the grades listed to take the course.

Pre/Co-Requisite(s): Many courses require that students meet a given Pre or Co-requisite before entering the class (For example, if students select Epidemiology, they must have successfully completed Physics, Chemistry and Biology).



ACADEMIC SUPPORT / PEER LEADERSHIP

■ ACADEMIC SUPPORT

GACS	AS	Academic Support
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Academic Support classes are available to students during the school day. This is an opportunity to receive tutoring for an academic school subject from a Cambridge School Volunteer, student teacher, or peer tutor. Students should expect to work on homework or classroom work which may need enrichment. Students must discuss this placement with their guidance counselor. Students receive a pass/fail grade for this class.

Grades: 10, 11, 12; Length: One semester; Credits: 10; No Prerequisite

■ PEER LEADERSHIP

GTUT	TA	Peer Tutoring
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This course offers an opportunity to work with other students who need assistance in any subject. A student must have successfully completed a subject in order to tutor in that subject. Peer tutors must attend a peer training workshop as part of this class. Students receive a pass/fail grade for this class.

Grades: 11, 12; Length: One semester; Credits: 10; Prerequisite: Passing grade in subject

GCRC	TA	Peer Leadership
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This course offers an opportunity for students to assist their peers in the College and Career Resource Center. Peer Leaders will assist other students with tasks such as on-line college applications, SAT registration and re-searching colleges.

Grade: 12; Length: One semester; Credits: 10; Prerequisite: Permission from the Coordinator of Guidance

■ MCAS PREPAREDNESS

GMP2E	AS	English Applications
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English Applications is offered in grade 10 to provide students with additional support in language arts, as well as, test taking strategies to help prepare them for the exam.

Grade: 10; Length: One semester, alternate days; Credits: 5; Prerequisite: None

GMP2M	AS	Math Applications
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Math Applications is offered in grade 10 to provide students with additional support in mathematics, as well as, test taking strategies to help prepare them for the exam.

Grade: 10; Length: One semester, alternate days; Credits: 5; Prerequisite: None

GMP3E	AS	English Applications Review
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Students in grades 11 and 12 who have failed the ELA MCAS exam should take this course to increase their performance on the exam and strengthen

areas in which they have had difficulty.

Grade: 10; Length: One semester, alternate days; Credits: 5; Prerequisite: None

GMP3M	AS	Math Applications Review
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Students in grades 11 and 12 who have failed the math MCAS exam should take this course to increase their performance on the exam and strengthen areas in which they have had difficulty.

Grade: 10; Length: One semester, alternate days; Credits: 5; Prerequisite: None

AVID

■ WHAT IS AVID?

The AVID program is an honors program for high school students planning to apply to four-year colleges and universities. The program is selective and voluntary which means that students must apply and be selected to participate in the AVID elective course and program. In the AVID elective course, students study writing, inquiry, collaboration, reading, note-taking and study skills, as well as participate in college/career/motivational activities. In addition to the AVID elective teacher, AVID tutors are college students who visit the AVID classes to support learning by challenging students to understand coursework more deeply. AVID elective teachers monitor and support progress in all courses to prepare students for acceptance into the college or university of their choice. In addition to progress reports, subject area teachers fill out reports for monitoring student progress.

■ WHAT IS REQUIRED OF AN AVID STUDENT?

AVID students are expected to maintain good behavior, good attendance, and a GPA of 2.0-3.5. All AVID students must enroll in at least one honors course in addition to the AVID elective. Each AVID student carries a binder in which he or she is required to keep materials from all academic classes. Students keep track of assignments on assignment sheets and are required to take daily notes in all academic classes. AVID elective teachers and tutors grade the notebooks weekly for content and organization. Students participate in bi-weekly tutorials led by AVID Coaches and trained college students. In addition, students are taught study skills, test preparation, time management, and the writing process. Once selected, AVID students must commit to taking notes in subject-area classes on a daily basis and completing all homework assignments.

■ HOW CAN A CHILD BECOME AN AVID STUDENT?

AVID applications are available in all elementary schools and learning community offices. For more information about the application process for incoming ninth graders, please contact Leslie Davis at (617) 349-6797.

GAVID1	AVID Year 1
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Grade:9; Length: One year—alternating day; Credits: 10; Prerequisite: Students will be selected through an application and interview process.

GAVID2	AVID Year 2
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Grade:10; Length: One year—alternating day; Credits: 10; Prerequisite: AVID Year 1

GAVID3	AVID Year 3
Grade:10; Length: One year—alternating day; Credits: 10; Prerequisite: AVID Year 2	

GAVID4	AVID Year 4
Grade:10; Length: One year—alternating day; Credits: 10; Prerequisite: AVID Year 3	

VISUAL & PERFORMING ARTS

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student represents ideas through an expressive medium.

STAFF

Dr. Elaine Koury, K-12 Coordinator
Susan Holm, Teacher in Charge

Jon Baring-Gould, Brett Cramp, Brenda Divelbliss, Deborah Haverty, Archy LaSalle, Elizabeth Menges, Deborah Milligan, Monica Murray, Guillermo Nojehowicz, Brian O'Connell, Jameel Parker, Robert Ponte, Mila Thigpen, Laura Umbro, Bianca Walther, Jessica Young

The Department of Visual and Performing Arts offers students a comprehensive arts education in a conservatory-like atmosphere. A full array of course offerings in dance, drama, music, and the visual arts, enables students to build skills and understandings. Sequenced paths lead to proficiency and new ways of perceiving and interpreting ideas. Course offerings support the development of each student's expressive potential as well as his/her aesthetic sensibility through focused discussions and critique, a supportive teaching/learning environment, and encounters with professional visual and performing artists.

■ DANCE

COURSE LIST
CP DANCE 1
CP DANCE 2
HN DANCE TECHNIQUE AND CHOREOGRAPHY
LATIN DANCE

D090	CP	Dance 1
This is an introductory modern dance technique course intended for students who have little or no formal dance training. Modern dance is a performance style of dance practiced by companies such as the Alvin Ailey American Dance Theatre. Practicing this dance form will help students develop self-awareness, flexibility, strength, balance, and coordination. Activities also include viewing dance on film, writing assignments, and group discussions. In addition to modern dance technique, there will be shorter units presented in jazz dance, classical ballet, and cultural dance. This course may be taken for physical education credit and alternates every		

other day, with health for those students who need to fulfill the health requirement, or with other alternate day courses.

Grades: 9, 10, 11, 12; Length: One Semester, alternate days; Credits: 5; Prerequisite: None

D945	CP	Dance 2
This is an intermediate-level modern dance course intended for students who have successfully completed Dance 1, or have equivalent dance training, and who want to further develop their movement skills. Students will practice exercises that will warm up their bodies and enhance strength, flexibility, balance, and coordination. They will learn short dances in order to develop their performance skills, musicality, expressiveness, and ability to remember and perform more complex movement sequences. In addition to modern dance technique, there will be shorter units presented in jazz dance, classical ballet, and cultural dance. This course may be taken for physical education credit.		
Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Dance 1 D090		

D867	CP	Latin Dance
Latin Dance is open to all students regardless of their dance experience. Basic dance technique of Latin dance forms will be taught from a socio-cultural perspective. We will practice movement exercises and dance combinations to develop skill in the areas of rhythm, balance, coordination and partnering. In addition, we will explore how these Latin dances became an integral part of the culture. We will also compare popular Latin dance styles to better understand, experience and celebrate the dance vocabulary and customs of Latin America. Meets on alternate days.		
Grades: 10, 11, 12; Length: One Semester, alternate days; Credits: 5; Prerequisite: None		

D868	HN	Dance Technique & Choreography
This course is intended for students who have successfully completed Dance 2 and want to focus on performance and composition skills. This class requires a thorough knowledge of dance vocabulary, technical proficiency, and the self-discipline to work independently. Emphasis is on dance composition, modern dance technique, quality of work (both written and practical), and artistic growth. This course will culminate in a fully produced public concert each semester. This course may be taken for physical education credit. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their composition, technique, and performance skills.		
Grades: 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisites: Dance 1 and 2		

CRLS Modern Dance Company
A dance company where students learn and perform modern dance works created by advanced students, faculty, alums, and professional guest artists. The company meets after school 2-3 times per week for several hours each session. Public performances are staged throughout the year. Participation is by audition only.

■ DRAMA

COURSE LIST

CP ELEMENTS OF THEATRE

CP FILM STUDIES

HN ACTING AND PLAY STUDY

HN ACTING & DIRECTING

HN ADVANCED ACTING

HN PLAYWRITING

MAINSTAGE DRAMA PRODUCTIONS

D095	CP	Elements of Theatre
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Elements of Theatre presents an overview of drama while providing practical training in improvisation, voice, speech, characterization and stage movement. Special attention is given to creating original material and preparing the actor for performance. This course is a prerequisite to all other acting courses.

Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: None

D863	CP	Film Studies
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Film Studies will introduce the art, technology, language, and appreciation of film, exploring history and genres of cinema. Students will learn about the basic cinematic design aspects and how they evolved from silent films to the present. The class will analyze the fundamentals of film production, directing, acting and editing; how the elements of the production process are analyzed separately, then brought together to show how they create the emotional and intellectual impact of the film experience. Films will be screened both inside and outside of class. Writing is a large component to this course.

Grades: 11, 12; Length: One Semester; Credits: 10; Prerequisite: None

D955	HN	Acting and Play Study
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This course is for students who wish to refine and further develop their acting skills. We will explore plays from world literature in order to better understand the context in which acting occurs. Class projects will emphasize character analysis and interpretation through improvisation and scene study. Students must have a high level of motivation and should be able to work independently on class assignments.

Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Elements of Theatre

D864	HN	Acting & Directing
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This course offers an intensive approach to the study of theatre arts with an emphasis on acting styles and theory as well as exploring the beginnings of directing techniques and theory. Class projects require students to have a high level of acting proficiency and the self-discipline to work independently in small groups. Coursework includes lectures, workshops, play reading, scene work from both a director's and actor's point of view, and scene study analysis. A showcase of scenes and monologues will be presented at the end of each semester. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their acting and performance skills.

Grades: 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisites: Elements of Theatre and Acting and Play Study

D865	HN	Advanced Acting
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This course offers an intensive approach to the study of theatre arts with an emphasis on acting styles and theory. Class projects require students to have a high level of acting proficiency and the self-discipline to work independently in small groups. Coursework includes lectures, workshops, play reading, monologue preparation, and scene study analysis. A showcase of scenes and monologues will be presented at the end of each semester. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their acting and performance skills.

Grades: 11, 12; Length: One Semester; Credits: 10; Prerequisites: Elements of Theatre, Acting and Play Study

D869	HN	Playwriting
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In this workshop-based course, students will learn various techniques and tools a playwright uses to write an original play, including source material, theme, structure, setting, character, language and revision. Students will engage in a variety of writing exercises to develop their skills in playwriting, while reading and discussing the work of playwrights from classical to contemporary. Students will explore basic acting techniques to enhance their writing skills and to help them to interpret one another's work, however acting experience is NOT required. There will be regular class critiques and students will be expected to write a short play between 10 and 30 minutes in length. Students may take this course as an English elective.

Grades 10, 11 & 12; Length: One Semester; 10 Credits;

Mainstage Drama Productions

Mainstage drama productions present an after-school opportunity for students interested in performance. Productions are mounted in fall, winter, and spring and are open to any student in the school regardless of previous experience. Commitment involves approximately 10-15 hours of rehearsal a week, for 6-7 weeks per production. Casting for each production is by audition only. Students are also eligible for positions on the technical staff and crew.

■ MUSIC

COURSE LIST

HN CONCERT BAND

HN STRING ORCHESTRA

HN JAZZ ENSEMBLE

HN WORLD JAZZ ENSEMBLE

CP BEGINNING DRUM SET

CP INTERMEDIATE DRUM SET

HN DRUMLINE

CP BEGINNING PIANO

HN PIANO STUDIES

CP CHORUS

HN VOCAL ENSEMBLE

A CAPPELLA CHOIR

I055	HN	Concert Band
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Concert Band is designed for students who have played a brass, woodwind, or percussion instrument for at least one year. Students will study and play a wide range of music literature, from light classics and popular to the traditional music of both Western and non-Western cultures. In addition to performance skills, students will study music theory, composition/arranging, ear training, and improvisation. Students electing this course will be expected to participate in events at which the Band performs including assemblies, competitions, football games, concerts, and civic affairs such as the Memorial Day Parade. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their composition, technical, and performance skills.

Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10;

Prerequisites: One year of instrument instruction

I059	HN	String Orchestra
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String Orchestra is open to all string players (violin, viola, cello, upright bass) who have completed at least one year of private instruction. Students will study and perform a wide range of music literature, from classical to popular to the traditional music of both Western and non-Western cultures. In addition to performance skills, students will also study music theory and critical listening. Students electing this course will be expected to participate in events at which the orchestra performs. These events may include assemblies, competitions, concerts, and civic affairs. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue the development of their performance skills and overall musicianship.

Grades: 9, 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisite: One year of string instruction

I090	HN	Jazz Ensemble
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Jazz Ensemble meets all year, one evening per week for three hours. This course provides an opportunity to study and perform various styles of jazz in a highly challenging setting. The course emphasizes music theory, ear training and improvisational technique. Students will be expected to participate in all events at which the Jazz Ensemble performs including assemblies, competitions, Thanksgiving Day Football Game, concerts and civic events. Students are encouraged to take this course over multiple years to continue development of their technical and performance skills. Participation is by audition only.

Meets once per week after school for three hours; Grades: 9, 10, 11, 12; Length: Year; Credits: 4 per semester; Prerequisite: By audition

I091	HN	World Jazz Ensemble
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This jazz ensemble will focus on the performance of a variety of musical styles from many areas of the world, such as South America, Europe, the Middle East, Africa, and Asia. Instrumentation will be piano, bass, drums, guitar, horn, strings, woodwinds, and vocals. This ensemble will include originals written and performed by the students as well as the instructor. The course will also focus on how the rhythm section works in many different styles. In addition it will include recording and basic music production

using professional music software. The World Jazz Ensemble will perform at school concerts and community events. This is an advanced ensemble and is for students who have played their instruments for at least two years.

Meets Tuesdays and Thursdays, 2:40-3:50; Grades: 9, 10, 11, 12; Length: Two Semesters; Credits: 4 per semester; Prerequisite: By audition

I085	CP	Beginning Drum Set
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This course focuses on the development of basic snare drum grip and sticking techniques, and includes how to read music. It features basic rhythms from the US, Brazil, Cuba and Argentina. There will be audio and video examples from different artistic styles, such as hip hop, jazz and Latin. Students will be encouraged to bring a favorite tune to work on in class. Students learn how to read music charts in a variety of situations, to orchestrate around the set, and to create a groove. Students learn the structure of a song and how to move the beat. This course is designed for beginning drummers. Previous experience in drums is not necessary.

Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: None

I060	CP	Intermediate Drum Set
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This course is designed for students with previous music experience in any instrument. Students will learn how to read music charts in a variety of situations, to orchestrate around the drum set, and to create a groove. It also includes rhythmic ear training. This course focuses on the development of intermediate snare drum grip, sticking techniques, marching bass drum, multi toms, congas and timbales. It features rhythms from the US, Brazil, Cuba and Argentina. This course will also include how to play on a Drum Line and how to make music as an ensemble. Students will participate in concerts and events. At least one year of previous experience in any musical instrument is necessary.

Grades: 9,10,11,12; Length: One Semester; Credits: 10; Prerequisite: By Instructor's approval

I040	HN	Drum Line/Percussion Ensemble
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In this course, students will learn how to play as an ensemble. The instrumentation will include bass drum, multi-toms, snare drum, piccolo snare drum, and world percussion instruments like the cowbell and agogo bells. The Drumline will perform at many events, such as the Thanksgiving football game and the Memorial Day parade, and the percussion ensemble will play concerts. This course is for drummers and percussionists who have been playing for at least one year.

Meets Mondays, Wednesdays, and Fridays, 2:40-3:50; Grades: 9, 10, 11, 12; Length: Two Semesters; Credits: 6 per semester; Prerequisite: By audition

I080	CP	Beginning Piano
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The piano lab provides students with beginning piano instruction and the opportunity to develop their performance technique, music reading skills, critical listening, and overall musicianship. Opportunities will be provided for outside and in-class performances. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue their musical development.

Grades: 9, 10, 11, 12; Length: One Semester; Credits:10; Prerequisite: None

I050	HN	Piano Studies
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Honors Piano Studies is for students who have successfully completed Beginning Piano and have been approved by the instructor or who have had at least one year of private instruction. This course is designed to help students expand their piano technique and overall musicianship while studying more advanced piano selections. Students will be expected to be able to work independently and may choose from a wide variety of music literature. Opportunities will be provided for outside and in-class performances. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue their musical development.

Grades: 9, 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisite: Beginning Piano with teacher approval or one year of piano instruction

I070	CP	Chorus
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The CRLS Chorus is open to all students with or without singing experience. It is designed for students who are interested in learning the fundamental principles of ensemble choral singing. We will explore two-, three-, four-part and a cappella singing formats from a variety of periods and styles of choral literature, including classical, jazz, gospel, and popular music. Emphasis will be placed on proper singing techniques. Students will also develop music theory and sight-singing skills. Students electing this course will be expected to participate in events at which the Chorus performs including concerts, festivals, competitions and assemblies. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their vocal performance skills.

Grade: 9, 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisite: None

I945	HN	Vocal Ensemble
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Vocal Ensemble is an advanced choir for students who have successfully completed at least one semester of Chorus. It is designed for students who can sight-sing and perform advanced-level choral literature. Auditions for Vocal Ensemble are held in the spring. Students new to CRLS may audition in September. Emphasis will be placed on the study and practice of advanced singing techniques. Students will regularly perform at civic functions, school assemblies, concerts, competitions and festivals. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their vocal performance skills.

Grades: 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisite: Audition

A Cappella Choir

This after-school course meets all year, one afternoon per week for two hours. A cappella is vocal music performed without instrumental accompaniment. A cappella performance has enjoyed tremendous growth in popularity over the course of the last two decades because of its compelling harmonies. Groups leading the contemporary A cappella renaissance include The Persuasions, Bobby McFerrin, Rockappella, and Boyz II Men. Students are encouraged to take this course over multiple years to continue development of their vocal performance skills. Interested students should sign up with Mr. O'Connell.

■ VISUAL ART

COURSE LIST

CP FOUNDATIONS OF ART

CP STUDIO ART 1

HN STUDIO ART 2

AP STUDIO ART/PORTFOLIO ART (AUTHENTIC INQUIRY PROJECT)

CP PORTRAITS

CP PAINTING

CP DIGITAL STUDIO 1

CP DIGITAL STUDIO 2

CP ANIMATION

PF DIGITAL PORTFOLIO

CP ART OF FASHION 1

HN ART OF FASHION 2 (AUTHENTIC INQUIRY PROJECT)

CP CERAMICS

CP SCULPTURE

PF PORTFOLIO CERAMICS

CP PHOTOGRAPHY 1

CP PHOTOGRAPHY 2

HN PHOTOGRAPHY 3

PF PORTFOLIO PHOTOGRAPHY

CP JEWELRY MAKING

A021	CP	Foundations of Art
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This introductory level course will consider the variety of ways that art is used for expressive purposes. This class will focus on the elements of art and the principles of design, using two- and three- dimensional media. Students will draw upon a wide range of materials and techniques to foster their creativity and enhance their problem solving skills. Assignments as well as individual and class critiques will support the development of critical thinking skills.

Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: None

A030	CP	Studio Art 1
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This course is designed for students who have satisfactorily completed Fundamentals or Foundations of Art and would like to continue to develop their technical and expressive skills. Projects addressing individual and contemporary issues will be assigned as students continue to explore a variety of tools and media including drawing, painting, printmaking and two- and three-dimensional design. Assignments will emphasize development of the artist's personal voice and the ability to express ideas visually. Students will develop intermediate skills in drawing, the use of elements of art, and principles of design.

Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: Fundamentals or Foundations of Art

A963	HN	Studio Art 2
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This course is designed for students who want to continue to develop as an artist. A complete understanding of the elements of art and the principles of design as well as the ability to express one's ideas visually in a variety of media is emphasized. This course consists of in-depth assignments that encourage students to become independent visual thinkers who will contribute creatively and critically to their communities through the making of art.

Grade: 11, 12; Length: One Semester; Credits: 10; Prerequisites: Fundamentals or Foundations of Art plus one other visual art course or a portfolio review

A465	AP	Studio Art/Portfolio Art
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This course is designed for serious art students who intend to submit a portfolio for evaluation by the Advanced Placement Program and/or pursue admission to a program in the visual arts at the post-secondary level. The course is designed to help students develop a portfolio that reflects the quality, quantity, and breadth of first-year college-level standards. Students will be asked to develop a body of work that demonstrates a depth of investigation and a process of discovery as well as works that excel in concept, composition, and execution.

Grade: 12; Length: Year (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisites: Foundations of Art , Studio Art 1 and 2. This class includes an Authentic Inquiry Project. See page 14 for more information.

A020	CP	Portraits
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The main focus of this course is for students to become comfortable with drawing and painting people by trusting their artistic eye. Students will explore different ways of approaching drawing and painting portraits in graphite, charcoal, and acrylic.

Grade: 9; Length: One Semester; Credits: 10; Prerequisites: None

A022	CP	Painting
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Students will explore the materials and properties of acrylic painting through a series of demonstrations and classroom assignments. Composition, perspective, realism, abstraction, and non-objective painting will be addressed. Students will examine different periods and genres such as the Renaissance, Impressionism, Abstract Expressionism, still life, and portraiture. The class will participate in visits to local museums and engage in critical thinking exercises to sharpen their visual skills.

Grade: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: Fundamentals or Foundations of Art

A926	CP	Digital Studio 1
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This beginning level course is intended to give students an introduction to making fine art on the Apple computer. Students will learn the basics of Adobe Photoshop and Illustrator, and will use digital cameras, scanners, and graphics tablets to manipulate and create their own original imagery. Students will explore the themes of appropriation, dream-worlds, text and image, and collaboration throughout the course. The class will include periodic critiques of student work. Students will keep a journal as an idea book or sketchbook to collect images and reflect on their work in class. Students will be required to complete an independent research project on

a Photoshop technique that they will teach to the class.

Grade: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: None

A960	CP	Digital Studio 2
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This is an advanced level course intended for students who have completed Digital Studio 1 who want to further develop their skills with digital media such as Photoshop and Illustrator. Students will continue to explore the themes of appropriation, dream-worlds, text and image, and collaboration throughout the course, using new tools and more advanced techniques as platforms for self-expression. This course will include frequent class critiques of students' work. Students will be required to keep a paper journal or online blog as an idea book or sketchbook to collect images and reflect on their work in class. Students will be required to complete a research project and presentation on a fine artist currently employing digital media in his or her work.

Grade: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: Digital Studio 1

A029	CP	Animation
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This is a beginning level course designed to teach basic time-based media concepts through the creation of short animated pieces using Adobe Flash. Students will learn to create their own characters and scenes, put them in motion, and use these building blocks to tell engaging stories using Adobe Flash. The class will include periodic critiques of student work as well as viewings of professionally animated shorts and movies. Students will keep a journal as an idea book or sketchbook to collect images and reflect on their work in class. Students will be required to complete an independent research project and presentation on an animator or an animation studio.

NOTE: Students must be comfortable with basic drawing techniques and be familiar with the Elements and Principles of Design.

Grade: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: Fundamentals/Foundations of Art or Digital Studio

A966	PF	Digital Portfolio
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This course is designed for the Digital Studio or Animation student who would like to develop a portfolio of work using digital tools. Emphasis will be placed on advanced techniques that build upon skills and concepts learned in previous levels of Digital Studio and/or Animation. The first half of the course will be dedicated to completing assignments that explore the concepts of dream-worlds, text and image, collaboration, and/or story-telling. The second half of the course will be an independent portfolio project focusing on a theme of the student's choosing. This course is designed for serious art students who are considering a visual art major or minor in college. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their technical and/or artistic skills.

Grade: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: Digital Studio 2 or Animation

A070	CP	The Art of Fashion 1
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Students in this course will learn to illustrate the fashion figure, clothing and accessories as practiced in today's fashion industry. Through the use of schematics, mood and storyboards, students will learn to promote their

fashion designs and to understand the path a garment design takes from the concept through the finishing stages. Students will also learn fashion skills ranging from basic textile identification, pattern making, printing, embroidery, hand sewing, and machine sewing to encourage creative solutions to design projects while using the principles of art and the elements of design. Both women's and men's wear will be examined. The course will be enhanced by the formal review process and students will assess their own and each other's work through journal writing and oral critiques.

Grade: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: Fundamentals or Foundations of Art

A962	HN	The Art of Fashion 2
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Students will diligently practice their drawing, designing, and garment construction skills, as well as be introduced to several modern fashion design concepts. Using deconstruct and reconstruct methods, they will embellish on existing product designs while creating their own designs. Students will keep up on current trends using technology, while also practicing traditional drapery and pattern design techniques. An in-depth study of designers will be integrated throughout the course. Digital documentation for a portfolio will be practiced. The course will culminate with the design of a clothing line that emphasizes individual style.

Grade: 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisites: Fundamentals or Foundations of Art and The Art of Fashion 1. This class includes an Authentic Inquiry Project. See page 14 for more information.

A075	CP	Ceramics 1
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This is an introductory course in sculpture using clay as the medium. Students will learn to apply the elements of design as they relate to three-dimensional artwork. This will include form, texture, glaze application as well as exploring ones self in their artwork. Students will be introduced to the clay building techniques of slab construction, coil construction, and pinch pots. Students will also explore the difference between functional and nonfunctional artwork as it relates to the clay medium.

Grade: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: None

A965	PF	Portfolio Ceramics
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This advanced course builds on the skills and understandings developed in Ceramics 1. Students will refine their techniques striving for mastery of the clay medium. New techniques will include wheel throwing and mosaics. This course is designed for serious art students who would like to expand their knowledge of sculpture and clay. If taken for multiple semesters, students can focus on developing a portfolio that can be used to apply to either a liberal arts college or an art school. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their technical and artistic skills.

Grade: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Ceramics I

A024	CP	Sculpture
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This course is for students who would like to further their experience working with three-dimensional media. The course will offer students opportunities to explore a variety of traditional and non-traditional media including paper maché, found objects, wire and fabric. Students are encouraged to

repeat this course in consecutive semesters and over multiple years to continue development of their technical and artistic skills.

Grade: 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisites: Fundamentals or Foundations of Art

A025	CP	Photography 1
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Introduction to Photography is designed to make a seamless entry into the basics of digital and analog photography. This beginning level course emphasizes the interdependence of the latest analog and digital techniques. It encompasses digital capture, film and digital processing, and printing using digital technology and enlargers to make photographic prints. Students will learn to operate digital and film SLR cameras, and how to edit in Camera Raw and Photoshop, develop film, and produce fine art prints in both the wet and dry labs. Students will be introduced to the foundations of design concepts including line, shape, color, composition, value, and form. Students will write research papers on the contemporary and historical masters of photography as well as create an artist statement.

Grade: 9,10,11,12; Length: One Semester; Credits: 10; Prerequisite: None

A040	CP	Photography 2
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Intermediate Photography requires that students have an introductory knowledge of both digital and analog photographic capture taught in Photography 1. Students will learn to edit their creative images in Photoshop using layers and masks, and scan their black and white film. Students will develop an understanding of the aesthetics of photography and art criticism through class critiques and digital media. Students will assess their own and other photographers' images using contemporary photographic vocabulary and critical thinking skills. Students will formulate their own digital and analog projects with the emphasis on the importance of image making and visual literacy in the 21st century. Students will write research papers on the contemporary and historical masters of photography as well as create an artist statement.

Grade: 9,10,11,12; Length: One Semester; Credits: 10; Prerequisites: Photo 1 or equivalent

A964	HN	Photography 3
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Advanced Photography is a course emphasizing creative, technical, and aesthetic control in the digital and analog labs to achieve high quality, expressive images. This course will provide an in-depth exploration of the inter-dynamics of computer based and historical black and white creative processes. Students will use these as the tools to create meaningful bodies of work and encourage more mastery in image making, including making digital negatives. Students will go to galleries and exhibitions and interview professional photographers working in the medium in order to build the necessary foundation for Portfolio Photography. Students will write research papers on the contemporary and historical masters of photography as well as create an artist statement.

Grade: 10,11,12; Length: One Semester; Credits: 10; Prerequisite: Photo 2

A968	PF	Portfolio Photography
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Portfolio Photography emphasizes independent projects using advanced digital and analog processes. Students will use various creative techniques in the digital and analog darkrooms in order to produce exhibition quality

prints including creating high dynamic range images, panoramic digital files, and archival fiber prints in the wet lab. Students will envision and create a body of work that is cohesive, compelling, and creative. Students will create original portfolios that can be used as a personal record and can be presented for admission to college and professional photography programs. Students will investigate avenues of publishing and exhibiting their work through the many venues available today including the internet, publishing books, galleries and museums. Students are required to work independently and to write their own proposals and follow through on well-conceived personal projects with rigor and commitment. Students will write research papers on contemporary and historical masters of photography and give presentations on their work as well as create an artist statement.

Grade: 10,11,12; Length: One Semester; Credits: 10; Prerequisites: Photo 3

A028	CP	Jewelry Making
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This course will explore basic jewelry making and metal working processes. Assignments will introduce techniques for making jewelry findings, chain and maille, shaping wire, cutting metal, cold joinery, light forming, surface treatments and finishing methods. Projects will be based on skills and concepts as they relate to creating jewelry with additional opportunities to explore the creation of utilitarian objects. By the end of the course, students will become proficient in beading and working with metal, both technically and as a means of artistic expression. Projects include but are not limited to: Beaded jewelry, necklace pendants, drop earrings, cuff bracelets, and rings.

Grade:10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: None

English Language Acquisition

SCHOOL WIDE LEARNING EXPECTATION

A CRLS student communicates as a writer and speaker.

STAFF

Michelle Madera, Coordinator of Bilingual English Language Acquisition

Yvon Lamour, Teacher-in-Charge, Bilingual English Language Acquisition Programs and International Student & Family Center
Joseph Blaise, Isabel Frankel, Francisco Hernández, Rose Mallard, David Mish, Marly Mitchell, Vera Outeiro, Zuwei Shi, Alixon Vincent

The Sheltered / English Language Acquisition Program has been established to meet the academic, linguistic and social needs of English Language Learners (ELL) in compliance with recently adopted federal and state regulations. It provides an environment in which students can progress academically through an intensive sequence of English language courses, supplemented where necessary, with native language facilitation. Students' programs also include coursework in math, science, health and social studies. It follows a carefully designed sequence of courses that enables students from over 20 countries to develop fluency in English, master the academic skills needed for successful integration into the standard curriculum, and become familiar with American culture.

ESL COURSES

All ELL courses adhere to the four strands of learning identified in the Massachusetts Curriculum Guidelines for English Language Learners (ELL). ESL courses are offered at four levels: Beginning (ESL 1), Early Intermediate (ESL 2-3), Intermediate (ESL 4) ELL students must attend two semesters of ESL before they transition.

XE101	SE	ESL 1
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In this course students with little knowledge of English take their first steps toward mastery of the new language. The focus is on the use of everyday words and phrases that express personal needs. Students develop comprehension of simple sentences including statements, questions and commands. They plan, rehearse and present information orally about personal experiences and interests.

Length: Year; Credits: 20; Prerequisite: Placement test

XE102	SE	ESL 2
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Open to students who have mastered the competencies of ESL 1, this course sharpens students' written and oral communication skills, grammar and reading comprehension. It prepares them for a smooth transition to Intermediate (ESL 3-4). Reading selections include fiction and non-fiction at appropriate levels. Students must plan, rehearse and present orally brief written reports on relevant topics.

Length: Year; Credits: 20; Prerequisite: ESL 1 or Placement test

XE201	SE	ESL 3
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The purpose of ESL 3 is to expand and strengthen the students' reading, writing, speaking and listening skills in English with a strong emphasis on the acquisition of writing skills. This course continues the work of the ESL Beginning courses in the acquisition of basic communication skills in the second language. Through mastery of basic English grammar and vocabulary students become able to function in English in their daily lives. Students will read and write about literary and informational texts with a clear focus, coherent organization and sufficient detail including the identification of main ideas.

Length: Year; Credits: 20; Prerequisite: ESL 2 or Placement test

XE202	SE	ESL 4
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Students continue to learn grammar, usage, and mechanics through reading and writing poetry, essays, and journals. Focus is on clarifying meanings of words using dictionaries, glossaries and other resources. Strategies include taking notes, using graphic organizers, explaining thinking processes and outlining information. Students prepare a research paper, which demonstrates mastery of research and writing skills including word processing and use of the Internet.

Length: Year; Credits: 20; Prerequisite: ESL 3 or Placement test

SOCIAL STUDIES COURSES

XH220	SE	World History 2
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This course for ELL student with intermediate to transitioning English proficiency, class focuses on the emergence of modern civilization since the Renaissance. Students develop language, analytical and research skills by mastering the identify-explain-apply method and by writing short essays

and longer research projects, which conform to state learning standards for history and ESL.

Length: One Year; Credits: 20; (10 Distributional) Prerequisite: World History and Culture 1 in ESL or Placement test

XH301	SE	Unites States History 1
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Designed to meet the Massachusetts DOE graduation requirement, this course stresses basic concepts of geography, economics, constitutional development, history and culture as well as current events in the United States. Development of reading, writing, research and oral communication skills is an integral part of the curriculum.

Length: One Year; Credits: 20(10 Distributional); Prerequisite: Placement test

XH302	SE	Unites States History 2
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This course is a continuation of US History 1 and continues to work on the development of reading, writing, research and oral communication.

Length: One Year; Credits: 20(10 Distributional); Prerequisite: Placement test

■ MATH COURSES

XM100	SE	Pre High School Math
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This course begins to address the grades 9 -10 Learning Standards of the Massachusetts Curriculum Frameworks. Students will review fundamental math skills and learn the concepts needed to be successful in High School Mathematics I. Units of study include basic operations with whole numbers, integers, fractions, decimals and percent, ratio and proportion; order of operations, variable; and evaluating expressions. Students will be introduced to place value, positive and negative numbers, linear equations; algebraic expressions and polynomials; also basic concepts of geometry and statistics (different types of graphs and calculations of mean, median and mode). Through the use of manipulative and computer technology, students will have the opportunity to explore, model, and analyze. This course involves students in active learning in order to build understanding of the very basic math concepts.

Length: Year; Grades: 9-11; Credits: 20 (10 Distributional); Prerequisite: Placement test

XM101	SE	Alegebra 1
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This course will address the grades 9-10 Learning Standards of the Massachusetts Curriculum Frameworks. The learning standards that will be covered are number sense and operations; patterns, relations and algebra; data analysis, statistics, and probability; as well as selected items from the geometry and measurements learning standards. The course will include manipulatives and computer technology to provide students with the opportunity to explore, model and analyze. The course will be designed to involve students in active learning, inquiry based problems, and problem solving strategies to build conceptual understanding.

Length: Year; Grades 9-10; Credits: 20 (10 Distributional); Prerequisite: Placement test

XM201	SE	Geometry
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This course is the second year of the High School Mathematics Program which integrates previously learned algebraic concepts with newly learned geometric concepts. This course strives to apply abstract geometry content to real world scenarios by investigating new content and practicing problem solving skills. The essential elements of this course are basic tools of geometry, understanding measurements and properties of circles, polygons, and polyhedrons, how these shapes can be manipulated and transformed, and MCAS preparation including algebra review and data analysis. The use of manipulatives, hands-on projects, and the computer technology will provide students with the opportunity to explore, model, and analyze the concepts presented.

Length: Year; Grades 10-11; Credits: 20 (10 Distributional); Prerequisite: H.S. Math 1 or Placement test

■ SCIENCE COURSES

XS100	SE	Physics A
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Physics A is a basic physics course which addresses the needs of ELL students who have limited science skills or little or no exposure to working in a science lab and performing hands-on experiments in different scientific areas. It covers the basic concepts of scientific method, SI and US/Imperial units, units' conversions, forces, motion, the Newton's Laws, momentum, energy and heat. It also develops students' skills in physics project writing, problem solving and technology.

Length: One Semester; Credits: 10; Prerequisite: Placement test. This course does not fulfill the Physics requirement.

XS101	SE	Physics B
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SE Physics First parallels the mainstream Physics course and is offered to all ELL students of 9th through 12th grades. It focuses on concepts in kinematics, mechanics, waves, sound, light, electrostatics, circuits, magnetism, and energy. It prepares students for understanding interactions at an atomic and molecular level in Chemistry and gives students an understanding of the Law of Conservation of Energy, which is important in both Chemistry and Biology. This course also develops ELL students' writing and problem solving skills and prepares them for standard curriculum science.

Length: One Semester; Credits: 10; Prerequisite: Physics A, Pre-Physics, or Placement test

■ HEALTH COURSES

XY101	SE	Health
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This course enables ELL students to understand human development, especially with regard to physical and emotional needs. It stresses the development of self-esteem and provides a forum for the discussion of feelings about cultural values, the immigrant experience, and stress related to adjustment to American culture. Topics such as nutrition, personal health, sexuality and drugs are explored in depth. This course satisfies the health requirement for graduation.

Length: One Semester; Credits: 5 (alternates each day with Physical Education); Prerequisite: None

English Language Arts

SCHOOL WIDE LEARNING EXPECTATION

A CRLS student reads for information and understanding.

STAFF

Janice Tingle, Language Arts Curriculum Coordinator, K-12
Linda G. Mason, Dean of ELA Curriculum and Program, 9-12

Nick Bacigalupi, Tina Marie Brunetto, Kelly Buckley, Kathleen Clinton, Amanda Hughes, Jennifer Hogue, Steve Jordan, Amy Le Blanc, Natasha Labaze, Kira LeeKeenan, Ariel Maloney, Steve Matteo, , Mark Seide, Tanya Trayer, Wambui Githiora-Updike, Courtney Wilkes, Marya Wegman

POLICIES

In grade 9 students will take English 9 This course is required for graduation and is offered at the College Preparatory & Honors level.

In grade 10 students will take English 10. This course is required for graduation and is offered at the College Preparatory and Honors level.

In grade 11, students should take English 11 or HN English 11. This course is required for graduation and Advanced Placement level courses.

In grade 12, students may take English 12 or another English elective course.

Colleges and universities require students to earn 4 units of English as an entrance requirement, so seniors are encouraged to take another English elective. Each course in the sequence from grades nine through twelve is designed to help you prepare for college, work, and the world beyond high school.

COURSE LIST

MCAS PREP/REVIEW ENGLISH

CP ENGLISH

CP ENGLISH 9 (HN OPTION)

HN ENGLISH 9

CP ENGLISH 10

HN ENGLISH 10

CP ENGLISH 11

HN ENGLISH 11

ELECTIVES

CP ENGLISH 12

CP ENGLISH SENIOR PROJECT (HN OPTION)

HN COLLEGE WRITING 11 & 12

CP JOURNALISM (HN OPTION)

CP READING AND WRITING ON HUMAN VALUES (HN OPTION)

CP AFRICAN LITERATURE SENIOR PROJECT (HN OPTION)

CP CREATIVE WRITING, LITERATURE, AND THE ARTS (HN OPTION)

HN WORLD RELIGION

AP LITERATURE & COMPOSITION

AP LANGUAGE AND COMPOSITION

GMP2E

AS

English Applications

MCAS Prep is offered in grade 10 to provide students with additional support in language arts and test-taking strategies to help prepare them for the exam. **Grade: 10; Length: One semester, alternate days; Credits: 5; Prerequisites: None**

GMP3E

AS

English Applications Review

Students in grades 11 and 12 who have failed the ELA MCAS exam should take this course to increase their performance on the exam and strengthen areas in which they have had difficulty.

Grade: 10; Length: One semester, alternate days; Credits: 5;

Prerequisites: None

E000

CP

English

The purpose of this course is to help students learn the fundamental concepts of reading and spelling in the English language. Students will improve their reading, processing, vocabulary and comprehension. They will apply their learning to a variety of readings to demonstrate an increased mastery in decoding, fluency, and comprehension as well as oral and written expression.

Length: Year; Credits: 20 (non-distributional for ELA credit);

Prerequisites: None

E001

CP

English

The purpose of this course is to help students gain a deeper understanding of literature and nonfiction readings. Students will practice identifying concepts and using strategies to increase reading comprehension. Also, students will develop the ability to respond to text more effectively by writing in a variety of formats. Students will study vocabulary, grammar, and standard English conventions.

Length: Year; Credits: 20 (10 Distributional); Prerequisites: None

E002

CP

English

This course is the same as E001. The pacing is more intensive and the course is offered for one semester only.

Length: One Semester; Credits: 10; Prerequisites: None

E101

CP (HN option)

English 9

In this course, students will explore how characters and people form their identities. Through their studies, students will develop reading, writing, and critical thinking skills. They will expand close reading skills by learning how to make inferences, ask questions, and annotate texts from a variety of genres. Student will learn concepts and strategies to increase comprehension. In addition, students will refine their organization, vocabulary, grammar, and ability to develop a topic by completing writing assignments. They will complete all five stages of the writing process, learn standard English conventions, and be expected to demonstrate their mastery by completing mini-compositions and benchmark assignments. Students will document and evaluate their evolution as writers by creating an English Language Arts portfolio. **Required Course Texts:** *To Kill a Mockingbird* or *Of Mice and Men*, *Romeo and Juliet* or *A Midsummer Night's Dream*, *Antigone* or *The Odyssey*,

and assorted poetry, nonfiction, and short stories.

Length: Year; Credits: 20 (10 distributional); Prerequisites: None

E102	HN	English 9
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Students need to be able to manage their time and organize their materials independently. In this course, students will explore how characters and people form their identities. Through their studies, students will develop reading, writing, and critical thinking skills. They will expand close reading skills by learning how to make inferences, ask questions, and annotate texts from a variety of genres. Students will build the skills needed to analyze and evaluate texts and learn how to cite texts using MLA guidelines. In addition, students will refine their organization, vocabulary, grammar, and ability to develop a topic by completing writing assignments. Students will document and evaluate their evolution as writers by creating an English Language Arts portfolio. Honors English and college preparatory English have the same course content. Honors English moves at a more intensive pace.

Required Course Texts: *To Kill a Mockingbird* or *Of Mice and Men*, *Romeo and Juliet* or *A Midsummer Night's Dream*, *Antigone* or *The Odyssey*, and assorted poetry, nonfiction, and short stories.

Length: One Semester; Credits: 10; Prerequisites: Eighth grade Teacher Recommendation and test scores

E201	CP	English 10
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This is a year long course which will meet on alternating days with PE. In this course, students will explore the following questions: Who has power? What choices do people make when they have power, and when they do not have power? Students will study texts in depth and will write extensively to develop analytical, organizational, and critical thinking skills. They will further develop their independence as writers by crafting original thesis statements and defending their thesis statements with embedded quotations and other relevant examples. They will complete all five stages of the writing process, refine their use of standard English conventions, and be expected to demonstrate their learning by completing prompt writing and benchmark assignments. They will document their progress as writers, readers, and thinkers in their English Language Arts portfolios. Vocabulary and grammar instruction will be integrated throughout the course.

Required Course Texts: *Things Fall Apart*, *Othello* or *Macbeth*, and assorted poetry, nonfiction, and short stories. Teachers may also choose to teach a second novel or novella.

Length: Year, alternate days; Credits: 10; Prerequisites: English 9

E202	HN	English 10
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Students need to be able to manage their time and organize their materials independently. In this course, students will explore the following questions: Who has power? What choices do people make when they have power, and when they do not have power? Students will study texts in depth and will write extensively to develop analytical, organizational, and critical thinking skills. They will further develop their independence as writers by crafting original thesis statements and defending their thesis statements with embedded quotations and other relevant examples. They will document their progress as writers, readers, and thinkers in their English Language Arts portfolios. Vocabulary and grammar instruction will be integrated throughout the course. Honors English and college preparatory English have the same course content. Honors English moves at a more intensive pace.

Required Course Texts: *Things Fall Apart*, *Othello* or *Macbeth*, and as-

sorted poetry, nonfiction, and short stories. STUDENTS WILL BE REQUIRED TO READ TWO ADDITIONAL NOVELS OR NOVELLAS.

Length: One Semester; Credits: 10; Prerequisites: Grade of B- or better in English 9 HN or grade of B+ or better and teacher recommendation in English 9 CP

E301	CP	English 11
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In this course, students will explore the American experience by reading the works of notable American authors. Through a variety of genres including poetry, short stories, fiction, nonfiction, and drama, students will explore the following themes: individual freedom and the quest for the American dream; the conflict between conscience and conformity; class and alienation; and oppression in America. Students will continue to develop their critical reading skills and express their ideas in writing. They will refine their voice, style, and purpose as writers. They will also be expected to complete the American Authors research project. Students will continue to document and evaluate their evolving skills as readers, writers, and thinkers by updating their English Language Arts portfolios. Teachers will integrate instruction of vocabulary, Standard English conventions, and SAT preparation throughout the course.

Required Course Texts: *The Great Gatsby*, a play (usually *The Crucible* or *A Raisin in the Sun*), and assorted poetry, nonfiction, and short stories.

Length: One Semester; Credits: 10; Prerequisites: English 9 and 10

E302	HN	English 11
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Students need to be able to manage their time and organize their materials independently. In this course, students will explore the American experience by reading the works of notable American authors. Through a variety of genres including poetry, short stories, fiction, nonfiction, and drama, students will explore the following themes: individual freedom and the quest for the American dream; the conflict between conscience and conformity; class and alienation; and oppression in America. Students will continue to develop their critical reading skills and express their ideas in writing. They will refine their voice, style, and purpose as writers. They will also be expected to complete the American Authors research project. Students will continue to document and evaluate their evolving skills as readers, writers, and thinkers by updating their English Language Arts portfolios. Teachers will integrate instruction of vocabulary, Standard English conventions, and SAT preparation throughout the course. Honors English and college preparatory English have the same course content. Honors English moves at a more intensive pace.

Required Course Texts: *The Great Gatsby*, a play (usually *The Crucible* or *A Raisin in the Sun*), and assorted poetry, nonfiction, and short stories. **Length: One Semester; Credits: 10; Prerequisites: English 9 and grades of B or better in English 10, teacher recommendation**

■ ELA ELECTIVES

E401	CP	English 12
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In this college preparatory course, student will focus on training for college-level literature and writing courses. Students will explore teacher-derived themes that address contemporary issues. Instructional units will include such topics as Conscience and Conflict, Crime and the Criminal, and Authority and Rebellion. Students will be required to read nightly and to write in multiple genres, including persuasive, analytical, creative, and

expository writing. Students will be able to demonstrate their thinking about the themes of the course by producing a research-based final project. Students will continue to document and evaluate their evolving skills as readers, writers, and critical thinkers by updating their English Language Arts portfolios.

Length: One Semester; Credits: 10; Prerequisites: English 9,10 & 11

E402	CP	English Senior Project (Honors Option)
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This college-preparatory course is focused on intensively training students for university-level literature and writing courses. Students in English 12 HN will explore, in great depth, the impact of relationships on an individual's personal development. The course is designed for students eager to engage with and passionate about literature and writing. Students will write extensively to refine high-level analytical reasoning and critical thinking skills. Readings will be lengthier, requiring more independent and advanced in-depth textual analysis. Students will be required to read nightly and to write in multiple genres, including persuasive, analytical, creative, and expository writing. Students will work independently and in group work; class discussions, including student-led Socratic seminars, will be standard in this class. There will also be a Authentic Inquiry Project, consisting of a reflective journal, research and community fieldwork, and culminating in an 8-15 page paper, cumulative portfolio, and final presentation. Through this project, which is mandatory for enrollment in the course, students will reflect upon their development throughout high school as critical readers, writers, thinkers, and independent learners.

Length: One Semester; Credits: 10; Prerequisites: English 9,10 & 11

E414	HN	College Writing 11 & 12
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This course is an Honors level introduction to college writing. Students will develop skills in expository, analytical, creative, and persuasive writing. They will learn research skills and become familiar with the MLA guidelines used in college writing. Students will write first drafts and learn to revise and edit until they produce a paper that is well organized and reflects their understanding of the topic. Looking at purpose and audience, while developing style and content, will allow students to expand their perspectives and create responses reflecting various purposes, ideas, and opinions.

Grade 11, 12. Length: One Semester; Credits: 10; Prerequisites: English 9 , 10

E409	CP	African Literature Senior Project (Honors Option)
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This course will introduce students to African Literature. Selected texts will focus on the African oral tradition and folklore, memoir/autobiography, the coming-of-age novel, the political novel, poetry, and modern short stories. These genres will introduce seniors to the power and complexity of modern African writing from across the continent, and to the connections between politics, social conditions, and the inner life of African writers in colonial and post-colonial societies. Students will improve their reading and writing skills through a variety of writing activities designed to focus on the style and content of selected texts. Required readings will also include short stories, and selected poetry from the Oral Tradition, the Negritude Poets, Colonial Period poets, and modern poetry. As part of this class, you will learn the skills to create and present a unique project that shows your understanding of the course content and highlights your interests and ideas. See page 14 for more information about Authentic Inquiry Projects.

Length: One Semester; Credits: 10; Prerequisites: English 9, 10 & 11.

E431	CP	African American Literature (Honors Option)
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Through reading challenging and thought-provoking texts from the canon of African-American literature, students will develop their ability to discern the attributes of quality writing. They will read texts by authors such as Frederick Douglass, Harriet Jacobs, Ralph Ellison, Assata Shakur, Toni Morrison, and Barack Obama. By analyzing thought-provoking texts on the African-American experience/s students will express and develop their views about key past and present sociological issues. They will develop their ability to communicate insightful responses to key themes in African-American literature. Students will continue to develop skills in expository, analytical, creative, and persuasive writing. They will reinforce research skills and incorporate the MLA guidelines used in college-level English classes. Students will collect their writings from a range of genres in an English Language Arts Portfolio which will document their growth as writers, readers, and thinkers.

Grade: 12. Length: One Semester; Credits: 10; Prerequisites: English 9, 10 & 11.

E405	CP	Journalism (Honors Option)
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Welcome to Journalism. This is primarily a writing course for CRLS students interested in exploring what it is like to be a real-life reporter for a newspaper. Students will learn the basic elements of a news story and generate a wide variety of original news articles for CRLS' very own newspaper, the Register Forum. Students will also discuss current events on a local, national, and international level and further develop awareness about issues "making the headlines". Lastly, students will have several opportunities to collaborate on investigative journalistic projects and a final which requires small news crews to research, film, and edit their very own mini-documentaries.

Length: One Semester; Credits: 10; Prerequisites: English 9, 10 & 11

E426	CP	Reading and Writing on Human Values (Honors Option)
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This course gives students the experience of grappling with and writing about the values and ideas contained in a number of ancient and modern classics representing a wide-range of human experience. Student in this semester long course will explore the following questions: Is the pursuit of truth always valuable? When does the individual matter more than the community, and vice versa? What is the divine, where is it found, and does it even matter?

Length: One Semester; Credits: 10; Prerequisites: English 9, 10 & 11

E425	CP	Creative Writing, Literature, and The Arts (Honors Option)
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This course is designed for students who are interested in expressing themselves through creative writing and other artistic means. The students will be asked to think deeply about themselves and their place in the world, and will work to articulate their thoughts and ideas through the creative arts. The students will also realize that such expression does not exist in isolation; creative writing is a communal activity in which all participants support, encourage, edit, and share with their fellow artists. This course will also be an exploration of a multitude of art forms: literature, painting, oratory, photography, music, film, and more. The students will be immersed this intertwining, fascinating world of artistic expression. The study of these art forms will be the inspiration for their own work, with the ultimate goal of developing thoughtful writers, thinkers, and art appreciators.

Length: One Semester; Credits: 10; Prerequisites: Grade of C+ or better in 9th and 10th grade English

E427	HN	World Religion
How are different religions understood? How important is it that they be understood? Students will explore the idea of religion and spirituality. They will develop some basic understandings of five world religions: Hinduism, Buddhism, Judaism, Christianity, and Islam. Students will examine articles, textbook selections, religious texts, short stories, poems, and novels in order to formulate ideas about what it means to be part of these religions, or to live in societies shaped by the beliefs and institutions of particular religions. Length: One Semester; Credits: 10; Prerequisites: English 9, 10 & 11		

A971	CP	Media Journalism Lab (Honors Option)
Driven by your civic awareness and passion for elevating youth voices, learn the principles and skills of media journalism and news production. Learn about the production cycle and develop the ability to file time-sensitive stories. Get trained in the latest writing and technology protocols. Learn visual storytelling and experience working in front and behind the camera. Work as a team in this cooperative, multi-disciplinary learning environment as you join your instructor and other students in creating segments for YVC Homeroom Edition, the CRLS bi-monthly news program. Podcasts, video documentary production and blogs are all part of the process. Your work will be shown on SMART TV98 and our web site. Length: One Semester; Grades: 10, 11, 12; Credits: 10; Prerequisites: One of the following recommended: E405 Journalism, ELA teacher recommendation, or previous media production experience		

■ ADVANCED PLACEMENT COURSES

All students enrolled in an Advanced Placement English course are expected to take the associated AP exam in May.

E541	AP	English Literature and Composition
This course, students will read and write extensively about major works of imaginative literature. This course is designed for students eager to engage with and passionate about literature. Students should have strong analytical skills and be willing to meet the challenge of difficult reading and writing assignments. Students will learn how to recognize common literary devices to interpret literature; how to write literary analysis essays that conform to standard formats; and how to apply close reading, and critical thinking skills to the interpretation of various texts. All students enrolled in this course are required to take the AP English Literature and Composition exam. Length: One Semester; Credits: 10; Prerequisites: English 9, 10 & 11. Students must have earned a grade of B or better in HN English 11 or be recommended by their grade 11 ELA teacher		

E542	AP	English Language and Composition
In a sense, everything is an argument. When we speak, when we write, when we create art, and when we interact with the world we are always making appeals about who we are and what we want. This course helps students to see why a given argument is being made, and what the conditions, parameters, influences, contexts, and goals are that guide the argument. As a crucial form of intellectual self-defense, students will understand the construction of an argument and what makes it persuasive. By developing this skill, they will be able to understand what makes a sound argument, as well as the techniques of manipulation. Ultimately these new		

understandings will be employed in their own writing. The underlying goal is to continually explore and articulate personal beliefs, while allowing those beliefs to shift and change as students participate in robust discussions. All students enrolled in this course are required to take the AP English Literature and Composition exam.

Length: One Semester; Credits: 10; Prerequisites English 9, 10 & 11. Students must have earned a grade of B or better in HN English 11 or be recommended by their grade 11 ELA teacher

Health & Physical Education

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student uses deliberate thinking processes to solve problems and develop ideas.

STAFF

Kim DeAndrade, Program Leader for Health Education
 Scott Cody, Lead Teacher for Physical Education

Alvaro Amaral, Michael Caron, Leslie Davis, Lance Dottin, Marly Mitchell, Daniel Salazar, Shantu Salvi, Mary Tegan, Sara Varella

PHILOSOPHY

These courses provide an opportunity for students to develop health and physical fitness. Our students are provided with an educational setting through which they can gain knowledge and understanding of themselves physically, socially and emotionally. Our program is based on themes of character and value that teach students life-long lessons on which they can rely in the larger school community and in their personal lives.

■ REQUIREMENTS

Students are required to take and pass Physical Education each year, and to take and pass Health Education. In addition, they must fulfill a swimming requirement. Physical Education is required in all grades by state law. Students must meet these requirements in order to graduate. Students can earn Physical Education credits by registering in dance programs offered by the Visual and Performing Arts Department or in H415 Leadership and Community Action-STARs, but must still pass the swimming test and earn 5 credits in Health before they graduate.

■ ATHLETIC SUBSTITUTION CREDIT

Massachusetts law on physical education states that "Physical education shall be taught as a required subject in all grades for all students in the public schools for the purpose of promoting the physical well-being of students." To meet this requirement students may choose physical education, Leadership and Community Action (STARs) or dance courses. All students must take 9th grade Health and Physical Education/Dance. Any CRLS student who participates in CRLS-sponsored athletics and completes a season, may choose to use that to meet their Physical Education requirement for the following year. Students who wish to do this should inform their Guidance Counselor. The Guidance Counselor will check with the Athletic Department for verification of team participation.

■ MEDICAL WAIVERS

Students who have medical concerns should obtain a Medical Evaluation Form from the Health and Physical Education Department or their Guidance Counselor. Their personal physician will fill out the requested information and provide documentation. The form then needs to be signed by the Coordinator of Health and Physical Education and the student's Guidance Counselor. Students whose medical condition requires an exemption from physical education will receive a waiver, but they will not be given any credit.

■ PROPER ATTIRE

Students will change their clothing and wear proper attire for active participation in physical education class. This change of clothing must include a jersey or T-shirt, a pair of shorts/warm-up pants, socks and sneakers. Proper swim attire for aquatic courses includes a bathing suit, cap for long hair, and a towel.

■ SWIMMING REQUIREMENT

All CRLS students must pass a swimming test as part of their Physical Education program. Students who need to take the Swim Challenge test should sign up in the Health and Physical Education office.

COURSE LIST

GRADE 9 PHYSICAL EDUCATION

GRADE 9 HEALTH

OFFENSIVE AND DEFENSIVE TEAM SPORTS

NET GAMES

FIELD GAMES

STRENGTH AND CONDITIONING

ALTERNATIVE FITNESS

PE FOR THE ATHLETE

SWIMMING 1 & 2

ADULT WELLNESS/LIFE AFTER RINDGE

PE09 PE Grade 9 Physical Education

9th grade Physical Education meets for one semester, alternating with Health Education. Students will learn a combination of fundamental skills and concepts that prepare students to become physically active and promote health awareness. The activities may include fitness testing and planning, tennis, swimming, recreational games, group/trust initiatives and team sports.

Grade: 9; Length: One Semester; Credits: 5; Prerequisite: None

PHE1 HE Grade 9 Health Education

This required 9th Grade Health and Wellness Course meets for one semester, alternating with Grade 9 Physical Education or Dance 1. All students will be given an opportunity to participate in lessons and discussions involving teen health issues, including: relationships and communication, learning and the brain, emotional health, sexual harassment and teen dating violence, nutrition, substance abuse prevention and sexuality education.

Grade: 9; Length: One Semester; Credits: 5; Prerequisite: none;

Co-Requisites Dance 1 or Grade 9 Physical Education

PE001 PE Upper Grade Physical Education and Health

This year upper grade students will take two every other day Physical Education courses. Students will have an opportunity to indicate their top 4 choices from a variety of team and lifetime sports, fitness and health courses. However, due to scheduling issues, we cannot guarantee that students will get their first choices.

Offensive and Defensive Team Sports

This class features games such as basketball, football, soccer, lacrosse, capture the flag, and floor hockey. Students will develop the necessary skills and learn various offensive and defensive strategies and tactics.

Grades: 10, 11, 12; Length: One Semester; Credits: 5; Prerequisite: None

Net Games

This course will include table tennis, pickle ball, badminton, volleyball and tennis.

Grades: 10, 11, 12; Length: One Semester; Credits: 5; Prerequisite: None.

Field Games

This course includes kick ball, matt ball, whiffle ball, and soft ball/baseball. Students will learn the skills, rules, strategies and history of these games.

Grades: 10, 11, 12; Length: One Semester; Credits: 5; Prerequisite: None.

Strength and Conditioning

This class offers students an opportunity to improve their overall fitness and develop plans to attain personal goals. This class involves strength training, speed and agility, flexibility, diet, other topics to improve health and fitness.

Grades: 10, 11, 12; Length: One Semester; Credits: 5; Prerequisite: None.

Alternative Fitness

This class is for those looking to explore less traditional physical education activities. Students will do yoga, Pilates, aerobics, tai chi and other fitness activities. This class will also include diet and nutrition.

Grades: 10, 11, 12; Length: One Semester; Credits: 5; Prerequisite: None.

Swimming 1 & 2

Swimming I is for beginning swimmers.

Swimming II is for students looking to improve their swimming skills. Students will learn the various swim strokes and will improve their fitness through swimming.

Grades: 10, 11, 12; Length: One Semester; Credits: 5; Prerequisite: None.

PE for the Athlete

This class is encouraged for current CRLS athletes. Topics include time management, the college selection/recruiting process, proper diet, performance enhancing drug use, strength training, injury prevention, and other topics pertinent to being a high school athlete.

Grades: 10, 11, 12; Length: One Semester; Credits: 5; Prerequisite: None.

Adult Wellness or Life After Rindge

This class is for 11th and 12th graders who will learn about issues and decisions that they will face as young adults. Topics will include goal-setting and life planning; communication; sexuality and relationships; decisions about legal, illegal substances and binge drinking; depression and mental health; deciding about parenting and taking care of children; conflict resolution and legal and financial issues facing young adults. Credits earned upon successful completion of the course may be applied toward the Health or Physical Education graduation requirement.

Grades: 11,12; Length: One Semester; Credits: 5; Prerequisite: None.

History / Social Science

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student communicates as a writer and speaker.

STAFF

Wendell C. Bourne Jr., K-12 Coordinator

Damon Smith, Dean of Social Studies Curriculum and Program

Dionne Campbell, Jacqueline Cesario, Kathleen Corcoran, Danielle Corke, Margaret Dailey, Carolyn Dodson, Kathleen FitzGerald, Ned Flaherty, Brendan Kells, Zachary Lamothe, Joshua Landwehr, Sharon Lozada, Tanya Earls-Milner, Rita Muraca, Rachel Otty, Susie VanBlaricum, Dr. Barbara Weaver, Cindy Weisbart

POLICIES

The 8-12th grade "pathway" for History/Social Science is as follows: World History 1 (500-1800); World History 2 (1900-present), United States History 1 (1763-1877); and, United States History 2 (1877-present).

In grade 9 students will take World History 2. This course is required for graduation and is offered at the College Preparatory and Honors level.

In grade 10 students will take US History 1 (Colonial America through Civil War). This course is required for graduation and is offered at the College Preparatory and Honors level. This course is a prerequisite for students who wish to enroll in AP US History. Students interested in taking AP US History must enroll in HN US History 1.

In grade 11, students should take United States History 2 (Reconstruction to the 21st Century). This course is required for graduation and is offered at the College Preparatory, Honors and Advanced Placement level.

Many colleges and universities require students to earn 4 units of History and Social Science as an entrance requirement, so seniors are encouraged to take another history elective, or explore other areas of the social sciences.

COURSE LIST

CP WORLD HISTORY 2

HN WORLD HISTORY 2

CP US HISTORY 1

HN US HISTORY 1

CP US HISTORY 2

HN US HISTORY 2

AP US HISTORY

AP EUROPEAN HISTORY

CP AFRICAN AMERICAN HISTORY

HN CULTURAL ANTHROPOLOGY

CP CRIMINAL & CIVIL LAW

CP CIVICS

CP PSYCHOLOGY AND ADOLESCENT PSYCHOLOGY

CP LEADERSHIP AND COMMUNITY ACTION - STARS

CP MINORITY STUDENT ACHIEVEMENT NETWORK LEADERSHIP SEMINAR (WITH HONORS OPTION)

HN ECONOMICS

HN MODERN WORLD HISTORY

UM AMERICAN IDENTITIES

H201

CP

World History 2

In this course students will study the rise of nation states, as well as the social, economic and political roots of the modern world. They will study the origins and consequences of the Industrial Revolution, 19th century political reform in Western Europe, and European imperialism in Africa, Asia, and South America. Students will explain the causes and consequences of the great military and economic events of the past century, including World War I, the Great Depression, World War II, the Cold War, and the Russian and Chinese revolutions. Finally students will study the rise of nationalism and the continuing persistence of political, ethnic, and religious conflict in many parts of the world. Students will continue to develop their history portfolio that will include at least two expository essays written during World History 2.

Length: One Semester; Grade: 9; Credits: 10; Prerequisite: None

H202

HN

World History 2

The content for World History 2 Honors is the same as College Preparatory World History 2. Students in this course are expected to develop an independent research project and participate in CRLS National History Day.

Length: One Semester; Grade: 9; Credits: 10; Prerequisite: None

H291

CP

U.S. History 1

In this course students will examine the historical and intellectual origins of the United States during the revolutionary and Constitutional eras. They will learn about the important social, political and economic factors that contributed to the outbreak of the Revolutionary War, the consequences of the war and key ideas of the U.S. Constitution. Students will also study America's westward expansion, the establishment of political parties and economic and social change. Finally students will learn about the growth of sectionalism and how slavery and regional division led to the Civil War. Students will study the Civil War and its consequences.

Length: One Semester; Grade: 10; Credits: 10; Prerequisite: World History 2

H292

HN

U.S. History 1

The content for U.S. History 1 Honors is the same as College Preparatory U.S. History 1. Students in this course are expected to develop an independent research project and participate in CRLS National History Day. **Length: One Semester; Grade: 10; Credits: 10; Prerequisite: World History 2**

H301	CP	U.S. History 2
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Students will analyze Reconstruction, post Civil War industrial growth, America's international diplomatic relations, the Progressive Movement, the New Deal, various factors that led to America's entry into both World War I and II. Students will study consequences of both wars and their impact on American life. Also studied will be the causes and course of the Cold War, important economic and political changes during the Cold War, including the Civil Rights movement, and recent events and trends that have shaped the modern-day United States.

Length: One Semester; Grade: 11; Credits: 10; Prerequisites: World History 2 and U.S. History 1

H302	HN	U.S. History 2
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The content for U.S. History 2 Honors is the same as College Preparatory U.S. History 2. Students in this course are expected to develop an independent research project and participate in CRLS National History Day.

Length: One Semester; Grade: 11; Credits: 10; Prerequisites: World History 2 and U.S. History 1 and Teacher Recommendation

H531	AP	U.S. History
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Advanced Placement U.S. History is the equivalent of an introductory college course. The course covers political institutions and behavior, public policy, social and economic change, diplomacy and international relations, and cultural and intellectual developments from the first European explorations of the Americas to the present. Students will write extensive essays and use document-based questions. The AP program is designed to present both a thematic and chronological approach to U.S. History. Students in Advanced Placement courses are expected to take the AP exam in May. Successful completion of this course and the AP exam qualifies the student for the National AP exam Scholarships. Students will also write a major research paper.

Length: One Semester; Grade: 11; Credits: 10; Prerequisites: World History 2 and HN U.S. History 1 and Teacher Recommendation

■ HISTORY ELECTIVES

H409	CP	African American History
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This course begins with an exploration of the roots of African American culture in the traditions and institutions of African societies. The evolution of African American institutions as well as the contributions and influence of black politicians, scientists, authors, teachers will be explored. Later course-work transitions into mid twentieth century history including the Harlem Renaissance, the Great Depression, and other major eras with emphasis on current events that relate to particular topics. You will be required to read historical documents, take notes, write historical essays and complete at least one historical research paper.

Length: One Semester; Credits: 10; Prerequisites: World History 2, U.S. History 1 and 2

H410	HN	Cultural Anthropology
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This course studies how we socially construct our worlds, introduces us to new and different ways of living, and helps us to become informed and responsible citizens in an increasingly interconnected world. Students will be asked to reflect on several related questions: What does it mean to be human? How do individual choices affect the larger society? What is

culture, and how does it shape our everyday lives? How do power, equity, and difference shape social relations? The topics and concepts covered include race and ethnicity, political economy and stratification, kinship and family, gender and sexuality, nationalism, religion, globalization, and culture. Case studies will be drawn from situations in the U.S., Asia, Africa, Latin America, and Europe. Students will write weekly reflection essays, conduct an anthropological study that will culminate in a major paper, and organize a public education event on a global issue.

Length: One Semester; Credits: 10; Prerequisites: World History 2, U.S. History 1 and 2

H407	CP	Criminal and Civil Law
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This course is a "hands on" approach to legal realities encountered in and out of court. Students will first examine case studies relating to criminal matters involving both persons and property, and study the judicial process from arrest through sentencing and appeals, at both the adult and juvenile levels. Students will study civil issues and learn how they differ from criminal law. They will develop responses to consumer affairs, family law, housing law, individual rights, liberties and responsibilities, and tort law. Students will participate in public speaking exercises, do investigative research and cooperative learning, and meet people in law-related work. A research paper on both aspects of the law is required.

Length: One Semester; Credits: 10; Prerequisites: World History 2, U.S. History 1 and 2

H404	CP	Civics
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This course is designed to examine the operation of American government at the local, state and national levels to help students become responsible and effective citizens in an interdependent world. Students will understand the complexity of decision making, analyze contemporary issues and engage multiple perspectives in order to become active and engaged 21st century leaders. In addition to studying governance systems and structures, students will work with community members to participate in and develop public projects addressing civic related issues. As a part of this class, you will learn the skills to create and present a unique project that shows your understanding of the course content and highlights your interests and ideas. See page 14 for more about Authentic Inquiry Projects.

Length: One Semester; Credits: 10; Prerequisites: World History 2, U.S. History 1 and 2,

H414	CP	MSAN Leadership Seminar (Minority Student Achievement Network) (Honors Option)
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The MSAN Leadership Seminar is a Sociology course designed to prepare and support students taking leadership roles as agents for change. MSAN seeks to empower students to work on closing the achievement gap at CRLS by implementing action plans to address issues studied in the course. As a member of the MSAN Leadership Seminar, students' commitment to closing the achievement gap and ensuring educational equity through scholarship, leadership and action will be encouraged and honored. Topics will include: Achievement Gap, Understanding sociological methods of inquiry, Racism, and Privilege, Socio-Economic Class and Poverty in the United States, and, Intersections of Class, Race and Gender. Students will complete a collaborative, public project as a required performance of understanding in this course.

Length: One semester; Credits:10; Prerequisites: World History 2, US History 1 and 2

H403	CP	Psychology and Adolescent Psychology (Honors Option)
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Psychology is an introductory course in the study of human behavior. The first marking period one will focus on states of mind, learning and memory, sensation and perception, thinking and intelligence, emotion and motivation, and living in a stressful society. Marking period two will focus on the psychology of adolescents. Using the theoretical grounding from the first marking period and the perspectives of Anna and Sigmund Freud, Erik Erikson, Harry Stack Sullivan and others, students will analyze case studies of teens and young adults. In the second half of the course students will write an auto-biography of themselves as an adolescent that includes a self-analysis using one of the theoretical frameworks that have been studied.

Length: One Semester; Credits: 10; Prerequisites: World History 2, U.S. History 1 and U.S. History 2

H406	CP	Sociology
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This course offers students an introduction to the study of sociology with a focus on the role of social institutions and social forces in creating and maintaining social inequality or inequity in the United States. Using an introductory sociology textbook, various forms of media, and numerous sociological articles, students will have the opportunity to learn some of the basic principles behind the science of sociology and its application to the community around them. The course will culminate with a comprehensive research project and presentation in which students apply their learning to their community.**Length: One Semester; Credits: 10; Prerequisites: World History 2, U.S. History 1 and 2**

H405	CP	Constitution Law
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Students in this course will understand the relevance of the U.S. Constitution through the examination of Supreme Court cases involving the rights of young people at school and in the juvenile justice system. Co-taught by a CRLS History teacher and 3rd year Suffolk University Law School, students in this course will analyze historical issues from multiple perspectives, enhance their written and oral communication skills and further develop their individual political and social beliefs. Additionally students enrolled in the course will prepare for and participate in the Marshall Brennan Moot Court local and regional competitions.

Length: One Semester; Credits: 10; Prerequisites: World History 2, U.S. History 1 and 2

H415	CP	Leadership and Community Action-STARs
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The STARs course is designed to provide students with a comfortable arena to discuss, debate and honestly confront contemporary issues affecting their lives. Topics will include relationship violence, sexual harassment, domestic abuse, personal identity, HIV/AIDS, and substance abuse. Students will receive leadership and issues training opportunities so that they can work as peer educators in the high school and in the elementary schools. In addition to their work in classrooms, the STARs conduct awareness campaigns and host, organize, and design an annual school wide conference. As members of the STARs program, students are expected to reinforce attitudes and behaviors that promote safety and equity and prevent violence. As a part of this class, you will learn the skills to create and present a unique project that shows your understanding of the course content and highlights your interests and ideas. See page 14 for more about Authentic Inquiry Projects.

Grades: 11,12; Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and 2 and prior approval of the STARs Teacher.

H421	HN	Economics
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In this course students will study the history of economic theory, micro-economic theory, macroeconomic theory and policies. Students will begin the class by reading selections from *The Worldly Philosophers* by Robert Heilbroner. Students will conduct a brief historical survey of the stages of economic development from early hunter/gatherer societies to the rise of the factory system, industrialization and urbanization, the further rise of monopoly capitalism, post-consumer capitalism and issues of modern globalization. This course will then delve into fundamental principles of economics, covering how markets operate, the economics of the public sector, the organization of industry, and labor markets. From there, students will turn to macroeconomic study and understand the data of measuring a nation's well-being, the financial system, and the monetary system. Students will write one major research paper and will be encouraged to take the AP examination in Economics, but it is not a course requirement.

Length: One Semester; Credits: 10; Prerequisites: World History 2 and U.S. History1 and 2

H422	HN	Modern World History
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In this study of the time period since 1990, students will analyze the profound historical changes that have taken place since 1990. Beginning with the fall of communism in Eastern Europe, we will then study the strategic and economic importance of the world's oil supply and its impact on power in the world. In Africa we will examine the system of apartheid in South Africa and the role of genocide and AIDS on the continent in the late 20th and early 21st centuries. We will also explore the new China and India and chart the economic growth in these countries. Students will also study the Islamic world and learn how terrorism has, and continues to affect this part of the world and its interactions with the United States and other European powers. Throughout the course, students will examine the economic and political balance of power in the post-Cold War world as well as major foreign policy decisions. The course will be writing intensive, as students will regularly write argumentative essays and complete a research paper by the end of the course that will follow National History Day standards. This class includes an Authentic Inquiry Project. See page 14 for more information.

Length: One Semester; Credits: 10; Prerequisites: World History 2, U.S. History 1 and 2.

■ ADVANCED PLACEMENT AND COLLEGE LEVEL COURSES

Students in Advanced Placement courses are expected to take the associated AP exam in May.

H531	AP	U.S. History
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See description on previous page.

H503	AP	European History
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Advanced Placement European History is the equivalent of an introductory college course in European history from c.1500 to the present. The course covers the intellectual, cultural, political-diplomatic, and social-economic history of Europe from the late Middle Ages/Renaissance to the present European Economic Community. The course requires extensive essay

RECOMMENDED MATH COURSE SEQUENCES

College Preparatory			Honors	
Algebra 1	Algebra 1	Algebra 1	Algebra 1	Geometry
Geometry	Geometry	Geometry	Geometry	Algebra 2
Algebra 2	Algebra 2	Algebra 2	Algebra 2	Pre-Calculus
	FST	Mathematical Reasoning with Applications	Pre-Calculus	AP Calculus
	MRWA or Pre-Calculus		AP Calculus	

writing and the use of document-based questions. Successful completion of this course and the AP exam qualifies you for the national AP exam Scholarships.

Length: One Semester; Credits: 10; Grade: 12; Prerequisites: World History 2, US History 1 and 2

H502	UM	American Identities
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American Identities, offered in collaboration with the History Department at U Mass-Boston, is the equivalent of the required introductory course in the U Mass program in American Studies. In this course you will learn the concepts and methodologies used in American Studies. You will analyze the common/competing identities and multiple “ways of reading” American culture in the 20th century through the study of history, literature and the media. After completion of this course, students who choose to attend the University of Massachusetts will receive U Mass credit.

Length: One Semester; Credits: 10; Prerequisites: World History 2 and U.S. History 1 and 2

Mathematics

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student uses deliberate thinking processes to solve problems and develop ideas.

STAFF

Mark Healy, Mathematics Curriculum Chair, K-12

Jeff Gaglione, Dean of Mathematics Curriculum and Program

Larisa Bankovsky, Ross Benson, Alysa Breyer, Audrey Cabral-Pini, Kathleen Conaty, Neuza de Figueredo, Charlene Greene, Alison Kellie, Brahim Khirouai, Erin Leggett, Doug McGlathery, Leslie Mili, Peter Mili, Cale Moore, Joel Patterson, Emily Samek, Ashley Solen, Kathleen Sorenson, Alex Teich, Yen Tieu, Eric Traub, Judy Wu

The Mathematics Department offers a wide range of courses in mathematics for students of different abilities and interests. Three years of mathematics is required for graduation, but most students take four years of mathematics. All ninth and tenth grade students are required to be enrolled in a mathematics course. Unless otherwise stated, a passing grade and credit must have been awarded for any course noted as a prerequisite.

COURSE LIST

AS MATH APPLICATIONS

AS MATH APPLICATIONS REVIEW

CP ALGEBRA 1

HN ALGEBRA 1

CP GEOMETRY

HN GEOMETRY

CP ALGEBRA 2

HN ALGEBRA 2

CP FUNCTIONS, STATISTICS & TRIGONOMETRY

CP PRE-CALCULUS

HN PRE-CALCULUS

CP MATHEMATICAL REASONING WITH APPLICATIONS

HN MATHEMATICAL REASONING WITH APPLICATIONS

AP CALCULUS AB

AP CALCULUS BC

■ CALCULATOR RECOMMENDATION

The TI 83 and TI 84 are the graphing calculator models preferred by the CRLS mathematics department. Classroom instruction will be optimized for those models. Graphing calculators are appropriate for all mathematics courses but are essential tools for Pre-Calculus and AP Calculus. All other courses benefit from students having at least a scientific calculator. Though not required for enrollment, students are expected to provide their own calculator.

GMP2M	AS	Math Applications
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Math Applications is offered in grade 10 to provide students with additional support in mathematics, as well as, test taking strategies to help prepare them for the exam. Accuplacer and mathematically related life skills will also be addressed.

Grade: 10; Length: One semester, alternate days; Credits: 5;

Prerequisite: None

GMP3M	AS	Math Applications Review
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Students in grades 11 and 12 who have failed the math MCAS exam should take this course to increase their performance on the exam and strengthen areas in which they have had difficulty. Accuplacer and mathematically related life skills will also be addressed.

Grades: 11 AND 12; Length: One semester, alternate days; Credits: 5;

Prerequisite: None

M101	CP	Algebra 1
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This course will address the grades 9-10 Learning Standards of the Massachusetts Curriculum Frameworks. The learning standards that will be covered are number sense and operations; patterns, relations and algebra; data analysis, statistics, and probability; as well as selected items from the geometry and measurements learning standards. The course will include

the use of concrete, connecting, and abstract instructional methodologies and curricula. Technology will be used to provide students with the opportunity to explore, model and analyze. The course will be designed to involve students in active learning, inquiry based problems, and problem solving strategies to build conceptual understanding. The focus of this course is to strengthen students' abilities to think, reason, and problem-solve using mathematical understandings and skills. **Length: Year; Grade: 9; Credits: 20 (10 Distributional); Prerequisite: None**

M111	HN	Algebra 1
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An advanced course that will address the learning standards: number sense and operations; patterns, relations and algebra; data analysis, statistics, and probability; as well as selected items from the geometry and measurements learning standards. The course will include manipulatives and technology to provide students with the opportunity to explore, model, and analyze. The course will be designed to involve students in active learning, inquiry based problems, and problem solving strategies to build conceptual understanding. This course will take an accelerated approach to mastering representation and analysis of mathematical situations and structures found in the grade 9-10 Learning Standards of the Massachusetts Curriculum Frameworks.

Length: Semester; Grade: 9; Credits: 10; Prerequisites: Grade of B or better in 8th grade math and 8th grade teacher recommendation

M121	CP	Geometry
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This course is the second year of our High School Mathematics Program and this course complete the Massachusetts Curriculum Frameworks standards for grades 9-10. The learning standards that will be covered are number sense and operations; patterns, relations and algebra; data analysis, statistics, and probability. This year's course will emphasize the geometry and measurements learning standards. The use of manipulatives and computer technology will provide students with the opportunity to explore, model and analyze. The course will continue to involve students in active learning, inquiry based problems and problem solving strategies to build conceptual understanding.

Length: Year; Grade: 10; Credits: 20 (10 Distributional); Prerequisite: Algebra 1

M122	HN	Geometry
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This course is the second year of the high school mathematics program, which integrates previously learned algebraic concepts with newly learned geometric concepts. This course strives to apply abstract geometry content to real world scenarios by investigating new content and practicing problem solving skills. The essential elements of this course are basic tools of geometry, understanding measurements and properties of circles, polygons, and polyhedrons, how these shapes can be manipulated and transformed, and MCAS preparation including algebra review and data analysis. This section will explore concepts in greater depth, have a stronger focus in proof writing, and will work at an accelerated pace for more motivated students. The use of manipulatives, hands-on projects, and computer technology will provide students with the opportunity to explore, model, and analyze the concepts presented.

Length: One Semester; Grade: 10; Credits: 10; Prerequisites: Grade of B or better in Algebra 1 or 8th grade teacher recommendation

M201	CP	Algebra 2
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This course uses algebraic expressions and models for studying functions and solving real world situations. Graphing is emphasized and geometry is applied. Topics include patterns, functions, variation, as well as describing, extending, analyzing, and generalizing linear functions, matrices, systems, exponential relationships and quadratic functions.

Length: One Semester; Grades: 10-12; Credits: 10; Prerequisite: Passing grade in Geometry

M211	HN	Algebra 2
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This course uses algebraic expressions and models for in depth coverage of functions and solutions of real world situations. Graphing is emphasized and geometry is applied. Topics include rigorous study of patterns, functions, variation, as well as describing, extending, analyzing, and generalizing linear functions, matrices, systems, exponential relationships and quadratic functions. This course reaches topics on trigonometric functions, permutations and combinations. This is a demanding course designed for motivated students.

Length: One Semester; Grades: 10-12; Credits: 10; Prerequisite: Grade of B or better in Geometry

M311	CP	Functions, Statistics, and Trigonometry
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This course uses Algebraic expressions and forms for studying functions. Graphing is emphasized and Geometry is applied. Topics include inverses, square roots, cube roots; exponential, logarithmic, and trigonometric functions. This course will also include descriptive and inferential statistics, function analysis, combinatorics and probability. Algebraic and statistical concepts are integrated throughout and modeling of real phenomena is emphasized.

Length: One Semester; Grades: 11-12; Credits: 10; Prerequisite: Algebra 2

M410	CP	Pre-Calculus
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This coursework will study functions including real world situations and how they are modeled algebraically, numerically, and graphically. This course will demonstrate how algebra and trigonometry can be used to model real world problems. Students will demonstrate an understanding of trigonometric functions and formulas for sine and cosine.

Length: One Semester; Grades: 11-12; Credits: 10; Prerequisites: Passing Grade in Algebra 2, or Functions, Statistics and Trigonometry

M411	HN	Pre-Calculus
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This coursework will study functions including real world situations and how they are modeled algebraically, numerically, and graphically. This course will demonstrate how algebra and trigonometry can be used to model real world problems. Students will demonstrate an understanding of trigonometric functions and formulas for sine and cosine. Students will relate the slope of a tangent line at a specific point on a curve to the instantaneous rate of change. Topics in Discrete Mathematics are included and technology is fully integrated. Students will use induction to prove theorems and verify formulas. This is a demanding course designed for motivated students.

Length: One Semester; Grades: 11-12; Credits: 10; Prerequisites: Grade of B or better in HN Algebra 2, or Functions, Statistics and Trigonometry

M413	CP	Mathematical Reasoning with Applications
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This course provides an alternative to Pre Calculus for students who wish to continue to study mathematics beyond topics found in Algebra2 and Functions, Statistics & Trigonometry. The course curriculum focuses on answering the question, “Just what is math used for?” This course will look at how mathematical concepts such as linear and exponential growth, percentages, unit conversions, basic statistics, and estimation are encountered in areas such as personal finance, demographics, economics, medicine, and the environment. These issues and related problems will be investigated in a way that conveys the power of modern mathematics. At least one individual student project is to be expected.

Length: One Semester; Grades: 11-12; Credits: 10; Prerequisites: Passing Grade in Algebra 2, or Functions, Statistics & Trigonometry

M412	HN	Mathematical Reasoning with Applications
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This course provides an alternative to advanced placement mathematics for motivated students. The course curriculum focuses on answering the question, “Just what is math used for?” Contemporary issues and problems such as business efficiency, probability, statistics, and economics are investigated in a way that conveys the power of modern mathematics. As a part of this class, you will learn the skills to create and present a unique project that shows your understanding of the course content and highlights your interests and ideas. See page 14 for more about Authentic Inquiry Projects.

Length: One Semester; Grades: 11-12; Credits: 10; Prerequisites: Passing grade in HN Algebra 2, FST or Pre-Calculus

■ ADVANCED PLACEMENT COURSES

All students enrolled in an Advanced Placement Math course are required to take the associated AP exam in May.

M501	AP	Calculus AB
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This course is an in depth and rigorous study of single variable calculus, which follows honors level work in the Pre-calculus, Algebra 2, and Geometry CRLS course sequence. Major skills to be developed/mastered will include numerical, analytical, and visual methods involved in the study of differential and integral calculus of polynomial, exponential, logarithmic, and trigonometric functions. The skills learned will be applied to model and solve problems in a variety of contexts. All topics identified in the Advanced Placement curriculum for this course will be addressed.

Length: Two Semesters; Credits: 20 (10 Distributional); Prerequisites: Grade of B or better in HN Pre-Calculus and teacher recommendation

M502	AP	Calculus BC
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This course is an in depth and rigorous study of single variable calculus, which follows honors level work in the Pre-calculus, Algebra 2, and Geometry CRLS course sequence. Major skills to be developed/mastered will include numerical, analytical, and visual methods involved in the study of differential and integral calculus of polynomial, exponential, logarithmic, trigonometric, parametric, polar, vector functions, along with sequences and series. The skills learned will be applied to model and solve problems in a variety of contexts. All topics identified in the Advanced Placement curriculum for this course will be addressed. This is a demanding course designed for motivated students.

Length: Two Semesters; Credits: 20 (10 Distributional); Prerequisites: Grade of B+ or better in HN Pre-Calculus and teacher recommendation

Media Arts Studio

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student uses specialized technology tools to convey meaning through media.

STAFF:

Ginny Berkowitz, Program Manager
Angelica Brisk, Media Journalism Instructor
Dacia Kornechuk, RSTA Media Technology Instructor
Matt Landry, Emerging Technology Instructor

The Media Arts Studio program addresses the ever-increasing need for 21st century citizens to possess the skills to create media and utilize new technologies. Students may choose media making courses, from introductory through advanced multi-media production and distribution. Lab courses provide an expanded curricular focus for students to test new technology for the district, and to support innovative integration of technology in classrooms through cross-disciplinary collaborations. Courses offer theory, planning, production and distribution skill development, and include collaborative media projects within the Cambridge educational community that provide first hand experience with professional media makers.

Media Education classes are offered in several departments and are listed here for easy viewing and are open to all CRLS students.

COURSE LIST:

DIGITAL FILM AND TV PRODUCTION (FALL/SPRING)

DIGITAL MEDIA AND WEB TECHNOLOGY (FALL)

EXPERIMENTAL MEDIA LAB (SPRING)

MEDIA JOURNALISM LAB (FALL/SPRING)

T621	CP	Digital Film and TV Production
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Be the Media! This course allows you to explore the world of media making through creating your own personal and group projects.

- » Learn basic camera operations such as what makes good composition, different types of shots and angles, effective camera movement and different visual storytelling techniques. Gain an introduction to basic audio recording, lighting design, and editing tools such as Final Cut Studio.
- » Then learn how to use a real film and television studio by designing your own talk show or sitcom. For the final group project, tell a real life story of your choice by making your own documentary. Completed student work will be shown on SMART TV98.

Length: One Semester; Grades: 10, 11, 12; Credits: 10; Prerequisite: None.

A969	CP	Digital Media and Web Technology
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Media In The Making! This course provides an in-depth analysis of today's online media tools and an intensive production component.

- » Learn how to produce audio and video for the web. Deconstruct mass media messages and construct your own.
- » Explore media production with mobile devices. Analyze your favorite websites by taking a look at how they work and can be used to distrib-

ute your media.

- » Learn how to use advanced level production and web programming software.
- » Explore the world of Social Media. Learn about piracy and privacy, and how to evaluate authority and credibility online. Remix, recut, mashup, and explore copyright issues related to digital media.

Length: One Semester; Grades: 10, 11, 12; Credits: 10; Prerequisite: None

A970	HN	Experimental Media Lab
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This is an advanced class for students who have completed Web Based Audio and Video Production or can demonstrate advanced media and web production skills. Work with the latest technology and develop proficiency in industry standard multi-media software and hardware. Test new technology for the district and support innovative integration of technology in classrooms through cross-disciplinary collaborations. Work with local university media programs on innovative projects.

Length: One Semester; Grades: 10, 11, 12; Credits: 10; Prerequisites: Web Based Audio and Video Production.

A971	CP	Media Journalism Lab (Honors Option)
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Driven by your civic awareness and passion for elevating youth voices, learn the principles and skills of media journalism and news production. Learn about the production cycle and develop the ability to file time-sensitive stories. Get trained in the latest writing and technology protocols. Learn visual storytelling and experience working in front and behind the camera. Work as a team in this cooperative, multi-disciplinary learning environment as you join your instructor and other students in creating segments for YVC Homeroom Edition, the CRLS bi-monthly news program. Podcasts, video documentary production and blogs are all part of the process. Your work will be shown on SMART TV98 and our web site.

Length: One Semester; Grades: 10, 11, 12; Credits: 10;
Prerequisites: One of the following recommended: E405 Journalism, ELA teacher recommendation, or previous media production experience

Rindge School of Technical Arts

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student applies a variety of technologies to build and convey understanding.

STAFF

Dr. Michael Ananis, Executive Director
Clare Garman, Career Counselor
Jaci Rubin, Cooperative Education/First Work
Dosha Beard, Finance Clerk

"Work is one of our greatest blessings. Everyone should have an honest occupation." –Fredrick H. Rindge

Joan Abrams, Bruce Aldrich, Kim Bavis, Stephanie Butland, Anthony Cannella, Ann Marie Ciccarelli, Rob Cooper, Bernadette Desire, Roy Doucette, Michelle Hallam, Conrad Hauck, Barry Jackson, Dacia Kornechuk, Joel LeGault, Paula McCarthy, Kristian McLean, Rick McKinney, Steve Rivera, Larry Rubin, Tony Russo, Cathy Thomas, Paul Walsh, Michele Watson Maxwell, Rosalie Williams, and Mike Zuercher

Welcome to the exciting world of Career and Technical Education at the Rindge School of Technical Arts. The city of Cambridge and its surrounding communities are rich in technology and we have designed our programs to reflect our commitment to prepare young people for continuing education at post-secondary institutions or to enter their field of study upon graduation. Since 2006, more than 90% of CRLS graduates who have majored in a CTE field of study at RSTA have been accepted to college. RSTA offers ten three-year Career & Technical Education (CTE) programs of study and several one-semester electives in Business, Computers, and some of the technical areas. Students who matriculate through our programs gain skills, knowledge, confidence, and self-esteem. The programs at RSTA provide hands-on experiences that reflect the real world of work in career fields of student interest. Remember, at some point in life, everyone earns his or her own living!

The Rindge School of Technical Arts is open to all Cambridge Rindge and Latin School students. Our freshman Technical Arts Exploratory electives offer ninth graders the opportunity to experience all of our programs in a way that will expand their knowledge and experiences in making choices about their futures. Typically, students who choose to 'major' in one of our programs take the Level 1 course in that field as sophomores, the Level 2 course as juniors, and the Level 3 course, with the possibility of a Cooperative Education experience, as seniors.

Our facilities are exceptionally well-equipped and our faculty is both highly qualified and dedicated. RSTA students receive challenging experience-based training complemented by appropriate academics to help round out their career and technical education. All of our technical areas offer pathways to technical, two-, or four-year college matriculation, as well as college credit at selected schools. All RSTA technical students develop a career plan with the help of the RSTA Career Counselor. A career plan helps students identify their skills and interests, discover what careers best suits them, and what skills and training they will need. By developing a career plan, students focus on what they want to do and how to get there.

We aim to provide relevant and up-to-date educational experiences that will lead to successful higher education and fruitful career opportunities. TechPrep is available to juniors and seniors to connect them with post-secondary opportunities as well as college credit/articulations for work accomplished in their RSTA major. RSTA students are also encouraged to join SkillsUSA, a Career and Technical Education Leadership Program. RSTA students who join SkillsUSA may compete locally and State-wide in their technical area of study. More information is available at www.skillsusa.org or www.techprepma.org. Changes in job outlooks and developments in the world of work can lead to modifications in our programs. Additional exploratory experiences are available through our participation in the Shore Collaborative SOLVED; contact the RSTA office for information about CTE programs outside of RSTA.

■ ENROLLMENT IN CAREER & TECHNICAL EDUCATION PROGRAMS

Enrollment in any of the Career & Technical Education (CTE) programs at RSTA, including the 9th grade Tech Exploratory class, is open on a non-selective basis to CRLS students; students who are not Cambridge residents who wish to enroll in a CTE course at RSTA, or CRLS students who wish to enroll in a CTE course or program that has full enrollment (that is, no current openings for the particular course or program in which the student wishes to enroll) must complete an Application for Admissions Form. The Admission Policy and all Admission Forms are available on the RSTA website (www.cpsd.us/rst) or at the RSTA Office at CRLS or by calling (617) 349-7782.

■ COOPERATIVE EDUCATION

Specific to seniors who have passed MCAS and are enrolled in a Chapter 74 approved Career and Technical Education (CTE) course of study offered at RSTA.

Seniors who meet the eligibility criteria (listed below) can apply for the privilege of participating in the Cooperative Education Program. A Cooperative Education student's learning continues in paid employment during school time with a local business related to the student's field of study and is monitored by a qualified on-site professional, the Coordinator of Cooperative Education, and/or their technical teacher. Cooperative Education placements are subject to local employers' ability and willingness to offer the pay, supervision, and safety assurances required by RSTA.

Eligibility criteria for student enrollment in the RSTA Cooperative Education Program are as follows:

- » Enrolled in a Level 3 CTE program (and the satisfactory demonstration of those competencies equivalent to at least one and one-half years in a CTE Program)
- » Signed Cooperative Education Agreement by the enrolling student and his/her parent/guardian.
- » Satisfactory completion of all appropriate safety instructions
- » Signed recommendations from their Level 3 CTE teacher/s
- » Earned a grade of B or better in their current technical course
- » Passed both Math and ELA MCAS tests
- » Earned a grade of C or better in all current core academic courses (English/Language Arts, Math, Science, & Social Studies)
- » No current Attendance Violation Failures (AVFs) in any course
- » Compliance with the attendance and tardiness policy in the CRLS Student Handbook
- » OSHA certified
- » Completed Cooperative Education Employment Permit

Additional information about Cooperative Education, including ways to get an Application for either students or employers, can be obtained by contacting the RSTA Cooperative Education office at 617-349-6884 or by contacting the RSTA Executive Director at 617-349-6766.

■ EMBEDDED PHYSICAL EDUCATION

All RSTA Level 1, 2, and 3 courses include an embedded physical education and health component that meets the CPSD PE requirement and incorporates MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE) Frameworks, standards, and competencies making this a required portion of all RSTA Level 1, 2, and 3 programs. Students enrolled in a Level 1, 2, or 3 course are NOT required to take a separate Phys. Ed. course. Failure to complete this embedded portion of the CTE program will require this course to be made up. The topics in the Embedded PE program include:

Level 1: Team Building and Workplace Readiness Skills

Level 2: OSHA 10-Hour Training Certification and Fitness Training

Level 3: CPR and First Aid Training Certification and Fitness Training

■ SKILLSUSA

RSTA students have a special opportunity to participate as members of SkillsUSA, a Career and Technical Education Leadership Organization. SkillsUSA is an international partnership of students, teachers, and industries working together to ensure students become world-class workers. RSTA students who are interested compete locally and state-wide with students in their technical area of study or in a leadership competition. State winners advance to the National competition, against other students from around the country. This competitive experience provides quality education and opportunities for leadership, teamwork, citizenship, and character development. It builds and reinforces self-confidence, productive work attitudes, and effective communication skills. Students will strengthen their technical and leadership skills, build community among students from around the country, and also have the chance to earn scholarship money. RSTA students who participate on the SkillsUSA team will develop their understanding of a high performance work ethic and pride in the dignity of their work. –More information is available at www.skillsusa.org.

■ TECHNICAL ARTS EXPLORATORY

T120	TC	Technical Arts Exploratory
The purpose of the RSTA Technical Arts Exploratory course is to introduce students to the basic skills for working individually and collaboratively in many technical areas. Exploratory students rotate through learning activities in the following technical areas: Automotive, Biotechnology, Business Education, Career Guidance, Carpentry, Commercial Design, Culinary Arts and Hospitality, Engineering, Graphic Communications, Health Assisting, Information Technology, Media Technology (TV Broadcasting), Workplace Safety, and Web Design . The Technical Arts Exploratory course provides students with a broad range of experiences in the technical arts, guides them through self-directed career investigations, and provides exposure to essential skills, working in teams, problem-solving, computer usage, and communications. Students spend approximately 5 to 7 days in the lab of each of these RSTA programs, learning fundamental elements of what it is like to learn and work in that field, finding out about the various careers and pathways in that particular industry, and completing basic projects that are sure to be both challenging and fun. These experiences will help students to make more informed decisions regarding further study in RSTA. In addition, a Career Interest Survey is administered to all Exploratory students as a tool to help them make more informed decisions regarding further study in all aspects of their future educational and career aspirations.		

The Career Interest Survey is required of students who wish to enroll in a Level 1 RSTA course but who did not take an Exploratory course as a 9th grader. Students are asked to please see the RSTA Career Counselor or their guidance counselor for information regarding taking the Career Interest Survey. Length: One Semester (Fall); Credits: 10; Grade: 9; Learning Expectations: 1,2,3,4, and 5

T121	TC	Biotechnology, Engineering, & Information Technology Exploratory
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The Biotechnology, Engineering, & Information Technology Exploratory course (also known as “BE-IT”) provides students with focused learning experiences in three RSTA programs: Biotechnology, Engineering, and Information Technologies. Students spend approximately six weeks (30 days) in the lab of each of these RSTA programs, learning fundamental elements of what it is like to learn and work in a lab, finding out about the various careers and pathways in that particular industry, and completing basic projects that are sure to be both challenging and fun. BE-IT is designed for students who enjoy science and math, who like to figure out how things work, who are curious about and creative at solving problems, and who like to do projects. Students learn through self-directed career investigations, exposure to essential lab skills, working in teams, problem solving, computer usage, and communications. In addition, a Career Interest Survey is administered to all BE-IT students as a tool to help them make more informed decisions regarding further study in all aspects of their future career and educational aspirations. A Workplace Safety unit is also included.
Length: One Semester (Fall); Credits: 10; Grade: 9; Learning Expectations: 1,2,3,4, and 5

■ AUTOMOTIVE TECHNOLOGY

The Automotive Technology program is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE) Chapter 74 approved program that conforms to the National Automotive Technicians Education Foundation (NATEF) standards. It is one of the most well equipped high school automotive technology facilities in New England. All courses are taught by Automotive Service Excellence (ASE) Certified and NATEF approved instructors. ASE and NATEF curriculum and standards introduce students into the automotive trades through a series of tasks and competencies. Some of the tasks and competencies that are covered include basic tool handling, shop equipment, tool and personal safety, automotive maintenance, brake and suspension systems, engine performance, and electronic diagnostics. Students learn computerized diagnostic equipment, various hand and power tools as well as professionalism and business aspects of the automotive industry. Students participate in the management and operation of the automotive service area. Successful completion in this program of study will help students obtain their ASE certification. In addition to mechanical competence, Automotive Technology students develop diagnostic communication, math, and science skills and a familiarization with electronics and computer science. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

In Level 3, students may become eligible to participate in the RSTA Co-Op Education program which sends students to work at local new car dealerships and repair facilities to work alongside experienced master technicians.

Upon graduation from the RSTA Automotive Technology program, students can work as entry level technicians or go onto one of the colleges or technical schools with which the RSTA Automotive Program has Post-Secondary Linkage articulation agreements.

T609	TC	Automotive Technology 1
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This course introduces students to the principles and operations of the many automotive systems. This course is designed to introduce students to vehicle preventative maintenance, basic repairs, and how to use an electronic service manual. All students must pass a safety course before they are allowed to perform any hands on competencies in the automotive lab or the service area.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Automotive and 5 PE; Prerequisite: Exploratory preferred, Career Interest Survey

T849	TC	Automotive Technology 2
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This intermediate level course allows second year auto students to learn more advanced automotive systems. Students will become familiar with the operation, maintenance, and repair of hydraulic and ABS brakes, suspension systems, and engine performance. A review of Level 1 will conclude this course.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each Semester); Credits: 35 Automotive and 5 PE; Prerequisite: Automotive Technology 1

T989	TC	Automotive Technology 3
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Students in this third and final level of automotive study will be introduced into high tech computer diagnostics and the modern electrical and electronic automotive systems. Students will learn to identify automotive input and output sensors and their operation. Using desktop computers and simulators students will learn to diagnose and assemble automotive circuits. Level 3 students who are eligible may apply for Cooperative Education placement opportunities in their area of study. A review of levels 1 and 2 will conclude this course of study.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course. **Length: Year (Two blocks each Semester); Credits: 35 Automotive and 5 PE; Prerequisite: Automotive Technology 1 and 2**

T501	TC	Automotive Upkeep
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This course is reserved for Grade 12 students interested in learning basic car care. Automotive Upkeep will introduce students to the nuts and bolts of basic car care and the proper maintenance techniques of an automobile. Coursework will focus on safety in and around cars, basic automobile tools, buying your first car, automotive expenses, auto care and cleaning, understanding automotive fluids, common problems, roadside emergen-

cies, alternative fuels and hybrid automobiles and the future of the automotive industry.

Length: one semester; one block(Spring); Credit: 10; Prerequisite: open to grade 12 students not currently or previously enrolled in Auto Level 1, 2 or 3 and with approval by the auto instructors. Space limited to 10 students.

■ BIOTECHNOLOGY

The Biotechnology program is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program and offers a unique opportunity for students to learn about and practice a variety of laboratory techniques in a state-of-the-art facility. The techniques used in the biotech program are applicable to all areas of biological science and medicine and serve as a springboard for advanced studies in science. Paid summer internships are available in research laboratories for qualified candidates. A broad range of laboratory skills and experience make students attractive candidates for work study programs in college where they can continue their exposure to a variety of research labs. Our program is recognized by a number of local colleges which provide college credit upon program completion. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T610	TC	Introduction to Molecular Biology
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Biotechnology 1 introduces students to the science behind biotechnology. Students learn the fundamental concepts of cell and molecular biology with emphasis on commonly used techniques including DNA isolation, analysis, genetic transformation, and polymerase chain reaction (PCR). Forensic science is studied in the context of a crime scene investigation and students learn firsthand how science is applied to solving crime. Students are trained to construct and deliver clear and precise written and oral presentations. Bioethics are covered throughout the course including topics from popular news sources (i.e. the use of genetic material, stem cells, genetically modified organisms, etc.). Field trips to biotech companies and research labs, coupled with our ongoing guest lecture series, expose students to a wide range of professionals and career pathways. Summer research internships are available in research settings for qualified candidates.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Biotechnology and 5 PE; Grades: 10, 11, 12. Prerequisite: Career Interest Survey

T640	TC	Accelerated Biotechnology
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This is a fast-paced biotechnology course is designed for students with a strong interest in science. Accelerated Biotechnology covers many aspects of molecular biology including DNA isolation and manipulation, genetic transformation, protein purification and analysis, agarose and PAGE electrophoresis, ELISA, and PCR. In addition to developing lab skills, students will gain an awareness of current developments, lab safety, experimental design and documentation and develop oral and written presentation skills. They will study biotech companies to gain an understanding of the business of science, latest scientific developments, ethical issues, trends, technological

advancements and promise for the future. Successful completion of this course will qualify students to continue with Biotechnology 2 in the fall.

Length: one semester, one block. Credit: 10; Grade 10, 11, or 12; Prerequisite: Career Interest Survey, minimum of B in math and science.

T870	HN	Biotechnology 2: Intermediate Molecular Biology
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Biotechnology 2 is an intermediate honors level course through which students build upon the foundation established in Biotechnology 1 to explore cutting-edge science and to gain mastery of various laboratory skills. The main focus of the course is proteomics whereby students have the opportunity to study and practice current techniques used to study proteins. Students are engaged in projects that involve manipulation of recombinant DNA, DNA fingerprinting, PCR analysis, transformation, protein expression, protein purification, bioinformatics, and ELISA. Individual projects throughout the year provide opportunities to investigate particular areas of interest, to promote independence, and to develop problem-solving abilities. Personal and professional integrity is emphasized and practiced throughout as a required skill for research and industry careers. Through field trips and the guest lecture series, students have the opportunity to learn about various science careers and to interact with professionals from the biotech industry, academia, and hospitals. Sound presentation skills continue to be emphasized and practiced. Summer research internships may be available in industry settings for qualified candidates.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Biotechnology and 5 PE; Grades 11 or 12; Prerequisite: Biotechnology 1 or approval by Biotechnology instructor.

T980	HN	Biotechnology 3: Advanced Biology
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Biotechnology 3 is an advanced honors level course for students to further develop technical and analytical skills. Students will learn to identify and clone a gene of interest and to explore the fundamentals of protein engineering. Proteins will be studied in detail during this course in the context of disease, therapeutics, bioremediation, and food processing. Students will learn how microorganisms are used to produce and study protein structure, function, modification, and for protein engineering. Students will explore protein purification methods including HPLC and affinity chromatography. Through RSTA's Cooperative Education program, students may be eligible to practice their skills in various research settings.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Biotechnology and 5 PE; Grade: 12; Prerequisite: Biotechnology 2 or approval by Biotechnology instructor

■ CARPENTRY

The Carpentry program is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program and provides both finish carpentry and house building instruction. Students are taught design, layout and dimension, cabinet assembly and

installation, as well as finish carpentry skills. Extended activities include, inside construction, remodeling, and 'green building' construction projects within the school and off campus. Course content includes the identification and application of house building and millwork carpentry theory, the use of hand and power tools, the study of environmentally sound building materials and building codes, and the identification of career opportunities in the Carpentry field. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T601	TC	Carpentry 1
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Using a competency based, industry relevant curriculum, Carpentry 1 is an introductory course that features techniques and materials of building construction, which includes shop and tool safety, planning, measurement, power tools, building materials, rough cutting, assembly, and finishing techniques.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Carpentry and 5 PE; Prerequisite: Career Interest Survey

T842	TC	Carpentry 2
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This program is for students interested in developing marketable skills in building construction and carpentry. Students learn the basics of rough and finish carpentry, which includes foundations; wall, floor and roof framing, installation of windows and doors, and some exterior finish work. Students learn to use a full range of woods, techniques, tools, and woodworking machines as they complete their projects. Students will also be exposed to CAD for carpentry and will participate in the 10-hour OSHA course.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each semester); Credits: 35 Carpentry and 5 PE; Prerequisite: Carpentry 1

T991	TC	Carpentry 3
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This advanced level course is for seniors who have a serious interest and want a future career in the Construction Industry. Students use the skills they obtained in Carpentry 2 on interior finish work of doors, floors and ceilings, stairs, wall and roof systems. Hands-on experience is obtained in the shop, school, and community. Students will also learn about apprenticeship opportunities in the construction field.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each semester); Credits: 35 Carpentry and 5 PE; Prerequisite: Carpentry 1 and 2

■ COMMERCIAL DESIGN

Commercial Design is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program. In offering a state of the art studio in which students receive

training in Graphic Design, Digital Photography, Vinyl Graphics (sign making), Illustration, Web Design, Animation, and Digital Video. The field of Commercial Design is a growing industry nation wide. Upon completion of this course of study, the student will have the option of further study at a two or four year college or gain an entry level position. In Level 3, students may become eligible to participate in the RSTA Co-Op Education program, which offers students the opportunity as traveling designers to work with local businesses. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T605	TC	Commercial Design 1
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Are you someone who is creative, imaginative, self-expressive, and interested in design? Do you like working with computers? In CD, students learn how to compose visual messages using graphic design techniques and the elements & principles of design. Through assignments and drawing exercises, students begin to develop problem solving and design related skills while developing the discipline of working on projects from concept to production. Students learn the fundamentals of commercial design and graphic design as they are introduced to the graphic design software (InDesign, Photoshop, Illustrator, and Acrobat) and hardware (scanner, drawing tablet, digital camera, and color printer) necessary for successful commercial design.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Commercial Design and 5 PE; Prerequisite: Career Interest Survey

T845	HN	Commercial Design 2
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Through "live" work assignments and exercises, students further explore all aspects of Commercial Design. In this Honors Level course, students continue to learn problem-solving techniques while developing visual concepts appropriate for commercial design, including layout, composition, design, illustration, and computer graphics. Students continue to stimulate their visual thinking and to build on the elements and fundamentals of graphic design. They will further develop techniques using graphic design software by Adobe as they begin to assemble an electronic & print portfolio. Students will expand their knowledge of more creative methods to design. They will learn various forms of multimedia design—creating websites, learning animation, and digital video. Also, they will use Vinyl Graphics for sign making projects.

This course also includes an embedded Physical Education and Health component. These students will not be required to take a separate Physical Education course.

Length: Year (Two blocks each semester); Credits: 35 Commercial Design and 5 PE; Prerequisite: Commercial Design 1

T995	HN	Commercial Design 3
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Advanced and highly motivated students continue to create visual messages through "live" work assignments and exercises. The course is geared towards independent projects and the development of an electronic & print portfolio. Students further explore commercial design, including layout and composition, illustration and computer and vinyl graphics. Students con-

tinue to work with problem solving ideas and developing visual concepts as they continue to utilize industry standard software by Adobe and hardware (scanner, digital camera, drawing tablet, color printer). In addition, students continue to learn various forms of multimedia design. Qualified students will be offered the opportunity to participate in their area of study in the cooperative education program. A review of levels 1 and 2 will conclude this course of study.

This course also includes an embedded Physical Education and Health component. These students will not be required to take a separate Physical Education course.

Length: Year (Two blocks each semester); Credits: 35 Commercial Design and 5 PE; Prerequisite: Commercial Design 1 and 2

■ CULINARY ARTS

The Culinary Arts Program is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program and is accredited by the American Culinary Federation. Students are involved in all aspects of the operation and participation of a food service enterprise. Students rotate weekly through cooking, baking, and restaurant management. Advanced students learn the managing of a small take-out restaurant focusing on business management. This program provides students with an intensive, practical application of skills and decision making demanded by the Culinary Arts Industry. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T602	TC	Culinary Arts 1
Using a competency based, industry relevant curriculum, students learn basic skills needed to work in a professional kitchen or bakery. Through direct applications, students develop and apply basic cooking and baking skills, sanitation and kitchen safety skills, demonstrate cooperative and productive work habits, as well as develop and demonstrate an understanding of basic nutrition through menu planning. This course also includes a Hospitality/Tourism Management component.		

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Culinary and 5 PE; Prerequisite: Career Interest Survey

T842	TC	Culinary Arts 2
Students rotate through bakery, culinary arts, and the front of the house/management. Through direct application, students develop and demonstrate an understanding of theory and practice of Culinary Arts and food service management. Students further refine their skills and knowledge during the first semester and then complete a culinary arts project, sanitation and safety skills, basic nutrition, as seen through menu planning, cooperative work skills and food preparation for the Falcon's Nest Café. Projects will be exhibited to the Culinary Arts Advisory board for critique. This course will also include a Hospitality/Tourism Management component.		

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each Semester); Credits: 35 Culinary and 5 PE; Prerequisite: Culinary Arts 1

T992	TC	Culinary Arts 3
Students propose and implement an in-house project during part of the school year. Using skills and competencies which the students have developed, students will supervise the operation of the Falcon's Nest Café. Seniors are made aware of possible Cooperative work and internship opportunities and community service projects. Students enrolled in Culinary 3, who are applying to post-secondary schools, have the opportunity to receive a ServeSafe certification. Students will also be preparing demonstrations for Culinary 1 and Culinary 2 students as well as mentor Culinary 2 students. This course also includes a Hospitality/Tourism Management component.		

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each Semester); Credits: 35 Culinary and 5 PE; Prerequisite: Culinary Arts 1 and 2

■ ENGINEERING

Engineering is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program in which RSTA has partnered with Project Lead the Way (PLTW) to develop this engineering course of study. This enables students to earn college credit from the Rochester Institute of Technology and other schools for the courses taken at RSTA/CRLS. A complete brochure, explaining in depth the benefits of Project Lead the Way is available in the RSTA office or visit www.pltw.org. Applying math and science skills to the real world gives students a clearer understanding of what their education is all about. These courses are for students who do well in math and science courses and also have an interest in 'how things work'. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T603	TC	Engineering 1
This is an honors level course that consists of two Project Lead the Way (PLTW) units of study: "Introduction to Engineering Design" (IED) and "Computer Integrated Manufacturing" (CIM). This course develops students' problem solving skills and places and emphasis on the design process, using Computer Aided Design (CAD). Projects consist of challenging, hands-on activities that lead to conceptual learning. CIM is a course that continues to build on skills in computer in computer modeling design and exposes students to fundamentals of computer controlled machinery. This course emphasizes design fundamentals such as engineering documentation, and using the design process to solve engineering problems, including prototyping solutions. Students also learn new skills related to the use and programming of CNC equipment, Computer Assisted Manufacturing (CAM), robotics, and flexible manufacturing systems.		

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Engineering and 5 PE; Grades: 10, 11, 12; Prerequisite: Career Interest Survey

T843	HN	Engineering 2
This is an honors level course in Engineering (also called “Principles of Engineering”) where more classical engineering systems are learned in order to prepare students for the type of calculations they will be asked to perform on the job or in college. Many engineering problems from hydraulics and pneumatics to simple machines are introduced. Theoretical and hands-on problem-solving activities are emphasized. Project examples include robotics, materials testing, developing a gear train, and additional advanced CAD modeling skills. In the second half of the year, students will learn about digital electronics (DE). The DE component is a unit of study in applied logic that encompasses the application of electronic circuits and devices. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices.		

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Engineering and 5 PE; Grades: 11 and 12; Prerequisite: Engineering 1, Engineering Design/CIM (FastTrack), or approval by the engineering instructors.

T983	HN	Engineering 3
Students learn concepts of robotics and automated manufacturing in this Honors Level course, using “Computer Aided Design” (CAD) and “Computer Integrated Manufacturing” (CIM). CAD continues to expand students’ skills in computer modeling design and exposes students to fundamentals of computerized manufacturing technology. Students refine and expand their knowledge of prototyping, CNC equipment, CAM software, robotics, and flexible manufacturing. Students have the opportunity to invent a new product or make improvements to an existing one. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices.		

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each Semester); Credits: 35 Engineering and 5 PE; Prerequisite: Engineering 1 or FastTrack Engineering and Engineering 2

T502	TC	Fast Track Engineering
This course is an accelerated offering for Grade 10 and 11 students considering a career in engineering. This is an accelerated version of Engineering 1, described above. Students will learn to communicate their ideas using hand sketching and Computer Aided Design (CAD). They will generate prototypes and incorporate computer integrated manufacturing in this process. Students with successful complete this course will also be eligible to continue as Level 2 Engineering students. (Grade 10 students who continue in this program may also be eligible for a Co-Op Ed. position in their senior year.)		
Length: one semester; Credit: 10; Prerequisite: open to grade 10 and 11, students not currently or previously enrolled in Engineering Level 1, 2 or 3, and with approval by the Engineering instructor.		

T503	TC	Robotics/FIRST
This course will introduce the making of a robot using the state of the art RSTA facility in conjunction with the MIT labs. This hands-on course will focus on the fundamentals of robot design, building, function and programming. The required culminating project will be a robot presentation in a regional competition and possibly participation in a national FIRST robotics contest. The classes will be required to meet at least twice a week (after school hours required) at MIT during the FIRST robot build season which runs through January and early March. Additional after school hours and Saturday participation will be required for students enrolled in this course and will be considered as part of their grade.		
Length: one semester; Credit: 10; Prerequisite: open to grade 10-12 students with approval by the Engineering instructor. This course is different each semester, so it can be taken multiple times with permission of the instructors.		

■ GRAPHIC COMMUNICATIONS

Graphic Communications is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program. Students in Graphic Communications learn all facets of the printing industry, including both press and pre-press. In a state of the art lab, students use Macintosh G5s and modern binding equipment to create and produce projects such as stationery, calendars, notepads, business cards, greeting cards, and brochures. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T607	TC	Graphic Communications 1
This course encompasses the complete reproduction process as it is applied to production in the printed world. Students learn all the factors of the printing industry, as they relate to both press and pre-press. Students learn how to use computers for desktop publishing as well as areas of press, bindery, and digital imaging.		
This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.		
Length: Year; Credits: 15 Graphic Communications and 5 PE; Career Interest Survey		

T847	TC	Graphic Communications 2
This course allows students to develop their skills based on real printing requests. Students continue to learn more of the industry including desktop publishing and pre-press techniques. Students experience a higher level in the areas of press, bindery, and digital imaging.		

This course also includes an embedded Physical Education and Health component. These students will not be required to take a separate Physical Education course.

Length: Year (Two blocks each semester); Credits: 35 Graphic Communications and 5 PE; Prerequisite: Graphic Communications 1

T987	TC	Graphic Communications 3
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This course allows students to work independently on real printing request with minimal instruction. Students specialize in one area to develop strong skills for industry. Those areas include desktop publishing, pre-press, press, bindery, and digital imaging. Level 3 seniors who are eligible may apply for Cooperative Education placement opportunities in their area of study.

This course also includes an embedded Physical Education and Health component. These students will not be required to take a separate Physical Education course.

Length: Year (Two blocks each Semester); Credits: 35 Graphic Communications and 5 PE; Prerequisite: Graphic Communications 2

T846	TC	Introduction to Digital Printing
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The Graphics Communications program at RSTA encompasses the complete reproduction process as it is applied to the many phases production in the print world. Students will be introduced to the fundamental aspects of offset, digital, and silk-screen printing. Students will learn how to use computers for desktop publishing as well as areas of press, bindery, silk-screen printing, and digital printing.

Length: one semester (Spring); Credit: 10; Prerequisite: open to grade 10 and 11, students not currently or previously enrolled in Graphics Level 1, 2 or 3, and with approval by the Graphics instructor.

■ HEALTH ASSISTING

The Health Assisting program is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program designed to allow students to gather an awareness of various health care fields. The curriculum is anatomy and science based and is aligned in the CVTE Frameworks; emphasis is placed on developing medical skills as well as developing professional and interpersonal skills. The major goal of the program is to have students become active members of the health care team. All Students in the Health Assisting Program at various levels will receive CPR & First Aid Certification and Level 2 students have the opportunity to become CNA certified. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T611	TC	Health Assisting 1
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This course trains students in the basic skills of medical techniques and procedures. The student will gain an understanding of anatomy and physiology that relate to each disease process. The emphasis of learning will be applying the fundamental medical skills as they relate to the human body. (i.e. Cardiac System: learning to take a Blood Pressure). The student will also explore health careers and gain a general knowledge about procedures used in various health care settings. Community projects and some learning may take place at a local health care facility.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Health Assisting and 5 PE; Prerequisite: Career Interest Survey

T851	TC	Health Assisting 2
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This course of study allows students to apply basic health care skills to a health care setting. The curriculum emphasis is on the physical changes and health problems, relating to the aged. Communication, ethics, confidentiality, interpersonal, problem solving and critical thinking skills are highlighted. Training occurs in the classroom lab and off-site facilities with the Primary site being a skilled nursing facility. After completion of this course, students may take the American Red Cross Nursing Assistant test and become certified.

This course also includes an embedded Physical Education and Health component. These students will not be required to take a separate Physical Education course.

Length: Year (Two blocks each Semester); Credits: 35 Health Assisting and 5 PE; Prerequisite: Health Assisting 1

T981	TC	Health Assisting 3
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This course offers students the opportunity to receive academic and employability skills necessary for entry level health care positions, such as nursing assistant, dietary aid, & continuous care observers. Students may advance their academic, medical, and employability skills by learning special advance procedures and applying them to the work force. Students will have the opportunity to apply all the skills learned to the work place. The goal of the course is to allow students to make the connections from school-to-work within a health care setting. Level 3 seniors who are eligible may apply for Cooperative Education placement opportunities in their area of study.

This course also includes an embedded Physical Education and Health component. These students will not be required to take a separate Physical Education course.

Length: Year (Two blocks each Semester); Credits: 35 Health Assisting and 5 PE; Prerequisite: Health Assisting 1 and 2

■ INFORMATION TECHNOLOGY

The Information Technology (IT) program is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE) Chapter 74 approved program that offers a three year course of studies that prepares individuals with basic and technical skills for careers in IT. Students will follow a sequential, project-based curriculum that is aligned with the Massachusetts CVTE Curriculum Frameworks. The first year course introduces students to all aspects of the IT industry including networking, computer support services, key applications, and interactive media. The Rindge School of Technical Arts is now a Cisco Academy. Students in the 2nd and 3rd year of Information Technology focus on one of the specific areas of IT and prepare for Cisco Certifications: IT Essentials and Discovery. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T604	TC	Information Technology 1
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This is an introductory course that will provide students with an understanding of information technology (IT) fundamentals. This course is the first course in an IT pathway. Students will learn computer and network basics along with computer hardware and software. Other topics include file management and protection, the Internet, web design, and digital me-

dia. Basic computer programming skills, databases, and other applications along with IT careers will also be investigated.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 IT and 5 PE; Prerequisite: Career Interest Survey

T746	TC	Information Technology 2
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The course focuses on information support services and networking in the IT industry. Students build on the basic knowledge gained in IT 1. Topics include hardware support including PC repair and support. Students learn how to maintain computers in a business environment, troubleshooting, and repairing hardware and software situations. The networking environment will be thoroughly discussed. Students will build and maintain a computer lab. This course will continue to stress the importance of obtaining an industry standard certification. We will focus on two Cisco certifications, IT Essentials (the equivalent of A+) and Discovery (which is like Net +).

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each semester); Credits: 35 IT and 5 PE; Prerequisite: Information Technology 1

T986	TC	Information Technology 3
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In Level 3, students continue to pursue Cisco certifications. They also study digital circuits and devices, their characteristics and applications. Students learn how to troubleshoot and repair electronic equipment, maintain computer networks, and other Help Desk practices. Career opportunities and internships are also emphasized. Qualified Level 3 seniors may be placed in Cooperative Education jobs during school time.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each semester); Credits: 35 IT and 5 PE; Prerequisite: Information Technology 1 and 2

■ MEDIA TECHNOLOGY

Media Technology is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program that offers hands-on training in video, audio, and computer-based media production. Students develop skills in a state-of-the-art media lab and television studio surveying the techniques and approaches of the major media. Industry standard hardware and software tools such as G5 computers, digital camcorders, audio equipment, Adobe Photoshop, Apple's Final Cut Pro, and Final Draft will be used. Lessons in theory, organization, and applications complement the lab work. Students are exposed to the industry through field trips, career exploration, guest speakers, and portfolio development. Students may continue their education in programs leading to an associate or bachelor's degree. Graduates of this program may also find employment in educational media centers, media service organizations, corporate media departments, cable television, libraries, and hospitals through the RSTA Co-Op Education program. Integrated into these

courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T612	TC	Media Technology 1
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Using basic production equipment, this course provides an overview of the elements and vocabulary common to all types of media production. It treats basic techniques of production planning, studio and field camera operation, lighting, audio, and editing. Students learn the fundamental stages of preproduction, production, and post-production. Students also learn the basic elements of storytelling, the foundation of all filmmaking.

This course includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Media Technology and 5 PE; Prerequisite: Career Interest Survey

T712	TC	Media Technology 2
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Advancing from Media Technology 1, students will endeavor on a deeper technical aspect of television broadcasting. This course moves students into advanced practices in the studio in the areas of sound engineering, lighting design, switching, character generation, directing, and producing. Fieldwork will expand into the documentary assignments and more detailed pre-production planning, including writing treatments and scripts. Students will edit shows live-to-tape, as well as learn advanced techniques in non-linear editing software. Student work will be entered into festivals and contests, as well as serve as programming for Cambridge Educational Access Channels 98 and 99.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (One block each semester); Credits: 15 Media Technology and 5 PE; Prerequisite: Media Technology 1

T988	TC	Media Technology 3
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This is an advanced course for those students who have excelled in their training in the TV Broadcasting program. Students at this level will work as independent producers creating original programming for television, and may be eligible for a Co-op position either away or on-location. Level 3 students will be responsible for writing budgets, obtaining all appropriate releases and permits, managing studio and field productions as well as overseeing a crew on location and demonstrating advanced skills in technical areas as well as impeccable employability skills.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (One block each semester); Credits: 15 Media Technology and 5 PE; Prerequisite: Media Technology 1 and 2

T621	CP	Digital Film & TV Production
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Be the Media! This course allows you to explore the world of media making through creating your own personal and group projects. Learn basic camera operations such as what makes good composition, different types

of shots and angles, effective camera movement, and different visual storytelling techniques. Gain an introduction to basic audio recording, lighting design, and editing tools such as Final Cut Studio. Then learn how to use a real film and television studio by designing your own talk show or sitcom. For the final group project, tell a real life story of your choice by making your own documentary, narrative short or music video. Completed student work will be shown on SMART TV98.

Length: One Semester (Spring); Grade(s): 10, 11, 12; Credits: 10; Prerequisite(s): None.

■ RSTA ELECTIVES

The following one-semester courses are available to students as indicated under each course description.

■ BUSINESS EDUCATION COURSES

Business Education offers a variety of courses that emphasize the role of information technology in the expanding global market. Students gain specialized knowledge and transferable skills which can be applied to the working/learning environment. Whether college or workforce, all students can benefit from one or more of these courses.

B627	TC	Business Management
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This course gives students a foundation to function successfully in a business environment. Students learn the skills needed to succeed in entrepreneurship, business and marketing plans, pricing, financing and pay-rolls. Students acquire a broad overview of business with an emphasis on finance, management, production, computers, government regulations and the international business climate.

Length: One Semester; Credits: 10; Grades: 10-12

B620	TC	Office Procedures Technology 1
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This course introduces students to Microsoft Office. Students will demonstrate proficiency in Word, Excel, and PowerPoint, using features to create professional documents. The knowledge acquired in this course will be valuable for virtually all courses and careers.

Length: One Semester; Credits: 10; Grades: 10-12

B880	TC	Office Procedures Technology 2
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This course incorporates Intensive keyboarding with Microsoft Word. This advanced level course is for juniors and seniors who have a serious interest in office competencies needed for Employment. Other components include Effective Communication in the Office; Time, Tasks and Workstation Management; Meetings and Travel Planning; Records Managements; Mail and Telecommunication Systems; and Telephone Systems and Procedures. Internet Access Proficiency and units on Business Ethics, Business Law, and English will be covered. Students will also explore Personal and Career Development. The goal of the course is to allow students to develop Personal Qualities and Human Relations at work.

Length: one semester, one block. Credit: 10; Prerequisite: Grade 11 or 12, minimum of B in Office Procedures Technology 1, approval by Office Procedures Technology instructor.

B829	TC	Automated Accounting 1
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In a state-of-the-art lab, students learn the concept of double entry accounting, using journals and ledgers, similar to those kept by financial

institutions. Students will complete projects that simulate the activities of accountants. Students will have a 'hands-on' experience with accounting applications and their role in business.

Length: One Semester; Credits: 10; Grades: 10-12

B889	TC	Automated Accounting 2
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Accounting 2 is an advanced level business finance course that will expand upon the generally accepted accounting principles (GAAP) and procedures learned in Accounting 1. Emphasis will be placed on decisions made in the managerial accounting of corporations using more in-depth analysis of financial statements. Instructional strategies may include the use of computers, projects, simulations, and real world experiences to apply accounting theories and generate reports.

Length: one semester, one block. Credit: 10; Prerequisite: Grade 11 or 12, minimum of B in Automated Accounting 1, approval by accounting 1 instructor.

B630	TC	Principles of Marketing
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This course will be a study of the marketing systems in the American economy, giving students an understanding of the principles and their applications in terms of consumer behavior and the strategies involved in product pricing, promotion, and distribution.

Length: one semester, one block. Credit: 10; Prerequisite: Grade 11 or 12, minimum of B in Business Management, approval by business instructor.

B940	TC	Bank Operations
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Bank Operations students serve as members of the operational team, in conjunction with bank supervisors, of the East Cambridge Savings Bank CRLS branch.

Length: One Semester; Credits: 10; Grades: 11-12; Prerequisite: Induction Program and Instructor Approval

B985	TC	Personal Finance for Seniors
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Welcome to the real world! Today's graduates are faced with many financial decisions that will affect their future. Financial Literacy is important as graduates move forward in life into the workforce and/or college. To compete in today's world, they need to have some basic understanding of the financial situations they will face. This course will make you aware of and expose you to a variety of topics, such as money management, credit, loans, taxes, insurance, that will help you to become a more knowledgeable consumer. Remember, the skill of how to manage money is important for everyone to know.

Length: One Semester; Credits: 10; Grade: 12

■ COMPUTER COURSES

T624	TC	Computer Programming
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This course is an introduction to computer programming. Students will learn to develop user friendly window applications and learn the fundamentals of accurate, modern programming methodology. A wealth of learning aids, including exercises and programming projects are provided for students to enhance their learning and programming skills. Previous computer knowledge is a must!

Length: One Semester; Credits: 10; Grades: 10-12

T626	TC	Web Design and Publishing
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This course introduces students to Web programming and design using HTML. The course starts with basic syntax and finishes with broad style directions that help students create informative and accessible documents for Web browsers. Students will use the skills learned to plan, design, and create an electronic portfolio. This course is "project intensive." Previous computer knowledge is recommended.

Length: One Semester; Credits: 10; Grades: 10-12

T628	TC	Intro Game Development
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This is an introduction to the exciting field of computer game development. It examines the roles of different participants in the development process. This course focuses on game design, architecture, and creation concepts related to the development of interactive 2-D computer games. It is largely a hands-on course where skills such as design, teamwork, management, documentation, and solid communications are critical. Hands-on activities include game testing, creation of several small games, and the creation of a sizeable game.

Length: one semester, one block. Credit: 10; Prerequisite: minimum of B in Computer Programming, approval by computer programming instructor.

Science

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student applies a variety of technologies to build and convey understanding.

STAFF

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Science courses are designed to produce an organized sequence of experiences to help students to develop the ability :

- » to distinguish between scientific evidence and personal opinion by inquiry and questioning;
- » to recognize the role of observation and experimentation;
- » to understand scientific theories;
- » to gather information through laboratory, field trips and library work;
- » to understand, in some depth, the unifying themes of life and physical sciences.

Physics is the first course in a coherent order of science courses, taught conceptually and using the math of 8th and 9th grades; chemistry is the second course, building on the knowledge of atomic structure to study the structures and properties of matter, and chemical reactions. Modern molecular-based biology is the third course in this hierarchy of science courses. In this sequence, physics concepts and topics underlie chemistry, and physics and chemistry support modern biology.

CRLS requires successful completion of three specific science courses for graduation: S101 Physics First, S201/S202 Chemistry, and S301/S302 Biology. If a student fails physics, chemistry or biology, he/she must repeat the course until successfully completed. A student may enroll in a required science course and an upper level science course at the same time with permission of instructors. S400 level courses are advanced science courses that assume students have solid foundations in physics, chemistry and biology. The course expectations reflect this advanced content.

Beginning with the class of 2010, all Massachusetts students must pass a Science MCAS exam in order to graduate from high school.

COURSE LIST

CP PHYSICS

AP PHYSICS B

AP PHYSICS C

CP CHEMISTRY

HN CHEMISTRY

AP CHEMISTRY

CP BIOLOGY

HN BIOLOGY

AP BIOLOGY

CP ASTRONOMY

CP APPLIED PHYSICS

CP MODERN PHYSICS

CP ORGANIC CHEMISTRY

CP ECOLOGY

CP EPIDEMIOLOGY

CP CONTEMPORARY APPLICATIONS OF GENETICS

CP HUMAN ANATOMY & PHYSIOLOGY

CP EXERCISE PHYSIOLOGY

CP MARINE BIOLOGY (AUTHENTIC INQUIRY PROJECT)

CP OCEANOGRAPHY (AUTHENTIC INQUIRY PROJECT)

HN MARINE SCIENCE INTERNSHIP (ENHANCED SENIOR YEAR ACADEMIC INTERNSHIP)

HN SCIENCE AND ENGINEERING RESEARCH (ENHANCED SENIOR YEAR ACADEMIC INTERNSHIP)

CP PLANT BIOLOGY

AP ENVIRONMENTAL SCIENCE

CP ZOOLOGY

■ LIFE SCIENCES ACADEMIC CONCENTRATION

The Academic Concentration in Life Sciences is a new initiative that will offer the possibility of a "Graduation With Distinction in the Life Sciences" notation on a student's CRLS transcript and diploma. It is based on academic excellence in a number of traditional academic Life Sciences classes and an external experiential opportunity.

OBJECTIVE:

- » To encourage more participation in 2nd level Life Science courses and external internship experiences for students at CRLS.
- » To encourage additional participation in academic extra curricular programs.
- » To encourage students, seniors in particular, to take advantage of external academic experiential opportunities as a part of a rigorous concentration of coursework within the Life Sciences.

This 'Distinction in Life Sciences designation' would require:

- » A minimum grade of 'B' in either CP Biology or Honors Bio.
- » A minimum grade of 'B' in 4 additional 2nd level Life Science courses offered at CRLS or through external opportunities such as Harvard Extension, semester abroad programs, etc.
- » AP Biology would count as 2 courses towards fulfilling these requirements.
- » Participation in at least one extra curricular science based team (e.g. Science team, National Ocean Science Bowl team, Envirothon Team for at least one entire season. (This requirement could be fulfilled in any grade)
- » Passing grade in any Life Sciences Internship or other external academic experiential learning opportunity for at least 1 semester that is approved by the Life Sciences Teacher Review Board (usually taken in senior year but other options could be approved on an individual basis). This would require extensive journal documentation, portfolio of their experience and students will be required to deliver a presentation to a group of invested adults as a culminating performance documenting their learning over the course of the Internship experience.
- » Students will get a special notation (e.g. Graduation with Distinction in Life Sciences) on their transcript indicating academic accomplishment, achievement and experience within the field of Life Sciences.

S101	CP	Physics
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Physics First is a dynamic hands-on laboratory science course. The curriculum for Physics First is split into four major units. Each requires students to collect and mathematically analyze experimental data, and each culminating with a project. In the first unit, students will study velocity, acceleration, Newton's Laws and momentum, through the perspective of safe driving. The electricity unit will focus on charge and electric circuits. During the third unit students will study waves, sound and light. In the fourth unit, students will study heat and energy, while building and experimenting with a water-powered machine.

Length: One Semester; Credits: 10

Honors Designation for S101 CP Physics First

A student will receive an Honors Designation on their transcript for Physics First by completing a series of requirements throughout the year, such as: more in-depth assignments, rigorous analysis of their experimental data, and extended research and analysis for their culminating projects. At the end of the course, students will demonstrate their understanding and achievements by creating and presenting an honors portfolio that draws

together their body of work and relates it to the overarching goals for the course.

S201	CP	Chemistry
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Chemistry is designed to teach the properties of matter, including elements, compounds and mixtures. Atomic structure, the physical and chemical characteristics of elements, the classification of elements into families, and the patterns of the periodic table will be addressed. Atomic interaction to form molecules or crystalline solids will be studied, as well as properties of compounds including electrical conductivity and solubility. Chemical reactions such as oxidation-reduction, acid-base and precipitation will be explored both qualitatively and quantitatively. Nuclear chemistry and gas behavior will be studied as well. Lab activities provide physical evidence of chemical theories. Students will prepare lab reports as evidence of understanding of chemical processes and become proficient in technology. Students will prepare and present a book review.

Length: One semester; Credits: 10; Prerequisites: Physics and a successful completion of a grade 9 math class

S202	HN	Chemistry
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The curriculum of Honors Chemistry will address the same topics as S201 in more depth. Rates of reaction and solubility product equilibria will be explored in detail. Electrochemistry and galvanic cells will be studied for standard and non-standard conditions. Enthalpy, entropy and Gibbs Free Energy will be included in a study of thermodynamics. The mathematics of these topics will be explored. Details of intermolecular attraction such as London Forces, dipole attraction and hydrogen bonding will be studied to explain the physical and chemical properties of substances. Regular lab reports will be produced as evidence of understanding of the connection between theory and experimental work. Students will prepare a book review, and will demonstrate the practical application of a chemical principle.

Length: One semester; Credits: 10; Prerequisites: S101 Physics, Recommendation of Chemistry Teacher and a grade of B or better in freshman math class

S301	CP	Biology: A Human Approach
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This course explores biology in a rigorous way using the principles of Evolution and Ecology: patterns and products of change in living systems and the interdependence of all living things; Homeostasis: within cells and body systems; Energy, Matter and Organization: relationships in living systems; Reproduction and genetics; growth and differentiation. Students approach each principle through a variety of hands on activities and experimentation. Students will develop skills in design of experimental procedures, collection and analysis of data, and written and oral presentation. They will also conduct experiments of their own design to make connections between biological concepts and their own lives, and produce lab reports. **Length: One semester; Credits: 10; Prerequisites: Physics and Chemistry**

S302	HN	Biology †
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This course will explore the biological world from organic chemistry through basic ecological principles, and provide a foundation for advanced scientific investigation and study. This accelerated course, a precursor to AP Biology, will focus on current research as it exposes the dynamic and diverse field of biology through the following topics: (1) Biochemistry;

(2) Cell Biology; (3) Genetics and Biotechnology; (4) Human Anatomy and Physiology; and (5) Biodiversity, Ecology and Evolution. Research in scientific literature, lab skills, student presentations and problem solving techniques will complement the course. Students will be encouraged to take the SAT II biology exam at the end of the course.

Length: One semester; Credits: 10; Prerequisites: Physics and Chemistry grades of B or better or recommendation of previous science teacher.

S403	CP	Astronomy
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An introduction to Astronomy, this class will focus on the application of physics to the study of the universe. Intended for highly motivated students interested in science, this class expects students to think critically as well as to make use of mathematical reasoning in the solving and creation of problems related to astronomical phenomena. Topics may include: the history of observational astronomy, building a simple telescope and trips to observatories to study the night sky; celestial navigation; stellar evolution from how stars are born to supernovae; black holes; the large scale structure of the cosmos; space-based astronomy and astronomy in the news.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology. Students can be concurrently enrolled in Biology

S402	CP	Applied Physics
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Students will gain a better understanding of the connections between science and engineering, and the application of Physics in every day life and technology. Topics of study will be applications of physics in sports, medical technology, communications, computers, electronics, and transportation. Students will be given performance goals and required to design, build or produce a product that meets those goals using limited resources. Examples of design projects include a motor-driven car, a working barometer, or a helicopter powered by a mousetrap. Students will gain an understanding of the physics concepts used in design projects. There will be emphasis on the writing process and experimental design to help prepare students for lab investigations in college.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology. Students can be concurrently enrolled in Biology.

S417	CP	Modern Physics
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The Modern Physics course examines topics not offered in a classical physics course, instead focusing on some of nature's most unexpected phenomena. This includes the behavior of very small (quantum and nuclear physics) and very large (wormholes and black holes) quantities. It will also look at the current theories on behavior and origin of energy and matter, such as General Relativity, String Theory and Cosmology. Emphasis will be placed on topics that inspired technological advancements such as semiconductors, lasers, GPS, LCD and plasma screens.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology and completion or concurrent registration in Algebra II/ Trig, Pre-Calculus or IMP 3; Required

S411	CP	Organic Chemistry
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This advanced chemistry course addresses structures, reactions and uses of carbon compounds. The classes of carbon chain and ring molecules will be studied with emphasis on stereochemistry, reactivity and reaction mechanisms. The practical applications of hydrocarbons and biomolecules

will be explored, and laboratory activities will be performed. Familiarity with organic chemistry is excellent preparation for all types of medical careers.

Length: One semester (first semester only); Credits: 10; Prerequisites: B or better grade in Chemistry and Biology

S405	CP	Ecology
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From our days as a hunter-gatherer society to the information age, humans have always had a close relationship with the environment. This relationship will be examined through the study of ecological principles that govern population dynamics, community interactions and ecosystem processes. Students gain an understanding of the biosphere as we examine the ways humans have altered the natural ecological processes during our species time on Earth. Human ecological issues to be covered include over-population, pollution, environmental justice, urban sprawl, habitat loss, invasive species, biodiversity loss and global climate change. Over the semester, students will find local solutions to global, ecological problems. Students will design and conduct ecological studies and experiments to engage in research and environmental education advocacy activities. Partnerships with Earthwatch, Massachusetts Audubon Society, and MIT will support student environmental research and study.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology

S406	CP	Epidemiology
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Why are some diseases "catching"? What tools do scientists use to study and control disease? How does my body fight off invaders? What kind of organisms can and do invade my body? Why do Third World countries experience more diseases than developed countries? What ethical issues arise in studying and treating disease? How has biotechnology contributed to making new treatments for these diseases? Students use current lab techniques, read current literature and participate in research projects and design their own epidemiologic study.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology

S404	CP	Contemporary Applications of Genetics
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Why are some diseases inherited from parents who are perfectly healthy? What is the difference between infectious and genetic disease? Can you find out if you will get a genetic disease? How does one decide whether to learn about one's genetic make-up and what to do with that information? How do we develop guidelines for these advancements that are equitable for ALL? Who pays for the research and who makes a profit? Students use the same cutting edge lab techniques that scientists do in their labs to try to answer these questions about devastating diseases. Finally, students learn how the biotechnology industry is using these modern techniques by investigating how an idea is turned into a profit-making product. This course is lab oriented with an emphasis on investigative skills.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology

S407	CP	Human Anatomy and Physiology
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This course is a challenging and intensive investigation of human body systems that includes the molecular, cellular and tissue level of the organ systems. Students will engage in discussion, activities and laboratories, and write research papers to gain a better understanding of the structure and

physiologic processes of the healthy body. Current trends and treatments in medicine as well as medical ethics are explored. Guest speakers are invited to make presentations. Class will consider career opportunities within the medical field.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology

S416	CP	Exercise Physiology
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Knowledge and application of scientific principles are prerequisites for this intensive, advanced biology course. The course covers how the body functions during exercise, the adaptations that occur in response at a tissue, cellular and molecular level. Focus will be on changes that occur in the circulatory, respiratory and muscular systems; students will conduct labs, plan experiments and write research papers. Please note that this is not a class that will involve general fitness goals or means to achieve them.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology

S408	CP	Marine Biology
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Students who take Marine Biology will gain a deeper understanding into the variety and diversity of living organisms in the world's oceans through an ecological and evolutionary lens. From Algae to Zooxanthellae and everything in between, we will examine and study the diverse organisms and complex relationships that make life in the ocean possible. Understanding human impact and conservation will be an underlying theme to the course. Wet and dry labs, snorkeling, microscopy, dissections, field trips, lectures and discussions are all used to engage students into the wonderful world of life beneath the waves. As a part of this class, you will learn the skills to create and present a unique project that shows your understanding of the course content and highlights your interests and ideas. See page 14 for more about Authentic Inquiry Projects.

Length: Fall semester; Credits: 10; Prerequisites: Chemistry and Biology

S418	CP	Oceanography
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Oceanography is the study of all of the physical, chemical and biological processes that make up the world's ocean. Topics will include the origins of the world's oceans, history of ocean exploration and examples of marine technology that allowed this exploration. We will study the forces that have shaped our oceans over time and the features of the sea floor resulting from these forces. Physical processes in the Ocean like tides, currents, waves, erosion of coasts and environmental concerns will make up the bulk of the course content. The capstone project in the course will be designing, building and flying an underwater remotely operated vehicle (ROV) in a competition in the school pool. As a part of this class, you will learn the skills to create and present a unique project that shows your understanding of the course content and highlights your interests and ideas. See page 14 for more about Authentic Inquiry Projects.

Length: Spring semester; Credits: 10; Prerequisites: Chemistry

S410	IN	Marine Science Internship (Academic Internship)
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The CRLS MSI is intended for students who are interested in gaining advanced lab and research experience in any of the fields of Marine Science. Students will be placed in a research facility, beginning during period 4

three days per week for a total time commitment of 12 hours per week. Students will also be responsible for keeping a lab journal of their experiences, participate in a student led seminar each week and present their research to a group of invested adults as the culmination of their placement experience. Previous placements have included Harvard, MIT, New England Aquarium, Boston University, Northeastern, BlueFin Robotics.

Length: One semester; Credits: 10; Prerequisites: Marine Biology or Oceanography and permission of the instructor

S415	IN	Science and Engineering Research (Academic Internship)
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The Science and Engineering Research program course provides students the opportunity to engage in current science and engineering research at Harvard University. Students will be placed in a Harvard research group under the joint supervision of a Harvard mentor who will be member of the research group and a CRLS teacher, assigned a research project, conduct research and produce a final research paper, poster and materials for the annual International Science Fair. Students will also attend weekly CRLS Research Seminars conducted by their CRLS teacher where they will share their research and learn research methods and tools. The course is offered in Block 4, allowing the student to leave the school and work in their research lab. Students are expected to spend 10-20 hours weekly on their research.

Length: One semester; Credits: 10; Prerequisites: Teacher recommendation; application required.

S414	CP	Plant Biology
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Ever wondered how plants save lives? How plants compete with each other? Why some plants are poisonous and how others eat animals? This course will explore the science, culture, economics, evolution and ecology of plants. Students will do research and conduct inquiry investigations into the amazing Kingdom Plantae. Come prepared with a previous course in biology and interest in learning about the bottom of the food chain. You wouldn't be alive if it weren't for plants!

Length: One semester; Credits: 10; Prerequisites: Passing grades in Physics, Chemistry and Biology.

S419	CP	Zoology
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This course is a challenging elective that studies animals of all shapes and sizes, from flatworms to whales. Students will examine the diversity of the animal kingdom, focusing on the major groups of invertebrates and vertebrates. They will learn about the physical features and survival strategies of the various phyla, evolutionary relationships between organisms, and the ecological connections between them. Students will engage in authentic inquiry projects, discussion, lab experiences, and research as they learn about the animal kingdom. This course prepares students for an Enhanced Senior Year Internship in zoology.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry and Biology.

■ ADVANCED PLACEMENT COURSES

All students enrolled in an Advanced Placement Science course are required to take the associated AP exam in May.

S501	AP	Biology
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This college level course builds on knowledge obtained in physics, chemistry and biology. The course emphasizes biological principles from an evolutionary perspective. The first semester examines the structure and function of molecules and cells, the molecular basis of heredity and evolution. The second semester examines organismal diversity and the structure and function of plants and animals, followed by a study of interactions in populations and communities.

Length: Year; Credits: 20 (one distributional course requirement);

Prerequisites: Grades of B- or better in Physics, Chemistry and Biology and the recommendation of a science teacher; The Biology requirement may be waived with a science teacher recommendation and a grade of B or better on a Biology exam by the end of the first week of school. Students will be expected to complete a summer assignment before course begins.

S502	AP	Chemistry
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This course is designed to teach chemistry at the college freshman level and prepare students for the AP Chemistry Exam. Emphasis will be on inorganic chemistry, atomic structure, bonding, reactions, periodicity and equilibrium. Laboratory experiments are an integral part of the course. Students should be prepared to do university level work.

Length: Year; Credits: 20 (one distributional course requirement);

Prerequisites: Physics, Chemistry and Biology and previous or concurrent enrollment in Pre-calculus

S504	AP	Physics B
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This course is a full year introductory physics course covering a wide spectrum of physics topics: Atomic and Nuclear Physics, Light and Optics, Electricity & Magnetism, Newtonian Mechanics, Fluid Mechanics and Thermal Physics. The course focuses on building conceptual and problem solving skills thus providing the student with a broad knowledge of physics necessary to pursue science, medicine, technology, engineering and mathematics college programs and careers. The course also teaches the use and application of math and prior knowledge of algebra, geometry and trigonometry courses is recommended but not required. The course has an experimental component for the student to gain first hand experience observing the physics and using experimental equipment. The course is the equivalent of a full year non-calculus-base introductory college physics course but is also excellent preparation for a student planning to take calculus-based freshman college physics. The course prepares the students to take the AP Physics B exam, for which qualifying scores at accepting colleges and universities typically earn the students 6 credits.

Length: Year; Credits: 20 (one distributional course requirement);

Prerequisites: interest in science and desire to take a challenging science course; algebra, geometry and trigonometry recommended but NOT required;

AP Physics C: Mechanics, Electricity and Magnetism

This is a full year introductory college level course on Newtonian Mechanics and Electricity and Magnetism. The course is the equivalent of a calculus-based college introductory physics mechanics course and prepares the student to take both the AP Physics C: Mechanics and the AP Physics C: Electricity & Magnetism exams for which qualifying scores at accepting

colleges and universities typically earn the students 3 credits each. It is offered in two semester-long courses. Students have the option of only taking the first semester for AP Physics C: Mechanics.

S503A AP Physics C: Mechanics (Semester 1 of AP Physics C)

This is a one semester introductory college level course on Newtonian Mechanics. It covers the foundation topics of kinematics; Newton's laws of motion; work, energy, and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. The course focuses on building strong conceptual, theoretical development and problem solving skill for students interested in pursuing science, medicine, engineering or technology college programs and careers. The course also teaches the use and application of the prerequisite math courses: calculus, trigonometry, geometry and algebra. The course has an experimental component for the student to gain first hand experience observing the physics and using experimental equipment. The course is the equivalent of a calculus-base college introductory physics mechanics course and prepare the student to take the AP Physics C: Mechanics exam for which qualifying scores at accepting colleges and universities typically earn the students 6 credits. Students typically take this course in the fall and subsequently take AP Physics C: Electricity and Magnetism in the spring.

Offered: Fall and Spring Semesters; Length: Semester Credits: 10; Prerequisites: AP Calculus recommended but NOT required

S503B AP Physics C: Electricity and Magnetism (Semester 2 of AP Physics C)

This is a one semester introductory college level course on Electricity and Magnetism. It covers the major introductory areas of E&M including: electrostatics; conductors, capacitors, and dielectrics; electric circuits; Maxwell's Equations, magnetic fields; and electromagnetism. The course focuses on building strong conceptual, theoretical development and problem solving skill for students interested in pursuing science, medicine, engineering or technology college programs and careers. The course also teaches the use and application of the prerequisite math courses: calculus, trigonometry, geometry and algebra. The course has an experimental component for the student to gain first hand experience observing the physics and using experimental equipment. The course is the equivalent of a calculus-base college introductory physics mechanics course and prepare the student to take the AP Physics C: Electricity and Magnetism exam for which qualifying scores at accepting colleges and universities typically earn the students 6 credits. Students often take this course in the spring following AP Physics C: Mechanics, but the Mechanics course is not a prerequisite.

Offered: Spring Semester; Length: Semester; Credits: 10; Prerequisites: AP Calculus required.

S510 AP Environmental Science

This course is the equivalent of a one-semester, introductory college course. Environmental science is offered from a wide variety of disciplines, including geology, biology, environmental studies, environmental science, chemistry and geography. This course has been designed to enable students to undertake an advanced study of environmental topics in college. The goal is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, identify and analyze environmental problems both natural and human-made, evaluate the relative risks associated with these problems, and

examine alternative solutions for resolving and/or preventing them.

Length: One semester; Credits: 10; Prerequisites: Physics, Chemistry, Biology and Algebra

■ RINDGE SCHOOL OF TECHNICAL ARTS COURSES IN THE SCIENCES

RSTA offers challenging, honors level courses and programs of study in Biotechnology and Engineering. Additional RSTA course offerings are listed in the RSTA section of this catalog.

T610	TC	Biotechnology 1: Introduction to Molecular Biology
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Biotechnology 1 introduces students to the science behind biotechnology. In this honors level course, students learn the fundamental concepts of cell and molecular biology with emphasis on commonly used techniques including DNA isolation, analysis, genetic transformation, and polymerase chain reaction (PCR). Forensic science is studied in the context of a crime scene investigation and students learn firsthand how science is applied to solving crime. Students are trained to construct and deliver clear and precise written and oral presentations. Bioethics are covered throughout the course including topics from popular news sources (i.e. the use of genetic material, stem cells, genetically modified organisms, etc.). Field trips to biotech companies and research labs, coupled with our ongoing guest lecture series, expose students to a wide range of professionals and career pathways. Summer research internships are available in research settings for qualified candidates.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Biotechnology and 5 PE; Grades: 10, 11, 12.

Prerequisite: Career Interest Survey

T640	TC	Accelerated Biotechnology
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This is a fast-paced biotechnology course is designed for students with a strong interest in science. Accelerated Biotechnology covers many aspects of molecular biology including DNA isolation and manipulation, genetic transformation, protein purification and analysis, agarose and PAGE electrophoresis, ELISA, and PCR. In addition to developing lab skills, students will gain an awareness of current developments, lab safety, experimental design and documentation and develop oral and written presentation skills. They will study biotech companies to gain an understanding of the business of science, latest scientific developments, ethical issues, trends, technological advancements and promise for the future. Successful completion of this course will qualify students to continue with Biotechnology 2 in the fall.

Length: one semester, one block. Credit: 10; Grade 10, 11, or 12;

Prerequisite: Career Interest Survey, minimum of B in math and science.

T870	HN	Biotechnology 2: Intermediate Molecular Biology
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Biotechnology 2 is an intermediate honors level course through which students build upon the foundation established in Biotechnology 1 to explore cutting-edge science and to gain mastery of various laboratory skills. The main focus of the course is proteomics whereby students have the opportunity to study and practice current techniques used to study proteins. Students are engaged in projects that involve manipulation of recombinant

DNA, DNA fingerprinting, PCR analysis, transformation, protein expression, protein purification, bioinformatics, and ELISA. Individual projects throughout the year provide opportunities to investigate particular areas of interest, to promote independence, and to develop problem-solving abilities. Personal and professional integrity is emphasized and practiced throughout as a required skill for research and industry careers. Through field trips and the guest lecture series, students have the opportunity to learn about various science careers and to interact with professionals from the biotech industry, academia, and hospitals. Sound presentation skills continue to be emphasized and practiced. Summer research internships may be available in industry settings for qualified candidates.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Biotechnology and 5 PE; Grades 11 or 12;

Prerequisite: Biotechnology 1 or approval by biotechnology instructor.

T980	HN	Biotechnology 3: Advanced Biology
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Biotechnology 3 is an advanced honors level course for students to further develop technical and analytical skills. Students will learn to identify and clone a gene of interest and to explore the fundamentals of protein engineering. Proteins will be studied in detail during this course in the context of disease, therapeutics, bioremediation, and food processing. Students will learn how microorganisms are used to produce and study protein structure, function, modification, and for protein engineering. Students will explore protein purification methods including HPLC and affinity chromatography. Through RSTA's Cooperative Education program, students may be eligible to practice their skills in various research settings.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Biotechnology and 5 PE; Grade: 12;

Prerequisite: Biotechnology 2 or approval by biotechnology instructor.

T603	TC	Engineering 1
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This is an honors course that consists of two Project Lead the Way (PLTW) units of study: "Introduction to Engineering Design" (IED) and "Computer Integrated Manufacturing" (CIM). This course develops students' problem solving skills and places emphasis on the design process, using Computer Aided Design (CAD). Projects consist of challenging, hands-on activities that lead to conceptual learning. CIM is a course that continues to build on skills in computer in computer modeling design and exposes students to fundamentals of computer controlled machinery. This course emphasizes design fundamentals such as engineering documentation, and using the design process to solve engineering problems, including prototyping solutions. Students also learn new skills related to the use and programming of CNC equipment, Computer Assisted Manufacturing (CAM), robotics, and flexible manufacturing systems.

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Engineering and 5 PE; Grades: 10, 11, 12;

Prerequisite: Career Interest Survey

T843	HN	Engineering 2
This is an honors level course in Engineering (also called “Principles of Engineering”) where more classical engineering systems are learned in order to prepare students for the type of calculations they will be asked to perform on the job or in college. Many engineering problems from hydraulics and pneumatics to simple machines are introduced. Theoretical and hands-on problem-solving activities are emphasized. Project examples include robotics, materials testing, developing a gear train, and additional advanced CAD modeling skills. In the second half of the year, students will learn about digital electronics (DE). The DE component is a unit of study in applied logic that encompasses the application of electronic circuits and devices. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices.		

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year; Credits: 15 Engineering and 5 PE; Grades: 11 and 12; Prerequisite: Engineering 1, Engineering Design/CIM (FastTrack), or approval by the engineering instructors.

T983	HN	Engineering 3
Students learn concepts of robotics and automated manufacturing in this Honors Level course, using “Computer Aided Design” (CAD) and “Computer Integrated Manufacturing” (CIM). CAD continues to expand students’ skills in computer modeling design and exposes students to fundamentals of computerized manufacturing technology. Students refine and expand their knowledge of prototyping, CNC equipment, CAM software, robotics, and flexible manufacturing. Students have the opportunity to invent a new product or make improvements to an existing one. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices.		

This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Physical Education course.

Length: Year (Two blocks each Semester); Credits: 35 Engineering and 5 PE; Prerequisite: Engineering 1 or FastTrack Engineering and Engineering 2

T502	TC	FastTrack Engineering
This course is an accelerated offering for Grade 10 and 11 students considering a career in engineering. This is an accelerated version of Engineering 1, described above. Students will learn to communicate their ideas using hand sketching and computer integrated modeling. They will generate prototypes and incorporate computer integrated manufacturing in this process. Students with successful completion of this course will also be eligible to continue as Level 2 Engineering students. (Grade 10 students who continue in this program may also be eligible for a co-op position in their senior year.)		
Length: one semester; Credit: 10; Prerequisite: open to grade 10 and 11, students not currently or previously enrolled in Engineering Level 1, 2 or 3, and with approval by the CTE Coordinator and instructors.		

T503	TC	Robotics/FIRST
This course will introduce the making of a robot using the state of the art RSTA facility in conjunction with the MIT labs. This hands-on course will focus on the fundamentals of robot design, building, function and programming. The required culminating project will be a robot presentation in a regional (or 2) competition and possibly participation in a national FIRST robotics contest. The classes will be required to meet at least twice a week (after school hours required) at MIT during the FIRST robot build season which runs through January and early March. Additional after school hours and Saturday participation will be required for students enrolled in this course and will be considered as part of their grade. Length: one semester; Credit: 10; Prerequisite: open to grade 10-12 students with approval by the instructors. This course is different each semester, so it can be taken multiple times with permission of the instructors.		

Special Education

STAFF

Christine DeYeso, Teacher in Charge

Maureen Beckshaw, Lynette Bell, Mara Benntman, Adam Blaustein, Janeen Bono, Anthony Cannella, Michelle Cataldo, Kathleen Corcoran, Patrica Cronin, Will Daugherty, Maggie Delong, Nicole DeVicci, Diane Elinskas, Teri Fallon, Jennifer Gracia, Kathy Greene, Devan Hannigan, Dionne Harden, Jack Harverty Jr., Paul Johnson, Nkurma Jones, Michael Jordan, Jesse Kaplan, Kristen Kelley, Kristin Knowlton, Beverly Kucera, Zachary Lamothe, Laurraine LeCorps, Karen Long, Leslie Loomis, Jermaine McKenzie, Kimberly Mitchell, Megan Nelson, Chris Nernitz, Shavaun O’Neil, Janet O’Reilly, Desiree Phillips, Lael Piehl, Anthony Porecca, Brad Richenburg, Kathleen Robinson, Kathryn Rocco, Lorraine Rusinak, Shawna Samuels, Lisamarie Shaler, Erin Stanely, Donna Sousa, Maria Szabo, Adelaide Teel, Sameria Velso, Alison Wade, Karen Whiteside.

■ ACADEMICS PROGRAM AND COURSES

The Academics Program classroom has one special educator. Students in this program have a diagnosed specific learning disability and are more than 4 years below grade level in related skills. Students intellectually understand concepts but lack skills due to their disability. These students receive modified instruction, performance criteria and content, while being exposed to major concepts of the general education classroom in accordance with the frameworks.

QAE101	CP	ENGLISH 9
QAE201	CP	ENGLISH 10
QAE301	CP	ENGLISH 11
QAE401	CP	ENGLISH 12
QAH201	CP	WORLD HISTORY 2
QAH291	CP	US HISTORY 1
QAH301	CP	US HISTORY 2
QAM101	CP	ALGEBRA 1
QAM121	CP	GEOMETRY
QAM201	CP	ALGEBRA 2
QAM413	CP	ADVANCED MATH TOPICS

QAS101	CP	PHYSICS
QAS201	CP	CHEMISTRY
QAS301	CP	BIOLOGY

■ BASIC ACADEMICS PROGRAM AND COURSES

Students in the Basic Academics classroom work with a special educator. Students have a diagnosed intellectual impairment and are more than 5 years below grade level in subject related skills. Students need specialized instruction regarding curriculum concepts and assistance for academic skills. The curriculum is broken down into small obtainable tasks which are related to real life experiences. Students receive a modified instruction method, performance criteria and content and are also provided with supplemental vocational training, while being exposed to major concepts of the general education classroom in accordance to the frameworks.

QBE101	CP	ENGLISH 9
QBE202	CP	ENGLISH 10
QBE301	CP	ENGLISH 11
QBE401	CP	ENGLISH 12
QBE402	CP	PRACTICAL ENGLISH
QBH201	CP	WORLD HISTORY 2
QBH291	CP	US HISTORY 1
QBH301	CP	US HISTORY 2
QBM101	CP	ALGEBRA 1
QBM121	CP	GEOMETRY 2
QBM201	CP	ALGEBRA 2
QBM413	CP	ADVANCED MATH TOPICS
QBS101	CP	PHYSICS
QBS201	CP	CHEMISTRY
QBS301	CP	BIOLOGY

■ STRUCTURED ACADEMICS PROGRAM AND COURSES

The Structured Academics Program has one special educator and is for students who have an IEP for diagnosed emotional disturbance and significant behavioral issues. These behaviors prevent students from accessing, participating and progressing in the general education classroom. Students are taught in a highly structured classroom in order to manage their behavior and are given direct, specially designed instruction. Students receive modified instruction, performance criteria and content, while being exposed to major concepts of the general education classroom in accordance to the frameworks.

QSE101	CP	ENGLISH 9
QSE201	CP	ENGLISH 10
QSE301	CP	ENGLISH 11
QSE401	CP	ENGLISH 12
QSH201	CP	WORLD HISTORY 2
QSH291	CP	US HISTORY 1
QSH301	CP	US HISTORY 2
QSM101	CP	ALGEBRA 1

QSM121	CP	GEOMETRY
QSM201	CP	ALGEBRA 2
QBM413	CP	ADVANCED MATH TOPICS
QSS101	CP	PHYSICS
QSS201	CP	CHEMISTRY
QSS301	CP	BIOLOGY

■ FUNCTIONAL ACADEMICS PROGRAM

This Program is for students with diagnosed Intellectual Impairment. The focus of the program is functional academics and inclusion in social life at CRLS and the real world. Students require direct, specially designed instruction and are also provided with vocational training. Students in the Functional Academics program are scheduled individually, based on need.

World Languages

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS foreign language student must learn to communicate as a speaker.

STAFF

Dr. Salvatore C. Trapani, K-12 Coordinator

Michele Arroyo-Cody, Juan Casillas, Ibrahim Dagher, Eydie Garcia, Maria Giacchino, Kate Holmes, Karen Leighton, Quilda Macedo, Sherry Madden, Jennifer McConnell, Elaine Miceli, Anne Piotrowski, Zuwei Shi, Paula Whittaker.

One of the most important academic studies in the roster of CRLS courses is a foreign language. The study of another language gives an inside view of another culture, way of thinking, set of values, and lifestyle. Language study is the most natural vehicle for acquiring a multicultural outlook, and it enhances English vocabulary and knowledge of language structure and usage. Second language study is indispensable for the college-bound and an invaluable embellishment to the educational background of the non-college bound.

There is a minimum language requirement at CRLS of two courses in the same language. Some colleges and universities require more courses for acceptance. Students will select the language that best satisfies their needs and interests. Every language offered at CRLS has its own unique contribution to make to a student's knowledge and development.

COURSE LIST

CP ARABIC 1-2

HN ARABIC 3-4

CP CHINESE 1-3 (MANDARIN)

HN CHINESE 4-5 (MANDARIN)

CP FRENCH 1-3

HN FRENCH 1-5

AP FRENCH

HN LATIN 1-4

AP LATIN (VERGIL)

CP SPANISH 1-4

HN SPANISH 2-5

CP SPANISH FOR HERITAGE SPEAKERS 1-2

AP SPANISH

HN CONFLICTOS Y COMUNIDADES DEL MINDO (EMBEDDED GRADUATION PROJECT)

■ ARABIC

The Arabic Language Program, one of only a few similar programs in the United States, has grown in both student enrollment and offerings. In its inaugural school year (2009-2010), it introduced Arabic to 64 students who took Arabic 1 and 2, and during this school year (2010-2011), it is on track to educate over 70 students from level 1 to 4. The cultural diversity and academic depth of CRLS have provided a nurturing environment for this language which, in turn, will further enrich the school and the community. The program distinguishes itself with its dual approach to teaching Arabic, both in its Modern Standard form and some of its colloquial varieties. This program is useful for students seeking exposure to the Arabic Language and Arab culture and those interested in pursuing further studies in the Arabic Language. Starting to learn Arabic before college gives the interested student a significant advantage to succeed and to become proficient at the university level.

L001	CP	Arabic 1
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Arabic 1 introduces beginners to Modern Standard Arabic (MSA) and exposes them to colloquial varieties of the Arabic Language, especially the Egyptian and Levantine dialects. This course emphasizes the four basic language skills of listening, speaking, reading and writing, with a special focus on phonology and writing. As students learn the Arabic alphabet, they will begin not only to decipher the Arabic letters and vocalization symbols, but to put this knowledge into actual practice and use as they begin to write and read simple text in Arabic. The class relies on interactive tasks and extensive listening exercises to help students build a vocabulary and develop communicative skills. Arab culture is also explored through readings and special projects. No prior knowledge of Arabic is required for this course, but a commitment to preparation, attendance, and participation is essential.

Length: One Semester; Credits: 10; Prerequisite: None

L101	CP	Arabic 2
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Arabic 2 further develops all language-related skills, including listening, speaking, reading, writing, and cultural knowledge. It incorporates the use of authentic materials for practice and presents narrative-based content through audio and video media to develop meaning-focused language processing skills. Arabic 2 also develops reading skills through the use of texts derived from the main narrative and other sources. The course reinforces grammar and vocabulary through extensive classroom and homework exercises and provides a constant review to help students retain and develop their skills.

Prerequisite: Arabic 1 or comparable knowledge, as determined by the teacher.

L201	CP	Arabic 3 / 4
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Continuing to develop the basic language skills, Arabic 3/4 relates abstract grammatical concepts to practical skills. This course reviews and presents new grammar concepts using spiraling techniques and inference and en-

courages students to discover the complex grammar structures of the language by means of analogy, problem solving, and educated guessing. As in other courses, advanced grammar and vocabulary are reinforced through extensive classroom exercises and homework with the goal of keeping students challenged as they further develop their skills.

Length: One Semester; Credits: 10; Prerequisites: Arabic 2 or comparable knowledge Arabic 3 or Arabic 4, as determined by the teacher.

■ MANDARIN CHINESE

Chinese, used daily by approximately 940 million people, is the world's most widely spoken language. Mandarin Chinese has been offered at CRLS since 2006; there are currently five different levels. Students who select this course will be able to learn the Chinese language systematically and understand its culture and contribution to the world.

L091	CP	Chinese 1
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Chinese 1 introduces students to the Chinese language, Pinyin, and the culture of China. Using the skills of listening, reading, speaking, and writing, students will be exposed to vocabulary and basic grammar that will enable them to communicate in Mandarin in everyday situations. This level emphasizes the pronunciation and relevant vocabulary in the context of simple conversations, basic grammar structures, and level-appropriate readings. In addition, students will begin to develop an appreciation of Chinese culture that will better prepare them to interact in a global society.

Length: One Semester; Credits: 10; Prerequisites: None

L191	CP	Chinese 2
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In Chinese 2, students continue to develop their skills in the Chinese language, Pinyin, and the culture of China. This course emphasizes the pronunciation and relevant vocabulary in the context of more complex conversations, grammar structures, and level-appropriate readings. Students will continue to develop an appreciation of Chinese culture and customs.

Length: One Semester; Credits: 10; Prerequisites: Chinese 1

L291	CP	Chinese 3
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Chinese 3 is a proficiency-based course which refines and expands linguistic skills in culturally authentic contexts. The course focuses on developing communicating skills with an increasing emphasis on reading and writing in ideographic characters and expanding vocabulary.

Length: One Semester; Credits: 10; Prerequisites: Chinese 2

L391	HN	Chinese 4
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Chinese 4 is a continuing proficiency-based course which further refines and expands linguistic skills in culturally authentic contexts. There will be extensive practice in listening and speaking with more emphasis on developing reading and writing skills. The course will also expose the students to the different regions of China, which will reinforce the understanding of Chinese culture as well as language.

Length: One Semester; Credits: 10; Prerequisites: Chinese 3

L491	HN	Chinese 5
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This course will be conducted in Chinese, and students will be expected to speak Chinese during the class. They will be exposed to many different forms of written and spoken Chinese through the study of texts, short stories, and journal articles, as well as level-appropriate audio and video

materials. Students will have to participate in oral projects and numerous writing activities.

Length: One Semester; Credits: 10; Prerequisites: HN Chinese 4

■ FRENCH

The CRLS French program is offered at six levels, 1 through AP French. The French text covers French 1-4. This series is complemented by a wealth of supporting materials: CD's, DVD's, workbooks, and videos. French 5 and AP French use readings from a variety of sources: classic novels, periodicals, cinema, plays, film, etc. An integral part of the upper level courses is exposure to the music, customs, art, and literature of French-speaking countries, as well as emphasis on writing and speaking to prepare students for the French AP examination.

L011	CP	French 1
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Students will develop their French skills through the study of culture, vocabulary, and grammar. By discovering and reading about the day to day experiences of typical French speaking people, students will become familiar with language as a tool for communication. They will read short stories, write dictations, and develop short projects, as well as engage in oral drills and games to practice and drill grammar structures and vocabulary.

Length: One Semester; Credits: 10; Prerequisites: None

L012	HN	French 1
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This course is designed for students who have a strong interest in French culture and grammar. All basic French vowel sounds will be learned and practiced extensively, and short dialogues, which highlight new vocabulary and idiomatic phrases, will be memorized. Additionally, French I Honors will expose students to the Francophone world and to language and grammar structures normally covered in the first two years of high school French. This course is excellent preparation for French 2 Honors.

Length: One Semester; Credits: 10; Prerequisites: None

L111	CP	French 2
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This course continues the study of the French language. Students will develop and expand their vocabulary and grammatical skills through simple, basic readings, poems, dialogues and skits. There will be collaborative work on research projects and discussions after viewing of films.

Length: One Semester; Credits: 10; Prerequisites: French 1 or recommendation of eighth grade teacher

L112	HN	French 2
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This course is designed to teach the grammar of levels 2 and 3. Students will also read literary excerpts of major French writers, engage in writing and speaking activities, and do projects that will demonstrate student knowledge.

Length: One Semester; Credits: 10; Prerequisites: French 1 Honors. Exceptions will be made in only very special cases.

L211	CP	French 3
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This course is the continuation of studies from French 2 CP. Students will develop and expand their vocabulary and grammatical skills. In addition, they will memorize and perform short dialogues which highlight new vocabulary and idiomatic expressions. Students will acquire vocabulary, correct use of syntax, and dramatic expressions. This course is NOT sufficient

preparation for French 4. This is the end of the College Prep French 1, 2, 3 series.

Length: One Semester; Credits: 10; Prerequisites: French 2 CP or French I Honors

L212	HN	French 3
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This course is conducted primarily in French. Students will continue their work of French 2 Honors and will be exposed to all basic grammar structures of the French language. There will be extensive practice in the skills of reading and writing in French, and dialogues will be regularly memorized and performed. Additionally, French 3 Honors will expose students to the geography of the Francophone world and the different regions of France. This course is good preparation for the SAT II French examination.

Length: One Semester; Credits: 10; Prerequisites: French 3 CP, French 2 Honors, or Teacher Recommendation

L412	HN	French 4
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This course will be conducted entirely in French, and students will be expected to speak French during class. There will be a systematic review of all the basic grammar structures of French covered in French 3 Honors, and, in addition, students will begin to develop a writing style through the preparation of short, weekly essays and journals. Students will also be exposed to French literature which will reinforce the grammar structures they have studied in class. This course is excellent preparation for the SAT II French examination and the AP course.

Length: One Semester; Credits: 10; Prerequisites: French 3 Honors or Teacher Recommendation

L512	HN	French 5
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This course is designed for students who have successfully completed the French 4 Honors course. Students will be required to read literary texts in their original versions (short stories, plays, novels, etc.). Students will have an extensive grammar review at an advanced level. These skills will be required as students have to write essays, compositions, reactions or critiques in reference to literary works and/or current events, especially those from Francophone countries. Students in this class are expected to demonstrate proficiency with regard to speaking skills through dialogue presentations, debates, and oral presentations. This course is an excellent segue to the AP French course because it will help prepare students for the rigor of Advanced Placement study.

Length: One Semester; Credits: 10; Prerequisites: Honors French 4 or Teacher Recommendation

L612	AP	French
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The AP course emphasizes the use of language for active communication. Its objectives include the ability to understand spoken French in various contexts, development of French vocabulary sufficient to read newspapers and magazine articles, literary texts, and other non-technical writings, and the ability to express oneself in French both in speech and in writing. To enhance reading comprehension, students will engage in reading and interpretation of various literary selections such as poems, plays, short stories and novels in their original versions. There will be a complete grammatical review of all verbs tenses and modes. This course is conducted entirely in French.

Length: One Semester; Credits: 10; Prerequisites: Honors French 5 or Teacher Recommendation

■ LATIN

If you are interested in mythology, gladiators, Roman art and architecture, cities buried by volcanic eruptions, politics, Roman emperors and struggles for power, and any other aspect of daily life in Ancient Rome, you should consider the study of Latin. Do you like to be challenged? Are you willing to work hard? Study Latin to build your critical thinking skills and to stretch your memorization muscles. Do you like words? Do you want to improve your English vocabulary? Study Latin to learn the origin of approximately 60% of our English vocabulary. The Latin language and ancient Roman culture have greatly influenced our own modern lives. Take Latin to find out more!

L042	HN	Latin 1
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You will learn to read and write in Latin at a basic level moving at an accelerated pace. You will follow a Roman family through their daily lives in an ancient resort town and journey with them along the ancient Via Appia (Appian Way) to Rome. You will study the fundamentals of Latin grammar, build your Latin vocabulary and your English vocabulary by learning the English words that have come from your Latin vocabulary words, and learn about Roman history, culture and daily life.

Length: One Semester; Credits: 10; Prerequisites: None

L142	HN	Latin 2
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You will continue your journey with the members of a Roman family and learn about the mythological and historical characters that meant much to the Romans and still remain part of our cultural heritage today. You will be introduced to a vast cultural and colorful cast of ancient Mediterranean and European civilizations that included the peoples of many different cultures and social levels ranging from slaves to emperors. You will review and consolidate the grammatical foundation you built in Latin 1. Then you will continue the systematic study of Latin grammar with particular emphasis on verb tenses, the formation of the cases and building your Latin (and English) vocabulary.

Length: One Semester; Credits: 10; Prerequisites: Latin 1 Honors or Teacher Recommendation

L242	HN	Latin 3
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In Latin 3, you will continue the study of all aspects of ancient Roman life from birth to death, engagement and betrothal, and the pursuit of entertainment as seen in the Colosseum. You will consolidate your understanding of Latin grammar and you will be introduced to some of the more complex aspects of Latin grammar (including participles, indirect statement, subjunctives, etc.). You will continue to learn Latin vocabulary and continue to build the skills needed to use your knowledge of Latin to decipher SAT vocabulary and you will start to read authentic (unadapted) Latin texts including such authors as Eutropius, Julius Caesar and Martial.

Length: One Semester; Credits: 10; Prerequisites: Honors Latin 1 and 2 or Teacher Recommendation

L342	HN	Latin 4
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Latin 4 is the exciting synthesis of the previous three semesters of Latin grammar. You read selections from ancient authors such as Martial, Ovid, Catullus and Horace. You review Latin grammar throughout, but the emphasis is no longer on learning grammar, but rather on how to produce the best

English translation of authentic (unadapted) Latin. You study each author's literary style, as well as discuss topics and themes in ancient Roman literature.

Length: One Semester; Credits: 10; Prerequisites: Latin 3 HN or Teacher Recommendation

L442	AP	Vergil
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AP Vergil represents the culmination of the study of high school Latin potentially in preparation for the AP Vergil exam given each May. Even more important than the exam preparation is the sheer exhilaration of reading one of the most awe-inspiring pieces of epic literature ever written in the original language. This is a challenging course concentrating on translating substantial portions of Vergil's *Aeneid*. The Latin works and the English translations, when appropriate, are studied in depth with attention to precise and literal translation, analysis of the works as literature, and proficiency in writing critical essays on the works. Emphasis will also be placed on reading Latin passages at sight.

Length: One Semester; Credits: 10; Prerequisites: HN Latin 4 or Teacher Recommendation

■ SPANISH

Over the last several years, the most popular foreign language studied at C.R.L.S. has been Spanish. During the next academic year, students will use a new language lab of the 21st century to practice all languages skills in a laboratory setting. The curriculum focuses on the four basic skills of language: speaking, listening, reading, and writing. The Spanish Program is offered at six levels: Spanish 1- AP. Two courses have also been developed for Heritage Spanish Speakers.

SPANISH FOR HERITAGE LANGUAGE SPEAKERS

This program addresses the needs of students who have grown up in a home where the dominant language spoken is Spanish. These students may understand the language and speak it at different levels. Students will have the opportunity to work with native or bilingual speakers in order to improve or strengthen all skills: listening, speaking, reading, and writing. They will study grammar rules, correct word order, and sentence structure. Heritage speakers will acquire the necessary requirements to enter upper level and AP Spanish courses.

L621	CP	Spanish Heritage Language Speakers 1
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This course is designed for students who speak and understand Spanish but need more intense grammar practice and more development in reading and writing skills. Students will be exposed to readings from contemporary newspapers and magazines, along with poetry, literary excerpts, podcasts, and film. They will also show their knowledge of Spanish through technology and projects. This course will prepare the students for entry into the Heritage Speakers II course.

Length: One Semester; Credits: 10; Prerequisites: Teacher Recommendation

L622	CP	Spanish Heritage Language Speakers 2
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This course is designed for those who have successfully passed the Spanish Heritage Language Speakers 1 course. It will provide students with many opportunities to use the language and to help students build their confidence in spoken and written Spanish. The students will review,

practice, and study various verb tenses (present, past, imperfect, future, conditional and subjunctive) and will learn vocabulary to help them strengthen their reading and writing skills. Students will be exposed to the great writers of Hispanic literature through short stories and poems and will be required to show their knowledge of Spanish and technology through different projects.

Length: One semester; Credits 10; Prerequisites: Spanish Heritage Language Speakers 1 or Teacher Recommendation

L021	CP	Spanish 1
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This course is the introduction and base for future study of Spanish. Students will begin to build elementary skills in listening, speaking, reading, and writing. All verb forms of the present tense will be studied. Students will learn how to provide and obtain basic information, how to express feelings and emotion, and how to exchange opinions. They will also begin to develop a knowledge and appreciation of other cultures where Spanish is spoken. This class is not intended for native speakers of the language; please refer to classes for Heritage Speakers.

Length: One Semester; Credits: 10; Prerequisites: None

L121	CP	Spanish 2
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Spanish 2 is the continuation of studies in the Spanish language. Students will continue to develop and reinforce their basic Spanish language skills in this second level course. After a brief review of Spanish 1 and the present tense, students will be introduced to all verb forms of the preterit, imperfect, and future tenses. Projects will be completed as a way for students to demonstrate their knowledge of Spanish grammar, vocabulary, and culture. Culture will come alive as students view films and listen to Spanish music and podcasts. Technology is used in a variety of ways to enhance the curriculum. This class is not intended for native speakers of the language; please refer to classes for Heritage Speakers.

Length: One Semester; Credits: 10; Prerequisites: Spanish 1 or Teacher Recommendation

L122	HN	Spanish 2
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This course covers the same grammatical structures and vocabulary found in Spanish 2 classes. Students, however, will read more short stories from elementary readers and show their knowledge of Spanish grammar and vocabulary through mandatory projects, dialogue writing, oral presentations, and additional readings on cultural topics of interest. The class will be taught mostly in Spanish. Grammatical structures include a comparison of imperfect and preterit tenses and the formation and use of the future and conditional tenses. Students will also use technology, cable video segments, and podcasts to enhance their study at this level. This class is not intended for native speakers of the language; please refer to classes for Heritage Spanish Speakers.

Length: One Semester; Credits: 10; Prerequisites: Spanish 1 or Teacher Recommendation

L221	CP	Spanish 3
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At this level students have acquired considerable skill in the basics and are ready to practice at a relatively advanced pace. There will be an in-depth comparison of the imperfect vs. preterite, review of the future and conditional tenses, and the introduction and use of the present and past subjunctive in noun, adjective, and adverbial clauses. There will be an

increased use of cable video segments and technology in the study of Spanish. There will also be an increased focus on the development of the writing skill in Spanish, as well as literacy, with readings from Hispanic newspapers, magazines, readers, and excerpts from the great Spanish authors. This class is not intended for native speakers of the language; please refer to classes for Heritage Spanish Speakers.

Length: One Semester; Credits: 10; Prerequisites: Spanish 2 or Teacher Recommendation

L222	HN	Spanish 3
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This course will continue the work of Spanish 2 Honors with emphasis on more complex grammatical structures. The use of the present and imperfect subjunctive tenses in speaking and writing will be taught. This is a rigorous course. Students must be responsible for balancing long-range projects and regular class work. Readings will come from literary excerpts, as well as magazines and authentic sources. Students will watch Spanish movies and will be required to discuss them in class, to write thematic essays, and to answer open-ended questions. This class is not intended for native speakers of the language; please refer to classes for Heritage Spanish Speakers.

Length: One Semester; Credits: 10; Prerequisites: Spanish 2, Spanish 2 Honors, or Teacher Recommendation

L421	CP	Spanish 4
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The Spanish 4 CP course is the last CP offered in the Spanish roster of courses. There will be an intensive review/study of all forms of the preterit, imperfect, future, conditional, and subjunctive tenses, including irregular and stem-changing verbs. Students will also expand their vocabulary knowledge to be able to speak and write with more facility. They will also be exposed to cultural and literary readings in Spanish and will be expected to complete projects that will demonstrate their knowledge of the vocabulary and complex grammar structures which they are studying.

Length: One Semester; Credits: 10; Prerequisites: Spanish 3 CP or Spanish Heritage Language Speakers 2

L422	HN	Spanish 4
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Spanish 4 Honors is designed for students who want to become functional and more proficient in the language. They will refine their skills in all areas of listening, speaking, reading, and writing. Students will engage in class discussions, learn about the process of writing in anticipation of the AP class, read selections from literature and the printed media, and will review grammar principles that will enable them to articulate their ideas (speaking and writing) in a way that is convincing and clear. Emphasis of this course is on conversation and composition with a focus on the needs of students who want to expand not only their skills in Spanish, but in writing and speaking across all disciplines. Spanish is the operational language for this course, but English may be used to explain complex, grammatical structures and to ensure clarity in course expectations.

Length: One Semester; Credits: 10; Prerequisites: Honors Spanish 3 or Teacher Recommendation

L422	HN	Spanish 5: Conflictos y Comunidades del Mundo Latinoamericano (Authentic Inquiry Project)
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This intensive course will continue to develop and improve students' grammar, reading, writing, speaking and listening skills, and will prepare students to take the Advanced Placement Spanish course. These skills

are taught within a thematic, interdisciplinary course, including literary readings, drama, art, movies, music, and culture, which are used as elements for an in-depth study of the conflicts in Latin American countries. It provides students with many opportunities to use and apply the language, building competence and confidence in spoken and written Spanish. It is strongly recommended that students complete this course before taking AP Spanish. This course permits students to develop and use 21st century technology skills, including digital citizenship, Moodle, and Web 2.0 tools. The course culminates with an Authentic Inquiry Project. This course is taught entirely in Spanish.

Length: One Semester; Credits: 10; Prerequisites: Spanish 4 or Teacher Recommendation

L521	AP	Spanish
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The AP Spanish Language course prepares students to take the AP Spanish Language test in May. It is equivalent to an intermediate university level Spanish language course and is intended for students who have a strong desire to immerse themselves in Spanish language and culture. Students will review grammar as needed and will read, speak, and write about what they encounter in both the written and spoken genres. Students will read excerpts from major literary figures and learn to recognize the cultural and linguistic nuances of the diverse Spanish-speaking world. It is expected that after completion of the course, the students will sit for the AP examination in May. **Course conducted entirely in Spanish.**

Length: One Semester; Credits: 10; Prerequisites: Honors Spanish 5, or Teacher Recommendation

Enhanced Senior Year Initiative

The Enhanced Senior Year Pilot Program is a new initiative that will offer the possibility of "Graduation With Distinction in Graduation Project" notation on a student's CRLS transcript and diploma.

By engaging in Enhanced Senior Year opportunities, students will

- » apply the content-area knowledge gained through the CRLS academic program as well as through their participation in extra-curricular activities;
- » strengthen the important skills necessary for success after high school, including project management, communication, collaboration, digital media literacy, and civic literacy
- » become more prepared to participate fully and responsibly as young adults in their communities.

EYS Projects are meant to highlight academic gains, but equally important is the demonstration of a "learning stretch" that takes place as a result of the project. While students will be drawing from their unique skills, talents, and interests, projects must challenge and push each student to learn new skills.

■ ENHANCED SENIOR YEAR PATHWAYS

The following Enhanced Senior Year (ESY) pathways are a part of a developing initiative designed to support students to make the most of their final year at CRLS, allowing students to work creatively and independently, and further preparing them for the challenges and successes that await them after graduation. For guidelines and applications, please contact Ms. FitzGerald: kfitzgerald@cpsd.us.

Academic Internship Seminars (IN)

Included in academic department offerings, these courses combine upper level content learning and an off-site research internship placement with scholars and researchers. The goal of these courses is to provide students with an opportunity to participate in current science and engineering research being conducted by local universities and research institutions. Students will be placed in an academic research group, teamed with one or more mentors, assigned a research project, conduct research and produce a final paper and poster. Students will also attend regular CRLS Research Seminars conducted by their CRLS teacher where they will share their findings and learn research methods and tools. Academic Internships are available in the following courses:

S410	IN	CRLS Marine Science Internship (Science)
S415	IN	Science and Engineer Research Internship (Science)

GoodWork® Senior Internship and Seminar

Y000, Y000B IN The CRLS Senior Internship offers meaningful work and learning experiences aligned with students' academic interests and achievements; and provides opportunities for 21st century career exploration. The program comprises two components: an off-site internship placement and a classroom seminar. Internship placements vary according to each student's interests and abilities. Past sites have included locally owned businesses, university research centers, and non-profit organizations. These are *unpaid* internships that happen during the school day, for school credit. All interns participate in the GoodWork® Seminar.

Y001 HN GoodWork® Seminar

The purpose of the seminar is to provide students with opportunities to reflect on, share, document, and learn from the internship experience. Through readings, discussions, and research, including case studies from the GoodWork® Tool Kit (developed by Project Zero at the Harvard School of Education), the seminar group will explore what it means to do good work that is "ethical, excellent, and engaging". Students create and present an extensive portfolio of their work that highlights their experiences and accomplishments. Participants also engage in a number of "work readiness" workshops.

Interested students must be independent, reliable, and have demonstrated the commitment to portray to the community a positive image of the CRLS student. Applications are available from Ms. FitzGerald (kfitzgerald@cpsd.us) and from the Guidance Department.

Y002 HN Teaching Assistantship

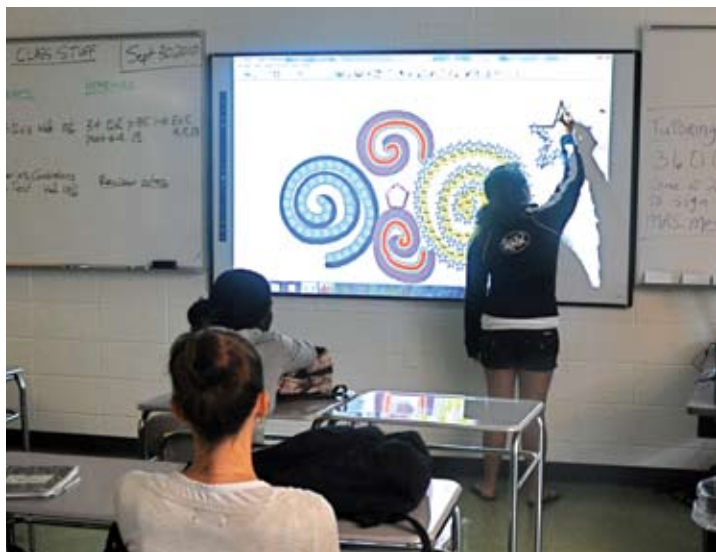
The CRLS Teaching Assistant Project deepens the work of students acting as Teaching Assistants in CRLS classrooms. Qualified Student TAs strengthen their content skills and begin to explore the teaching profession by assisting the supervising teacher with classroom duties, observing the teaching process, and participating in the development of a lesson plan. Student TAs are supported to develop their portfolio. A passion for teaching and/or the subject is required.

Y003 Honors Senior Thesis (Pilot)

A senior thesis is an extensive, independent research project that demonstrates advanced research, writing, and subject mastery skills. Students work closely with a faculty advisor and choose a question or topic to explore in depth, following discipline-specific research methods. As a culminating work, a Senior Thesis exhibits rigorous and interdisciplinary thinking, knowledge, and understanding. The final Senior Thesis product includes an oral presentation and a college level paper.

Y005 Honors Independent Graduation Project (Pilot)

The HN Independent Graduation Project Program allows motivated, responsible and self-directed learners to pursue a community-based research project that reflects a personal passion. Interested students must submit a formal proposal detailing the inquiry and idea they will explore, as well as what they plan to make or do as a result of or in conjunction with their research. Students must identify and work with a Community Partner, develop a portfolio of their work, and make a formal presentation. An Independent Graduation Project demonstrates a student's proficiency in Academic, Social and Civic Learning Expectations.



Photos by: Larry Aaronson and
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♻️ Printed on recycled paper using soy ink

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