

The **CRLS** Experience 2016-2017

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 and services for all students. The Cambridge Public Schools does not discriminate on the basis of race, color, national origin, religion, sex, gender, pregnancy, gender identity, genetic information, sexual orientation, disability, age, veteran or marital status in its programs and activities and provides equal access to the Boy Scouts and other designated youth groups. The Affirmative Action Officer of the Cambridge Public Schools has been designated to handle inquiries regarding non-discrimination. The Affirmative Action Office is located at 159 Thorndike Street, Cambridge, MA 02141 and the number is 617-349-6547.

Introduction



■ FROM PRINCIPAL DAMON SMITH

The CRLS Experience 2016-17 highlights the diverse opportunities for students to learn about themselves and the world around them. Courses listed within this catalog will help you develop the skills and understandings vital to your post secondary plans.

Please review the catalog carefully to be sure that you are taking full advantage of all that CRLS has to offer. As you begin to devise your course of study, I encourage you to challenge yourself to reach new academic heights and stretch yourself beyond the familiar. Should you need additional information regarding a course or a particular sequence of study, please consult your guidance counselor or a Dean of Curriculum.

Sincerely,
Damon Smith

■ 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.

■ SCHOOL COMMITTEE MEMBERS

Mayor and Chair of the School Committee: E. Denise Simmons
Manikka L. Bowman • Emily R. Dexter • Alfred B. Fantini, Vice-Chair • Richard Harding, Jr. • Kathleen M. Kelly • Patricia M. Nolan

■ QUICK FACTS

Number of Students	1,827
Number of Staff	170
Student - Teacher ratio	10:1

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 approximately 450 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 50 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 electives and one-semester courses in Business Education, Computers, and in some of the CTE technical programs.

- » 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

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 fund raising 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 CAMBRIDGE RINDGE AND LATIN SCHOOL (FOCRLS):

Friends of Cambridge Rindge and Latin School (FoCRLS) is a 501c3 non-profit association whose mission is to develop and enrich the academic and social development programs at CRLS, and to support the alumni of CRLS and its predecessor schools. FoCRLS programs include: Scholarships, Faculty Innovation Grants, Student Travel Fellowships, the Unsung Heroes Program, the “It Takes a Village” College Success Program, and Faculty Distinction Awards. FoCRLS promotes achievement, opportunity, and a robust community investment in the talent and success of CRLS students. We invite parents and community members to support our students and faculty through volunteerism and/or donations. Visit us at our website focrls.org by calling (857) 235-9290, or at the FoCRLS Office at CRLS, Room 2136.

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 student produced media, event and sports coverage, and school news and information. Schedule and streaming can be found at www.cpsd.us/departments/media_arts/channel_98_99 or click on the CEATV logo on the CPS home page. Also, visit mediacast.cpsd.us/mediaportal for current student produced programs for viewing on demand. For translation services, the CRLS International Center and the district's Family Resource Center provide resources.

Contact Information <http://crls.cpsd.us>

CRLS Main Office 617-349-6630

Damon Smith, 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, Greta Hardina	349-6660
Director of Security, John Silva	349-6772
Adolescent Parenting Program/First Steps Day Care	349-6714/6713
Career and College Resource Center	349-6697
Conflict Mediation Program	617-217-8106
International Center	349-6667
Library	349-6781
Project 10 East/Student Diversity Programs	349-6486
Scholarships & Awards	349-6709
Enhanced Senior Year Coordinator, Kathleen FitzGerald	349-4946
Teen Health Center	349-6719
War Memorial Pool	617-498-1250

Learning Community "C" 349-6674

Dean of English Curriculum & Program, Jennifer Hamilton	349-6676
Clerk, Debbie Gentile	349-6674
Dean of Students, Susie Espinosa	349-6681
Guidance Counselor, Stephanie Richards	349-6642
Guidance Counselor, Dr. George Finn	349-6671

Learning Community "R" 349-6661

Dean of History/Social Science Curriculum & Program, Tanya Milner	349-6662
Clerk, Berhan Duncan	349-6661
Dean of Students, Maria DiClemente	349-6738
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
Clerk, Miriam DaSilva	349-6638
Dean of Students, Susie Van Blaricum	349-6664
Guidance Counselor, Edward Walker	349-6666
Guidance Counselor, Janani Nathan	349-6641

Learning Community "S" 349-6652

Dean of Mathematics Curriculum & Program, Jeff Gaglione	349-6650
Clerk, Yvette Jackson	349-6652
Dean of Students, Jamalh Prince	349-6723
Guidance Counselor, Dan Weathersby	349-6758
Guidance Counselor, Jodi Mace	349-6655

DEPARTMENT COORDINATORS AND LEAD TEACHERS

Arts, Visual and Performing:	349-6788
George Simpson, K-12 Coordinator	349-6788
Susan Holm, Teacher-In-Charge	349-6788
Athletics: Tom Arria	349-6690
AVID: Leslie Davis	349-6797
Bilingual and English Language Acquisition Programs:	
Dr. Michelle Madera, Coordinator	349-6473
Vera Duarte, Teacher-In-Charge	857-235-9506
Career and Technical Education, RSTA:	
Clare Garman, Career Counselor	349-6765
Jaci Rubin, Cooperative Education	349-6884
English Language Arts: Janice Tingle	349-7762
Guidance: Lynn Williams, Coordinator	349-6698
Health Education: Kim DeAndrade	349-6851
Mathematics: Lisa Scolaro-Santy	349-3012
MCAS: Gail Stein	349-6796
Media Arts: Ginny Berkowitz	349-6744
Office of Student Services: Rebecca Altepeter	349-6416
Science, Technology, Engineering, and Math: Lisa Scolaro-Santy	349-3012
History/Social Science: Adrienne Stang	349-6731
Tutoring Center: Rene Meshon	349-4873
Wellness: Jamie Dilulio	349-6690
World Languages: Dr. James Kelleher	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 50 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 | » Falcon Friends (Formerly Best Buddies) | » Math Club | » Science Team |
| » AP Club | » FIRST Robotics Club | » Minority Student Achievement Network | » Senior Class |
| » Asian Club | » French Club | » Mock Trial Team | » Sisters on the Runway |
| » Boys Acapella | » Freshman Advisors Club | » Model United Nations Club | » SkillsUSA |
| » Biotechnology Club | » Girls Acapella | » National Honor Society | » Sophomore Class Advisor |
| » Ceramics Club | » Global Awareness Club | » National Ocean Science Bowl Team | » Spanish Club |
| » Chess, Go, Board, and Gaming Club | » Habitat for Humanity Club | » Peer Mentors | » Speech and Debate Club |
| » Club 4 | » Haitian Club | » Planet Leaders Alliance | » Spoke Word Club |
| » Club Med | » Henna Club | » Political Media Club | » Step Team |
| » Creative Writing Club | » History Club | » Project 10 East (Gay-Straight Alliance) | » Student Council |
| » Culture Shock | » Jubilee Project: CRLS Youth Movement Chapter | » Quidditch Club | » Student Government |
| » Dungeons and Dragons | » Junior Class Advisor | » Register Forum (school paper) | » Underwater Robotics |
| » Eclipse | » Latin Club | » Rugby Club | » Yearbook Advisor |
| » Education Club | » Marine Science & Awareness Club | | |
| » Environmental Action Club | » Media Arts Club: Animation, Audio, Media Journalism | | |
| » Ethiopian Club | | | |



Athletics

As a member of the Dual County League (DCL), 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 35 competitive athletic teams or club sport activities.

■ ATHLETIC FACILITIES:

WAR MEMORIAL BUILDING

- » Main Gym: Girls/Boys Basketball Girls/Boys Volleyball
- » Swimming Pool: Girls/Boys Swimming
- » Weight Room
- » Field House: Girls/Boys Indoor Track, Girls/Boys Basketball, Wrestling, Cheerleading
- » Multi-Purpose Room
- » Tennis Courts: Boys Tennis Team

DANEHY PARK

- » Soccer Fields: Girls/Boys Soccer
- » Softball Fields: JV/Freshman Softball
- » Lacrosse Fields: Girls Lacrosse
- » Track: Girls/Boys Outdoor Track

ST. PETER'S FIELDS

- » Baseball Fields: Varsity/Freshman Baseball
- » Softball Fields: Varsity Softball

RINDGE FIELD

- » Baseball Field: JV Baseball
- » Tennis Courts: Girls Tennis

RUSSELL FIELD HOUSE

- » Football Field: Varsity JV/Freshman Football
- » Lacrosse Field: Girls/Boys Lacrosse
- » Soccer Field
- » Rugby: Rugby Team

SIMONI ICE RINK

- » Ice Hockey Rink: Girls/Boys Ice Hockey

THOMAS P. O'NEILL, JR. MUNICIPAL GOLF COURSE AT FRESH POND: Golf Team

CAMBRIDGE BOAT HOUSE: Girls/Boys Crew

COMMUNITY BOATING INCORPORATED: Girls/Boys Sailing

FRESH POND: Girls/Boys Cross Country

MIT-GYMNASTICS: Girls/Boys Gymnastics





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, a chorus and a drumline. 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, the Art of Fashion, Jewelry Making, Ceramics, Digital 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, BEFORE/AFTER-SCHOOL

DANCE

The CRLS Modern Dance Company is a place for students to learn and perform dance works created by advanced students, faculty, alums, and professional guest artists. The company may be entered as a club or a class and meets 1-5 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, and a cappella singing groups. Participation is by audition.



Media Arts

The CPS Media Arts program offers a wide array of classes and clubs, a work-study program, and special projects that expand our curricular focus. Housed in the Media Arts Studio on the CRLS campus, CEATV, Media Journalism and RSTA Media Technology programs together provide in school and after school media arts education for the district.

Students have the opportunity to work with professional media makers and engage in school, community, and university collaborations. 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.

Completed work is shown on our two Cambridge cable channels, Smart TV98 and CPS TV99, streamed on our web site, and archived on the CPS MediaCAST portal.

MEDIA ARTS STUDIO – COURSE LISTINGS

Media Arts courses include Digital Film and TV; Experimental Media; Media Journalism, Multimedia Sports Reporting; Visualizing and Communicating Science and are listed on page 38. Media Technology classes are also offered through the Rindge School for Technical Arts on page 48.

MEDIA ARTS STUDIO – AFTER SCHOOL

■ CLUBS

ANIMATION

Create your own animations and video art. Experiment with computer animation software, and create projects using hand drawing and stop-motion animation.

AUDIO

Learn to record your own music, podcasts, and tracks. Use ProTools,

GarageBand, Noteflight and other studio software/hardware to bring your audio ideas to life.

MEDIA JOURNALISM

Help produce two TV series:

» **Falcon Sports World (FSW)**

Exercise your on-camera talents in the fun, fast paced environment of FSW. 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! Go Falcons!

» **Youth View Cambridge**

(YVC) is produced bimonthly and combines current events with local and school news in an engaging, dynamic format that includes guest interviews, field reports and news analysis. Students can produce a single segment, work on an episode, or help shape the season.

■ PRODUCTION ASSISTANT PROGRAM

Work at the Media Arts Studio after school up to 10 hours a week and get paid through the RSTA First Work program. Camera, studio, and editing training are provided. Responsibilities include recording and editing school news, sports and events, station promos, and special creative projects.

■ STUDENT MEDIA RESOURCE CENTER

CPS students may drop in to the Media Arts Studio after school for one-on-one support or resources to complete media-related projects for their classes.

■ INTERNSHIPS AND INDIVIDUAL PROJECTS

Students create their own narrative or documentary style production as they learn camera skills, editing and use of other multi-media software. Students may arrange to receive credit through the CRLS Internship and Service-Learning Office.



Student Services

■ ADOLESCENT PARENTING PROGRAM (APP)

The Adolescent Parenting program is designed to meet the needs of teenage mothers and fathers. An on site day care center is available to all eligible students. Counseling is offered to pregnant students. The program also offers childcare internship opportunities which include parenting education.

■ 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. Courses offered in the program include coursework in math science, 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.

■ 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 GLBT 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.

■ OFFICE OF STUDENT SERVICES

The Office of Student Services provides support services to students with disabilities. 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.

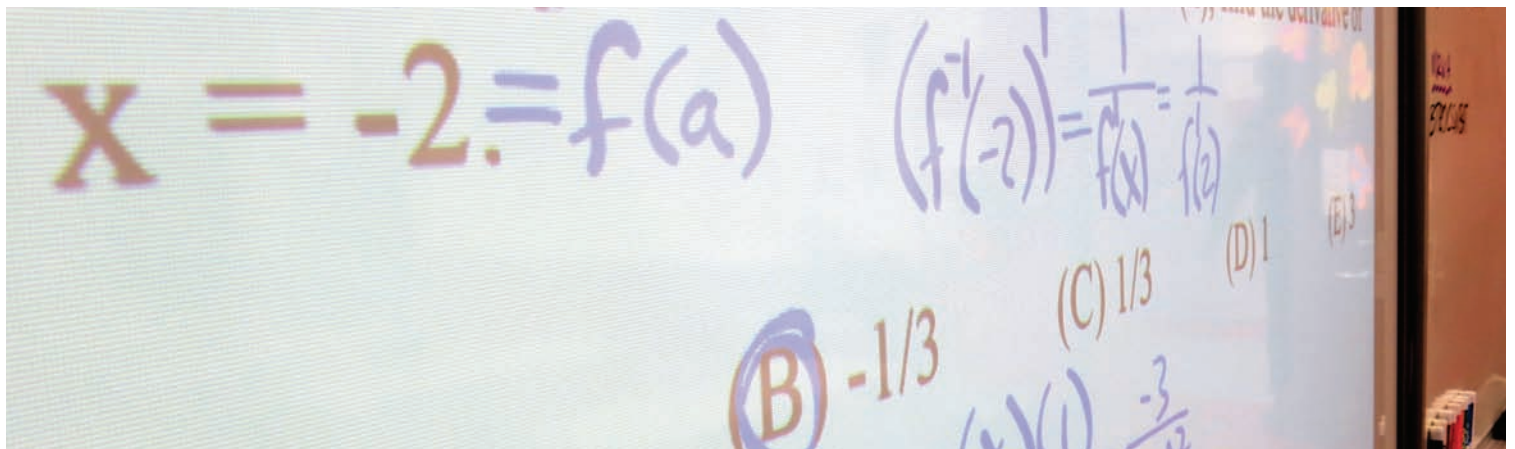
Students qualify for services by having an educational disability as identified under state statutes and are not making effective progress in the general curriculum.

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 student's needs. There are also a variety of substantially separate 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. Chapter 688 is a law developed to provide a two-year planning process for young adults with 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 a 504 Plan (Article 504 of the American with Disabilities Act) even if they are not eligible for special education services. A 504 Plan delineates the accommodations that must be provided. The parent and the evaluating team determine whether a 504 Plan is appropriate for the student in order for a student to access his/her education.



Student Services

■ TEEN HEALTH CENTER

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 & FIRST WORK

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. Before - and after - school employment opportunities are available through a program at the Rindge School of Technical Arts called First Work. The First Work program is coordinated by the RSTA Cooperative Education instructor.

■ YOUTH EMPLOYMENT

Employment Permits are required for youth ages 14 to 17 who are offered employment. Employment Permits are available in the RSTA Office first floor CRLS.

■ 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 price 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 Counseling Department is to foster academic achievement, civic engagement, social development, individual responsibility and sound decision making. Working with students, families, school and community resources, the CRLS School Counseling Team helps all students access educational and career opportunities. The CRLS School Counseling Program delivers a standards based curriculum for grades 8-12 which embeds the Massachusetts Model Comprehensive School Counseling Program, Career Development Education and Massachusetts Common Core standards. Lessons are delivered through individual meetings, group activities, community meetings, as well as collaborating with ESL, OSS and classroom teachers. In addition, the CRLS School Counseling Program reviews school, district, state and national data to inform and guide our practice. Ongoing services provided by the guidance counselors include:

- » 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 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 over 18,000 print books, audiobooks, and ebooks for students to use in course assignments as well as to read for personal interest and pleasure. There are also thirty-seven desktop computers, thirty Chromebooks, and a printer/scanner for student use. Additionally students have access to the library's collection of research databases, test preparation resources, Google Apps for Education, and other district approved online applications. The library is open Monday-Thursday from 7:30-5:00 and Fridays from 7:30-3:00 to allow students to have access to technology, check books in and out, finish homework, or just relax and read. Tuesdays-Thursdays the Homework Help Center meets after school in the library where CRLS teachers provide students with tutorial help for their schoolwork. Library faculty: Emily Houston & Mairead Kelly, (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 Career and College Resource Center provides students with current resources for college applications, SAT, ACT, TOEFL and other forms of college testing. Career development and exploration are also available. Assistance with completing college financial aid forms and scholarship searches is provided by AuAspire, located in the CCRC. uAspire is available on Thursdays and Fridays appointments may be made by going to uAspireCambridge. YouCanBook.Me. Our Career and College Resource Center has complete information about all types of colleges, junior colleges, nursing schools, and vocational institutions. Throughout the year representatives from many colleges, vocational schools, military branches, other post secondary opportunities as well as semester away programs for sophomores and juniors, visit the CCRC during the school day. These visits are posted on our website, announced on the PA system, and in the Did You know newsletter. Students may register to attend one of these visits by clicking on college visits in Naviance.

■ MCAS SUPPORT AND THE MCAS CENTER

Tutoring is available for students who have not passed the MCAS. Please see the MCAS Coordinator in room 2125 for details. 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 at (617) 349-6796.

■ DROP-IN MATH

The Cambridge School Volunteers (CSV) sponsor assistance with math every morning, Monday-Friday from 7:30 am – 8:00 am for students looking for math help from a tutor. Tutoring is available in all subjects from Algebra 1 through AP Calculus. The CSV office is located in room 2132.

CRLS Graduation Requirements

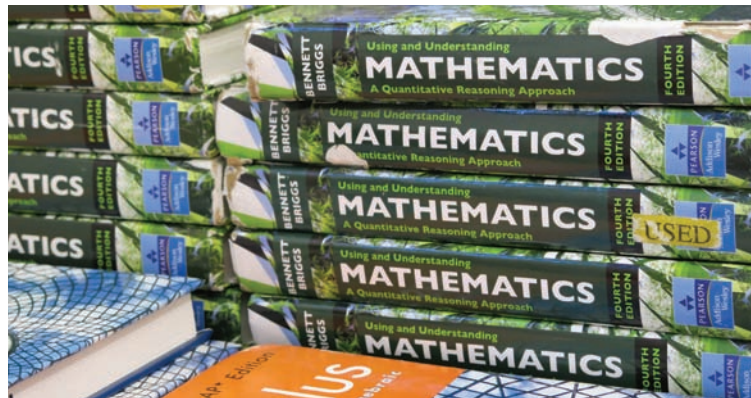


■ SAMPLE COLLEGE ADMISSION REQUIREMENTS

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
Math	40 Credits including mathematics in the final year of high school	4 years, including Algebra 1, Algebra 2 and Geometry	4 courses (Algebra 1 & Algebra II and Geometry or Trigonometry, or comparable coursework) including mathematics during the final year of high school	4 years, including Trigonometry and Pre-Calculus
Wellness	A minimum of 5 credits each school year. Must take and pass each year; must pass swim test			
Social Science	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, at the Honors/AP level when possible
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 (RSTA)	20 Credits	2 years of Fine, Performing, Visual or Technical Arts (RSTA)	2 years of Fine, Performing Visual or Technical Arts (RSTA)	2 years of Fine, Performing Visual or Technical Arts (RSTA)
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	



Course Designations

	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
CP	College Preparatory
HE	Health
HN	Honors Level (Intensive pacing for independent learners)
IN	Internship
PE	Physical Education
PF	Portfolio Art
SE	Sheltered English / Bilingual
TC	Technical / Rindge School of Technical Arts
UM	University of Massachusetts

NCAA: Students seeking to play NCAA Division 1 or Division 2 college athletics must ensure their CRLS core courses are NCAA approved. Additional eligibility criteria may be found at www.ncaaclearinghouse.net.

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.

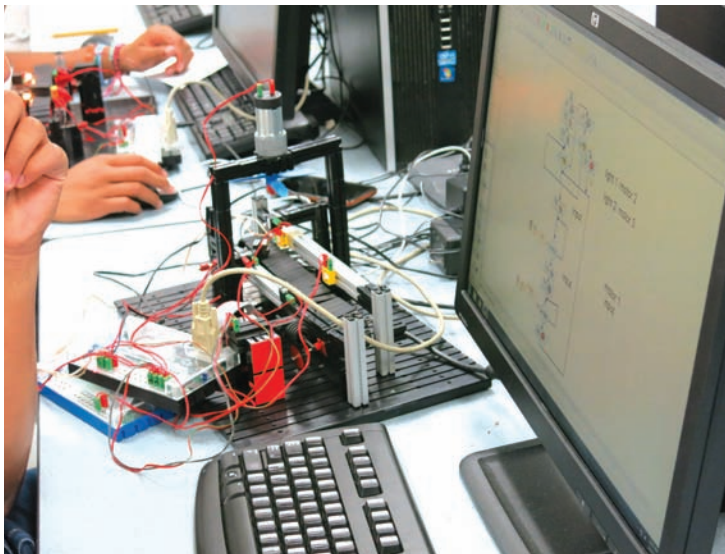
Course Description: Each course provides a description in order to guide you in the course selection process and in choosing the appropriate class based on your needs and interests.

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 Levels: Students must be in one of the grades listed to take the course.

Pre/Co-Requisites: 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).



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.
3. Fulfills community service requirements associated with involvement in clubs and other extra curricular activities.

■ CORE CLASSES

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

■ 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. Current offerings include The CRLS Honors Senior Internship Program, the Honors Teaching Assistant Program, the Honors Graduation Project, and the Honors Thesis Project. See page 63 for details.

■ 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; 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. Most classes are one semester in length. Students have one 30 minute lunch period. The lunch period is determined by where the student 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.

■ 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; there are two marking periods in each semester. During the semester, students will earn grades each marking period. 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 everyday for one year earn 20 credits. Additional credit and distribution information is listed with each course description.

■ COURSE REQUESTS

CRLS would like to offer every course listed in the catalog. However, courses may be cancelled due to low enrollment or staffing constraints.

■ COURSE CHANGE POLICY

The Add/Drop period is an opportunity for students to meet and discuss

their schedule with their counselors. Add/Drop occurs during the first ten 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. Once the Add/Drop period 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 or English Language Learner Team decision

Course Listings

ACADEMIC SUPPORT / PEER LEADERSHIP

■ ACADEMIC SUPPORT

GACS	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

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 affect-

ing their lives. Topics include cultural diversity, global awareness, healthy relationships, personal identity, school and community culture and climate, stereotyping, substance use, teen violence and teen wellness. Students will receive leadership and issues training opportunities so that they can work as peer educators in the high school and the elementary and upper schools. As a part of this class, students will learn the skills to create and implement a unique project that shows their understanding of the course content and highlights their interests and ideas. In addition to their work in classrooms, the STARs conduct awareness campaigns and host, organize, and design school wide assemblies and conferences. As members of the STARs program, students are expected to uphold the school motto and reinforce attitudes and behaviors that promote awareness, equity and student engagement. This course may be taken for Wellness credit. **Grades: 11,12; Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and 2 and prior approval of the STARs Teacher**

GTUT	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	IN	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 and other college testing registration, researching colleges and assisting students with Naviance. Peer Leaders orient new students to Cambridge Rindge and Latin by giving tours of the school and helping students understand their course schedule. Students receive a pass/fail grade for this class. **Grade: 12; Length: One semester; Credits: 10; Prerequisite: Permission from the Coordinator of Guidance**

AVID

■ WHAT IS AVID?

AVID (Advancement Via Individual Determination) is a college readiness elective class for highly motivated students who plan to attend a four-year college. Students are required to take a rigorous course load (some honors and AP), with the understanding that they will be supported in the AVID Elective class. Students will be supported by focusing on various strategies which will help them to be successful such as:

- » organization
- » time management
- » study skills
- » reading and writing
- » public speaking
- » note taking

■ INFORMATION ABOUT AVID ELECTIVE CLASS

Students must complete a weekly assignment which requires them to demonstrate a deeper understanding of the content from their other classes. College students visit the AVID classes each week to support their learning

and to serve as role models. Starting freshmen year, AVID students begin to learn what is required to be accepted into a four-year college and about the college experience. Each year, students visit at least one college campus in order to begin to consider the characteristics that will be important to them when they apply to college.

■ WHAT IS REQUIRED OF AN AVID STUDENT?

AVID students are required to maintain an organized binder, to utilize a planner, and to take Cornell notes in their classes. In addition, they are expected to maintain good grades and appropriate behavior. As freshmen, AVID students are required to take at least two honors classes. Each progressive year of high school, enrollment for honors and AP courses is expected to increase.

■ HOW TO APPLY FOR THE AVID PROGRAM?

AVID applications are available at all Upper Campus Schools. For more information about the application process for incoming 9th graders, please contact Leslie Davis at (617) 349-6797.

GAVID1 AVID Year 1

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

GAVID2 AVID Year 2

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

GAVID3 AVID Year 3

Grade: 11; Length: One year—alternating day; Credits: 10; Prerequisite: AVID Year 2

GAVID4 AVID Year 4

Grade: 12; 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

George Simpson, K-12 Coordinator
Susan Holm, Teacher in Charge

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

CP MODERN DANCE COMPANY

D090 CP Dance 1

This is an introductory modern dance technique course intended for students who have little or no formal dance training. We survey concert dance forms such as modern, jazz, and ballet, as well as dances from around the world. In addition to teaching basic dance skills and etiquette, this course will help students develop self-awareness, flexibility, strength, balance, and coordination. Class activities include viewing dance on film, writing assignments, and discussions on dance. Dance 1 is a serious study of dance requiring a consistent high level of participation, physical effort, and focus. This course may be taken for Wellness 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; Credits: 5, Dance 1 is a serious study of dance and requires a consistent high level of participation, physical effort, and focus.**

D945 CP Dance 2

Dance 2 is a challenging dance technique course intended for students who have successfully completed Dance 1 or have equivalent dance training who want to further develop their movement skills. Students improve their movement skills through units in concert dance technique, dances from around the world, dance history, and choreography. Class activities include self-reflection, group discussions on dance, and viewing and responding to dance on film, studying dance history and anatomy. This course may be taken for Wellness credit. **Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Dance 1 D090 or audition**

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 sociocultural 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 their respective cultures. We will also compare popular Latin dance styles to better understand, experience and celebrate the dance vocabulary and customs of Latin America. This course may be taken for Wellness credit and alternates every other day with health for those students who need to fulfill the health requirement. **Grades: 9, 10, 11, 12; Length: One Semester, alternate days; Credits: 5**

D868 HN Dance Technique & Choreography

HN Dance Technique and Choreography is intended for students who have successfully completed Dance 2. This class requires a thorough knowledge of dance vocabulary, technical proficiency, and the self-discipline to work independently. Emphasis is on dance composition, dance technique, quality of work (both written and practical), and artistic growth. This

course will culminate in a fully produced public concert each semester. Students may repeat this course as they continue to develop their composition, technique, and performance skills. Course D868 may be taken for Wellness credit. **Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Dance 1 D090 and Dance 2 D945**

D870	CP	Modern Dance Company
Modern Dance Company is an after-school course designed for students who exhibit extraordinary commitment to dance at CRLS. Acceptance into the course as a dancer is based on an audition held during the third week of each semester. Seniors interested in choreographing are required to submit a written application due two weeks after the semester begins. The focus of this course is on dance making, refining technique, and enhancing performance skills through rehearsals with student and guest choreographers, weekly dance classes and written reflection. The course culminates in a performance, "Dance/works," which takes place in January or May. All students are required to perform and attend technical rehearsals during performance week (typically 3:00-8:00 M-Th and 5:00-10:00 Fri-Sat). This course may be taken for Wellness credit. No prerequisite, enrollment based on audition. Grades: 9, 10, 11, 12; Length: One Semester; Credits: 5 or 10		

■ DRAMA

COURSE LIST

CP DRAMA 1

HN DRAMA 2

HN ACTING & DIRECTING

HN ADVANCED ACTING

HN PLAYWRITING

CP MUSICAL THEATRE PERFORMANCE

CP FILM STUDIES

MAINSTAGE DRAMA PRODUCTIONS

D095	CP	Drama 1
This class 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		

D955	HN	Drama 2
This course in acting and play study 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: Drama 1		

D864	HN	Acting & Directing
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This course offers an intensive approach to the study of theatre arts with an emphasis on exploring directing techniques and theory as well as advanced acting to prepare students for Senior directing projects. 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: Drama 1 and Drama 2**

D865	HN	Advanced Acting
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: Drama 1 and Drama 2		

D869	HN	Playwriting
In this workshop-based course, students will learn various techniques and tools a playwright uses to write an original play, including source of material, theme, structure, setting, character, language and revision. Students will engage in a variety of writing exercises to develop their skills in playwriting, while also reading and discussing the work of playwrights from classical to contemporary. Students will also 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. Juniors and Seniors may take this course as an English elective. Grades 10, 11 & 12; Length: One Semester; 10 Credits.		

D965	CP	Musical Theatre Performance
This class will explore some of the basic elements of performing musical theatre. Topics will include acting in the musical theatre style, acting a song, song structure, genre, placement, lyrics construction, and vocal techniques as employed in various styles of music theatre. The students will explore scenes from the musical theatre canon, in which the DIALOGUE of a musical is integrated with THE MUSIC focusing on the skills needed to perform in THE MUSICAL THEATRE STYLE. Duets, trios, and group scenes will be assigned. Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: at least one course in music or theatre or participation in one mainstage production or permission of the department.		

D863	CP	Film Studies
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 aspect 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. Grades 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 6-15 weeks depending on the 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 JAZZ WORKSHOP

HN CONCERT BAND

HN STRING ORCHESTRA

HN BIG BAND JAZZ ENSEMBLE

HN WORLD JAZZ ENSEMBLE

CP FOUNDATIONS OF DRUMMING

HN DRUM LINE/PERCUSSION ENSEMBLE

CP BEGINNING PIANO

HN PIANO STUDIES

CP CHORUS

HN VOCAL ENSEMBLE

A CAPPELLA CHOIR

CP INTRODUCTION TO A CAPPELLA

CP MUSICAL THEATRE PERFORMANCE

CP MUSIC PRODUCTION

I025	HN	Jazz Workshop
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Jazz Workshop is designed to teach the students the art of improvisation through listening and performance of quality jazz literature. Students will explore the early roots of jazz beginning with blues and progressing through bebop, cool jazz, fusion and contemporary styles. The philosophy used in learning the language of jazz will be based on the following model: imitate, assimilate and innovate. Any instrumentalist and vocalist with two or more years experience on their instrument can enroll in the course. The class is geared towards beginning/intermediate jazz students. Students may repeat the course. **Grades: 10, 11, 12; Length: Semester; Credits: 10; Prerequisite: Two or more years experience as an instrumentalist or vocalist**

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, and ear training. 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 take this course for continuous 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; Prerequisite: 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 are proficient on their instrument. Students will study and perform a wide range of music literature. 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	Big Band 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, 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; Grades: 9, 10, 11, 12; Length: Year; Credits: 4 per semester; Prerequisite: By audition with Mr. Powers**

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 original materials 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 advanced ensemble is for students who have played their instruments for at least two years. **Meets once per week after school; Grades: 9, 10, 11, 12; Length: Year; Credits: 4 per semester; Prerequisite: By audition with Mr. Nojehowitz**

I085	CP	Foundations of Drumming
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This course focuses on the development of snare drum grip and sticking techniques. It features basic rhythms from the US, Brazil, Cuba and Argentina. It includes rhythmic ear training and snare drum reading. This class is designed for all levels: beginners, intermediate or advanced. It can be taken several times, as the material is tailored each semester to the student's needs. 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 will learn how to read music charts in a variety of situations, to orchestrate around the set, and to create a groove. Students will learn the structure of a song and how to move the beat. This course is open to any instrumentalists, not just drummers, as well as dancers and actors who would like to expand their musical vocabulary and learn more about creative improvisation and rhythmic patterns. **Grades: 9, 10, 11, 12; Length: One semester; Credits: 10**

I040	HN	Drum Line/Percussion Ensemble
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In this course, students learn how to play as an ensemble. The instrumentation includes traditional and non-traditional percussion instruments such as snare drum, bass drum, multi-toms, mallets, cymbals, timpani and world percussion instruments. Students in Drumline/Percussion Ensemble make up the percussion section of the CRLS Concert Band, as well as being members of the Drumline, and Percussion Ensemble. The Concert Band and the Drumline perform at the Memorial Day Parade and Thanksgiving football game. Percussion Ensemble plays a featured piece at the winter and Spring concerts and performs as band members. This course is for drummers, percussionists and all instrumentalists who have been playing for at least one year. Students are encouraged to take this course for continuous semesters and over multiple years to continue development of their composition, technical, and performance skills. This class includes rhythmic ear training, composition, arranging and improvisation. **Grades: 9, 10, 11, 12; Length: One semester; Credits: 10. Prerequisite: By audition with Mr. Nojehowicz.**

I080	CP	Beginning Piano
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Beginning Piano Studies is open for students who have never played piano or who have limited to no experience in note reading. Students will develop their playing technique, music reading and listening skills. Students will also become proficient in performance and listening etiquette. Opportunities will be provided for outside and in-class performances. Students are encouraged to repeat this course in consecutive semesters and over multiple years. **Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10**

I050	HN	Piano Studies
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Honors Piano Studies is for students who have successfully completed Beginning Piano with teacher approval, or who have recently studied piano elsewhere for at least one year. 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. Students will also improve their performance and listening skills. Opportunities will be provided for outside and in-class performances. Students are encouraged to repeat this course in consecutive semesters and over multiple years. **Grades: 9, 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisites: Beginning Piano with teacher approval or one year of piano instruction**

I070	CP	Chorus
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The CRLS Chorale is open to all students in grades 10,11,12 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 CRLS choruses perform 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: 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10**

I945	HN	Vocal Ensemble
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Vocal Ensemble is an advanced choir for students with above-average singing ability. 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: 9, 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisite: By audition with Dr. Stefanov.**

I072	CP	Introduction to A Cappella
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This course is for any student interested in learning how to perform and arrange music in the a cappella style made famous by groups like Pentatonix and the movie Pitch Perfect. The class will emphasize essential elements of participating in an a cappella group such as singing solo, bass or harmony, developing an arrangement, beat boxing, microphone technique, and staging of performances. Students will be expected to perform in a cappella jams, concerts, festivals, school assemblies, and civic functions. This course is offered in alternate semesters with the Music Theater class. **Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10**

A Cappella Choir

This student-led after school/before school course meets all year, for at least two hours per week. A cappella is vocal music performed without instrumental accompaniment. Students are encouraged to take this course over multiple years to continue development of their vocal performance skills. Interested students should review enrollment procedures with the department. New this year: All new students wishing to participate in any A Cappella Choir must participate in at least one other vocal or choral class during the fall or spring semesters.

■ MUSIC ELECTIVES OFFERED IN OTHER DEPARTMENTS

D965	CP	Musical Theatre Performance
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Offered by Drama. See page 18.

MART102	CP (HN Opt)	Music Production
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Offered by Media Arts. See page 38.

■ VISUAL ART

COURSE LIST

CP FOUNDATIONS OF ART

CP MIXED MEDIA

CP STUDIO ART 1

HN STUDIO ART 2

AP STUDIO ART/PORTFOLIO ART

CP PORTRAITS

CP PAINTING

CP DIGITAL STUDIO 1

CP DIGITAL STUDIO 2

CP ANIMATION 1

CP ANIMATION 2

PF DIGITAL PORTFOLIO

CP ART OF FASHION 1

HN ART OF FASHION 2

CP CERAMICS

PF PORTFOLIO CERAMICS

CP PHOTOGRAPHY 1

CP PHOTOGRAPHY 2

HN PHOTOGRAPHY 3

PF PORTFOLIO PHOTOGRAPHY

CP JEWELRY MAKING

A021 CP Foundations of Art

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**

A031 CP Mixed Media

The focus of this course is on developing student knowledge to create pieces of art work “ off the paper, “while also studying design concepts of fine artists as well as industrial designers, engineers and architects. Students will explore collage, assemblage, sculpture and installation by combining a variety of methods, materials and mediums found in all forms of visual art. The course is designed to strengthen students’ creative problem solving skills and become independent three-dimensional visual learners. **Grade: 10,11,12; Length: One Semester; Credits: 10; Prerequisites: Foundations of Art**

A030 CP Studio Art 1

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. **Grade 12; Length: 1 semester (students are encouraged to take Photo 3 and Portfolio Photography Fall semester in order to be ready to take AP Photography in the Spring semester); Prerequisites: Photography 1,2,3**

A963 HN Studio Art 2

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

A465 AP Studio Art/Portfolio Art

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: 20; Prerequisites: Foundations of Art, Studio Art 1 and 2**

A020 CP Portraits

The main focus of this course is for students to become comfortable with drawing and painting people by drawing what they see, not the symbols in their heads. Students will explore drawing and painting portraits in graphite, and acrylic. Students will visit Youville Retirement Home to draw, paint and interview the residents. Portraits class is a family-like environment where students become comfortable with each other through development of their art. **Grade: 9,10,11,12; Length: One Semester; Credits: 10; Prerequisite: Foundations of Art or permission of the instructor.**

A022 CP Painting

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: Foundations of Art**

A926 CP Digital Studio 1

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

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. **Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Digital Studio 1**

A029	CP	Animation 1
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This is a beginning level course designed to teach time-based media concepts through the creation of short animated pieces. Students will learn to draw 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. **Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10**

A045	CP	Animation 2
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This is an advanced level course intended for students who have completed Animation 1 who want to further develop their skills with time-based media. Students will build off of previously learned skills by incorporating advanced design skills, complex character animation, and interactivity using basic Action Scripting. The class will include periodic critiques of students' work as well as frequent viewings of professionally animated shorts and movies by major studios such as Pixar, Studio Ghibli, and Disney as well as smaller, independent studios and animators. Students will be required to maintain a collection of sketches and photos to use as reference material for their work throughout the semester. **Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Animation 1**

A966	PF	Digital Studio 3 (Portfolio)
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This course is designed for the Digital Studio or Animation student who would like to develop a portfolio using digital tools. Emphasis will be placed on advanced techniques that build upon previous skills and concepts learned in Digital Studio 1 and 2, or Animation. Students will continue to explore the themes of appropriation, dream-worlds, text and image, and collaboration throughout the course, with the overall goal of creating a body of work suitable for submitting to college. This course is designed for serious art students who are considering a visual art major or minor. Students are encouraged to repeat this course in consecutive semesters and over multiple years to continue development of their technical and artistic skills. **Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: Digital Studio 2 or Animation 2**

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 using the tools and techniques practiced today in the fashion industry. The class will explore past, current and personal fashion concepts through research of fashion designers and brands. This will help

them to promote their fashion designs and to understand the progress of fashion throughout history. Students will also learn fashion design skills ranging from basic textile identification, pattern making, drawing, hand and machine sewing to embellishing projects that utilize the principles of art and the elements of design. Both women's wear 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. **Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: 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. **Grades: 10, 11, 12; Length: One Semester (students are encouraged to take it for continuous semesters); Credits: 10; Prerequisites: Foundations of Art and The Art of Fashion 1**

A075	CP	Ceramics
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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. **Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10**

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. **Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Ceramics A075**

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

A040	CP	Photography 2
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 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. Grades: 9, 10, 11, 12; Length: One Semester; Credits: 10; Prerequisites: Photo 1 or equivalent		

A964	HN	Photography 3
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. 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. Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Photo 2		

A968	PF	Portfolio Photography
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, 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. Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Photo 3		

A969	AP	AP Photography
This course is designed for serious photography 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 photography		

portfolio in either digital format or analog film format that reflects the quality, quantity and breadth of first year college-level standards. Students will develop a portfolio that demonstrates depth of technical knowledge, depth of conceptual knowledge and knowledge of contemporary and historically important photographers from the history of photography. **Grades: 10, 11, 12; Length: One Semester; Credits: 10; Prerequisite: Photo 3**

A028	CP	Jewelry Making
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. Grades: 10, 11, 12; Length: One Semester; Credits: 10		

■ VISUAL ARTS ELECTIVES OFFERED IN OTHER CRLS DEPARTMENTS

T605	TC	Creative Design 1
Offered by the RSTA. See page 43.		

English Language Acquisition

SCHOOL WIDE LEARNING EXPECTATION
A CRLS student communicates as a writer and speaker.

STAFF
Michelle Madera, B/ELA Coordinator, K-12
Vera Duarte, B/ELA Teacher-in-Charge, 9-12

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. Courses offered in the program include coursework in math, science, and social studies. It follows a carefully designed sequence of courses that enables students to develop fluency in English, master the academic skills needed for successful integration into the standard curriculum, and become familiar with American culture.

COURSE LIST
SE ESL 1
SE ESL 2
SE ESL 3
SE ESL 4
CP Literature and Writing

SE World Today
CP World History 2
CP U.S. History 1
CP U.S. History 2
SE Pre-Algebra
CP Algebra 1
CP Geometry
SE Pre-Physics
SE English
CP Physics
CP Chemistry
CP Biology

SLIFE PROGRAM

SE ELD
SE Foundations of Math
SE Foundations of Reading
SE Foundations of Science

■ 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), Intermediate (ESL 3), and Advanced (ESL 4). ELL students must attend two semesters of ESL before they transition.

XE101	SE	ESL 1 (Beginning)
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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 and present information orally about personal experiences and interests. **Length: Year; Credits: 20; Prerequisite: Placement test**

XE102	SE	ESL 2 (Early Intermediate)
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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). Reading selections include fiction and non-fiction at appropriate levels. Students must plan, present orally and write reports on relevant topics. **Length: Year; Credits: 20; Prerequisite: ESL 1 or Placement test**

XE201	SE	ESL 3 (Intermediate)
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ESL 3 is a course for students who have already acquired a basic knowledge of the English language. In this course students will expand their vocabulary and refine their knowledge of English grammar structures and language patterns. During the second semester they will begin an exploration of carefully selected English language literature. Students will learn the academic skills necessary for literary analysis, while at the same time focusing on language structures that appear in the text to improve their language skills. **Length: Year; Credits: 20; Prerequisite: ESL 2 or Placement test**

XE202	SE	ESL 4 (Advanced)
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This course is designed to help English Language Learners progress to a higher level of English language in the areas of reading, writing, listening and oral skills. The main focus is on the development of English language skills through different genres of literature. Through cooperative learning techniques the students will develop the self-esteem and self-confidence necessary to learn new content and communicate effectively in the second language. A variety of pedagogical methods is used to ensure success with each student's learning style and to develop the whole student. **Length: Year; Credits: 20; Prerequisite: ESL 3 or Placement test**

XE301	CP	Literature and Writing
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SEI Literature and Writing is a course designed for English language learners who are approaching Level 5 ("Bridging") in the WIDA ELD Standards. In this course, students will engage with both literary and informational texts dealing with a variety of themes. The texts are drawn from world literature and represent many different cultures and world views. As students examine the complexities of the human condition, they will reflect on the nature of power and agency in relationships, communities, and society at large. They will expand their capacity as thinkers, questioners, analyzers, and communicators. The course also aims to help students reinforce, solidify, and build upon their skills as readers and writers of English. Using ACCESS for ELLs test data and the WIDA ELD Standards, instruction will be differentiated to provide individual students with the support and scaffolding they need to improve these skills and to access grade level content independently. **Length: Year; Credits: 20; Prerequisite: ESL 4 or Placement test**

XE001A	SE	English
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This course will help students increase their skills in the fundamental concepts of listening, speaking, reading, and writing in the English language. Students will focus on learning common letter patterns to increase their spelling skills and pronunciation of words. They will apply their learning to fiction and nonfiction readings to demonstrate an increased mastery in decoding, fluency, and comprehension as well as oral and written expression. This class alternates with XS100 Pre-Physics. **Length: One Semester; Alternate Days; Credits: 5**

■ SOCIAL STUDIES COURSES

XH101	SE	World Today
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This course introduces basic social studies skills and concepts such as the use of globes, charts and maps, continents, countries and states, climate, topography and natural resources, the role of the community, local government, and goods and services. The curriculum focuses on regions of the world. **Length: One Semester; Credits: 10; Prerequisite: Placement test**

XH220	CP	World History 2
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World History 2 looks at the economic, social, and political roots of the modern world while developing students' language skills as well as their content area knowledge through sheltered instruction. The course begins with an investigation of maps as an introduction to the critical thinking skills necessary for the study of history. Students then study the origins and consequences of the Industrial Revolution, including 19th century Imperialism. The course examines the great military and economic events of the 20th century, including World Wars 1 and 2. Next, students look at independence movements and decolonization in the middle of the 20th

century. The course ends with an examination of the Cold War. **Length: One Year; Credits: 20; (10 Distributional) Prerequisite: Placement test**

XH301	CP	U.S. History 1
In this course, students will learn about the United States' geographical, political, social, and economic history through sheltered instruction. The development of reading, writing, research, and oral communication skills is an integral part of the curriculum. Students will read both primary source and secondary source documents to analyze important events in United States history. They will learn about the United States and its origins as a land of many peoples including Native Americans, Africans, and Europeans. Major units will include the Revolutionary War, its consequences, and key ideas of the U.S. Constitution. Students will gain an overview of American democracy and government as well as an understanding of the rights and responsibilities of individuals. Other major units include Westward Expansion, the establishment of political parties, sectionalism, the Civil War, and Reconstruction. Throughout the year, students will make connections between relevant topics in history and their own lives and engage in analyzing how the work of individuals, both ordinary and extraordinary, have shaped the history of the United States. Length: One Year; Credits: 20 (10 Distributional); Prerequisite: Placement test		

XH302	CP	U. S. History 2
This class is a continuation of SE United States History 1. Students will look at the challenges of Reconstruction, and how the Civil War affected the lives of many. Other units will include the Industrial Revolution, America's growing role in diplomatic international affairs, the Progressive Movement and the New Deal, the Boom of the 1920s, the Great Depression - its impact on American values and society - and America's entry in World War I and World War II. Finally, students will trace the causes of the Cold War and identify the significant economic and political changes that came as a result, including the Civil Rights Movement and the Women's Liberation Movement, as well as recent events and trends that have shaped modern-day America. Length: One Semester; Credits: 10; Prerequisite: Placement test		

■ MATH COURSES

XM100	SE	Pre Algebra
This course is intended to ELL students who have very low Math skills and no or limited English skills. The 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 Algebra 1. 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). This course involves students in active learning in order to build understanding of the very basic math concepts. Length: Year; Credits: 20 (10 Distributional); Prerequisite: Placement test		

XM101	CP	Algebra 1
This course helps ELL students develop both English language skills and Math problem solving skills. The 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; Credits: 20 (10 Distributional); Prerequisite: Placement test**

XM201	CP	Geometry
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. This course helps ELL students develop both English language skills and Math problem solving skills. Length: Year; Grades 10, 11; Credits: 20 (10 Distributional); Prerequisites: Algebra 1 or Placement test		

■ SCIENCE COURSES

XS100	SE	Pre Physics
SEI Pre-Physics is a science course which addresses the needs of ELL students who have limited science skills or are beginner ELL students. It covers the steps of the scientific method, SI units, unit conversions, and introduces the branches of science. Hands-on experiments and projects are used throughout the units in order to get the students acquainted with laboratory science, and to promote language skills through group work. Scientific language and reading skills are stressed throughout in order to prepare ELL students for SEI Physics. This course develops the skills necessary to solve mathematical and conceptual scientific problems. Length: One Semester alternate days; Credits: 5; Prerequisite: Placement test. This course does not fulfill the Physics requirement.		

XS101	CP	Physics
The SEI Physics curriculum parallels the mainstream Physics First course and is offered to ELL students of 9th-12th grades. Scientific language and reading skills are stressed throughout in order to prepare ELL students for standard curriculum science. This course develops the skills necessary to solve mathematical and conceptual scientific problems. The curriculum is split into four major units: Motion, Electricity, Waves, and Energy. In the first unit, students will study velocity, acceleration, Newton's Laws, and momentum. The electricity unit will focus on electrostatics, charge and circuits, culminating in a project. During the third unit, students will study waves, sound, and light. In the final unit, students will study heat and energy. Length: One Semester; Credits: 10; Prerequisite: Placement test		

XS201	CP	Chemistry
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The SE Chemistry curriculum parallels the mainstream Chemistry course and is offered to ELL students of 9th-12th grades. Scientific language and laboratory skills are stressed throughout in order to aid ELL students' understanding of complex conceptual topics. This course builds on the skills developed in Physics and further develops the skills necessary to solve more complex scientific problems. The curriculum is split into seven major units: Introduction to the methods of Chemistry, Atomic Structure, Bonding, Chemical Reactions, Moles, Stoichiometry, and Gases. **Length: One Semester; Credits: 10; Prerequisite: Physics or Placement Test**

XS301	CP	Biology
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The SE Biology curriculum parallels the mainstream Biology course and is offered to ELL students of 11th-12th grades. Scientific language and laboratory skills are stressed throughout in order to aid ELL students' understanding of the principles of Evolution and Ecology, Homeostasis, Energy, Matter, Organization, Reproduction and Genetics. **Length: One Semester; Credits: 10; Prerequisites: Physics and Chemistry**

■ SLIFE COURSES: STUDENTS WITH LIMITED OR INTERRUPTED FORMAL EDUCATION

This program is specially designed for Students with Limited or Interrupted Formal Education (SLIFE) who have experienced interrupted or limited education in their home countries. The goal of the program is to prepare SLIFE students for success in academic programs by acquiring proficiency in English language skills and the content knowledge skills. They will receive intensive instruction in English as a Second Language as well as the foundations of reading, math, and science. In addition, they will develop cultural proficiencies necessary to function effectively as participants in a school community and to navigate a new culture.

XE001B	SE	ELD (English Literacy Development)
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This course is designed to support English language learners with limited prior schooling who have not had opportunities to develop literacy skills in their native language. Students will use foundational speaking and listening skills to communicate in English for both everyday and academic purposes; and begin to develop readiness skills in reading and writing. In addition, the course will assist students in adjusting and adapting to the United States, and to become familiar with the school's culture and routines. **Length: One Year; Credits: 20 (10 Distributional); Prerequisite: Placement test**

XM001	SE	Foundations of Math
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This course includes introduction to whole numbers, operations of whole numbers, exponents, graphs, statistics, measurements, integers, introduction to fractions, and operations of fractions. Problem solving will be part of all units. **Length: One Semester; Credits: 20 (10 Distributional); Prerequisite: Placement test**

XE002	SE	Foundations of Reading
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In this course students will focus on learning phonics, syntax, morphology and grammar to increase reading skills and lexile levels. They will be exposed to a variety of reading strategies to increase mastery in decoding, fluency, and comprehension as well as oral and written expression. **Length: One Year; Credits: 20 (10 Distributional); Prerequisite: Placement test**

XS001	SE	Foundations of Science
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The Foundations of Math course is intended for ELL students who have very low Math skills and no or limited English skills. The course includes the introduction to whole numbers, operations of whole numbers, exponents, graphs, statistics, measurements, integers, introduction to fractions, and operations of fractions. Problem solving will be part of all units. Geometry will be introduced as part of problem solving. **Length: One Year; Credits: 20 (10 Distributional); Prerequisite: Placement test**

English Language Arts

SCHOOL WIDE LEARNING EXPECTATION

A CRLS student will acquire the skills to read for information and understanding. Students will be exposed to a variety of genres and independent reading to develop a culture of lifelong readers.

STAFF

Janice Tingle, Language Arts Curriculum Coordinator, K-12

Jennifer Hamilton, Dean of ELA Curriculum and Program, 9-12

POLICIES

In Grade 9, students are required to take English 9. This course is required for graduation and is offered at the College Preparatory & Honors level. At the end of semester 1 students may move up from CP to Honors based upon teacher recommendation.

In Grade 10, students are required to take English 10. This course is required for graduation and is offered at the College Preparatory and Honors level. The English department strongly encourages honors tenth graders seeking to take a second English class to take an ELA elective, before taking English 11 Honors. Students may choose to select an Honors Prep section of CP English 10 in semester 1, that prepares students for the skills and expectations of HN English 10 before transitioning into HN English 10 in the second semester. Students must have recommendations from both their teacher AND guidance counselor. At the end of semester 1 students may move up from CP to Honors based upon teacher recommendation.

In Grade 11, students are required to take CP English 11 or HN English 11. This course is required for graduation and admittance into Advanced Placement level courses.

In Grade 12, students will choose an English elective course.

Colleges and universities require students to earn 4 units of English as an entrance requirement. 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.

CORE CLASSES

CP ENGLISH 9 (HN Opt)

HN ENGLISH 9

CP ENGLISH 10 (HN Opt)

CP ENGLISH 10 HONORS PREP

HN ENGLISH 10
CP ENGLISH 11 (HN Opt)
HN ENGLISH 11
ELECTIVES
HN COLLEGE WRITING
CP JOURNALISM 1 (HN Opt)
HN JOURNALISM 2
CP AFRICAN LITERATURE (HN Opt)
CP CREATIVE WRITING, LITERATURE, AND THE ARTS (HN Opt)
CP ADVANCED CREATIVE WRITING
HN WORLD RELIGION
CP AFRICAN AMERICAN LITERATURE (HN Opt)
AP LITERATURE & COMPOSITION
AP LANGUAGE AND COMPOSITION
HN PLAYWRITING
CP FILM STUDIES
CP MEDIA JOURNALISM (HN Opt)
CP MULTIMEDIA SPORTS REPORTING (HN Opt)
CP CLASSICAL LITERATURE: SHAKESPEARE
CP SELECTIONS IN LITERATURE
CP GENDER THEORY (HN Opt)
CP NARRATIVE NONFICTION WRITING (HN Opt)
CP MUSIC AND LITERATURE (HN Opt)
CP DYSTOPIA, SCIENCE FICTION AND FANTASY (HN Opt)
CP FILM AS TEXT: READING FILM THROUGH LITERARY THEORY (HN Opt)
CP READING AND WRITING ON HUMAN VALUES (HN Opt)
CP SEMIOTICS (HN Opt)
CP GREEK MYTHOLOGY (HN Opt)
CP PSYCHOLOGY AND LITERATURE (HN Opt)
CP WOMEN IN LITERATURE (HN Opt)
CP OTHER VOICES: THE LITERATURE OF INDIGENOUS, LATINO AND FEMALE AUTHORS (HN Opt)

■ ELA GRADES 9 AND 10

E101	CP (HN Opt)	English 9
In this course, close reading strategies are embedded in the standard grade 9 curriculum. Students will explore how characters and people form their identities. Through their studies, students will develop reading, writing, critical thinking, and research skills. They will expand their reading skills by learning how to make inferences, ask questions, and annotate texts from a variety of genres. Students will learn concepts and strategies to increase their comprehension. They will complete all stages of the writing process, practice Standard English conventions, and demonstrate their mastery through a variety of assessments. Students will document and evaluate their progress as writers by maintaining an English Language Arts portfolio. Required Course Texts: <i>Romeo and Juliet</i>; a full length (at least one of: <i>To Kill a Mockingbird</i>, <i>Lord of the Flies</i>, <i>The Odyssey</i>, <i>Catcher in the Rye</i>); assorted poetry, nonfiction, and short stories. Length: Year; Credits: 20 (10 distributional)		

E102	HN	English 9
In this intensive course, students are expected to be able to manage their time and organize their studies independently. Students will explore how characters and people form their identities. Through their studies, students will develop reading, writing, and critical thinking, and research skills. They will expand their reading skills by learning how to make inferences, ask questions, and annotate texts from a variety of genres. Students will learn concepts and strategies to increase their comprehension. They will complete all stages of the writing process, practice Standard English conventions, and demonstrate their mastery through a variety of assessments. Students will document and evaluate their progress as writers by maintaining an English Language Arts portfolio. Required Course Texts: <i>Romeo and Juliet</i>; a full length (at least one of: <i>To Kill a Mockingbird</i>, <i>Lord of the Flies</i>, <i>The Odyssey</i>, <i>Catcher in the Rye</i>); assorted poetry, nonfiction, and short stories. Length: One Semester; Credits: 10; Prerequisites: Eighth grade Teacher Recommendation and test scores		

E201	CP (HN Opt)	English 10
This is a yearlong course which will meet every day. 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, research and critical thinking skills. They will further develop their independence as writers by crafting original thesis statements, supported by embedded quotations and other relevant examples. They will complete all five stages of the writing process, refine their use of standard English conventions, and demonstrate their learning by completing writing benchmark assignments. They will document their progress as writers, readers, and thinkers in their English Language Arts portfolios. Vocabulary, grammar, and MCAS preparation instruction will be integrated throughout the course. Required Course Texts: <i>Things Fall Apart</i>, <i>Othello</i> or <i>Macbeth</i>, and assorted poetry, nonfiction, and short stories. Teachers may also choose to teach a second novel or novella. Length: Year; Credits: 20; Prerequisite: English 9		

E201A	CP	English 10 Honors Prep
This course is designed to academically prepare students for entrance and success in the Honors English classes at CRLS. Specific aims of this initiative include: Rigorous instruction for mastery of parallel skills that students will need in Honors classes (i.e., critical thinking, ability to notice, comment and critique on intertextual links between various types of texts, argumentative and synthesis writing, time management, revision, etc.) Matriculation into a CRLS Honors English 10 class in spring semester 2016 is required. Length: One Semester; Credits: 10; Prerequisites: English 9		

E202	HN	English 10
In this intensive course students are expected to be able to manage their time and organize their studies independently. 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, research 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, grammar, and MCAS prepara-		

tion 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 assorted poetry, nonfiction, and short stories. Students will be required to read TWO additional long texts. These texts may include novels or non fiction works. **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**

E101A	CP	English 9
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This course is designed primarily for FLEP (Formerly Limited English Proficient) students to develop their reading, writing, and critical thinking skills. Students will increase their understanding of literature and nonfiction passages through the application of close reading strategies. Students will strengthen their abilities to respond to texts in writing using a variety of formats. Also, they will develop their verbal expression by participating in informal and formal classroom activities. In addition, students will study vocabulary, grammar, and Standard English conventions. Students will demonstrate their knowledge of the writing process by completing writing benchmark assignments. They will show their understanding through oral and multimedia presentations. **Length: Year; Credits: 20 (10 distributional)**

■ ELA GRADE 11 AND 12

E301	CP (HN Opt)	English 11
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In this course, students will explore the American experience by reading and analyzing 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; Grades 11, 12; Prerequisites: English 9 and 10**

E302	HN	English 11
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In this intensive course students are expected to be able to manage their time and organize their studies independently. 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 port-

folios. Teachers will integrate instruction of Standard English conventions, writing development and SAT preparation throughout the course. Honors English and college preparatory English 11 have the same course content, however, Honors English moves at a more intensive pace and is recommended for enrollment in ELA AP level courses. **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; Grades 11, 12; Prerequisites: English 9 and grades of B or better in English 10, teacher recommendation**

■ ELA ELECTIVES

E414	HN	College Writing
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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. **Length: One Semester; Grades 11, 12; Credits: 10; Prerequisites: English 9, 10**

E407	CP (HN Opt)	Gender Theory
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Do we have gender equality? How is gender performed and understood? How do race, social class, and gender intersect to create inequities in the United States and internationally? Students will critique the work of gender theorists from the Enlightenment to present-day and become informed readers of literature, nonfiction, film, social media, and current events. **Length: One Semester; Credits: 10; Grades 11, 12; Prerequisites: English 11**

E408	CP (HN Opt)	Narrative Nonfiction Writing
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This course is designed to help students explore the range of possibilities of nonfiction writing. Through a writing workshop structure that encourages revision, peer editing and conferencing, students may write any of the following: college essay, resumes and cover letters, responses to literature as they prepare for real-world writing demands that they will face in college and in their careers. Additionally, students will work within these genres: investigative and analytical writing, memoir, research and others. Through extensive writing and revision, students will learn to address audience, purpose and genre. Mentor texts will be used to provide examples of effective writing and as a basis for discussions and critical analyses. Students will produce a culminating portfolio that documents their growth as a writer throughout the semester. **Length: One Semester; Credits: 10; Grades 11, 12**

E409	CP (HN Opt)	African Literature
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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.

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

E431	CP (HN Opt)	African American Literature
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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 Douglas, 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**

E405	CP (HN Opt)	Journalism 1
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Students will learn the basic elements of a news story, study landmark court cases in the history of the free press, examine bias in the media, assess writing for fact and opinion, and understand the roles and responsibilities of a journalist in a democratic society. Students will also discuss current events and issues making the "headlines" on a local, national, and international level. Lastly, students will collaborate on investigative journalistic projects, improve their research writing skills, and contribute articles to the school newspaper, The Register Forum. **Length: One Semester - Alternating Days; Credits: 5; Prerequisites: English 9, 10**

E406	HN	Journalism 2
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Are you interested being an editor for the school newspaper? Building on skills acquired from Journalism I, students will learn how to successfully collaborate and run every aspect of The Register Forum, one of the oldest student-run publications in the country. Students will generate news stories, edit articles, democratically decide what is printed, write editorials, create special segments, and interview CRLS students, faculty, and members of the community. A significant portion of this class is also about graphic design, digital layout, and photography. Lastly, students will be fully involved in the printing, advertising, and distribution process. **Length One Semester; Credits: 10; Prerequisites: Journalism 1**

E410	CP	Selections in Literature
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This course complements grade level English classes. Students will closely examine a breadth of nonfiction and fictional readings to identify their specific characteristics for deep comprehension. As they develop the ability to categorize various literary genres and text structures, students will learn and apply strategies for text analysis. Students will communicate their understanding through writing, visual presentations, group discussions, peer collaboration, and teacher conferences. **Length: One Semester; Credits: 10; Grades 10, 11, 12; Prerequisites: English 9**

E425	CP (HN Opt)	Creative Writing, Literature, and the Arts
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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**

E428	CP	Advanced Creative Writing
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The short story is one of the most difficult genres of writing, one that requires a special incubator to be fostered. Through a true writing workshop, students will produce original short stories based off of guided prompts, and learn the benefits of a workshop environment. Students will gain confidence in their creative writing abilities, provide and receive constructive feedback and revise, revise, revise. **Length: One Semester; Credits: 10; Prerequisites: E425 Creative Writing, Literature and the Arts**

E427	HN	World Religion
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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**

E432	CP	Classical Literature: Shakespeare
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This course will explore Shakespeare's poetry and plays, examining both texts from the canon as well as some lesser-known works. Through their study of his language and artistry, approaching the texts as both works of drama and of literature, students will develop both versatility and comfort with Shakespeare's work. They will learn to critically examine challenging texts and analyze complex and difficult language. Engaging with some of the most popular and enduring work in classical literature, students will continue to develop and reinforce critical thinking, reading, research, and writing skills. **Length: One Semester; Grades: 10, 11, 12; Credits: 10**

E429	CP (HN Opt)	Music and Literature
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This course explores the relationship between musicians and authors and their various texts. It looks at music as a literary text and analyzes the literature that has inspired music. Jay Z's Decoded and Levitin's This is Your Brain on Music, will assist students explore the relationship between the mind and music through insight into how background and personal influences shapes the work of a musician as well as recent findings in the fields of neuroscience and evolutionary psychology. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

E430	CP (HN Opt)	Dystopia, Science Fiction and Fantasy
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In this course, students will examine classic and contemporary examples of science-fiction and fantasy texts which focus on the concept of dystopia: an alternate reality or futuristic society in which life is supposed to be wonderful, but instead has been corrupted. Students will examine how authors use this genre of literature and film to analyze and critique certain elements of their own worlds, such as politics, environmental and social issues, technology, religion, and more. Students will read a combination of classic novels and short stories with the class and independently watch and analyze films, conduct short and sustained research projects, and create their own short fiction which reflects their analysis of contemporary society. This course will push beyond pop culture by pressing topics of the day and ask students to grapple with the same issues. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

E433	CP (HN Opt)	Film as Text: Reading Film through Literature
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This course teaches students to critically read and interpret film, as well as other visual texts and media, through the critical lenses we use to examine traditional text: Stories, novels, poetry, nonfiction, and essays. Literary theory will provide students with critical lenses that push their “reading” away from what is comfortable in order to see film-as-text in more acute ways and from multiple perspectives. Students will be encouraged to develop and inhabit new ways of understanding ideology, which will enhance their ability to read the culture of school, community, social media, and pop culture in general more critically. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

E426	CP (HN Opt)	Reading and Writing on Human Values
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“Reading and Writing on Human Values” 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. It is designed for students who possess the skills and sophistication to comprehend independently the literal level of the literature at hand and who are ready to write longer, more complex/integrative papers about that literature. Over the course of the semester, we will explore a number of novels, plays, poems, and essays which are marked by their ideological complexity and literary merit. While texts and assignments are challenging, there is ample support in this course for any student who wishes to engage with these texts and ideas. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

E434	CP (HN Opt)	Semiotics
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In this course students will learn about the ways that the signs and symbols that we communicate with, aka language, can both reveal and conceal the world around us. The class will conduct language experiments and explore what is known about how humans acquire language. It also investigates animal communication and students will even create their own languages. Readings will range from ancient texts to texts written by computers as recently as yesterday. There will be many hands-on experiences and opportunities to bring in personal experiences with language and learning. Students will practice the kinds of reading and writing skills that will prepare them for the demands of life after high school. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

E435	CP (HN Opt)	Greek Mythology
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This course allows students to delve more deeply into classical texts and to see how they influence modern literature. Students will go beyond a “Percy Jackson” understanding of Greek mythology to broaden their understanding of the Greek Pantheon, to explore key themes in Greek works, and also to investigate differing versions of the same myth to better understand how the ancients understood story. As we read and write about ancient texts, we’ll also be looking for allusions and connections between them and modern language and stories, not to mention psychology. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

E436	CP (HN Opt)	Psychology and Literature
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Explore how literature conveys aspects of psychology and mental health. A theme focused course, students will use literary theory (psychoanalysis) to deeply analyze texts and break the stigma around mental health issues. Ordinary People, One Flew Over the Cuckoo’s Nest and the Bell Jar are a sampling of texts utilized to explore this topic. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

E437	CP (HN Opt)	Women in Literature
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This course is a celebration of female protagonists, artists and movement makers that seeks to intellectualize gender roles through study of archetypes in fiction. This course will balance informational texts that further underscore how fiction mirrors and/or dictates patterns in society. Students will study the female protagonist as a reflection of social structure, examine gender inequalities and promote progressive movement toward change in our view of gender equality. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

E438	CP (HN Opt)	Other Voices: The Literature of Indigenous, Latino and Female Authors
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This course will survey literature written by indigenous/nature-based people, Latino authors, and female authors. These other voices bring dramatically different perspectives on the world, for example, an intimacy with nature that is too often neglected in Western culture. The literature in this class will help represent these voices, their beliefs, and their unique way to express how they see the world. **Length: One Semester; Credits: 10; Prerequisites: English 9, 10**

■ ELA ELECTIVES IN OTHER DEPARTMENTS

These courses are offered by other CRLS departments and may be taken as ELA Electives.

MART971	CP (HN Opt)	Media Journalism
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Offered by Media Arts. See page 38.

MART100	CP (HN Opt)	Multimedia Sports Reporting
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Offered by Media Arts. See page 38.

D869	HN	Playwriting
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Offered by Drama. See page 18.

D863	CP	Film Studies
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Offered by Drama. See page 18.

■ 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; Grades 11 & 12; 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; Grades 11 & 12; Prerequisites: English 9, 10 & 11. Students must have earned a grade of B or better in HN English 11 or recommendation by their grade 11 ELA teacher**

History / Social Science

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student communicates as a writer and speaker.

STAFF

Adrienne Stang, K-12 History and Social Science Coordinator
Tanya Earls Milner, Dean of History and Social Science Curriculum and Program

POLICIES

The 6-12th grade "pathway" for History/Social Science is as follows: (Upper Schools) World Geography and Ancient History; World History, Philosophy and Religion; World History (to 1800) and Civics, (High School) World History (1900-present), United States History 1 (1763-1877); and, United States History 2 (1877-present).

In grade 9 students will take World History. 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.

CORE CLASSES

CP WORLD HISTORY (HN Opt)

HN WORLD HISTORY

CP US HISTORY 1

HN US HISTORY 1

CP US HISTORY 2

HN US HISTORY 2

ELECTIVES

AP US HISTORY

CP AFRICAN AMERICAN HISTORY (HN Opt)

CP BLACK AMERICAN EXPERIENCE (HN Opt)

HN CULTURAL ANTHROPOLOGY

CP CRIMINAL JUSTICE (HN Opt)

CP CIVICS (HN Opt)

CP RACIAL AND CULTURAL IDENTITIES (HN Opt)

HN MODEL UNITED NATIONS

CP LEADERSHIP AND COMMUNITY ACTION - STARS

HN PSYCHOLOGY

CP SOCIOLOGY

CP CONSTITUTIONAL LAW

HN ECONOMICS

HN MODERN WORLD HISTORY

AP WORLD HISTORY

AP COMPARATIVE GOVERNMENT AND POLITICS

UM AMERICAN IDENTITIES

CP FACING HISTORY & OURSELVES: THE HOLOCAUST & HUMAN BEHAVIOR (HN Opt)

HN KIMBROUGH SCHOLARS HONORS GRADUATION PROJECT "CIVIL RIGHTS COLD CASE INVESTIGATION AND HISTORICAL INQUIRY"

H201 CP (HN Opt) World History

In this course students will study the social, economic, and political roots of the modern era. They will begin the course with a brief study of the causes and consequences of the Industrial Revolution in Europe and how it enabled European nations to colonize vast parts of Africa and Asia. Students will then explain the causes and consequences of the great

military and economic events of the past century including World War I, the Interwar period, and World War II. Next, students will examine three country case studies highlighting changes in the post-war decolonization and independence period, including Israel and the Palestinian territories, India and Pakistan, and Kenya. Lastly, students will analyze the causes and consequences of the Cold War on nations around the world. Throughout the course students will be encouraged to develop and use critical thinking skills to challenge assumptions and to make connections between today and the historical events of the past. Students will write a research paper in which they craft an argument and support it with evidence and analysis from scholarly sources. **Length: One Semester; Credits: 10; Grade: 9**

H202	HN	World History
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The content for Honors World History is the same as College Preparatory World History. The College Prep and Honors level courses differ in the expected proficiency levels of the students' historical analysis, reading and writing skills. **Length: One Semester; Grade: 9; Credits: 10**

H291	CP	U.S. History 1
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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 reconstruction. **Length: One Semester; Grade: 10; Credits: 10; Prerequisite: World History 2**

H292	HN	U.S. History 1
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The content for Honors U.S. History 1 is the same as College Preparatory U.S. History 1. The College Prep and Honors level courses differ in the expected proficiency levels of the students' historical analysis, reading and writing skills. **Length: One Semester; Grade: 10; Credits: 10; Prerequisite: World History 2 and teacher recommendation**

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 US History 1**

H302	HN	U.S. History 2
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The content for Honors U.S. History 2 is the same as College Preparatory U.S. History 2. The College Prep and Honors level courses differ in the expected proficiency levels of the students' historical analysis, reading and writing skills. **Length: One Semester; Grade: 11; Credits: 10; Prerequisites: World History 2 and US History 1 and Teacher Recommendation**

H531	AP	U.S. History
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Advanced Placement U.S. History is a college-level course designed to provide students with the analytical skills and factual knowledge necessary to investigate United States History. This course intertwines four historical thinking skills with nine historical eras, and seven historical themes: Identity; Work, Exchange, and Technology; Peopling; Politics and Power; America in the World; Environment and Geography--Physical and Human; Ideas, Beliefs, and Culture. Students will use a learning methodology that requires taking notes from readings, lectures, and videos outside of school, which frees up the in-class time for discussions, collaborative projects, skill building activities, and analytical-evaluative writing. In addition, students are expected to write a well-documented research paper. Students in Advanced Placement courses are expected to take the AP exam in May and part of the class will focus on that preparation. Successful completion of the APUSH exam may qualify students for college credit or exemption from initial college history classes. **Length: One Semester; Grade: 11; Credits: 10; Prerequisites: World History 2 and HN U.S. History 1 and Teacher Recommendation**

■ HISTORY ELECTIVES

H409	CP (HN Opt)	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, US History 1 and 2 or AP US History**

H419	CP (HN Opt)	Black American Experience
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This course will examine the study of Black Americans from a thematic approach. Four units will be addressed. The course begins with an examination of Black culture. Students will begin to think about: What defines Black culture? How has Black culture been shaped by external factors? How has it influenced the wider culture? Students will study speeches and written work that address issues of race, oppression and perseverance. The second unit explores Black Music over time stemming from Slave Work Songs to Hip Hop culture. Students will analyze and research the origin of the music and its impact. The third unit will analyze Race, Reform and the Civil Rights movement during the 1950s-70s from the South to the North. The third unit will emphasize black political and social leadership from the Civil Rights Movement to today's movements such as Black Lives Matter. Students will evaluate how Black leadership has changed over time. Students will also examine changes taking place in South Boston, MA in relation to mandated busing and the reaction. The final unit focuses on Blacks in Media. Students will compare and contrast the roles Blacks play in various television programs and films. The course will culminate with an independent project. **Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and 2 or AP US History**

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. The overarching question focuses on what it means to be human and also explores how individual and group choices affect the larger society, how cultural expressions humanity are developed and valued, how those cultural characteristics shape everyday lives, and how power, equity, and difference shape social structures and relations. The major units study culture, race/ethnicity, language, economics, gender, marriage and family, people with disabilities, and the arts. Case studies are drawn from film and from situations in the U.S., Asia, Africa, Latin America, and Europe. Students write frequent reflection essays, engage in discussions and in-class projects, and conduct an anthropological study that culminates in a major written and oral presentation. **Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and 2 or AP US History**

H407	CP (HN Opt)	Criminal Justice
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This course offers a “hands on” approach to legal realities encountered in and out of courtroom situations, as you study criminal matters involving persons and property within the U.S. legal system. Students will examine and analyze various cases ranging from the Miranda v. Arizona, Furman v. Georgia to a few current cases coinciding with previously established Criminal Law units. Students will learn to apply legal terms to real-life cases examined. Students will engage in cooperative learning activities that augment critical thinking skills, lending itself to meaningful discussion. Students will meet with various professionals in law-related work. Students will develop skills in persuasive and reflective writing. Research assignments, including the construction of a formal paper and projects on various law related topics, are required. **Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and 2 or AP US History**

H404	CP (HN Opt)	Civics
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This course offers students an opportunity to explore and understand the principles and challenges of democratic government. We will learn how the United States government operates and analyze politics and current media. We will speak with local leaders, politicians, and activists to see how the major current events of our times impact our community, nation, and world. Students will also learn and practice the civic skills they need to effectively participate in our democracy, including how to effectively engage policy makers; how to speak and write persuasively on public issues, and how to engage in respectful civil discourse. **Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and 2 or AP US History**

H416	CP (HN Opt)	Racial and Cultural Identities
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This course is a critical forum for the study of identity, culture, and race, especially as they pertain to education and academic achievement in the United States. Through substantial reading assignments and reflective writing assignments, students will explore their own personal identity development and examine their beliefs, assumptions, and understandings about identity, culture, and race. Students will also gain awareness and empathy for “others” identity development through ample class discussion time, simulations, and small-group projects. In the final part of the course, students will complete an original independent project to be showcased as

part of an end-of-year symposium that applies the political, social, cultural, historical, economic, and power dynamics they have studied throughout the semester. Ultimately, the goal of this course is to help students view academic achievement as the basis for a positive identity. 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 or AP US History**

H414	HN	Model United Nations
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The Model UN course is designed to provide an orientation to the function of the United Nations, as well as providing an introduction to international diplomacy. This course will include current events, pressing international issues, the basics of international law, and some of the protocol and procedures of UN diplomacy. The class will assist students in preparing for their role as a diplomat at the National Model United Nations conference in New York and the Harvard Model United Nations in Boston. Membership to Model UN Club is not a requirement but strongly encouraged. New students to CRLS can email Dean Milner directly. **Length: Only offered Semester One; Credits: 10; Prerequisites: All grades can enroll, but approval of Dean and/or teacher is needed.**

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 include cultural diversity, global awareness, healthy relationships, personal identity, school and community culture and climate, stereotyping, substance use, teen violence and teen wellness. Students will receive leadership and issues training opportunities so that they can work as peer educators in the high school and the elementary and upper schools. As a part of this class, students will learn the skills to create and implement a unique project that shows their understanding of the course content and highlights their interests and ideas. In addition to their work in classrooms, the STARs conduct awareness campaigns and host, organize, and design school wide assemblies and conferences. As members of the STARs program, students are expected to uphold the school motto and reinforce attitudes and behaviors that promote awareness, equity and student engagement. **Grades: 11,12; Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and 2, or AP US History and prior approval of the STARs Teacher.**

H403	HN	Psychology
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Psychology is an introductory course in the study of human behavior and mental processes. In this course students will learn to think like a psychologist as they become critical evaluators of psychological research. Topics of study cover the history and evolution of the field of psychology through eight psychological perspectives: Biological, Psychoanalytic, Behavioral, Humanistic, Cognitive, Social, Evolutionary, and Abnormal. Students will study the major contributors, key theories, research methods, therapies, and criticisms of each psychological perspective. Throughout this course, students will draw connections between their own lives and the psychological theories they are learning in order to better understand their own thoughts, behaviors, and interactions with people and the world around them. This course is similar to college level introductory psychology course. It is a lecture based broad overview of the field. **Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and U.S. History 2 or AP US History**

H406	CP	Sociology
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, US History 1 and 2 or AP US History		

H405	CP	Constitutional Law
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 2nd 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. Students in this course are required to deliver at least four oral arguments as part of their assessment. 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, US History 1 and 2 or AP US History		

H420	CP (HN Opt)	Facing History and Ourselves: The Holocaust and Human Behavior
Using film, primary source documents (art, music, photographs, etc.) and speakers this course is designed as an in-depth case study about German society in the years 1920-1945, with a primary focus on the forces and events that led to the Holocaust. The course begins with the study of identity and membership in society, which will then be applied to the choices made in the years before the Holocaust as students confront the moral questions inherent in the study of violence, racism, anti-Semitism and bigotry. In doing so, students will also make connections to other examples of genocide and prejudice. Students will then consider judgment - exploring questions of responsibility, justice, and punishment - as well as the legacy and memory of the Holocaust. Finally, students will reflect on their own role as participating members in a larger local, national, and global society. Throughout the course students will maintain a journal of written reflections and engage in meaningful class discussions. The course will culminate in a collaborative performance based project and presentation. Length: One Semester; Credits: 10; Prerequisites: World History 2 and US History 1 and 2 or AP US History		

H421	HN	Economics
This course will examine society's allocation of scarce resources, as well the economic reasoning made by people as consumers, producers, savers, investors, workers, voters, and government agencies. Important elements will include the study of scarcity, the role of incentives, supply and demand, market structures, the role of government, national income determination, money and the role of financial institutions, economic stabilization, and trade. In their study of the fundamental principles of economics, students will master the ability to use the basic analytical tools used by economists.		

In addition to examining the traditional content of economics, students will participate in a three week long Urban Plan project in which they will be asked to develop a five and a half block portion of a city. Working as a team of five, students will ultimately defend their final project in front of a team of volunteers who work in the field of land development. **Length: Only offered in Fall Semester. One Semester; Credits: 10; Prerequisites: World History 2 and US History 1 and 2 or AP US History**

H422	HN	Modern World History
Modern World History is a study of how nations around the world have interacted politically, economically and culturally from the Cold War to today. We will examine the relationship between the Soviet Union and the United States and how foreign policy between nations shifted (and did not shift) after 1990. We will analyze how the rise of the global world economy has both integrated parts of the world while also creating wider gaps between the rich and poor. We will explore modern conflict in Africa and the Middle East and the impacts it is having on people within those nations as well as between nations. The more we understand the roots of modern issues, the better we can understand how societies have developed to their present state, why people face certain problems, and what solutions we should seek in the future. Length: One Semester; Credits: 10; Prerequisites: World History 2, US History 1 and 2 or AP US History		

■ 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
See description on page 32.		

H504	AP	World History
AP World History focuses on developing students' abilities to think conceptually about world history from approximately 8000 BCE to the present and apply historical thinking skills as they learn about the past. Five themes of equal importance — focusing on the environment, cultures, state-building, economic systems, and social structures — provide areas of historical inquiry for investigation throughout the course. AP World History encompasses the history of the five major geographical regions of the globe: Africa, the Americas, Asia, Europe, and Oceania, with special focus on historical developments and processes that cross multiple regions. Length: One Semester; Credits: 10; Grade: 12; Prerequisites: World History 2, US History 1 and 2 or AP US History		

H506	AP	Comparative Government and Politics
AP Comparative Government and Politics is equivalent to an introductory college course. Our study will focus on important themes and concepts in comparative government through the lens of six core countries and one supranational body: United Kingdom, Mexico, Nigeria, Iran, Russia, China and the European Union. Students will engage in thoughtful cross-country comparison as we explore each case study. This course emphasizes the diversity of political life around the world and the challenges and opportunities facing states in the 21st Century. As a college-level course, there are considerable expectations of students in terms of rigor, quality, and dedication to their work. Length: One Semester; Credits: 10; Grade: 12; Prerequisites: World History 2, US History 1 and 2 or AP US History		

H502	UM	American Identities
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American Identities is offered in collaboration with the American Studies Department at UMass-Boston, and students are eligible to earn college credit for AMST 100, the department's required introductory course. The central academic and personal question of this UMass-Boston course is: "What is an American?" This course examines the construction, definition and explanation of the diverse "American identities" of North Americans. Through examination of a variety of resources—including historical sources, material artifacts, fiction, poetry, film, photography, and popular music—and using the concepts and methodologies of American Studies, students explore individual, family, community, ethnic, class, gender, and racial identities in relation to regional, national, and transnational identities. Over the course of the semester, students will be guided in writing a three-generation family history that incorporates political, cultural and family events from 1945 to the present. After completion of this course, students who choose to attend the University of Massachusetts can receive UMass credit.

Length: One Semester; Credits: 10; Prerequisites: US History 2 or AP US History

H418	HN	Kimbrough Scholars Honors Graduation Project "Civil Rights Cold Case Investigation and Historical Inquiry"
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This seminar and related project offer students an opportunity to contribute to the important work of seeking justice for African-Americans who were victims of racial violence, but whose cases have remained unsolved and under-reported. Students work with staff from the Civil Rights and Restorative Justice Clinic (CRRJ) at Northeastern University Law School to investigate a racially motivated cold case from the early 20th century. Participants learn about time period and work as a part of a team to discover the true facts of the case by uncovering evidence previously ignored, and exploring ways that the evidence can be used to provide restorative justice for the victims and their families. The project involves participating in a semester long in-school seminar, and then, as the semester progresses, going two times a week during seminar time to Northeastern University Law School to research and investigate the assigned case. Participating students will engage in regular writing and documentation related to the project. They will collaborate to make a major final public presentation and will present individual portfolios of their work at the end of the semester. The Kimbrough Scholars Project Seminar is a part of the Cambridge Rindge and Latin School Enhanced Senior Year program and requires an application. Priority is given to seniors. **Length: One Semester; Credits: 10; Grade: 12; Prerequisites: World History 2, US History 1 and 2 or AP US History**

Mathematics

SCHOOL WIDE LEARNING EXPECTATION:

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

STAFF

Lisa Scolaro, Interim STEM Coordinator, K-12

Jeff Gaglione, Dean of Mathematics Curriculum and Program

The CRLS Mathematics Department offers a wide range of courses for students of different abilities and interests from ninth grade Algebra I through our Advanced Placement Calculus Statistics and

Computer Science classes. We also offer several electives including Math Reasoning, FSTA and Computer Programming. The Math Department's curriculum is aligned with the Massachusetts Curriculum Framework Incorporating the Common Core Standards for Mathematics.

CRLS has adopted the State's recommendation that students be required to take and pass four years of mathematics during high school including at least one class in their senior year.

CORE CLASSES

CP ALGEBRA 1

HN ALGEBRA 1

CP GEOMETRY

HN GEOMETRY

CP ALGEBRA 2

HN ALGEBRA 2

CP PRE-CALCULUS WITH QUANTITATIVE REASONING

HN PRE-CALCULUS

ELECTIVES

CP FUNCTIONS, STATISTICS & TRIGONOMETRY

CP MATHEMATICAL REASONING WITH APPLICATIONS

HN MATHEMATICAL REASONING WITH APPLICATIONS

CP INTRODUCTION TO COMPUTER SCIENCE (HN Opt)

AP CALCULUS AB

AP CALCULUS BC

AP STATISTICS

AP COMPUTER SCIENCE

■ 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, AP Calculus, and AP Statistics. 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.

M101	CP	Algebra 1
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This course will address the newly adopted Massachusetts Curriculum Framework for Mathematics Incorporating the Common Core Standards for Massachusetts. The eight Standards of Mathematical Practice will be incorporated throughout the year as students discuss, among other topics, rational and irrational numbers, writing and interpreting polynomial and rational expressions, creating and reasoning with equations and inequalities, interpreting and building functions including linear, quadratic and exponential models, and summarizing and interpreting statistical and probability data. The course is designed to involve students in active learning, inquiry based problems, and problem solving strategies to build conceptual understanding and to strengthen students' abilities to think, reason, and problem-solve using mathematical understandings and skills. Students who excel during the 1st semester of the course will be given the opportunity, with teacher recommendation, to move into Honors for the 2nd semester. **Length: Year; Grade 9; Credits: 20 (10 Distributional)**

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
Introduction to Computer Science	FST	MRWA or Intro to CS	Pre-Calculus	AP Calculus
	MRWA or Pre-Calculus with Quantitative Reasoning		AP Calculus or AP Stat	AP Statistics or AP CS

M111 HN Algebra 1

This course is an accelerated version of M101. An advanced course that will address the newly adopted Massachusetts Curriculum Framework for Mathematics Incorporating the Common Core Standards for Mathematics. The eight Standards of Mathematical Practice will be incorporated throughout the semester as students discuss, among other topics, rational and irrational numbers, writing and interpreting polynomial and rational expressions, creating and reasoning with equations and inequalities, interpreting and building functions including linear, quadratic and exponential models, and summarizing and interpreting statistical and probability data. The course is designed to involve students in active learning, inquiry based problems, and problem solving strategies to build conceptual understanding and to strengthen students' abilities to think, reason, and problem-solve using mathematical understandings and skills. **Length: Semester; Grade 9; Credits: 10; Prerequisite: Grade of B or better in 8th grade math and 8th grade teacher recommendation**

M121 CP Geometry

This course will cover the newly adopted Common Core Standards for Massachusetts outlined in the Massachusetts Curriculum Frameworks. Students will engage in the eight Standards of Mathematical Practice while learning about congruent and similar figures, geometric proofs, transformations, coordinate geometry, properties of 2-dimensional figures (triangles, quadrilaterals, and circles), trigonometry, and basic probability. Students will engage in the eight Standards of Mathematical Practice by acquiring specific knowledge using active, hands-on learning and then applying that knowledge to real-life scenarios. Students will also obtain useful problem solving strategies to strengthen their ability to think about, reason through, and explain difficult mathematical concepts. Students who excel during the 1st semester of the course will be given the opportunity, with teacher recommendation, to move into Honors for the 2nd semester. **Length: Year; Grade: 9, 10; Credits: 20; Prerequisite: Passing grade in Algebra 1**

M122 HN Geometry

This course is an accelerated version of M121. This advanced course will cover the newly adopted Common Core Standards for Massachusetts outlined in the Massachusetts Curriculum Frameworks. Students will engage in the eight Standards of Mathematical Practice while learning about congruent and similar figures, geometric proofs, transformations, coordinate geometry, properties of 2-dimensional figures (triangles, quadrilaterals, and circles), trigonometry, and basic probability. Students will engage in the eight Standards of Mathematical Practice by acquiring specific knowledge using active, hands-on learning and then applying that knowledge to real-life scenarios. Students will also obtain useful problem solving strategies to strengthen their ability to think about, reason through, and

explain difficult mathematical concepts. **Length: One Semester; Grade: 9, 10; Prerequisites: Grade of B or better in Algebra 1 or, for incoming 9th graders, an 80% on the Algebra 1 Skills Assessment and 8th grade teacher recommendation**

M201 CP Algebra 2

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 polynomial, logarithmic, rational, and radical functions and relations. This course also addresses topics on trigonometric functions and statistics. **Length: One Semester; Grades: 10-12; Credits: 10; Prerequisite: Passing grade in Algebra 1 and Geometry**

M211 HN Algebra 2

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 also addresses topics on trigonometric functions, probability and statistics. This is a demanding course designed for motivated students. **Length: One Semester; Grades: 10-12; Credits: 10; Prerequisite: Grade of B or better in Algebra 1 and Geometry or teacher recommendation**

M311 CP Functions, Statistics, and Trigonometry

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: Passing Grade in Algebra 2**

M410 CP Pre-Calculus with Quantitative Reasoning

Students in this course will study functions including real world situations and how they are modeled algebraically, numerically, and graphically. This course will demonstrate how algebra and geometry can be used to model real-world situations. Students will use conceptual understandings to become critical thinkers when using quantitative information and connections will be made between statistics and everyday life and work. Students will also explore matrices and vectors to define and solve real-world problems. **Length: One Semester; Grades: 11-12; Prerequisites: Grade of B+ or**

better in Algebra 2 or teacher recommendation

M411	HN	Pre-Calculus
Students in this course 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 teacher recommendation		

M413	CP	Mathematical Reasoning with Applications
This course provides an alternative to Pre-Calculus for students who wish to continue to study mathematics beyond topics found in Algebra 2 and Functions, Statistics & Trigonometry. The course curriculum focuses on answering the question, "Why do I need to learn math?" Students will look at how mathematical concepts such as graph theory, cash flow, linear and exponential growth, percentages, probability, statistics, and estimation are encountered in areas such as business, personal finance, casinos, media, economics, sports, medicine, and the environment. These topics are investigated in a way that conveys the extent in which modern mathematics is used on a daily basis. As a part of this class, you will learn the skills to create and present unique projects that will show your understanding of the course content and highlights your unique interests and ideas. Honors and CP classes at times will meet together. Length: One Semester; Grades: 11, 12; Credits: 10; Prerequisite: Passing Grade in Algebra 2, or Functions, Statistics & Trigonometry		

M412	HN	Mathematical Reasoning with Applications
This course provides an alternative to advanced placement mathematics for motivated students. The course curriculum focuses on answering the question, "Why do I need to learn math?" This course looks at how mathematical concepts such as graph theory, cash flow, linear and exponential growth, percentages, probability, statistics, and estimation are encountered in areas such as business, personal finance, casinos, media, economics, sports, medicine, and the environment. These topics are investigated in a way that conveys the extent in which modern mathematics is used on a daily basis. As a part of this class, you will learn the skills to create and present unique projects that will show your understanding of the course content and highlights your unique interests and ideas. Honors and CP classes at times will meet together. Length: One Semester; Grades: 11-12; Credits: 10; Prerequisite: Passing grade in HN Algebra 2, FST or Pre-Calculus with Quantitative Reasoning		

M415	CP (HN Opt)	Introduction to Computer Science: Exploring Programming
This course is designed for students who have had no previous programming experience. The software package Alice features a development environment using 3D graphics to introduce students to computer programming and the Java language. Students will use Alice throughout the course to		

create projects in small virtual worlds using 3D models and Java programs. Students may also be exposed to other programming languages such as Python and Scratch. The course is intended not only to familiarize students with computer programming, but also to sharpen problem-solving skills. Honors designation can be earned by completing additional assignments and projects. This class can be taken for mathematics or RSTA credit. **Length: One Semester; Grades: 9-12; Credits: 10; Prerequisite: Passing Grade in Algebra I**

■ ADVANCED PLACEMENT COURSES

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

M416	AP	COMPUTER SCIENCE
The AP Computer Science course is an introductory course in computer science. Because the design and implementation of computer programs to solve problems involve skills that are fundamental to the study of computer science, a large part of the course is built around the development of computer programs that correctly solve a given problem. These programs should be understandable, adaptable, and, when appropriate, reusable. At the same time, the design and implementation of computer programs is used as a context for introducing other important aspects of computer science, including the development and analysis of algorithms, the development and use of fundamental data structures, the study of standard algorithms and typical applications, and the use of logic and formal methods. In addition, the responsible use of these systems is an integral part of the course. This course is a joint CRLS and Microsoft Corporation TEALS Program initiative and will be co-taught by a Microsoft employee and a CRLS teacher. Length: One Semester; Grades: 10-12; Credits: 10; Prerequisite: Passing grade in Algebra 2		

M501	AP	Calculus AB
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. Advanced Placement curriculum for this course will be addressed and AP Calculus Exam problems will be used to supplement course topics. Length: Year; Credits: 20 (10 Distributional); Prerequisites: Grade of B or better in HN Pre-Calculus and/or teacher recommendation		

M502	AP	Calculus BC
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 and AP Calculus Exam problems will be used to supplement course topics. This is a demanding course designed for motivated students. This class can be taken for mathematics or RSTA		

credit. **Length: Year; Credits: 20 (10 Distributional); Prerequisites: Grade of B+ or better in HN Pre-Calculus and/or teacher recommendation.**

M510	AP	Statistics
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This course will provide students with an in-depth and rigorous study of statistics with the goals of improving students' statistical fluency and interpretation of statistical data and ideas. The course will follow a curriculum approved by the Advanced Placement Committee of the College Board. Topics included as part of this curriculum will be distribution analysis, probability & simulations, sampling methods and making inferences based on data. AP Statistics Exam problems will be used to supplement course topics. **Length: One Semester; Grades: 11,12; Credits: 10; Prerequisites: Grade of B or better in HN Pre-Calculus or teacher recommendation**

Media Arts

SCHOOL WIDE LEARNING EXPECTATION:

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

STAFF:

Ginny Berkowitz, Media Arts Manager

The Media Arts program addresses the ever-increasing need for 21st century citizens to create media and utilize new technologies. Students may choose media making courses from introductory through advanced multi-media production and distribution. Courses offer theory, planning, production and distribution skill development, and include collaborative projects that provide first hand experience with professional media makers. Media Arts classes are offered in conjunction with English, Science, RSTA, and Visual and Performing Arts departments, and are open to all CRLS students.

Completed student work is shown on our two Cambridge cable channels, Smart TV98 and CPS TV99, streamed on our web site, and archived on the CPS MediaCAST portal.

COURSE LIST:

DIGITAL FILM AND TV PRODUCTION

EXPERIMENTAL MEDIA

MEDIA JOURNALISM (HN Opt)

MULTIMEDIA SPORTS REPORTING (HN Opt)

MUSIC PRODUCTION (HN Opt)

VISUALIZING & COMMUNICATING SCIENCE

MART970	HN	Experimental Media
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This is an advanced class for students who can demonstrate advanced media and web production skills. Challenge yourself as a media-maker and artist to produce non-traditional media projects that will also be shared with the community via installations, broadcasts and screenings. **Length:**

One Semester; Grades: 10, 11, 12; Credits: 10; Prerequisites: Digital Film and TV Production, Digital Studio or Instructor Approval

MART971	CP (HN Opt)	Media Journalism
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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. 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 create segments for Community Meeting - The Word. Your work will also be shown in Community Meeting during the school day and on CEATV 98. Can be taken for English elective credit. **Length: One Semester; Grades: 10, 11, 12; Credits: 10**

MART100	CP (HN Opt)	Multimedia Sports Reporting
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Write, research and present the stories of Falcon Sports Teams and address the pressing issues in high school sports for a general audience. Students in this class will practice writing for television and web as well as expand their media technology skills. Over the course of the semester students will conduct studio and field interviews, report scores, cover live games, develop graphics, edit on Final Cut Pro, and contribute to our new sports blog. Can be taken for English elective credit. **Length: One Semester; Grades: 10, 11, 12; Credits: 10**

MART102	CP (HN Opt)	Music Production
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Learn to record your own music and tracks. Use ProTools, Noteflight and other studio software/hardware to bring your audio ideas to life. This introductory course will explore the roles and responsibilities of music producers and engineers from idea inception to finished product. Comprised of 4 mini units - Basics of Audio Technology, Use of Pro Tools, Hands on Original Experiences, and Critical Listening - the course will also address basic music composition and arrangement techniques related to digital workflow. Can be taken for VPA elective credit. **Length: One Semester; Grades: 9, 10, 11, 12; Credits: 10**

MART101	HN	Visualizing & Communicating Science
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Students in this course will practice translating scientific concepts into visual stories using animation, traditional documentary and photojournalism. Creating pieces on recent advances as well as the historical milestones in science, students will discover the challenges of communicating complex and evolving concepts for a general audience. **Length: One Semester; Grades: 9, 10, 11, 12; Credits: 10**

■ MEDIA ARTS ELECTIVES IN OTHER DEPARTMENTS

T612L	CP	Digital Film & TV Production
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Offered by RSTA. See page 48.

Rindge School of Technical Arts

SCHOOL WIDE LEARNING EXPECTATION:

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

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

STAFF

Dr. Michael Ananis, Executive Director

Clare Garman, Career Counselor

Jaci Rubin, Cooperative Education/First Work

Paula Riley, Clerk

Welcome to the exciting world of Career and Technical Education (CTE) 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, approximately 90% of CRLS graduates who have majored in a CTE field of study at RSTA have been accepted to college. RSTA offers ten (an eleventh is expected for the start of the 2016-2017 school year) three-year CTE programs of study ("majors") and one-semester electives in several programs, including Automotive, Engineering, Business Education, Banking, and Computer Science/Programming. Students who matriculate through RSTA courses and programs gain skills, knowledge, confidence, and self-esteem. The programs in the RSTA department 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 the (CTE) department of CRLS and 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 including clinical experiences for those who qualify and who choose it, and the Level 3 course, with the possibility of a Cooperative Education experience for seniors who apply and are qualified.

Our facilities are exceptionally well-equipped and our faculty is highly qualified, fully-licensed, 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 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 plan a route 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. Career Counseling is available to all RSTA students in an effort 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 Student 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. Changes in job outlooks and developments in the world of work can lead to modifications in our programs. Several educational opportunities not offered at RSTA are available through our participation in the Shore Collaborative SOLVED. Cambridge residents wishing to major in a Chapter 74-approved CTE program not currently offered at Rindge or through the SOLVED Collaborative should contact the RSTA Executive Director for information AND must get approval from the Superintendent. The deadline for approval by the Cambridge Superintendent of tuition to a CTE program of studies outside of Cambridge is April 1 of the year in which the program begins.

Michael V. Ananis, Ed.D.

RSTA Executive Director

■ ENROLLMENT IN CAREER & TECHNICAL EDUCATION PROGRAMS

Enrollment in any of the Career & Technical Education (CTE) programs at RSTA, including the 9th grade Tech Exploratory courses, 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

Cooperative Education is a special optional opportunity available only to seniors who have passed MCAS and who have successfully completed one and one-half years of 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, Deans, Guidance Counselors, the Cooperative Education Coordinator, and the Executive Director of RSTA
- » 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
- » A record of satisfactory conduct including where appropriate, meeting the criteria for employment at the Coop Ed worksite.
- » Compliance with the behavior, attendance, and tardiness policies 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 full-year RSTA Level 1, Level 2, and Level 3 courses include an embedded physical education and wellness 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 most RSTA courses. Students enrolled in most RSTA Level 1, Level 2, or Level 3 course are NOT required to take a separate Phys. Ed./Wellness 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
- Level 2: Fitness Training
- Level 3: CPR/First Aid

■ 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 people from business & industry working together to ensure that participating students become world-class workers. RSTA students who are members of SkillsUSA compete locally and state-wide with students in their technical area of study or in a leadership competition. State winners advance to the Nationals, to compete 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. SkillsUSA students 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 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

Ninth graders have two Exploratory options available to them.

Exploratory (T120) consists of 12 different classes which rotate every 6 – 7 days. See description below for classes in T120.

Exploratory (T121) consists of approximately 6 weeks in the Biotech, Engineering, IT classes, as well as Health Assisting. See description below for classes in T121.

T120	TC	Technical Arts Exploratory
Students rotate through hands-on learning activities in the following areas: Automotive Technology, Business Education, Careers & Safety, Carpentry, Creative Design, Culinary Arts, Early Education & Care, Graphic Communication, Health Assisting, Hospitality, Media Technology; and take an additional rotation called BE-IT, which exposes students to the areas of Biotech, Engineering, and Information Technology. In the Technical Arts Exploratory students spend between 6 – 7 days in each class learning fundamental elements of that area and what it's like to work in that field. Students are provided with a broad range of experiences including problem-solving, working in teams and complete basic projects which are both fun and challenging. In the Careers/Safety class students take a basic career interest inventory and learn about their strongest career type; and how to be safe in a variety of work settings. Length: One Semester (Fall only); Credits: 10; Grade 9		

T121	TC	BE-IT Exploratory (Biotechnology, Engineering, Information Technology, Health Assisting)
The BE-IT Exploratory provides students with learning experiences focused in three areas: Biotechnology, Engineering, Information Technology, and Health Assisting. Students spend weeks in each of these classes learning the fundamental elements of each area and what it's like to learn and work in these growing fields. BE-IT is designed for those students who enjoy science and math, like to figure out how things work and who are curious about how to solve problems using creativity, computers, technology, and teamwork. Students complete projects in each subject area which are designed to be both challenging and fun. Length: One Semester (Fall only); Credits: 10; Grade 9		

■ 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) Automotive Service Technology 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 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 Wellness course. **Length: Year; Credits: 17.5 Automotive and 2.5 PE; Grades: 10, 11.**

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. This course will include a review of Level 1. This course also includes an embedded Physical Education and Health component. Students in this course will not be required to take a separate Wellness course. **Length: Year (Two blocks each Semester); Credits: 37.5 Automotive and 2.5 PE; Grades: 11, 12; 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 Wellness component. Students in this course will not be required to take a separate Wellness course. **Length: Year (Two blocks each Semester); Credits: 37.5 Automotive and 2.5 PE; Grades: 12; Prerequisites: Automotive Technology 1 and 2**

T501	TC	Automotive Upkeep
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This course is reserved for Grade 11 or 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 & cleaning, understanding automotive fluids, common problems, roadside emergencies, alternative fuels and hybrid automobiles and the future of the automotive industry. **Length: One semester; Credit: 10; Prerequisite: open to grade 11 or 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 RSTA Biotechnology Program is a Massachusetts Department of Elementary and Secondary Education (DESE) Career and Technical Education (CTE), Chapter 74-approved program. We offer a unique opportunity for students to gain experience with a variety of laboratory techniques in a state-of-the-art facility. With funds from a grant award from the Massachusetts Life Sciences Center (MLSC) in 2012, we established a mammalian cell culture facility, enhanced our protein purification capability, and upgraded lab equipment and computers. Another MLSC grant in 2015 spawned a collaborative research project with IOMICS aimed at identifying genetic pathways in yeast, which may be relevant in human genetic diseases. Students enrolled in intermediate- and advanced-level biotech courses can participate in this exciting, real-world research endeavor. Students have two options for advancing to Biotech 2 - through Biotech 1 or Science of Food. All biotech courses explore prospective careers and work environments through field trips, guest lectures, and independent research. Laboratory and 21st century skills and bioethics are emphasized throughout, making students attractive candidates for a variety of work-study programs in college. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts). Full Year Biotechnology courses also include an embedded Physical Education and Health component. Students in these courses are not required to take a separate Physical Education course. Science Department Credit is available for students who successfully complete Biotechnology courses.

T610	TC	Introduction to Biotechnology (Biotech 1)
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In Biotechnology Level 1 (Honors option), students practice the fundamental skills employed in a research laboratory. Students learn how to conduct themselves safely in the laboratory and develop mathematical, computer, and documentation skills to establish a solid foundation for a research lab environment. Students learn the principles and techniques of recombinant DNA technology and real-life applications with emphasis on commonly used techniques including DNA isolation and analysis, genetic transformation, PCR, spectrophotometry, centrifugation, and gel electrophoresis. Upon mastering the basics, students begin to design and conduct independent laboratory experiments to develop confidence, problem-solving and critical thinking skills. We emphasize and practice soft skills important to success in the workplace including professional etiquette, teamwork, integrity, flexibility, communication, and leadership. **Length: One Semester; Credits: 10 Biotechnology; Grades: 10, or the prior approval of the instructor.**

T515	TC	The Science of Food
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Science of Food is a laboratory-based, elective science course inspired by Harvard's Science and Cooking course. It consists of a combination of lectures, labs, guest speakers, and field trips, through which students study

chemical and physical principles involved in cooking. Students employ the fundamentals of good laboratory practice from safety and documentation to sound experimental design data analysis. Through a collaborative partnership with the RSTA Culinary Program, students explore scientific concepts as they come to life through edible experiments under the guidance of culinary instructor. Investigations include both traditional methods of food preparation and techniques in molecular gastronomy currently being developed by avant-garde chefs around the world. Students learn to detect genetically modified foods using polymerase chain reaction (PCR). They isolate and study enzymes from food and understand the critical role microbiology plays in popular foods. Design challenges and experiments involve phases of matter, foams, emulsions, gelation, and spherification, heat transfer, viscosity, and elasticity. Successful completion of Science of Food qualifies students for Biotech Level 2. **Length: One Semester; Credits: 10 Biotechnology; Grades: 10, 11, 12 or the prior approval of the instructor.**

T870	HN	Intermediate Molecular Biology (Biotechnology 2)
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Biotechnology Level 2 (Honors) is an intermediate course through which students build upon the foundation established in Biotech 1. Students engage in projects that involve manipulation of recombinant DNA, restriction analysis, PCR analysis, transformation, protein expression and purification, bioinformatics and ELISA. Independent projects throughout the year provide opportunities to investigate individual areas of interest, promote independence, and develop problem-solving abilities. The course is designed for continued development of 21st Century Skills important for success in the workplace. Through field trips and guest lectures, students have the opportunity for exposure to a wide range of science careers and to interact with professionals from the biotech industry, academia, and hospitals. Sound research and presentation skills continue to be emphasized and practiced. **Students in this course will not be required to take a separate Wellness course. Length: Year; Credits: 17.5 Biotechnology, 2.5 PE; Grades: 11, 12; Biotechnology 1 or the prior approval of the instructor.**

T980	HN	Advanced Biotechnology (Biotechnology 3)
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In Biotechnology Level 3 (Honors), students learn fundamental concepts and techniques in protein engineering and analysis. Students use micro-organisms to produce proteins and to study protein structure, function, modification and protein engineering. Students are introduced to mammalian cell culture and embark on semester-long research projects relevant in the biotech industry. They explore protein purification methods including hydrophobic interaction, ion-exchange, size-exclusion, and affinity chromatography methods. Journal Club provides the opportunity to develop presentation and communication skills while deepening understanding of emerging scientific issues. Qualified students have the opportunity to refine and practice their laboratory skills through summer and after school research experiences. Students completing Level 3 are well-suited for post-secondary educational opportunities and are attractive candidates for college laboratory work-study programs. **Students in this course will not be required to take a separate Wellness course. Length: Year; Credits: 17.5 Biotechnology, 2.5 PE; Grades: 12; Biotechnology 2 or the prior approval of the 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 mill work 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. **Length: One Semester (Either Fall or Spring); Credits: 10; Grades 10, 11; Prerequisite: Career Interest Survey**

T520	TC	Basic Home Repair
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In this introductory course, students learn about the operations of the major systems in the home (electrical, heating, plumbing), the safe and proper use of many household tools and products, and how to perform minor repairs and maintenance around the home. This course covers aspects of energy efficiency as well as when and how to call in the services of the appropriate professional contractor. **Length: One Semester (Spring); Credits: 10; Grades: 11, 12**

T841	TC	Carpentry 2
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This course 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 Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each semester); Credits: 37.5 Carpentry and 2.5 PE; Grades: 11, 12; 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 apply the skills they acquired in Carpentry 2 on interior finish work of doors, floors, and ceilings; stairs; walls; 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 Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each semester); Credits: 37.5 Carpentry and 2.5 PE; Grade: 12; Prerequisite: Carpentry 1 and 2**

■ CREATIVE DESIGN

Creative Design is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program that prepares students for the Creative Design field through a series of tasks and competencies in the areas of: Graphic Design, Digital Photography, Vinyl Graphics, Advertising, Illustration, Web Design, and Web Animation. In state-of-the-art studio, RSTA students gain valuable experience in this field, which integrates design, computer software, and digital media. 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	Creative Design 1
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This beginning level course is intended to introduce students to the fundamentals of graphic design. As students complete projects that are both challenging and fun they begin learning the fundamentals of design. Using Apple computers, students will learn how to use design software including Adobe Illustrator, Adobe Photoshop, digital cameras, scanners, and drawing tablets. Through thumbnail sketching, exercises and projects, students are exposed to the many areas of creative design in an environment that fosters the ability to think visually during the creative process. Students will also further their understanding of design through “live” work projects. Students will develop their problem solving skills while working independently as well as collaboratively with their classmates and “live work” clients. Student cooperation and participation is mandatory. This class includes frequent individual and group critiques of student work. Strong computer skills are necessary. A student cannot be placed in this class after September 30th unless they can demonstrate to the instructor adequate Adobe Illustrator knowledge & skills to proceed at the level at which the class is functioning. This course includes a Wellness component. **These students will not be required to take a separate Wellness course. Length: Year (One blocks each semester); Credits: 17.5 Creative Design and 2.5 PE; Grade: 10, 11**

T845	HN	Creative Design 2
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This is an Honors Level course where students develop and refine their skills through a combination of “live-work” projects, teacher generated and self-directed assignments, projects, and exercises. Students continue to develop problem solving and design skills while improving the discipline of working with care and attention to detail while gaining proficiency with studio equipment. Students further their understanding of design through “live” work assignments. Students continue to develop visual skills including layout, composition, design, illustration, and photography. Students will expand their knowledge and further develop computer skills using Adobe Creative Suite software (Illustrator, Photoshop, InDesign, Acrobat) and learn various forms of multimedia design—creating websites, learning animation, and digital video. Students will also use vinyl graphics for sign making projects. Students will develop and assemble an electronic and print portfolio. This course includes a Wellness component. **These students will not be required to take a separate Wellness course. Length: Year (Two blocks each semester); Credits: 37.5 Creative Design and 2.5 PE; Grades: 11, 12; Prerequisite: Creative Design 1 or with the approval by the instructor**

T995	HN	Creative Design 3
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This is an Honors Level course where advanced design students develop all the fundamentals, knowledge, skills, and attitudes necessary to be successful in either entry-level positions as a design professionals and preparation for post-secondary education. This course is geared towards independent projects. Advanced and highly motivated students continue to create visual messages through “live” work assignments and design exercises. Learning focuses on practical applications of previously learned skills with an emphasis on portfolio development and college/career exploration and preparation. Students continue to expand their computer skills using Adobe Creative Suite (Illustrator, Photoshop, InDesign, Acrobat) software. Advanced projects expose students to a comprehensive approach to design including layout, imagery production, and final execution of a design. Student will develop and assemble an electronic and print portfolio. Additionally, students continue to explore various forms of multimedia design. Qualified students will be offered the opportunity to participate in RSTA's Cooperative Education program in the design field. This course includes a Wellness component. **These students will not be required to take a separate Wellness course. Length: Year (Two blocks each semester); Credits: 37.5 Creative Design and 2.5 PE; Grade: 12; Prerequisite: Creative Design 2**

T996	HN	Creative Design 4
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This is an Honors Level course where advanced students hone all the fundamentals, knowledge, skills, and attitudes necessary to be successful in either entry-level positions as a design professionals and preparation for post-secondary education. This course is geared towards independent student projects. Advanced and highly motivated students continue to create visual messages through “live” work assignments. Learning focuses on practical applications of previously learned skills with an emphasis on portfolio development and career and college preparation. This class includes frequent group and individual critiques of student work. Qualified students will be offered the opportunity to participate in RSTA's Cooperative Education program in the design field. **Length: Year; Credits: 20; Grade: 12; Prerequisite: Creative Design 3.**

■ 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 of a food service enterprise. Students rotate weekly through cooking, catering, baking, and restaurant management and learn in a modern, clean, and safe professional kitchen. Advanced students learn to operate a small take-out restaurant focusing on the application of good business skills. In this program, students acquire the practical knowledge 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
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Using a competency-based, industry-relevant curriculum, students learn basic skills needed to work in a professional kitchen or bakery. Through direct experiences, 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. **Length: Year; Credits: 20; Grades: 10, 11; Prerequisite: Career Interest Survey**

T602L	TC	Culinary Foundations
In this introductory course, students learn the fundamental concepts and practices related to preparing food in a commercial kitchen. Safety, sanitation, measurements, knife skills, customer service, and basic cooking and baking skills are practiced. Students will begin to develop a foundation for employment in the food service industry and gain an understanding of the many professions it encompasses. Length: One Semester; Grades: 10, 11; Credits: 10		

T842	TC	Culinary Arts 2
Students rotate through cooking, catering, bakery, and front of the house/management. Through direct application, students develop and demonstrate an understanding of the 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, and 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 includes an embedded Wellness component. Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each Semester); Credits: 37.5 Culinary and 2.5 PE; Grades: 11, 12; 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 supervise the operation of the Falcon's Nest Café. Seniors are made aware of possible Cooperative Education work, internship opportunities, and community service projects. Students enrolled in Culinary 3 who are applying to post-secondary colleges, have the opportunity to earn the ServeSafe certification. Students also prepare 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 includes an embedded Wellness component. Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each Semester); Credits: 37.5 Culinary and 2.5 PE; Grade: 12; Prerequisites: Culinary Arts 1 and 2		

■ EARLY EDUCATION AND CARE

T750	TC	Child Growth and Development (Early Education 1)
This course introduces students to the study of Child Growth and Development from birth to age 5. Students will learn about the brain development of infants and toddlers and attachment theory. Students acquire the knowledge to promote health and safety with the children in their care and ways to make a difference in the lives of children. Students will learn and practice observational skills as a tool to learn about how children grow and develop. Through reflection, students will develop an increased self-awareness to uncover the influence their own experiences play in their interactions with children. Students will compare and contrast child rearing practices across different cultures to acquire an appreciation for cultural		

perspectives other than their own. Students learn about developmentally appropriate practice and apply their knowledge by selecting developmentally appropriate books, toys, and activities to engage young children. Students will begin to practice their DAP knowledge through direct interactions with young children. **Students in this course will not be required to take a separate Wellness course. Length: Year; Credits: 15 and 5 for PE; Grades 10**

T751	TC	Early Childhood Professional (Early Education 2)
Students in this course begin to acquire the knowledge and skills prerequisite for becoming an early childhood professional. Students will study the social, emotional and physical development of preschool to school age children. Students will develop their research and technology skills as they prepare for class presentations and technology based projects. Students will develop their writing skills as they prepare for college and professional careers. Students learn how to promote children's health and safety in the child care setting. Students will apply theory to their observations of and work with children in a child care center. Students will develop skills to work directly with children 2 days per week, second semester with hands-on learning in a child care field placement. Students will assess and develop the 21st century skills needed to work directly with children. Students will explore careers in Early Childhood Education and related fields. Students develop strategies and skills for the guidance and discipline of young children. Students learn about developmentally appropriate practice and apply their knowledge by selecting DAP, (Developmentally Appropriate Practices), activities that engage young children. Students will learn to facilitate a small group activity and perform a small group read aloud. Students develop an increased sense of their own cultural awareness as they select, plan and facilitate activities that support diversity and foster understanding of differences in the early childhood classroom. This is a full year course that meets 1st block Fall semester and 1st & 2nd block Spring semester to accommodate field placement. Students in this course will not be required to take a separate Wellness course. Students in this course will not be required to take a separate Wellness course. Length: Year; Credits: 27.5 Early Education and 2.5 PE; Grades: 11, 12; Prerequisite: Satisfactory completion of T750 or Instructor Permission.		

TT752	TC	Child Care Today (Early Education 3)
This is a full year course that meets 1st block Fall semester and 1st & 2nd block Spring semester to accommodate field placement. Students in this course will continue to strengthen their 21st century skills pre-requisite for working as an early childhood professional. Students will develop skills to work directly with children 2-3 days per week, second semester with hands on learning in a child care classroom. Students will develop and apply strategies for the guidance and discipline of young children. Students plan for and gain practice promoting children's health and safety in the child care setting. Students will apply theory to their observations and work with children in a child care center. Students apply their knowledge of developmentally appropriate practice by designing a curriculum unit of study for young children. Students will learn how to promote an anti-biased approach to curriculum that embraces diversity and fosters an understanding of differences. Students will learn how to design and plan for the set-up of an early childhood classroom. Students will learn to facilitate group activities and perform large group read-alouds and lead circle time. Students will hone their writing skills as they prepare for college and pro-		

professional careers. Student will develop their professional communication skills. Students will engage in project based learning to enhance their use of technology and professional presentation skills. Students will develop independent study skills and professional presentation skills. **Students in this course will not be required to take a separate Wellness course. Length: Year; Credits: 27.5 and 2.5 PE; Grades 12. This is a full year course that meets 1st block Fall semester and 1st & 2nd block Spring semester to accommodate field placement. Prerequisite: Satisfactory completion of Level 2, T751 or Instructor Permission.**

■ 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 MA Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T603	TC	Engineering 1
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This course consists of two Project Lead the Way (PLTW) units of study: "Introduction to Engineering Design" (IED) and "Computer Integrated Manufacturing" (CIM). Students in this course develop problem solving skills and learn the engineering 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. **Length: Year; Credits: 20; Grades: 10, 11, 12; Prerequisite: Career Interest Survey**

T843	HN	Engineering 2
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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 learn 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 Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: Year;**

Credits: 17.5 Engineering and 2.5 PE; Grades: 11, 12; Prerequisites: Engineering 1, Engineering Design/CIM (FastTrack), or approval by the engineering instructors

T983	HN	Engineering 3
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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. Qualified students will be offered the opportunity to participate in a Cooperative Education placement at one of the local engineering firms. This course also includes an embedded Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each Semester); Credits: 37.5 Engineering and 2.5 PE; Grade: 12; Prerequisites: Engineering 1 or FastTrack Engineering and Engineering 2**

T502	TC	Fast Track Engineering
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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 who successfully complete this course will also be eligible to continue as Level 2 Engineering students. (Grade 10 students who continue in this program may also become eligible for a Co-Op Ed. Position in their senior year.) **Length: One Semester; Credit: 10; Prerequisites: open to grade 10 and 11, students not currently or previously enrolled in Engineering Level 1, 2 or 3, or with approval by the Engineering instructors**

T503	TC	Robotics/FIRST
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In this course students learn ways of making a robot using the state-of-the-art RSTA facility in conjunction with MIT faculty and students and other local engineers. 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) 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; Prerequisites: 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**

T504	HN	Robotics 2
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Level 2 robotics is for students that have successfully completed Introduction to Robotics (Level 1). Building on knowledge of robots and

sensors, students complete more advanced robotic and programming tasks. The Arduino controller is introduced. After reviewing robotic concepts, students create a project of their own choice and apply what they have learned. **Length: one semester; Credit: 10; Prerequisites: 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, screen printing equipment, and modern binding machines to create and produce projects such as stationery, calendars, T-shirts, note pads, 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
In this course students learn the fundamentals of the production processes as they apply to modern paper and fabric printing. Students learn all facets of the printing industry, including press operations and pre-press. Students learn how to use professional level software for desktop publishing, a wide variety of silk screen applications, as well as how to operate press, bindery, and digital imaging equipment. Length: Year; Credits: 20; Grades: 10, 11; Career Interest Survey		

T847	TC	Graphic Communications 2
This course encourages 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 acquire higher level skills in the areas of press, screen printing, bindery, and digital imaging. This course also includes an embedded Wellness component. Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each semester); Credits: 37.5 Graphic Communications and 2.5 PE; Grades: 11, 12; Prerequisite: Graphic Communications 1		

T987	TC	Graphic Communications 3
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 Wellness component. Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each Semester); Credits: 37.5 Graphic Communications and 2.5 PE; Grade: 12; Prerequisite: Graphic Communications 2		

T607L	TC	Introduction to Digital Printing
Students in this introductory course will learn the fundamental aspects of offset, digital, and silk-screen printing. Students will learn how to use com-		

puters for desktop publishing as well as acquire production skills in the areas of press, bindery, silk-screen printing, and digital printing. **Length: one semester; Credit: 10; Prerequisite: open to grade 10 and 11, students not currently or previously enrolled in Graphics Communications Level 1, 2 or 3, and with approval by the 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 the acquisition of medical knowledge 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
Students in this course learn to use proper medical terminology and acquire the basics of health care techniques and procedures. The students gain an understanding of anatomy and physiology as they relate to each disease process. The emphasis of learning is on the application of the fundamental medical skills as they relate to the human body. (Example: The Cardiac System -- learning to take a Blood Pressure). The students also explore health careers and gain a general knowledge about procedures used in various health care settings (Nursing Homes, hospitals, ambulances, etc.). Community projects and some learning may take place at local health care facilities. Length: Year; Credits: 20; Grades: 10, 11; Prerequisite: Career Interest Survey		

T851	TC	Health Assisting 2
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 related to the aged. Students learn to use knowledge and skills in communication, ethics, confidentiality, interpersonal relations, problem-solving, and critical thinking. The acquisition of knowledge 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 Massachusetts Department of Public Health's Nursing Assistant test and become certified. This course also includes an embedded Wellness component. Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each Semester); Credits: 37.5 Health Assisting and 2.5 PE; Grades: 11, 12; Prerequisite: Health Assisting 1		

T981	TC	Health Assisting 3
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 advanced procedures and applying them to the work force. 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 Wellness component.

Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each Semester); Credits: 37.5 Health Assisting and 2.5 PE; Grade: 12; Prerequisites: Health Assisting 1 & 2

■ INFORMATION TECHNOLOGY/ COMPUTER SCIENCE

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 sequence of courses that prepares individuals with technical skills leading to careers in IT. Students 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. Computer Science courses are offered in a sequence of increasing complexity and escalating challenge, in anticipation of approval as a Chapter 74 (Mass. DESE) program of Career & Technical Education. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts).

T604 TC Intro to Computer Science & Information Technology 1

This full-year class is intended for students interested in beginning the RSTA Computer Science or Information Technology programs. Students will spend half the year learning Information Technology basics and the other half learning an Introduction to Computer Science (M415). Intro to CS will follow the same curriculum as the math version of the class with an additional focus on software career readiness. The IT component is an introductory course in which students acquire an understanding of Information Technology (IT) fundamentals. Students are prepared to pass the first half of the A+ certification, a basic certification for IT. The class will cover computer hardware, operating systems, virtual machines, cloud computing, information security, networking, laptops, databases, printers, and operational procedures. **Length: One Year; Credits: 7.5 IT, 10 Math, and 2.5 PE; Grades: 10, 11 or permission of instructor; Prerequisite: Career Interest Survey**

T746 TC Information Technology 2

Students in this course learn about information support services and networking. Students build on the basic knowledge gained in IT 1 and Intro to CS. Topics include mobile computing, hardware support, information security, advanced networking, and advanced server configuration, hardware support, PC diagnosis, and installing upgrades. Students learn how to maintain computers in a business environment and how to troubleshoot and solve hardware, network, printers, and software problems. Students are prepared to pass the second half of the A+ certification, a basic certification in the IT field, which focuses on Microsoft operating systems and troubleshooting. This course also includes an embedded Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: Year (One block each semester); Credits: 17.5**

IT and 2.5 PE; Grades: 11, 12; Prerequisite: Information Technology 1 and Introduction to Computer Science

T527 TC Computer Science 2

Computer Science 2 is a continuation of the RSTA Computer Science curriculum. Students will spend half the year learning web design and development and half the year learning game design and development (see electives T527 & T627 below for details). Over the course of the year, students will learn HTML5, CSS3, JavaScript, Python, and Unity as well as career readiness skills for the software industry. This course also includes an embedded Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: One Year; Credits: 17.5 CS and 2.5 PE; Grades: 10, 11, 12; Prerequisites: Intro to Computer Science and Information Technology 1**

T986 TC Information Technology 3

In Level 3, students continue to pursue more advanced Cisco certifications and other Information Technology topics. Students 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; will do projects relating to current topics in the IT field. Students are prepared to pass the Cisco CCNA certification, a basic certification in the IT field. Career opportunities and internships are also presented. Qualified Level 3 seniors may be placed in paid Cooperative Education jobs during school time. This course also includes an embedded Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: Year (Two blocks each semester); Credits: 37.5 IT and 2.5 PE; Grade: 12; Prerequisites: Information Technology 1 and 2**

T627 TC Computer Science 3

Computer Science 3 is a continuation of the learning done in CS1 and CS2. Students will continue to hone their programming skills through either a project-based class or a work experience with a local software company. Students will focus on increasing their knowledge of a computer language of their choice and learn at least two new languages. Higher thinking concepts like recursion, regular expressions, and use of APIs are covered. This course also includes an embedded Wellness component. **Students in this course will not be required to take a separate Wellness course. Prerequisites: Computer Science 2; Length: One Year; Grades: 11, 12; Credits: 17.5 CS and 2.5 PE**

T527A TC Web Design & Development

The Web Design & Development curriculum is an introduction to the design, creation, and maintenance of web pages and websites. Students learn how to critically evaluate website quality, how to create and maintain quality web pages, learn about web design standards and why they're important, and learn to create and manipulate images. The course progresses from introductory work on web design to a culminating project in which students design and develop websites for local community organizations. **Length: One Semester (Fall); Credits: 10; Grades: 10, 11, 12**

T527B TC Video Game Design & Development

The Video Game Design & Development curriculum is an introduction to the design and creation of video games. Video game development

combines many of the most challenging concepts in Computer Science, including computer graphics, artificial intelligence, human-computer interaction, and more. Students will work in teams to make video games using Unity. **Length: One Semester (Spring); Prerequisites: Introduction to Computer Science and Physics; Grades: 10, 11, 12**

T505	CP	Fast Track IT/CS
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This course is an accelerated offering for Grade 10 and 11 students considering a career in Information Technology and Computer Science. This is an accelerated version of Information Technology 1 and Intro to Computer Science, as described elsewhere. One half of the semester will be spent on Information Technology topics; the second half will be spent on Computer Science topics. Students who successfully complete this course will be eligible to continue as Level 2 Information Technology or Computer Science students. (Students who continue in this program may also become eligible for a paid Co-Op Ed. Position in their senior year.) **Length: One Semester; Credit: 10; Prerequisites: open to grade 10, 11, 12 students not currently or previously enrolled in Information Technology or Computer Science level 1, 2 or 3, or with approval by the IT/CS instructors**

■ 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 education and 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 are 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. **Length: Year; Credits: 20; 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. Students in this course acquire advanced practices in the studio in the areas of sound engineering, lighting design, switching, character generation, directing, and producing. Fieldwork expands into documentary assignments and more detailed pre-production planning, including writing treatments and scripts. Students edit shows

live-to-tape, as well as learn advanced techniques in non-linear editing software. Student work is frequently 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 Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: Year (One block each semester); Credits: 17.5 Media Technology and 2.5 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 work as independent producers creating original programming for television, and may be eligible for a Co-op position either away from the high school 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 Wellness component. **Students in this course will not be required to take a separate Wellness course. Length: Year (One block each semester); Credits: 17.5 Media Technology and 2.5 PE; Prerequisites: Media Technology 1 and 2**

T612L	CP	Digital Film & TV Production
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This course allows you to explore the world of media making through creating your own personal and group video projects. Learn basic camera operations such as what makes good composition, different types of shots and angles, effective camera movement, different visual storytelling techniques and studio production. Gain an introduction to basic audio recording, lighting design, and editing tools such as Final Cut Studio. This class is an opportunity for students to learn how to make different types of videos such as documentaries, movie trailers, narrative shorts, PSAs and music videos. Completed student work will be shown on SMART TV98 and on the Media Arts Studio web site. **Length: One Semester; Credits: 10 Grades: 9 - 12**

■ 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	Entrepreneurship/Business
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Students will learn why entrepreneurs are the backbone of the American economy. Students will be challenged to take a business concept and develop it into a working model after learning about: business plans, the 4 P's of marketing, target markets, competition, business ethics, and more. Students will learn about "Current Events" from around the world and their effect on businesses in our own neighborhood. Student will showcase their business model/business plan in the "Shark Tank" format by presenting their business plan to a panel of their classmates, to convince them to invest in the business. **Length: One Semester, one block; Credits: 10; Grades: 10, 11, 12**

B630	TC	Marketing and Retail Management
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The Marketing course exposes students to the fundamental principles of marketing: consumer behavior, product pricing, promotion, distribution and retail management. Students are given the opportunity to practice their marketing and managerial skills in a “live work” setting, The School Store. Here, students will assume various roles in the operation of The School Store, such as: sales, inventory control, finance, security, advertising, merchandising and personnel management. **Length: One semester, one block; Grades: 11, 12; Credit: 10**

B940	TC	Bank Operations
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Bank Operations is a course for SENIORS only. Students serve as members of the operational team, in conjunction with bank supervisors of the East Cambridge Savings Bank (ECSB), CRLS branch and a business teacher/supervisor. Students have the opportunity to experience the Real World in a bank setting during the one week PAID summer training at the main branch of the ECSB before the beginning of the fall semester. East Cambridge Savings Bank also offers CRLS seniors who either enrolled in this program or plan to attend business schools an opportunity to win a \$1500 scholarship at the end of their high school year. All student bankers automatically get their special one-page display in the year book, a courtesy of the bank. Following the paid training, all students are required to write a narrative regarding their professional experience in a real bank setting and publish it in the spring issue of the Register Forum to educate other juniors about this course/internship. **Length: One Semester; Students have the option to sign for two if there is an opening; Credits: 10 per semester; Grade: 12; Prerequisite: Induction Program and Instructor Approval**

B985	TC	Personal Finance for Seniors
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Welcome to the real world, because “money matters!” Today’s graduates are faced with multiple financial decisions affecting their future. Financial Literacy is important as graduates move forward in life through the workforce, college, and other endeavors. To compete in today’s world, they need to have some basic understanding of the financial situations they will face. This course will introduce students to a variety of topics, including money management, credit, loans, taxes, insurances, savings, investing, personal budgets and the value of bank reconciliation. Buying a home or a car, choosing retirement plans, preparing a will and testament are also integral parts of the course. Students will be introduced to the Consumer Protection Act and related regulations that would help them become knowledgeable consumers. In addition to field trips and documentaries, many components will be presented by financial advisors/bankers from the community to support the curriculum. Knowing how to manage and protect one’s assets is important for everyone to know – It is a practical life skill! **Length: One Semester, Credits: 10, Grades: 10, 11, 12 with preference for interested seniors.**

Science

SCHOOL WIDE LEARNING EXPECTATION:

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

STAFF

Lisa Scolaro, K-12 Director of STEM

Allan Gehant, Dean of Science Curriculum and Program

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.

CORE COURSES

CP PHYSICS

CP CHEMISTRY

HN CHEMISTRY

CP BIOLOGY

HN BIOLOGY

ELECTIVES

CP APPLIED PHYSICS

CP ASTRONOMY

CP MODERN PHYSICS

CP FORENSICS

CP ORGANIC CHEMISTRY

CP CONTEMPORARY APPLICATIONS OF GENETICS (HN Opt)

CP ECOLOGY

CP EPIDEMIOLOGY

CP HUMAN ANATOMY & PHYSIOLOGY (HN Opt)

CP MARINE BIOLOGY

CP OCEANOGRAPHY

CP PLANT BIOLOGY (HN Opt)

CP EXERCISE PHYSIOLOGY (HN Opt)

CP ZOOLOGY (HN Opt)

IN MARINE SCIENCE INTERNSHIP (ACADEMIC INTERNSHIP)

IN SCIENCE AND ENGINEERING RESEARCH (ACADEMIC INTERNSHIP)

IN CRLS TECHNOLOGY LAB ASSISTANT INTERNSHIP

CP ECO-ACTION

AP BIOLOGY

AP ENVIRONMENTAL SCIENCE

AP CHEMISTRY

AP PHYSICS 1

AP PHYSICS 2

AP PHYSICS C MECHANICS

AP PHYSICS C ELECTRICITY AND MAGNETISM

HN VISUALIZING & COMMUNICATING SCIENCE

■ 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

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 over arching goals for the course.

S201

CP

Chemistry

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

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 stan-

dard 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. Students are expected to have a working knowledge of Algebra II concepts. This course will also teach and apply trigonometry and logarithms to astronomy problems. 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. Recommended prerequisites: Algebra 2**

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 overpopulation, 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 (HN Opt)	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 (HN Opt)	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**

S409	CP	Forensics
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This elective integrated science course is ideal for those interested in future studies and/or careers in law, criminal justice, and public safety. Essential questions including the following will be explored: How can someone be wrongfully convicted? What is the history of forensic science, its advancements, and how did it become integrated into the criminal justice system? What are the types of evidence utilized to analyze a crime scene and how are they gathered and processed? When is forensic evidence admissible and when is it not? **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. **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. **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 course provides students the opportunity to design and/or carry out a long-term experimental or engineering project. Students will have the opportunity to visit labs at Harvard, Draper, MIT, the Broad Institute, the Cambridge Water department and other sites. After visiting, students will select a lab they’d like to work in. Once students have identified a project, they will conduct experiments and/or engineering work, make presentations and produce a final research paper, poster and materials for the Science Fair. Students will be supported in their work by attending class at CRLS at least once a week. The course is offered in Block 4, allowing the student to leave school to do work in a lab. Students are expected to spend 10-20 hours weekly on their research. **Length: One semester; Credits: 10; Prerequisites: Application, including resume, transcript and letter of recommendation--See Ms. Dorritie in room 3408 for application.**

S414	CP (HN Opt)	Plant Biology
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Plants are both common and complex organisms. There are plants that eat animals, plants that are thousands of years old, plants that can grow 400

feet tall and plants that are stronger than steel. Plants are intricately part of our lives and some plants have changed the shape of human history. There are plants that have wrought havoc on communities and cost billions of dollars in damage. There are plants that hold the potential to cure cancer and to fuel the energy needs of the future. Learn about the amazing lives of plants: their diversity, their complex evolution, how their reproduction and structure shape ecosystems, how they benefit our health and communities, how they have altered civilizations and how they might solve some of our most difficult environmental issues. We will plant, grow, harvest, propagate, design and experiment. **Length: One semester; Credits: 10; Prerequisites: CP or HN Biology**

S416	CP (HN Opt)	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**

S419	CP (HN Opt)	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**

S420	IN	CRLS Technical Lab Assistant Internship
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The CRLS Technology Lab Assistant Internship will provide students interested in technology with an opportunity to learn in a hands-on environment working with the LC lab staff. Qualified Technology Lab Assistants will help with the management of the schoolwide Chromebook carts. They will become more familiar with our CPS/CRLS resources and provide tech support in the classroom when needed. TLAs will also assist in the labs with scheduled classes. Lab schedules vary each day, so Technology Lab Assistants will have an opportunity to work with teachers and students across the subject areas. TLAs will learn how to support educational technology resources. Technology Lab Assistants will create instructional documents and/or short tutorial videos to be shared with staff and students, and will be able to assist with professional development sessions.

Open to applicants with an interest in learning more about technology and developing important job readiness skills. Interested students must complete an application form to be considered. **Length: One Semester; Credits: 10; Prerequisites: Googledoc application**

■ ADVANCED PLACEMENT COURSES

All students enrolled in an Advanced Placement Science course are encouraged 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; The Biology requirement may be waived with a science teacher recommendation. 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.** ACCELERATED ACCESS: Freshmen with a 95 or better GPA, who are on track to be in Algebra II or higher in their sophomore year have a guidance recommendation and a strong math score in the PSAT9 will receive an invitation from the Dean of Science to take AP Chemistry as a sophomore. **NOTE:** students in the accelerated access pathway of AP Chemistry, who drop the course beyond the first progress report will receive the requisite WF or WP on their transcript.

S504A	AP	Physics 1
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This is a one semester introductory, algebra-based college physics course covering a wide spectrum of physics topics. The course covers all major topics of mechanics: Newton's laws of motion; work, energy, and power; systems of particles and linear momentum; circular motion and rotation; gravitation; oscillations and mechanical waves. However, AP Physics 1 does not parallel AP Physics C: Mechanics, in that the scope of the course extends beyond mechanics to include an introduction to topics such as electrostatics and waves. This course has an inquiry-based experimental component, designed for the student not only to gain hands-on experience observing physical phenomena and using laboratory equipment, but to engage in scientific questioning and to design investigations and implement data collection strategies to answer a particular scientific question. This course prepares the student for the AP Physics 1 exam, the AP Physics 2 course offered in the spring semester, and for calculus-based college physics. **Offered: Fall Semester; Length: Semester; Credits: 10; Prerequisite: Algebra and Geometry, and previous or concurrent enrollment in Algebra 2.**

S504B	AP	Physics 2
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This course continues the treatment of electricity and magnetism introduced in AP Physics 1 in much more depth and detail. However, AP Physics 2 does not parallel AP Physics C: Electricity and Magnetism, in that the scope of the course includes an in-depth treatment of topics such as thermodynamics, fluid mechanics, atomic and nuclear physics, quantum mechanics and the limitations of classical mechanics, optics, and electromag-

netic waves. This course has an inquiry-based experimental component, designed for the student to not only gain hands-on experience observing physical phenomena and using laboratory equipment, but to engage in scientific questioning and to design investigations and implement data collection strategies to answer a particular scientific question. This course prepares the student for the AP Physics 2 exam and for calculus-based college physics. Students should plan on taking this course in the spring following AP Physics 1. **Offered: Spring Semester; Length: Semester; Credits: 10; Prerequisite: AP Physics 1, Algebra and Geometry, and previous or concurrent enrollment in Pre-calculus.**

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; Prerequisite: 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

SCIENCE ELECTIVES IN OTHER DEPARTMENTS:

These classes are offered by other CRLS departments, and may be taken as Science Electives.

T610 TC Introduction to Biotechnology (Biotech 1)

Offered by RSTA. See page 41.

T515 TC The Science of Food

Offered by RSTA. See page 41.

T870 HN Intermediate Molecular Biology (Biotech 2)

Offered by RSTA. See page 42.

T980 HN Advanced Biotechnology (Biotech 3)

Offered by RSTA. See page 43.

T603 TC Engineering 1

Offered by RSTA. See page 45.

T843 HN Engineering 2

Offered by RSTA. See page 45.

T983 HN Engineering 3

Offered by RSTA. See page 45.

T502 TC FastTrack Engineering

Offered by RSTA. See page 45.

T503 TC Robotics/FIRST

Offered by RSTA. See page 45.

MART101 HN Visualizing & Communicating Science

Offered by Media Arts. See page 38.

Y005 CP Eco-Action

Offered by Enhanced Senior Year. See page 63.

Office of Student Services

STAFF

Rebecca Altepeter, Coordinator of Upper Schools, High School, and Out-of-District

Desiree Phillips, Lead Teacher of Upper Schools, High School, and Out-of-District

Rob Kelley, Reintegration Specialist

■ PROGRAMS

Autism Spectrum Disorder Program

The Autism Spectrum Disorder (ASD) Program is an eleven-month program designed for students diagnosed with an Autism Spectrum Disorder (ASD) who require intensive, specially designed instruction and support in order to access the curriculum. Students served in the program have needs in multiple areas such as communication, social, behavior and academic. The teaching staff is highly skilled in development, social interaction, verbal and non-verbal communication, distractibility, sensory integration, and Applied Behavior Analysis.

Basic Academics Program

The Basic Academics Program is designed to address the needs of to students who have moderate to severe disabilities across various domains (i.e. language, fine motor, gross motor, social and cognitive). Students are taught with a modified curriculum broken down into small obtainable tasks, related to real life experiences, and aligned to the Massachusetts Curriculum Frameworks. The program is provided across the core academic areas in grades 9-12.

Functional Academics Program

The Functional Academics Program is the continuum of services from the elementary Basic Academics Program. It is offered to students in grades 6-12 through age 22 who have moderate to severe disabilities across various domains (i.e. language, fine motor, gross motor, social and cognitive). The program primarily focuses on functional academics, life skills and social skills development. Students are taught with a modified curriculum that is aligned to the Massachusetts Curriculum Frameworks.

Academics Program

The Academics Program is designed to address the academic needs of students who are diagnosed with a specific learning disability and who are performing significantly below grade level. The goal of the program is to ensure maximum progress and success so that students are successful in the general education curriculum. The program is instructed using a structured, sequential, multisensory, systematic reading and language arts approach to instruction.

Structured Academics Program

The Structured Academics Program is a therapeutic program designed for students who exhibit behaviors that adversely affect their educational performance and impede their ability to be successful in the general education classroom with additional supports and services. The program provides academic, social, emotional, and behavioral interventions and supports for students who meet the eligibility requirements for special education and is outlined in their Individual Education Plans (IEP's).

■ COURSES

The Office of Student Services provides coursework and services to meet students' needs based on the decisions of their IEP Teams. Possibilities include Executive Function, School-to-Work, College and Career Exploration. Teacher approval is required for these courses.

Wellness

SCHOOL WIDE LEARNING EXPECTATION:

A CRLS student pursues a lifestyle that fosters physical, emotional, and psychological health.

STAFF

Jamie DiIulio, K-12 Coordinator of Health, Physical Education and Wellness

Kim DeAndrade, Program Leader for Health Education/Social Emotional Learning

OVERVIEW

The Health, Physical Education and Wellness Department offer courses that teach students to make healthy decisions and develop lifelong 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 lifelong lessons which they can use in the larger school community and in their personal lives.

Freshman students are required to take either Wellness 1 (10 credits) or Grade 9 Health Education (one day for 5 credits) and Dance 1 (one day for 5 credits) for one semester. We also offer a Wellness 1 course which meets one day (black or silver) for the entire school year.

Sophomore students are required to take one of the following: Wellness 2 which meets either both days for one semester (10 credits before, during or after school) or one day for the school year (10 credits), or a Dance Course offered by the V&PA Department, or PE Athletics.

Junior and Senior students are required to take two of the following courses for one semester (10 credits) or one course a semester for the year (10 credits): Team Sports, Lifetime Fitness, Swim Development and Aquatic Fitness, Lifeguard Certification, or a Dance Course offered by the Visual and Performing Arts Department, H415 Leadership and Community Action-STARs, or PE Athletics.

In addition, the ability to swim and engage in water sports is a life-time skill highly regarded by Cambridge Public Schools. Water related activities could pose a serious threat to those unable to swim and those uneducated in water safety. Because of the value and importance of knowing how to swim all students must pass a Swim Test in order to graduate. The swim test includes a 100 yard swim and a 5 minute tread. Swimming lessons and testing will take place in the Wellness 1 classes.

The department also offers additional aquatic opportunities for students in grades 10-12. The department prides itself on assisting students who have either religious restrictions or fear of the water. Please speak to a Wellness staff member for special accommodations.

COURSE LIST

WELLNESS 1

GRADE 9 HEALTH EDUCATION

WELLNESS 2

BEFORE SCHOOL WELLNESS 2

AFTER SCHOOL WELLNESS 2

TEAM SPORTS

LIFETIME FITNESS

BEFORE SCHOOL LIFETIME FITNESS

SWIM DEVELOPMENT AND AQUATIC FITNESS

BEFORE SCHOOL SWIM DEVELOPMENT AND AQUATIC FITNESS

LIFEGUARD CERTIFICATION

BEFORE SCHOOL LIFEGUARD CERTIFICATION

YOUNG ADULT WELLNESS

PE ATHLETICS

PH001 PE Wellness 1

This course will include units on Emotional and Social Health, Bullying, Abstinence, Personal and Sexual Health, STD, HIV and Pregnancy Prevention, Also included are units on Character and Communication, Invasion Games, Individual/dual activities, Fitness for Life and Swim Safety. **Grade: 9; Length: One Semester both days or Alternating Days for the school year; Credits: 10; Prerequisite: None**

PH001A HE Grade 9 Health Education

This Course alternates with Dance 1 and meets for one day (black or silver) for one semester. The course will include units on Emotional and Social Health, Bullying, Abstinence, Personal and Sexual Health, STD, HIV and Pregnancy Prevention. **Grade: 9; Length: One Semester; Alternate Days; Credits: 5; Prerequisite: None; Co-Requisites Dance 1**

PH002 PE Wellness 2

This course will include units on Nutrition, Physical Activity, and Tobacco, Alcohol and Drug Prevention as well as Moving for a Lifetime, Fundamentals of Fitness, Character and Communication and Swimming. **Grades: 10; Length: One Semester both days or alternating days for the school year; Credits: 10; Prerequisite: Wellness 1**

PH002C PE Before School Wellness 2

Wellness 2 will meet before (7-8AM) either two days for one semester or one day (black or silver) for the school year. This course will include units on Nutrition, Physical Activity and Tobacco, Alcohol and Drug Prevention as well as Moving for a Lifetime, Fundamentals of Fitness, Character and Communication and Swimming. **Grades: 10; Length: One Semester both days; Credits: 10; Prerequisite: Wellness 1**

PH002D PE After School Wellness 2

Wellness 2 will meet after school (2:30-3:30) either both (black and silver) for one semester or one day (black or silver) for the school year. This course will include units on Nutrition, Physical Activity and Tobacco, Alcohol and Drug Prevention as well as Moving for a Lifetime, Fundamentals of Fitness, Character and Communication and Swimming. **Grades: 10; Length: One Semester both days; Credits: 10; Prerequisite: Wellness 1**

PH0022 PE Team Sports

Team Sports focuses on offensive defensive strategies, team work, sport ed leadership, and communication through such team sports as basketball, soccer, football, volleyball, team handball and ultimate Frisbee. **Grades: 11, 12; Length: One Semester alternate days; Credits: 5; Prerequisite: None. May be taken on both black + silver days**

PE0020 PE Lifetime Fitness

Lifetime Fitness will focus on developing personalized fitness and nutrition plans, and improving personal fitness levels through authentic lifetime fitness activities such as yoga, strength training, interval training and even training for a 5K. **Grades: 11, 12; Length: One Semester alternate days; Credits: 5; Prerequisite: None. May be taken on both black + silver days**

PE0020A PE Before School PE Lifetime Fitness

This class will be offered before the school day (6:45-7:45). Recent research shows that cardiovascular exercise before the school day can improve a students' readiness for learning and academic success. This course will emphasize participation in a variety of aerobic activities so that students maximize gains in brain functioning. Lifetime Fitness will focus on developing personalized fitness and nutrition plans, and improving personal fitness levels through authentic lifetime fitness activities such as yoga, strength training, interval training and even training for a 5K. **Grades: 11, 12; Length: One Semester both days; Credits: 10; Prerequisite: None**

PE0024 PE Swim Development & Aquatic Fitness

This course prepares students for lifelong fitness through a variety of activities focused on improving proficiency in basic aquatic skills and the six basic swim strokes. First semester only. **Grades: 11, 12; Length: One Semester; Alternate Days; Credits: 5; Prerequisite: None**

PE0024A PE Before School Swim Development & Aquatic Fitness

This class will be offered before the school day (6:45-7:45 am). This course prepares students for lifelong fitness through a variety of activities focused on improving proficiency in basic aquatic skills and the six basic swim strokes. First semester only. Tenth grade students may take this course, but it does not replace Wellness 2. **Grades: 10, 11, 12; Length: One Semester; Alternate Days; Credits: 5; Prerequisite: None**

PE0028 PE Life Guard Certification

This class is for students who are interested in employment as a professional lifeguard. Students will learn teamwork, rescue and surveillance skills, First Aid and CPR/AED and other skills you need to work as a professional lifeguard. Successful completion results in a 2-year certification in Lifeguarding that includes first aid, professional-level CPR and AED in one certificate. Second semester only. **Grades: 11, 12; Length: One Semester; Alternate Days; Credits: 5; Prerequisite: AMERICAN RED CROSS ADULT SWIM or American Red Cross Swim Proficiency Test.**

PE0028A PE Before School Life Guard Certification

This class will be offered before the school day beginning at 6:45 am and ending at 7:45 am and is for students who are interested in employment as a professional lifeguard. Students will learn teamwork, rescue and surveillance skills, First Aid and CPR/AED and other skills you need to work as a professional lifeguard. Successful completion results in a 2-year

certification in Lifeguarding that includes first aid, professional-level CPR and AED in one certificate. Tenth grade students may take this course, but it does not replace Wellness 2. Second semester only. **Grades: 10, 11, 12; Length: One Semester; Alternate Days; Credits: 5; Prerequisite: Swim Development/Aquatic Fitness or American Red Cross Swim Proficiency Test.**

PH0025	PE	Young Adult Wellness
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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. **Grades: 11, 12; Length: One Semester both days; Credits: 10; Prerequisite: None.**

PE0029	PE	PE Athletics
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This option is for juniors and seniors who want to substitute a CRLS Interscholastic sport for their Physical Education requirement. In order to receive credit students must complete all required team functions for the sport season and submit a sport-specific activity log. Credit will be awarded on the current years sport participation. **Grades: 10, 11, 12; Length: One Sport Season; Credits: 5**

World Languages

SCHOOL WIDE LEARNING EXPECTATION:

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

STAFF

Dr. James Kelleher, K-12 Coordinator

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 Opt)

HN ARABIC 3-4

CP CHINESE 1-3 (MANDARIN) (HN Opt)

HN CHINESE 4 (MANDARIN)

AP CHINESE

CP FRENCH 1-3

HN FRENCH 1-5

AP FRENCH

HN LATIN 1-4

AP LATIN

CP SPANISH 1-4

HN SPANISH 1-5

AP SPANISH LANGUAGE AND CULTURE

CP AN INTRODUCTION TO SPANISH-SPEAKING CULTURE AND IDENTITY

HP THE SPANISH-SPEAKING SCHOLAR: EXPLORING IDENTITY AND CULTURE THROUGH LITERATURE

AP SPANISH LITERATURE AND CULTURE

CP AMERICAN SIGN LANGUAGE

ARABIC

One of only a few similar programs in the United States, the Arabic Language Program has grown steadily in both student enrollment and offerings. The cultural diversity and academic depth of the school have provided a nurturing environment for this language which, in turn, is further enriching the school and the community. The program distinguishes itself by its approach to teaching Modern Standard Arabic (MSA) while also exposing the students to some of the language's colloquial varieties. Arab culture, history, music, and current affairs are always being explored, across all levels, through readings, special projects, and regular presentational segments researched, organized, and delivered by the students. The Arabic Program at CRLS is useful for students seeking exposure to the language and culture as well as those interested in pursuing further studies in the field. Starting to learn Arabic before college gives the interested student a significant advantage to succeed and become proficient at the university level. Many graduates of the program have been exempted from lower level college courses in Arabic and have gone on to further their studies in the language and/or travel and even work in Arab countries. Following are the course descriptions for CP Arabic 1, CP Arabic 2, Honors Arabic 3, and Honors Arabic 4.

L001

CP (HN Opt)

Arabic 1

Arabic 1 introduces beginners to Modern Standard Arabic (MSA) and exposes them to colloquial varieties of the Arabic Language, especially the Levantine dialect. This course emphasizes the four basic language skills of listening, speaking, reading and writing, with a special focus on phonology and writing. As with all Arabic courses at CRLS, culture is an integral part of this course (see the program introduction above). As students learn the Arabic alphabet, they will begin not only to decipher the Arabic letters and 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 designed to help students build a vocabulary and develop communicative skills. No prior knowledge of Arabic is required but a commitment to preparation, attendance, and participation is essential. Exceptional performance in this course may result in the granting of Honors credit upon the recommendation of the teacher. **Length: One Semester; Credits: 10**

L101

CP (HN Opt)

Arabic 2

Arabic 2 further develops all language-related skills, including listening, speaking, reading, writing, and cultural knowledge. As with all Arabic

courses at CRLS, culture is an integral part of this course (see the program introduction above). The course 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 expands the interactive, communicative tasks between the teacher and the students as well as among the students directly. The course also develops reading skills through the use of texts derived from the main narrative and other sources. It reinforces grammar and vocabulary through classroom and homework exercises and provides a constant review to help students retain and develop their skills. Exceptional performance in this course may result in the granting of Honors credit upon the recommendation of the teacher. **Length: One Semester; Credits: 10; Prerequisites: Arabic 1 or Teacher Recommendation**

L202	HN	Arabic 3
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Continuing to develop the basic language skills, HN Arabic 3 relates abstract grammatical concepts to practical skills. This course reviews and presents new concepts using spiraling techniques and inference and encourages students to explore and “play” with the language as they discover its complex structure by means of analogy, problem solving, educated guessing, and sheer practice. As in other courses, vocabulary, MSA grammar, and colloquial communications are reinforced through classroom exercises that are mostly paired or done in small groups with the goal of keeping students challenged as they further develop their skills. As with all Arabic courses at CRLS, culture is an integral part of this course (see the program introduction above). **Length: One Semester; Credits: 10; Prerequisites: Arabic 2 or Teacher Recommendation**

L302	HN	Arabic 4
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This Honors course continues to develop the basic language skills through refined grammatical concepts, practical skills, and a more personalized approach. Activation of new vocabulary is more prominent in this course along with advanced reading, writing, and conversational practices. The acquisition of many grammatical concepts is consummated in this course while others are further developed by means of analogy, reasoning, and educated guessing. Advanced grammar, vocabulary, and formal and informal communication are reinforced through extensive classroom exercises and homework. Creativity with the language is encouraged through active class participation and more independent work. As with all Arabic courses at CRLS, culture is an integral part of this course (see the program introduction above). **Length: One Semester; Credits: 10; Prerequisites: Arabic 3 or Teacher Recommendation**

■ 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 (HN Opt)	Chinese I
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Chinese I 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**

L191	CP (HN Opt)	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; Prerequisite: Chinese I**

L291	CP (HN Opt)	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; Prerequisite: 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; Prerequisite: Chinese 3**

L491	AP	Chinese
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This course is designed for students to further develop their language proficiency as well as to deepen their understanding of Chinese culture and history. The course will be conducted in Chinese. Students will concentrate on learning contemporary Chinese language texts, journal articles, short stories, audio and video materials, and classical poetry and prose. This course prepares students for the Advanced Placement examination given in May by the College Board. **Length: One Semester; Credits: 10; Prerequisite: 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**

L012	HN	French 1
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This course is designed for students who have a strong interest in French language and culture. Basic French vowel sounds, vocabulary and language structure will be learned and practiced extensively. Students will learn to converse in short dialogues that highlight new vocabulary and idiomatic phrases. French I Honors students will be exposed to the Francophone world and cultures. This course is excellent preparation for French II Honors. Please note that all French I Honors sections will be determined based on a number of factors, and there is the potential for French I Honors to be offered as an embedded option within a French I CP class. **Length: One Semester; Credits: 10; Prerequisites: Teacher recommendation**

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; Prerequisite: HN French 1 or recommendation of eighth grade teacher**

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; Prerequisite: CP French 2**

L212	HN	French 3
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This course is conducted primarily in French. Students will continue their work of French II 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. 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: CP French 3, HN French 2, 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; Prerequisite: HN 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; Prerequisite: HN French 5 or Teacher Recommendation**

■ 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. Are you a word lover? 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. 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, 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 gram-

mar, 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**

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; Prerequisite: HN Latin 1 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; Prerequisite: HN 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: HN Latin 3 or Teacher Recommendation**

L442	AP	Latin
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AP Latin is designed to provide advanced Latin students with a rich and rigorous semester-long Latin course, approximately equivalent to an upper-intermediate (typically fourth or fifth semester) college or university Latin course. The course prepares students for the AP Latin exam given in May. Even more important than the exam preparation is the sheer exhilaration of reading substantial portions of Vergil's Aeneid, one of the most awe-inspiring pieces of epic poetry ever written in the original language. The AP Latin syllabus juxtaposes the lyric poetry of Vergil with the pure straightforward prose and historical interest of Caesar's Gallic Wars. The readings from the two diverse texts present students with an in-depth study of Roman concepts of war, peace, empire and leadership. The Latin works and the English translations, when appropriate, are studied 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

Spanish continues to be a popular World Language at CRLS. New approaches have been introduced in some classes involving the use of video and drama. 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 through Advanced Placement. 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. These two courses (honors and college preparatory) are specifically designed to address the needs of heritage Spanish learners. A heritage (Spanish) learner is defined as someone whose home language of Spanish is restricted, e.g. Spanish heard and spoken only at home and not from other outside sources. As a result, the heritage learner can understand the home language (Spanish) and may speak to some degree, but feels more at ease in the dominant language of English. Each course is designed to advance skills in grammar, register (formal or informal), literacy, literature, and various genres of written Spanish. Each course is intended to improve upon the skills and knowledge according to each students' needs. The two courses are not necessarily sequential. Upon completion of heritage honors, students may choose to enter AP level courses. Upon completion of the heritage CP course, students may choose non-heritage courses depending on their performance and teacher recommendation.

L621	CP	An Introduction to Spanish-speaking Culture and Identity
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This world language course is designed to develop each student's ability in the areas of speaking, reading, writing and listening comprehension. Students will acquire the necessary skills to analyze, interpret and make connections in order to deepen their understanding of oneself and the Spanish-Speaking world through the study of literature, art and music. In addition, students will develop and strengthen their academic skills so that they can advance to higher level Spanish courses and enhance their career opportunities beyond the high school. The course is designed for students whose home language is Spanish and/or for students who have spent extended time in an immersion program and demonstrate fluency in the language. Upon completion of this course, students will be prepared to advance to The Spanish Speaking Scholar (honors) course or may choose to enroll in an upper level Spanish language course (IV, V, AP) either honors or college preparatory. **OUTCOME:** Prepare students to continue on to The Spanish-speaking Scholar course, or to upper level Spanish language courses (IV, V AP) either honors or college preparatory.

L622	HN	The Spanish-Speaking Scholar: Exploring Identity and Culture through Literature
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Spanish Heritage students and/or bilingual immersion students will develop strategic Spanish reading skills, while investigating the literary genres of expository essay, myths, fables, legends, poetry, short stories and novels. Extended reading and literary selections will be taken from adopted texts and recommended reading. Students will produce writing in various formats and genres including well-developed paragraphs, literary response items, expository essays, short stories (narrative), historical and technical documents, while continuing to develop skills in the formal use of grammar, spelling, punctuation, and capitalization. This course will also explore and develop the necessary skills on how to address different audiences using appropriate registers of formal and informal language in a variety of settings and situations in the Spanish-speaking world. Prepares students for success in AP Language [existing] or AP Literature courses.

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**

L022	HN	Spanish 1
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This course is designed for students who have a strong interest in Spanish language and culture. Basic Spanish vowel sounds, vocabulary and language structure will be learned and practiced extensively. Students will learn to converse in short dialogues that highlight new vocabulary and idiomatic phrases. Spanish 1 Honors students will be exposed to the Spanish speaking world and cultures. This course is excellent preparation for Spanish 2 Honors. Please note that all Spanish 1 Honors sections will be determined based on a number of factors, and there is the potential for Spanish 1 Honors to be offered as an embedded option within a Spanish I CP class. **Length: One Semester; Credits: 10; Prerequisites: Teacher recommendation**

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. Spanish is used as much as possible after a thorough grammatical explanations in English. 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 versus 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 speakers of the language; please refer to classes for Heritage Spanish Speakers. **Length: One Semester; Credits: 10; Prerequisites: Spanish 2, HN Spanish 2, 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: CP Spanish 3 or Spanish Heritage Language Speakers 2**

L422	HN	Spanish 4
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Honors Spanish IV 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: HN Spanish 3 or Teacher Recommendation**

L423	HN	Spanish 5
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Spanish 5 will continue to develop students' knowledge of grammar as well as improve reading and listening comprehension in addition to speaking and writing. These skills are taught within a thematic, interdisciplinary course, including literary and other prose readings, art, movies and short films and music which are used as elements for an in-depth study of the many cultures of Spain and Spanish-speaking countries around the world. It provides students with many opportunities to apply Spanish to comprehend and communicate in writing and speech. This course permits students to develop and use 21st century technology skills, including digital citizenship and the Internet. It is strongly recommended that students complete this course before taking AP Spanish, as it is meant to aid in preparing students for the revised (2014) AP Spanish Language and Culture course and is a prerequisite. **This course is taught entirely in Spanish. Length: One Semester; Credits: 10; Prerequisites: Spanish 4 or Teacher Recommendation**

L521	AP	Spanish Language and Culture
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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: HN Spanish 5 or Teacher Recommendation**

L425	AP	Spanish Literature and Culture
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The course uses a thematic approach to introduce students to representative texts (short stories, novels, poetry, and essays) from Peninsular Spanish, Latin American, and United States Hispanic literature. Students develop proficiencies across the full range of communication modes (interpersonal, presentational, and interpretive), thereby honing their critical reading and analytical writing skills. Literature is examined within the context of its time and place, as students reflect on the many voices and

cultures present in the required readings. The course also includes a strong focus on cultural connections and comparisons, including exploration of various media (e.g., art, film, articles, literary criticism). **Length: One Semester; Credits: 10; Prerequisites: HN Spanish 5 or Teacher Recommendation**

■ AMERICAN SIGN LANGUAGE

L625	CP	American Sign Language 1
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This is the introductory course in the study of American Sign Language. The content includes the basic receptive and expressive sign skills and sign vocabulary required to be able to communicate at a beginner's level in American Sign Language. Basic fingerspelling skills will also be stressed. Included in the class content are beginning linguistic and grammatical principles; appropriate facial markers and body movement; the manual alphabet and signed numbers; information on the effect of deafness on the individual; the history of the development of ASL and other sign systems; the education of deaf children; ASL stories, songs and poetry; and information about the deaf culture and community. **Length: One Semester; Credits: 10; Grades 9, 10, 11, 12**

L626	CP	American Sign Language 2
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This course focuses on further development of visual-spatial orientation and manipulations skills, sign vocabulary, and complex sentence structures. Students continue learning strategies for opening, sustaining, and closing general conversations on a range of topics. The course concentrates on developing the abilities to question, narrate, and give increasingly detailed descriptions of activities, interactions, plans, and directions. Students learn how to communicate clearly and express themselves in a culturally appropriate way. Total language immersion is used to enhance the learning process. All classes will be conducted in the target language (ASL) to further develop receptive and expressive skills - there will be no use of spoken language in the classroom. **Length: One Semester; Credits: 10; Grades 9, 10, 11, 12; Prerequisites: Successful completion of ASL 1**

Enhanced Senior Year Program

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 21st century 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 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 or your guidance counselor.

■ 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.

GoodWork© Senior Internship and Seminar

Y000 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.

Y000 B 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 Program 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 and through the development of a lesson plan and presentation. Student TAs complete a weekly log and collaborative reflection forums on Moodle. They are support-

ed to complete a final inquiry project based on their experience. A passion for teaching and/or the subject, as well as permission of the instructor and guidance counselor are required. This program is open to juniors and seniors who have passed the TA class assignment with a B+ or better.

Y003 Honors Senior Thesis

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.

Y004 Honors Independent Graduation Project

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.

Y005 IN Eco Action

Through this multi-disciplinary environmental action course, students will gain knowledge and skills to help businesses run their office in more sustainable ways. Eco-Action is a comprehensive, hands-on course where students will be taught how to conduct environmental audits of offices, create thorough reports to recommend ways to conserve resources, and give presentations to the businesses' employees. Eco-Action examines the consequences human activities have on the environment, and helps relate concepts such as climate change, global warming and carbon footprint to local, community and individual levels. In addition to conducting on-site eco-audits of local offices students will visit content-related facilities and organizations in the area. Professionals with relevant expertise will make presentations to the students. Course content meets Massachusetts standards for mathematics, science and language arts, and students gain professional communication, report writing, and project management skills.

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

■ ENHANCED SENIOR YEAR COURSES OFFERED IN OTHER DEPARTMENTS

These courses are offered by other CRLS departments and may be taken as ESY Electives.

S410 IN Marine Science Internship

See Science page 52.

S415 IN Science and Engineering Research

See Science page 52.

H418 HN Kimbrough Scholars Project

See History/Social Science page 35.



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Design & Print Coordinator:
Michele Watson Maxwell
Creative Design Instructor

Logo Design:
Desmun Velez, Class of 2010
Creative Design Student

Photos by: Amy Spencer

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Cambridge Rindge & Latin School • 459 Broadway • Cambridge, MA 02138 • 617-349-6630

