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, transgender status, 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 Cambridge Public Schools also will not tolerate retaliation against any individual who reports acts of discrimination or provides information in connection with any such complaint. Any individual who believes he or she has been discriminated against must immediately report any incident to the Cambridge Public Schools’ Affirmative Action Officer. 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 Throndike Street, Cambridge, MA 02141 and the number is 617-349-6547.

FROM PRINCIPAL DAMON SMITH
The CRLS Experience 2017-18 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
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 480 students 
- Honors courses offered in all core subjects (English, history, mathematics, science and world languages) 
- Advanced Placement courses available to students who successfully complete the prerequisite courses 
- 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 

■ QUICK FACTS

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>1,913</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Staff</td>
<td>174</td>
</tr>
<tr>
<td>Student - Teacher ratio</td>
<td>11:1</td>
</tr>
</tbody>
</table>

■ 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. 

COMMUNICATION: 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 weekly news bulletin, Did You Know which is available on the website. Stay tuned to Cambridge Educational Access TV, Cambridge cable channels 98 and 99 for student produced media, event and sports coverage, 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.
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 857-235-9506
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 Specialist, 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 Specialist, 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 Specialist, Miriam DaSilva 349-6638
Dean of Students, Susie Van Blaricu 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 Specialist, Yvette Jackson 349-6652
Dean of Students, Jamalh Prince 349-6723
Guidance Counselor, Dan Weatherby 349-6758
Guidance Counselor, Jodi Mace 349-6655

DEPARTMENT COORDINATORS AND LEAD TEACHERS

Arts, Visual and Performing: 349-6788
Susan Holm, Interim K-12 Coordinator 349-6789
Leo Muellner, Interim Teacher-In-Charge 349-6788
Athletics: 349-6690
Tom Arria 349-6797
AVID: Leslie Davis 349-6797
Bilingual and English Language Acquisition Programs: 349-6473
Dr. Michelle Madera, Coordinator
Vera Duarte, Teacher-In-Charge 857-235-9506
Career and Technical Education, RSTA: 349-6765
Sara Reese, Career Counselor 349-6844
Jaci Rubin, Cooperative Education 349-7762
English Language Arts: Janice Tingle 349-6698
Guidance: Lynn Williams, Coordinator 349-6851
Health Education: Kim DeAndrade 349-6683
Mathematics: Julia Ward 349-6796
MCAS: Gail Stein 349-6744
Media Arts: Ginny Berkowitz
Office of Student Services: Desiree Phillips 349-6416
Science, Technology, & Engineering: Lisa Scolaro 349-3012
History/Social Science: Adrienne Stang 349-6731
Tutoring Center: James Duche 349-4873
Wellness: Jamie McCarthy 349-6690
World Languages: Dr. James Kelleher 349-6718
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
- A Cappella Club
- Aerospace Engineering / Astronomy
- Asian Club
- Biotechnology Club
- Business Club
- Ceramics Club
- Club 1 - Feminist
- Club 4
- Club Med
- Computer Science
- Drumline
- Dungeons and Dragons
- Environmental Action Club
- Falcon Friends (Formerly Best Buddies)
- FIRST Robotics Club
- French Club
- Global Awareness Club
- The Habashan Club (formerly known as the Ethiopian Club)
- Habitat for Humanity Club
- Haitian Club
- Henna Club
- Hip Hop Culture Club
- History Club
- Improv Club
- Issues in Education Club
- Jewish Heritage Club
- Junior State of America (JSA)
- Junior Class
- K-Pop Club (Korean Pop)
- Latin Club
- Latino Club
- Literary Magazine Club
- Marine Conservation Club
- Math Club
- Media Arts Club
- Model United Nations Club
- Muslim Culture Club
- National Honor's Society
- Ocean Science Bowl Team
- Peer Mentors
- Photo Club
- Poetry / Spoken Word Club
- Project 10 East (Gay-Straight Alliance)
- Register Forum (school paper)
- Science Team
- Sisters on the Runway
- Spanish Club
- Speech and Debate Club
- Spoken Word Club
- Step Team
- Student Government
- Students of Color Union
- Underwater Robotics
- UNICEF
- Yearbook
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 37 competitive athletic teams or club sport activities.

**ATHLETIC FACILITIES:**

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

**DANEHY PARK**
- Soccer Fields: Girls/Boys Soccer
- Softball Fields: JV/Freshman Softball
- Lacrosse Fields: Girls Lacrosse
- Track: Girls/Boys Outdoor Track

**OLYMPIA FENCING**
- Fencing

**ST. PETER’S FIELDS**
- Baseball Fields: Varsity/Freshman Baseball
- Softball Fields: Varsity Softball

**RINDGE FIELD**
- Baseball Field: JV Baseball
- Tennis Courts: Girls Tennis, Boys 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
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.

In Music Production, students explore the roles and responsibilities of music producers and engineers from idea inception to finished product. This course includes an overview of studio technologies and basic recording procedures.

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/APRTER-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.
The CPS Media Arts program offers a wide array of classes and clubs, a work-study program, and school-wide collaborations. Housed in the Media Arts Studio on the CRLS campus, CEATV, Media Journalism and RSTA Media Technology programs 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 screening in May.

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 student portal.

MEDIA ARTS STUDIO – COURSE LISTINGS

Media Arts courses include Digital Film and TV, Media Journalism, Music Production sequences and Experimental Media, and are listed on page 37 & 38. Media Technology classes are also offered through the Rindge School for Technical Arts on page 46.

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 three TV series:

» Game of the Week:
  Live and prerecorded coverage of CRLS Falcons competing in the Dual County League

» Spot on:
  In studio interviews with notable personalities in and around Cambridge

» Youth View Cambridge
  News magazine produced in the field and in the studio, combining current events with local and school news in a dynamic format that includes guest interviews, field reports and news analysis.

■ 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 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.
**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.

- **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 Revisions
- Develop a four year academic plan
- Monitor academic progress
- Refer students for tutoring services
- Refer for counseling 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 17,000 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 & Kendall Boninti: (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 uAspire, located in the CCRC. uAspire is available Tuesday - Friday appointments may be made by going to uaspire-crls.youcanbook.me. Our Career and College Resource Center has complete information about all types of colleges, 2 and 4 year colleges 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.
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

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CRLS GRADUATION REQUIREMENTS: Students must earn a minimum of 224 credits. Those credits must include the following distributional requirements.</th>
<th>MINIMUM COLLEGE PREPARATION</th>
<th>STATE UNIVERSITIES AND OTHER SELECTIVE COLLEGE REQUIREMENTS</th>
<th>HIGHLY SELECTIVE COLLEGE RECOMMENDATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>40 Credits, English Language Arts must be taken each year.</td>
<td>4 years, with emphasis on essay/theme writing</td>
<td>4 years, with emphasis on written/oral communications and literature</td>
<td>4 years at the Honors/AP level when possible</td>
</tr>
<tr>
<td>Math</td>
<td>40 Credits including mathematics in the final year of high school.</td>
<td>4 years, including Algebra 1, Geometry and Algebra 2</td>
<td>4 courses (Algebra 1, Geometry and Algebra II or Trigonometry, or comparable coursework) including mathematics during the final year of high school</td>
<td>4 years, including Trigonometry and Pre-Calculus</td>
</tr>
<tr>
<td>Wellness</td>
<td>A minimum of 1 class each school year. Must take and pass each year; must pass swim test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>30 Credits</td>
<td>2-3 years, including 1 year of U.S. History and 1-2 years from other social sciences</td>
<td>2-3 years, including 1 year of U.S. History and 1-2 years from other social sciences</td>
<td>3-4 years, including 1 year of U.S. History, at the Honors/AP level when possible</td>
</tr>
<tr>
<td>Science</td>
<td>30 Credits</td>
<td>2 years of lab science: Biology, Chemistry, or Physics</td>
<td>3 years (2 years of lab science: Biology, Chemistry, or Physics)</td>
<td>3-4 years of lab science, with 1 year each of Biology, Chemistry, and Physics</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>20 Credits of the same language</td>
<td>Some programs require 2 years of one language</td>
<td>2 years of one language</td>
<td>3-4 years of one language</td>
</tr>
<tr>
<td>Visual, Performing or Technical Arts (RSTA)</td>
<td>20 Credits</td>
<td>2 years of Visual, Performing, Technical Arts (RSTA)</td>
<td>2 years of Visual, Performing Technical Arts (RSTA)</td>
<td>2 years of Visual, Performing Technical Arts (RSTA)</td>
</tr>
<tr>
<td>MCAS</td>
<td>Must pass English, Math and Science exams with a minimum score of 220</td>
<td></td>
<td>Massachusetts State schools require successful completion of the MCAS exam</td>
<td></td>
</tr>
</tbody>
</table>

The following information is included to provide clear, accessible information about high school course options and post-secondary planning and requirements. Please note, a student’s individual GPA reported to a college or university by CRLS is not weighted. Colleges and universities may recalculate and weight student GPAs. The University of Massachusetts utilizes the following process to calculate student GPAs.

UMASS SYSTEM CALCULATION OF WEIGHTED GPA

The minimum admissions standards for freshmen students require that students earn the following average GPAs.

<table>
<thead>
<tr>
<th>STATE UNIVERSITIES</th>
<th>UMASS UNDERGRADUATE CAMPUSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Grade point averages are to be calculated based upon grades earned in all high school level academic courses. Grades earned in honors, Advanced Placement or dual enrollment courses should be given extra weight. Each state university or UMass campus to which a student applies will calculate the GPA for purposes of applying the admissions standards.

In order to calculate a weighted GPA, individuals must convert each final grade earned in high school level academic courses to a 4-point grading scale (where A = 4.0; B = 3.0; C = 2.0; D = 1.0 and F = 0.0). A chart is provided with these materials so that letter or numeric grades may be converted. Further, the level of each course must be identified (for example, Honors or Advanced Placement). Full-year Honors level and Advanced Placement courses will receive an extra .5 and 1.0 points on the 4-point scale, respectively. A dual enrollment course will receive an extra 1.0 point on the 4-point scale.
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.

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

College Prep Level Academic Courses: These courses are designed to prepare students to continue their academic education at two- and four-year colleges. They require well-developed reading, writing, verbal, conceptual, mathematical, and study abilities, as well as substantial outside preparation.

Honors and Advanced Placement Courses: These courses include highly challenging material that is presented at an accelerated and more intensive pace, and require advanced reading, writing, verbal, conceptual, mathematical, and study abilities.

Advanced Placement courses meet standards for content and rigor that are established by The College Board, and they will be weighted differently by admissions office in order to calculate the weighted high school GPA.

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.eligibilitycenter.org.
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.

DUAL ENROLLMENT COURSES

The Commonwealth Dual Enrollment Partnership (CDEP) offers an alternative for students who may not have access to AP courses at their high school. This program gives high school students with average GPAs of 2.5 or higher the opportunity to enroll in courses at a local college while they are still enrolled in high school. Credits for the college courses can apply to both the high school and college transcript. CRLS currently offers Bunker Hill Community College dual enrollment courses in English Language Arts. CRLS currently offers one University of Massachusetts Boston dual enrollment course in History.

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 has developed 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:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>97-100</td>
</tr>
<tr>
<td>A</td>
<td>93-96</td>
</tr>
<tr>
<td>A-</td>
<td>90-92</td>
</tr>
<tr>
<td>B+</td>
<td>87-89</td>
</tr>
<tr>
<td>B</td>
<td>83-86</td>
</tr>
<tr>
<td>B-</td>
<td>80-82</td>
</tr>
<tr>
<td>P</td>
<td>Passing</td>
</tr>
<tr>
<td>I</td>
<td>Incomplete</td>
</tr>
<tr>
<td>WP</td>
<td>Withdrawn Passing</td>
</tr>
<tr>
<td>C+</td>
<td>77-79</td>
</tr>
<tr>
<td>C</td>
<td>73-76</td>
</tr>
<tr>
<td>C-</td>
<td>70-72</td>
</tr>
<tr>
<td>D+</td>
<td>67-69</td>
</tr>
<tr>
<td>D</td>
<td>63-66</td>
</tr>
<tr>
<td>D-</td>
<td>60-62</td>
</tr>
<tr>
<td>F</td>
<td>Failing (50)</td>
</tr>
<tr>
<td>NR</td>
<td>Never Reported</td>
</tr>
<tr>
<td>WF</td>
<td>Withdrawn Failing</td>
</tr>
</tbody>
</table>
ACADEMIC SUPPORT /
PEER LEADERSHIP

ACADEMIC SUPPORT

GACS Academic Support

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

PEER LEADERSHIP

H415 CP Leadership and Community Action-STARS

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. This course may be taken for Wellness credit.

Grades: 11, 12; Prerequisites: World History 2, US History 1 and 2 and prior approval of the STARs Teacher

GTUT Peer Tutoring

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; Prerequisite: Passing grade in subject

GCRC IN Peer Leadership

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; 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.

<table>
<thead>
<tr>
<th>GRADE</th>
<th>AVID YEAR</th>
<th>PREREQUISITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>AVID 1</td>
<td>Students will be selected through an application and interview process.</td>
</tr>
<tr>
<td>10</td>
<td>AVID 2</td>
<td>Prerequisite: AVID Year 1</td>
</tr>
<tr>
<td>11</td>
<td>AVID 3</td>
<td>Prerequisite: AVID Year 2</td>
</tr>
<tr>
<td>12</td>
<td>AVID 4</td>
<td>Prerequisite: AVID Year 3</td>
</tr>
</tbody>
</table>

VISUAL & PERFORMING ARTS

SCHOOL WIDE LEARNING EXPECTATION:
A CRLS student represents ideas through an expressive medium.

STAFF
Susan Holm, Interim K-12 Coordinator
Brian Gellerstein, Teacher in Charge
Leo Muellner, Interim 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 a life-long love of the arts as well as a solid preparation for those who wish to continue studying the arts after graduation from CRLS. This is done in a supportive learning environment, and is enriched by regular encounters with professional visual and performing artists.

DANCE

D090 CP DANCE 1
This is an introductory modern dance technique course intended for students who have little or no formal dance training. We physically explore 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 also 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

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
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; Prerequisite: Dance 1 D090 and Dance 2 D945**

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 at the beginning of each semester. Juniors and seniors interested in applying to choreograph are required to have taken HN Dance Technique & Choreography and must submit a written application. 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**

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 also include self-reflection, group discussions on dance, viewing and responding to dance on film, and studying dance history and anatomy. This course may be taken for Wellness credit. **Grades: 10, 11, 12; Prerequisite: Dance 1 D090 or audition**

### DRAMA

#### COURSE LIST

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>D095</td>
<td>Elements of Theater</td>
</tr>
<tr>
<td>D863</td>
<td>Film Studies</td>
</tr>
<tr>
<td>D864</td>
<td>Acting &amp; Directing</td>
</tr>
<tr>
<td>D865</td>
<td>Advanced Acting</td>
</tr>
<tr>
<td>D866</td>
<td>Play Creation</td>
</tr>
<tr>
<td>D955</td>
<td>Acting and Play Study</td>
</tr>
<tr>
<td>D965</td>
<td>Musical Theatre Performance</td>
</tr>
<tr>
<td></td>
<td>Mainstage Drama Productions</td>
</tr>
</tbody>
</table>

Elements of Theater is 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**

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**

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; Students are encouraged to take it for continuous semesters; Prerequisites: Elements of Theater and Acting and Play Study**

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; Prerequisites: Elements of Theater and Acting and Play Study**

In this course, students will explore the craft of group playwriting through performance. Coursework includes improvisation, theatre exercises, self-scripting, dramaturgical research, interviews and journaling. Students will enhance their performance skills and explore acting techniques that focus on collaboration and ensemble building. The class culminates in the presentation of an original theatre piece created by the students and facilitated by the course instructor. This play will perform at school and participate in an extra-curricular high school drama festival. **Grades: 10, 11, 12, Prerequisites: By Audition**

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; Prerequisite: Elements of Theater**
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; Prerequisite: at least one course in music or theatre or participation in one mainstage production or permission of the department.**

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 auditions only. Students are also eligible for positions on the technical staff and crew.

**MUSIC**

**COURSE LIST**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Grade Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I025 HN</td>
<td>9, 10, 11, 12</td>
<td>JAZZ WORKSHOP</td>
</tr>
<tr>
<td>I040 HN</td>
<td>9, 10, 11, 12</td>
<td>DRUM LINE/PERCUSSION ENSEMBLE</td>
</tr>
<tr>
<td>I050 HN</td>
<td>9, 10, 11, 12</td>
<td>PIANO STUDIES</td>
</tr>
<tr>
<td>I055 HN</td>
<td>9, 10, 11, 12</td>
<td>CONCERT BAND</td>
</tr>
<tr>
<td>I059 HN</td>
<td>9, 10, 11, 12</td>
<td>STRING ORCHESTRA</td>
</tr>
<tr>
<td>I070 CP</td>
<td>9, 10, 11, 12</td>
<td>CHORUS</td>
</tr>
<tr>
<td>I072 CP</td>
<td>9, 10, 11, 12</td>
<td>INTRODUCTION TO A CAPPELLA</td>
</tr>
<tr>
<td>I080 CP</td>
<td>9, 10, 11, 12</td>
<td>BEGINNING PIANO</td>
</tr>
<tr>
<td>I085 CP</td>
<td>9, 10, 11, 12</td>
<td>FOUNDATIONS OF DRUMMING</td>
</tr>
<tr>
<td>I090 HN</td>
<td>9, 10, 11, 12</td>
<td>BIG BAND JAZZ ENSEMBLE</td>
</tr>
<tr>
<td>I091 HN</td>
<td>9, 10, 11, 12</td>
<td>WORLD JAZZ ENSEMBLE</td>
</tr>
<tr>
<td>I094 HN</td>
<td>9, 10, 11, 12</td>
<td>VOCAL ENSEMBLE</td>
</tr>
<tr>
<td>I070 CP</td>
<td>9, 10, 11, 12</td>
<td>INTRODUCTION TO A CAPPELLA</td>
</tr>
<tr>
<td>I080 CP</td>
<td>9, 10, 11, 12</td>
<td>BEGINNING PIANO</td>
</tr>
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</tr>
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<td>9, 10, 11, 12</td>
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</tr>
<tr>
<td>I091 HN</td>
<td>9, 10, 11, 12</td>
<td>WORLD JAZZ ENSEMBLE</td>
</tr>
<tr>
<td>I094 HN</td>
<td>9, 10, 11, 12</td>
<td>VOCAL ENSEMBLE</td>
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</table>

**MUSIC ELECTIVES IN OTHER DEPARTMENTS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Grade Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D965 CP</td>
<td>9, 10, 11, 12</td>
<td>MUSICAL THEATRE PERFORMANCE (SEE PAGE 19)</td>
</tr>
<tr>
<td>MART105 CP</td>
<td>9, 10, 11, 12</td>
<td>INTRO TO MUSIC &amp; SOUND DESIGN (SEE PAGE 38)</td>
</tr>
<tr>
<td>MART102 CP</td>
<td>9, 10, 11, 12</td>
<td>MUSIC PRODUCTION (SEE PAGE 38)</td>
</tr>
<tr>
<td>MART107 CP</td>
<td>9, 10, 11, 12</td>
<td>SOUND DESIGN for IMAGE &amp; the STAGE (HN Opt) (PAGE 38)</td>
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</table>

<table>
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<tr>
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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 rhythm ear training, composition, arranging and improvisation. **Grades: 9, 10, 11, 12; Prerequisite: By audition**

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<tbody>
<tr>
<td>I050 HN</td>
<td>9, 10, 11, 12</td>
<td>PIANO STUDIES</td>
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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; Students are encouraged to take it for continuous semesters; Prerequisites: Beginning Piano with teacher approval or one year of piano instruction**

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<td>I055 HN</td>
<td>9, 10, 11, 12</td>
<td>CONCERT BAND</td>
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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; Prerequisite: One year of instrument instruction**

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<td>I059 HN</td>
<td>9, 10, 11, 12</td>
<td>STRING ORCHESTRA</td>
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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; Students are encouraged to take it for continuous semesters; Prerequisite: One year of string instruction**

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<td>DRUM LINE/PERCUSSION ENSEMBLE</td>
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The CRLS chorus 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 choirs 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; Students are encouraged to take it for continuous semesters.

Introduction to A Cappella
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

Beginning Piano
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

Foundations of Drumming
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

Big Band Jazz Ensemble
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; Prerequisite: By audition

World Jazz Ensemble
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; Prerequisite: By audition

Vocal Ensemble
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: Students are encouraged to take it for continuous semesters; Prerequisite: By audition

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. Prerequisite: By audition
A070 CP FASHION DESIGN 1
A075 CP CERAMICS
A926 CP DIGITAL STUDIO 1
A960 CP DIGITAL STUDIO 2
A962 HN FASHION DESIGN 2
A963 HN STUDIO ART 2
A964 HN PHOTOGRAPHY 3
A965 PF PORTFOLIO CERAMICS
A966 PF DIGITAL STUDIO 3 PORTFOLIO
A968 PF PORTFOLIO PHOTOGRAPHY
A972 HN FASHION DESIGN 3

ADVANCED PLACEMENT COURSES
A465 AP STUDIO ART/PORTFOLIO ART
A969 AP PHOTOGRAPHY

VISUAL ART ELECTIVES OFFERED IN OTHER DEPARTMENTS
T605 TC CREATIVE DESIGN 1 (SEE PAGE 42)

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; Prerequisite: Foundations of Art or permission of instructor

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

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; Prerequisites: Foundations of Art or permission of Instructor

A025 CP Photography 1
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

A028 CP Jewelry Making 1
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: 9, 10, 11, 12; Prerequisites: Introduction to Wearable Art or permission of instructor

A029 CP Animation 1
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

A030 CP Studio Art 1
This course is designed for students who have satisfactorily completed 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 9, 10, 11, 12; Prerequisites: Foundations of Art

A031 CP Sculpture and Mixed Media
This course focuses on making three-dimensional artwork that span the spectrum from traditional fine art to industrial design, engineering and architecture. 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: 9, 10, 11, 12; Prerequisites: Foundations of Art or permission of instructor

A038 CP Jewelry Making 2
This course is designed for those students who want to continue their study of jewelry making. Emphasis will be placed on individual projects that integrate all the skills learned in Jewelry 1 while learning new techniques such as soldering and stone setting. Additional areas of study may include: Casting, Repouse/chasing, Mokume Gane, mechanisms, and faceted stone setting. Grades: 10, 11, 12; Prerequisites: Jewelry Making 1
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; Prerequisites: Photo 1 or equivalent

A045  CP  Animation 2
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; Prerequisite: Animation 1

A050  CP  Introduction to Wearable Art
Perfect for the designer at heart, this introductory course focuses on creating art that is meant to be worn. Using metals, fibers, textiles, paper, beads, stones, found objects and recycled materials, students will create projects that explore fashion, art, jewelry, costume and body decorations from a variety of cultures. Students will design and construct pieces of wearable art as a way to inspire and generate fuel for a deeper understanding of how the human body is both celebrated and decorated. Emphasis will be placed on development of concept, skill, and voice through material investigation, research, discussions, lectures, individual and group projects. This class is a prerequisite for Fashion Design 1, 2 & 3 and Jewelry Making 1 and 2. Grade: 9,10,11,12

A070  CP  Fashion Design 1
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: 9, 10, 11, 12; Prerequisites: Introduction to Wearable Art or permission of instructor

A075  CP  Ceramics
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 non-functional artwork as it relates to the clay medium. Grades: 9, 10, 11, 12

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; Students are encouraged to take it for continuous semesters; Prerequisites: Foundations of Art, plus two of the following: Studio Art 1 and 2, Sculpture and Mixed Media, Portraits, Painting. Final selection for all students will be based on a portfolio review.

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

A960  CP  Digital Studio 2
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; Prerequisite: Digital Studio 1

A962  HN  Fashion Design 2
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; Prerequisites: Fashion Design 1
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; Prerequisites: Digital Studio 2 or Animation 2 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; Prerequisite: Digital Studio 1, Sculpture and Mixed Media or a portfolio review.

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; Prerequisite: Photo 2

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; Prerequisite: Ceramics A075

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; Prerequisites: Digital Studio 2 or Animation 2

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; Prerequisite: Photo 3

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; Prerequisite: Photo 3

This class is for the serious fashion student who may pursue admission to a program in fashion at the post-secondary level. Students will continue to grow their skills, wardrobe and portfolio through the development of a line of clothing that exhibits quality, quantity, and breadth. Students will be asked to develop this body of work to demonstrate their strengths in innovation and the entire design process from initial concept, to composition and execution. Grades: 11, 12; Prerequisites: Fashion Design 2

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.
Intermediate (ESL 3). Reading selections include fiction and non-fiction at appropriate levels. Students must plan, present orally and write reports on relevant topics. **Prerequisite: ESL 1 or Placement test**

**XE201**  
SE  
ESL 3 (Intermediate)  
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. **Prerequisite: ESL 2 or Placement test**

**XE202**  
SE  
ESL 4 (Advanced)  
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. **Prerequisite: ESL 3 or Placement test**

**XE301**  
CP  
Literature and Writing  
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. **Prerequisite: ESL 4 or Placement test**

**XH101**  
SE  
World Today  
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. **Prerequisite: Placement test**

**XH220**  
CP  
World History 2  
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 structured 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. **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. **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. **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. **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. **Prerequisite: 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. **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. **Prerequisite: Placement test**

#### XS201 CP Chemistry

The SE Chemistry curriculum parallels the mainstream Chemistry course and is offered to ELL students of 9th-12th grades. Scientific language and labora-
tory 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. **Prerequisite:** Physics or Placement Test

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<th>XS301</th>
<th>CP</th>
<th>Biology</th>
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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. **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.

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<th>XE001B</th>
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<th>ELD (English Literacy Development)</th>
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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. **Prerequisite: Placement test**

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<th>XM001</th>
<th>SE</th>
<th>Foundations of Math</th>
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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. **Prerequisite: Placement test**

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<th>XE002</th>
<th>SE</th>
<th>Foundations of Reading</th>
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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. **Prerequisite: Placement test**

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**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 Honors level only. Students requiring additional support will be enrolled in E103 ELA Honors Access.

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. At the end of Semester 1, students may move up from CP to Honors based upon teacher recommendation.

All 11th grade students are required to take CP English 11 or HN English 11. This course is also required for 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. It is also a requirement for graduation. 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 COURSES**

- E102 HN ENGLISH 9
- E103 ELA HONORS ACCESS
- E201 CP ENGLISH 10 (HN Opt)
- E202 HN ENGLISH 10
- E301 CP ENGLISH 11 (HN Opt)
- E302 HN ENGLISH 11

**ELECTIVES**

- E405 CP JOURNALISM 1 (HN Opt)
- E406 HN JOURNALISM 2
- E407 CP GENDER THEORY (HN Opt)
- E409 HN AFRICAN LITERATURE
- E410 CP SELECTIONS IN LITERATURE
- E414 HN COLLEGE WRITING
- E425 CP CREATIVE WRITING, LITERATURE, AND THE ARTS (HN Opt)
- E427 HN LITERATURE IN RELIGION
- E429 CP MUSIC AND LITERATURE (HN Opt)
- E430 CP DYSTOPIA, SCIENCE FICTION AND FANTASY
- E431 CP AFRICAN AMERICAN LITERATURE
Participation in this course requires the approval of the ELA teacher.

In constructing a positive academic and social identity while developing writing skills, students receive hands-on support to explore their 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 learning through a variety of assessments. Students will document and evaluate their progress as writers through self-reflection and conferencing.

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.

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 do they 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:** Things Fall Apart, Othello or Macbeth, and assorted poetry, nonfiction, and short stories. Teachers may also choose to teach a second novel or novella. **Prerequisite:** English 9

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 do they 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 preparation 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. **Prerequisites:** Grade of B- or better in English 9 HN or grade of B+ or better and teacher recommendation in English 9 CP

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. **Grades 11, 12; Prerequisites:** English 9 and 10

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 portfolios.
portfolios. 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. Grades 11, 12; Prerequisites: English 9 and grades of B or better in English 10, teacher recommendation

## ELA ELECTIVES

### E405 HN Journalism 1

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. Prerequisites: English 9, 10

### E406 HN Journalism 2

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. Prerequisites: Journalism 1

### E407 CP (HN Opt) Gender Theory

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. Grades 11, 12; Prerequisites: English 11

### E409 HN African Literature

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 Négritude 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. Prerequisites: English 9, 10

### E410 CP Selections in Literature

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. Grades 10, 11, 12; Prerequisites: English 9

### E414 HN College Writing

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. Grades 11, 12; Prerequisites: English

### E425 HN Creative Writing, Literature, and the Arts

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 in 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. Prerequisites: Grade of C+ or better in 9th and 10th grade English

### E427 HN Literature in Religion

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

### E429 CP (HN Opt) Music and Literature

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. Prerequisites: English 9, 10

E430 CP (HN Opt) Dystopia, Science Fiction and Fantasy
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, watch and analyze films, conduct short and sustained research projects, and create products which reflect their analysis of contemporary society. This course will ask students to push beyond pop culture to examine pressing topics and grapple with these issues. Prerequisites: English 9, 10

E431 CP (HN Opt) African American Literature
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; Prerequisites: English 9, 10

E432 CP Classical Literature: Shakespeare
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. Grades: 10, 11, 12

E435 CP (HN Opt) Greek Mythology
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. Prerequisites: English 9, 10

E436 CP (HN Opt) Psychology and Literature
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. Prerequisites: English 9, 10

E439 CP (HN Opt) Examining Graphic Novels
Over the last three decades, the field of graphic storytelling has increasingly become the subject of critical acclaim. Using industry texts by writers and artists such as Scott McCloud and Will Eisner as a guide, this course will examine some of the major achievements in the field, including Maus, Persepolis, and Watchmen. Students will focus on history of the field, apply literary theory to different works, examine sub-genres within the medium, and debate the future outlook of the graphic format. Throughout the course, students will build on reading, research and writing skills, and will continually engage in critical thinking. As a culminating product, students will produce their own original graphic novel for publication. Prerequisites: English 9, 10

E440 CP (HN Opt) Immersion Journalism
Two kinds of journalism have emerged in recent years. The first is called variously called experiential writing, deliberate living, Walden in the city, and immersion journalism. To write this brand of nonfiction, the authors live deliberately and differently for a period of time, immersing themselves in a new experience. By venturing into the unfamiliar, they can then look at things with new eyes and write in innovative, immediate ways. For this class the student will start to use their life as an experiment. What if, for a period of time, you withdrew from the internet? Gave up your cell phone? Abstained from sugar? Stopped looking at mirrors? Kept a gratitude journal? Meditated? Followed Thumper’s Rule and only said kind things? Spent regular time in nature? Stopped buying anything that would end up in a landfill? Went carbon neutral? Students will do these experiments as a whole class and by individual design. Each experiment will include research on the topic as well as the personal endeavor, and all will accumulate in thoughtful essays about these forays into deliberate living. The second type of journalism is the documentary about an important social issue. Students will view such documentaries, discuss the issues presented, and study the techniques used by the documentarians. Students may then have a chance to produce a short documentary of their own. Prerequisites: English 9, 10

E446/M417 CP (HN Opt) Statistics and Society: Humanities
Every day we are surrounded by claims of all kinds. This course helps students to see why a given claim is being made, and what the conditions, parameters, influences, contexts, and goals are that guide the argument. As students come to understand the construction of claims and their persuasive elements, they will be able to further understand how to utilize and manipulate data to increase the soundness of their own claims. Ultimately these new understandings will be employed in their mathematically-based writing projects. The underlying goal is to continually explore and articulate personal beliefs and to defend them using sound statistical analysis, while allowing those beliefs to shift and change as students participate in robust discussions. Major themes will include Education, Gender and Race, Language and Literacy, Popular Culture, and Politics and Satire, and these themes will be analyzed using one- and two-variable statistics and
facts about polling and sampling. This course will run for a full year with
students taking the math and ELA elements on alternating Black/Silver
days. **Length:** Full Year; **Credits:** 10 in Math & 10 in ELA; **Prerequisites:**
Passing grades in ELA 9, 10 & Algebra II.

### ADVANCED PLACEMENT COURSES

All students enrolled in an Advanced Placement English course are ex-
pected 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 ana-
lytical 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. **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 understand-
ings will be employed in their own writing. The underlying goal is to continu-
ally 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. **Grades 11 & 12; Prerequisites:** English 9, 10, 11. Students must
have earned a grade of B or better in HN English 11 or rec-
ommendation by their grade 11 ELA teacher.

### CORE COURSES

- H201 CP WORLD HISTORY (HN Opt)
- H202 HN WORLD HISTORY
- H291 CP US HISTORY 1
- H292 HN US HISTORY 1
- H301 CP US HISTORY 2
- H302 HN US HISTORY 2

### ELECTIVES

- H403 HN PSYCHOLOGY
- H404 CP CIVICS (HN Opt)
- H405 CP CONSTITUTIONAL LAW (HN opt)
- H406 CP SOCIOLOGY (HN opt)
- H407 CP CRIMINAL JUSTICE (HN Opt)
- H409 CP AFRICAN AMERICAN HISTORY (HN Opt)
- H410 HN CULTURAL ANTHROPOLOGY
- H414 HN MODEL UNITED NATIONS AND INTERNATIONAL RELATIONS
- H415 CP LEADERSHIP AND COMMUNITY ACTION - STARs
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. Grade: 9

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. Grade: 9

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. Grade: 10; Prerequisite: World History 2

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 the 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 courses. It is a lecture-based broad overview of the field. Prerequisites: World History 2, US History 1 and 2, or AP US History

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. Prerequisites: World History 2, US History 1 and 2 or AP US History
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<th>Course Code</th>
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<tr>
<td>H405</td>
<td>Constitutional Law</td>
<td>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 CRHS 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. Prerequisites: World History 2, US History 1 and 2 or AP US History</td>
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<tr>
<td>H406</td>
<td>Sociology</td>
<td>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. Prerequisites: World History 2, US History 1 and 2 or AP US History</td>
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<tr>
<td>H407</td>
<td>Criminal Justice</td>
<td>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. Prerequisites: World History 2, US History 1 and 2 or AP US History</td>
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<tr>
<td>H409</td>
<td>African American History</td>
<td>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 coursework 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. Prerequisites: World History 2, US History 1 and 2 or AP US History</td>
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<tr>
<td>H410</td>
<td>Cultural Anthropology</td>
<td>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 of 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. Prerequisites: World History 2, US History 1 and 2 or AP US History</td>
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<tr>
<td>H414</td>
<td>Model United Nations and International Relations</td>
<td>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 CRHS can email Dean Milner directly. Prerequisites: All grades can enroll, but approval of Dean and/or teacher is needed.</td>
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<tr>
<td>H415</td>
<td>Leadership and Community Action-STARs</td>
<td>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; Prerequisites: World History 2, US History 1 and 2, or AP US History and prior approval of the STARs Teacher.</td>
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<tr>
<td>H416</td>
<td>Racial and Cultural Identities</td>
<td>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</td>
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This course will examine society’s allocation of scarce resources, as well as 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. Prerequisites: World History 2, US History 1 and 2 or AP US History

This course will focus on combining history, philosophy, sociology, economics, anthropology and civics in a broad-spectrum introduction to the social sciences. In mini-units, students will learn about the different disciplines within the social sciences, and then use their knowledge to do investigations and projects both within Cambridge, and on the global level. We will bring in current events and local happening to discuss and debrief, as students are pushed to become critical thinkers and observers of the world around them. Students will create a long term project to show their understanding of at least one discipline within the social sciences, and make connections to the world at large. The goal of this course is to allow students to have a basic knowledge of the different social science disciplines, and become critical participants in the world around them. Students will be required to have a standing field trip for the duration of the course. Grade: 12

ADVANCED PLACEMENT COURSES

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

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.

**Prerequisites:** US History 2 or AP US History

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**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. **Grade: 12; Prerequisites:** World History 2, US History 1 and 2 or AP US History

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**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. **Grade: 12; Prerequisites:** World History 2, US History 1 and 2 or AP US History

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**H531 AP U.S. History**

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. **Grade: 11; Prerequisites:** World History 2 and HN U.S. History 1 and Teacher Recommendation

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**Mathematics**

**SCHOOL WIDE LEARNING EXPECTATION:**
A CRLS student uses deliberate thinking processes to solve problems and develop ideas.

**STAFF**

Julie Ward, Mathematics 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, FST and Computer Programming. This year we are excited to offer a full year course in collaboration with the ELA Department, Introduction to Statistics & Society. The Math Department 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 COURSES**

- M101 CP ALGEBRA 1
- M111 HN ALGEBRA 1
- M121 CP GEOMETRY
- M122 HN GEOMETRY
- M201 CP ALGEBRA 2
- M211 HN ALGEBRA 2
- M410 CP PRE-CALCULUS WITH QUANTITATIVE REASONING
- M411 HN PRE-CALCULUS

**ELECTIVES**

- M311 CP FUNCTIONS, STATISTICS AND TRIGONOMETRY
- M413 CP MATHEMATICAL REASONING WITH APPLICATIONS (HN Opt)
- M415 CP INTRODUCTION TO COMPUTER SCIENCE (HN Opt)
- M417/E446 CP STATISTICS & SOCIETY: MATH (HN Opt)

**ADVANCED PLACEMENT COURSES**

- M416 AP COMPUTER SCIENCE
- M417 AP COMPUTER SCIENCE PRINCIPLES
- M501 AP CALCULUS AB
- M502 AP CALCULUS BC
- M510 AP STATISTICS

**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
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. **Grade 9**

### 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. **Grade 9; 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 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. **Grade 9, 10; 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. 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. **Grade 9, 10; Prerequisite: Passing grade in Algebra 1**

### M201 | CP | Algebra 2
This course requires that students work closely with the expressions that define functions, are comfortable with the algebraic manipulations of functions, and continue to hone their abilities to model situations and to solve equations. Graphing is emphasized and geometry is applied. Topics include a study of patterns and functions. Students will describe, extend, analyze and generalize linear functions as well as exponential and logarithmic relationships, and radical, rational and polynomial functions. This course also addresses topics in statistics. **Grades: 10, 11, 12; Prerequisite: Passing grade in Algebra 1 and Geometry**

### M211 | HN | Algebra 2
This course requires that students work closely with the expressions that define functions, are comfortable with the algebraic manipulation of expressions, and continue to expand and hone their abilities to model situations and to solve equations. **Grades: 10, 11, 12; Prerequisite: Grade of B or better in Algebra 1 and Geometry or teacher recommendation**

### 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. **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. **Grades: 11, 12; Prerequisites: Grade of B or better in HN Algebra 2 or teacher recommendation**
M311 CP Functions, Statistics, and Trigonometry
Functions, Statistics & Trigonometry (FST) strengthens and expands upon students' understanding of Algebra II concepts. Students examine many facets of statistics with an emphasis on analyzing and interpreting various statistical measures. Probability is explored and connected to real-life scenarios. In addition, students will expand their understanding of trigonometric ratios, the Unit Circle and applications of trigonometry. This course serves as an effective precursor to CP Pre-Calculus and also prepares students for introductory college math courses for potential liberal arts or business majors. Grades: 11, 12; Prerequisite: Passing Grade in Algebra II

M412 CP (HN Opt) 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 FST. The course curriculum focuses on answering the question “Why do I need to learn math?” Students will look at how mathematical concepts such as cash flow, interest rates, 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 to 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. Students will receive either CP or HN credit at the end of the course depending on their final grade. Grades: 11, 12; Prerequisite: Passing Grade in HN Algebra 2, FST or Pre-Calculus with Quantitative Reasoning

M417/E446 CP (HN Opt) Statistics and Society: Math
Every day we are surrounded by claims of all kinds. This course helps students to see why a given claim is being made, and what the conditions, parameters, influences, contexts, and goals are that guide the argument. As students come to understand the construction of claims and their persuasive elements, they will be able to further understand how to utilize and manipulate data to increase the soundness of their own claims. Ultimately these new understandings will be employed in their mathematically-based writing projects. The underlying goal is to continually explore and articulate personal beliefs and to defend them using sound statistical analysis, while allowing those beliefs to shift and change as students participate in robust discussions. Major themes will include Education, Gender and Race, Language and Literacy, Popular Culture, and Politics and Satire, and these themes will be analyzed using one- and two-variable statistics and facts about polling and sampling. This course will run for a full year with students taking the math and ELA elements on alternating Black/Silver days. Length: Full Year; Credits: 10 in Math & 10 in ELA; Prerequisites: Passing grades in ELA 9, 10 & Algebra II.

M415 CP (HN Opt) Introduction to Computer Science
This beginner course is designed for students who have had no previous programming experience. Computing has opened up wonderful new ways for people to connect, design, research, play, and express themselves. This survey course offers students a hands-on introduction to computer science. Students will program using a block-based graphical interface as they learn how to translate their ideas into code. 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. For year-long RSTA course with embedded PE, see RSTA section. Grades: 9, 10, 11, 12; 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
This advanced course can be taken by students with or without programming experience. 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. Grades: 10-12; Prerequisite: Passing grade in Algebra 2
M417 AP COMPUTER SCIENCE PRINCIPLES
This intermediate course can be taken by students with or without programming experience. AP Computer Science Principles introduces students to the central ideas of computer science, inviting students to develop the computational thinking vital for success across multiple disciplines. The course is taught in Python and is unique in its focus on fostering students to be creative and encouraging students to apply creative processes when developing computational artifacts. Students who successfully complete this course will be eligible to continue as RSTA Level 2 IT or CS students (Level 3 may include a paid co-op position). AP CSP is complementary to AP CS and can be taken in any order or at the same time. Grades: 9, 10, 11, 12; Prerequisite: Passing grade in Algebra 1

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. 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. Prerequisites: Grade of B+ or better in HN Pre-Calculus and/or teacher recommendation.

M510 AP Statistics
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. Grades: 11, 12; Prerequisites: Grade of B or better in 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, RSTA, Science, 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 student portal.

COURSE LIST
MART100 CP MULTIMEDIA SPORTS REPORTING (HN Opt)
MART101 HN VISUALIZING & COMMUNICATING SCIENCE
MART102 CP MUSIC COMPOSITION & Communicating Science
MART970 HN EXPERIMENTAL MEDIA
MART971 CP MEDIA JOURNALISM (HN Opt)
MART103 CP MUSIC VIDEO PRODUCTION
MART105 CP INTRO TO MUSIC & SOUND DESIGN
MART107 CP SOUND DESIGN for IMAGE & the STAGE (HN Opt)

MEDIA ARTS COURSES OFFERED IN OTHER DEPARTMENTS
T612L TC DIGITAL FILM AND TV PRODUCTION (SEE PAGE 46)

MART100 CP (HN Opt) Multimedia Sports Reporting
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 learn the basics of reporting sports and sports stories through audio, photojournalism, field and studio production. Homework will focus on recording stories about Falcon athletes and game coverage. Can be taken for English elective credit. Grades: 9, 10, 11, 12

MART101 HN Visualizing & Communicating Science
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. Can be taken for English elective credit. Grades: 11, 12 or instructor approval

37
MART102 CP (HN Opt) Music Composition & Production
Learn to record your own music and tracks. Use ProTools, Noteflight and other studio software/hardware to bring your audio ideas to life while collaborating with the music video class to add a visual component to your music. 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. Grades: 9, 10, 11, 12

MART103 CP Music Video Production
Acquire advanced practices in the studio and field in the areas of field camera production, lighting design, directing, editing and producing through music video production. Students will learn to write lyrics, record footage and edit together original, synced music videos using professional audio and video editing software. This class will also collaborate with the Music Composition class and will cover some historical and social issues to explore their impact on the evolution of music through the decades. Grades: 9, 10, 11, 12

MART105 CP Intro to Music and Sound Design
In this introductory course students will learn the basics of audio engineering and sound design. The course will cover recording with microphones, basic digital music composition, designing sound for theater, the principles of sound for moving-image and the fundamentals of sound-physics. Can be taken for VPA elective credit. Grades: 9, 10, 11, 12

MART107 CP (HN Opt) Sound Design for Image and the Stage
Students will focus on the designing, engineering, mixing and producing of sound-works for moving image. Techniques covered will include queuing sound for theater, scoring and recording music for film, ADR, Foley, SFX generation and mixing with Pro Tools. Can be taken for VPA elective credit. Grades: 11, 12, or instructor approval

MART970 HN Experimental Media
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. Grades: 11, 12, or instructor approval

MART971 CP (HN Opt) Media Journalism
Driven by your civic awareness and passion for elevating youth voices, learn the principles and skills of writing for television 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 be shown in Community Meeting during the school day and on CEATV 98. Can be taken for English elective credit. Grades: 11, 12, or instructor approval

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
Jaci Rubin, Cooperative Education/First Work
Sara Reese, Career Counselor
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 eleven (11) 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 dedicated faculty is highly qualified and fully-licensed. 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’s SOLVED program. 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

### COURSE LIST

**AUTO TECHNOLOGY 1, 2, 3**

**BIOTECHNOLOGY 1, 2, 3**

**CARPENTRY 1, 2, 3**

**COMPUTER SCIENCE 1, 2, 3, AP**

**CREATIVE DESIGN 1, 2, 3**

**CULINARY ARTS 1, 2, 3**

**EARLY EDUCATION AND CARE 1, 2, 3**

**ENGINEERING 1, 2, 3**

**PRINT & PRODUCTION 1, 2, 3**

**HEALTH ASSISTING 1, 2, 3**

**INFORMATION TECHNOLOGY 1, 2, 3**

**MEDIA TECHNOLOGY 1, 2, 3**

### TECHNICAL ARTS ELECTIVES

**TECH EXPLORATORY**

**AUTOMOTIVE UPKEEP**

**BANK OPERATIONS**

**BASIC HOME REPAIR**

**CULINARY FOUNDATIONS**

**DIGITAL FILM & TV PRODUCTION**

**ENTERPRISE/ENTREPRENEURSHIP/BUSINESS**

**FASTTRACK ENGINEERING**

**INTRO TO DIGITAL PRINTING**

**MARKETING & RETAIL MANAGEMENT**

**PERSONAL FINANCE**

**ROBOTICS/FIRST**

**ROBOTICS 2**

**SCIENCE OF FOOD**

**VIDEO GAME DESIGN & DEVELOPMENT**

**WEB DESIGN & DEVELOPMENT**

### RSTA ELECTIVES OFFERED IN OTHER DEPARTMENTS

- MART100 CP MULTIMEDIA SPORTS REPORTING (HN Opt) (SEE PAGE 37)
- MART101 HN VISUALIZING & COMMUNICATING SCIENCE (SEE PAGE 37)
- MART102 CP MUSIC COMPOSITION & PRODUCTION (HN Opt) (SEE PAGE 38)
- MART103 CP MUSIC VIDEO PRODUCTION (SEE PAGE 38)
- MART105 CP INTRO TO MUSIC & SOUND DESIGN (SEE PAGE 38)
- MART107 CP SOUND DESIGN for IMAGE & the STAGE (HN Opt) (SEE PAGE 38)
- MART970 HN EXPERIMENTAL MEDIA (SEE PAGE 38)
- MART971 CP MEDIA JOURNALISM (HN Opt) (SEE PAGE 38)
- M417 AP COMPUTER SCIENCE PRINCIPLES (SEE PAGE 36)

### 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/rsta) 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 at least 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
TECHNICAL ARTS EXPLORATORY

Ninth graders have two Exploratory options available to them.

Exploratory (T120) consists of 12 different classes which rotate every 6 to 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.

SKILLSUSA

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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, Health Assisting, Hospitality, Media Technology, Print & Production; 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 to 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 inventory and learn about their strongest career type; and how to be safe in a variety of work settings. Grade 9

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, Health Assisting, Hospitality, Media Technology, Print & Production; 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 to 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 inventory and learn about their strongest career type; and how to be safe in a variety of work settings. 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. 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 familiarity 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.

T120 | TC | Be-IT Exploratory (Biotechnology, Engineering, Information Technology, Health Assisting)
---|---|---
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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. **Grades: 10, 11**

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. **Grades: 11, 12; Prerequisite: Automotive Technology 1**

**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 building code terminology. 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. **Grades: 12; Prerequisites: Automotive Technology 1 and 2**

**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 the Biology Department aimed at identifying novel variants of a gene in plant. Students enrolled in intermediate- and advanced-level biotech courses can participate in this exciting, real-world research endeavor. 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)

**To see Course Descriptions go to Science Department Section pg. 52**

- **T610** TC **Introduction to Biotechnology (Biotech 1)**
- **T515** TC **The Science of Food**
- **T870** HN **Intermediate Molecular Biology (Biotechnology 2)**
- **T980** HN **Advanced Biotechnology (Biotechnology 3)**

**Carpentry 1**

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. **Grades 10, 11; Prerequisite: Career Interest Survey**

**Basic Home Repair**

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. **Grades: 11, 12**

**Carpentry 2**

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 tools, 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. Grades: 11, 12; Prerequisite: Carpentry 1**
**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 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).

**T991 | TC | Carpentry 3**

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. Grade: 12; Prerequisite: Carpentry 1 and 2**

**T602TC Creative Design 1**

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. 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. Grade: 10, 11; Consideration will be given to 9th graders who petition in writing to the Director of RSTA (mananis@cpsd.us) by March 1.**

**T845 | HN | Creative Design 2**

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 develop and assemble a digital and print portfolio. This course includes a Wellness component. **These students will not be required to take a separate Wellness course. Grades: 11, 12; Prerequisite: Creative Design 1 or with the approval by the instructor**

**T995 | HN | Creative Design 3**

This is an Honors Level course where advanced design students develop all the fundamentals, knowledge, and skills 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 projects. Students focus 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, image production, and final execution of a design. Student will develop and assemble an digital and print portfolio. 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. Grade: 12; Prerequisite: Creative Design 2**

**CULINARY ARTS**

The Culinary Arts Program is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74 approved program and is accredited by the American Culinary Federation. Students are involved in all aspects of the operation 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).

**T602TC Culinary Arts 1**

Using a competency-based, industry-relevant curriculum, students learn basic skills needed to work in a professional kitchen or bakery. Through direct 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. **Fall Semester; Grades: 10, 11; Prerequisite: Career Interest Survey**

**T602LC 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. **Grades: 10, 11**
### EARLY EDUCATION AND CARE

**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. **Students in this course will not be required to take a separate Wellness course. Grades: 10, 11**

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<thead>
<tr>
<th>Course Code</th>
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<th>Course Title</th>
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<tbody>
<tr>
<td>T842</td>
<td>TC</td>
<td>Culinary Arts 2</td>
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<tr>
<td>T992</td>
<td>TC</td>
<td>Culinary Arts 3</td>
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<td>T750</td>
<td>TC</td>
<td>Child Growth and Development (Early Education 1)</td>
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<td>T751</td>
<td>TC</td>
<td>Early Childhood Professional (Early Education 2)</td>
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<td>T752</td>
<td>TC</td>
<td>Child Care Today (Early Education 3)</td>
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**Early Childhood Education and Care is a Massachusetts Department of Elementary and Secondary Education (DESE) Career technical Education (CTE), Chapter 74 approved program.** Our EEC program is designed to prepare students for careers working with children including: early childhood teacher, elementary teacher, pediatrician, pediatric nurse, speech therapist, physical therapist, coach or special needs teacher. Our EEC program will prepare students to study at a 2 year or 4 year college or begin an entry level job in childcare. Students will benefit from a comprehensive study of child development. Through project based learning EEC students will develop research skills in addition to writing, technology, communication, and public speaking skills. Students will study different psychology theories, anatomy, prenatal and neonatal and brain development. Successful Level 2 & 3 students will have the opportunity to complete a paid internship working with children second semester.

**T751 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 and work with children in a child care center. Students will develop skills to work directly with children 2-3 days per week, second semester. 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 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 plan and facilitate activities that support diversity and foster understanding of differences in the classroom. Only students who have successfully met performance expectations will be placed at a practicum site. **Students in this course will not be required to take a separate Wellness course. Grade: 11, 12; Prerequisites: Culinary Arts 1 and 2**

**T752 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 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 communication and writing skills as they prepare for college and professional careers. Students will engage in project based learning to enhance their research, technology and professional presentation skills. Only students who have successfully met performance expectations will be placed at a practicum site. **Students in this course will not be required to take a separate Wellness course. Grades: 10, 11.**
to take a separate Wellness course. 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, T750 or *Instructor permission *Ability to work independently and consistently follow instructions

**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.ptlw.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**

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 and 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. **Grades: 10, 11, 12; Prerequisite: Career Interest Survey**

**T483 | HN | Engineering 2**

This is an Honors Level course in Engineering (also called “Principles of Engineering”) where more classical engineering systems are learned in order to prepare students for the type of calculations they will be asked to perform on the job or in college. Many engineering problems from hydraulics and pneumatics to simple machines are introduced. Theoretical and hands-on problem-solving activities are emphasized. Project examples include robotics, materials testing, developing a gear train, and additional advanced CAD modeling skills. In the second half of the year, students 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. Grades: 11, 12; Prerequisite: Engineering 1, Engineering Design/CIM (FastTrack), or approval by the engineering instructors**

**T983 | HN | Engineering 3**

Students learn concepts of robotics and automated manufacturing in this Honors Level course, using “Computer Aided Design” (CAD) and “Computer Integrated Manufacturing” (CIM). CAD continues to expand students’ skills in computer modeling design and exposes students to fundamentals of computerized manufacturing technology. Students refine and expand their knowledge of prototyping, CNC equipment, CAM software, robotics, and flexible manufacturing. Students have the opportunity to invent a new product or make improvements to an existing one. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices. Qualified students will be offered the opportunity to participate in an 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. Grade: 12; Prerequisites: Engineering 1 or FastTrack Engineering and Engineering 2**

**T502 | TC | Fast Track Engineering**

This course is an accelerated offering for Grade 10 and 11 students considering a career in engineering. This is an accelerated version of Engineering 1, described above. Students will learn to communicate their ideas using hand sketching and Computer Aided Design (CAD). They will generate prototypes and incorporate computer integrated manufacturing in this process. Students 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.) **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**

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. **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**

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. **Prerequisites: open to grade 10, 11, 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**

**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. **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. 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, and 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. 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 course of studies 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 basic information technology and computer science concepts. Students in the second and third year of Information Technology can focus on specific areas of IT and prepare for Cisco networking certifications. Integrated into these courses are the Massachusetts Core Curriculum Frameworks (Science, Math, and English/Language Arts). **For additional computer science courses, see Math section.**

**T604 | TC (HN Opt) | 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 computer science. CS will follow the same curriculum as the math version of the class (M415) with an additional focus on software career readiness. The IT component is an introductory course in which students acquire an understanding of IT fundamentals. The class will cover operating systems, virtual machines, cloud computing, information security, networking, laptops, databases, printers, and operational procedures. This course includes an embedded Wellness component. **Students in this course will not be required to take a separate Wellness course. For the one semester version of CS/IT 1 that does not include wellness component, see the Math section course APCSP Grades: 9, 10, 11; Prerequisite: Career Interest Survey**

**T746 | TC (HN Opt) | Information Technology 2**

IT 2 is a continuation of the RSTA IT curriculum. Topics include mobile computing, hardware support, information security, advanced networking, and advanced server configuration, and hardware support. Students learn how to maintain computers in a business environment and how to troubleshoot and solve hardware, network, printers, and software problems. This course includes an embedded Wellness component. **Students in this course will not be required to take a separate Wellness course. Prerequisite: CS/IT 1 or AP CSP IT; Grades: 11, 12; Prerequisite: Information Technology 1 and Introduction to Computer Science**

**T527 | HN | 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, and Unity as well as career readiness skills for the software industry. This course includes an embedded Wellness component. **Students in this course will not be required to take a separate Wellness course. Prerequisite: CS/IT 1 or AP CSP; AP CS (may be concurrent)**

**T986 | TC | Information Technology 3**

Information Technology 3 is a continuation of the learning done in IT1 and IT2. Students will continue to hone their IT skills through either a project-based class or a work experience with a local company. Students will continue to learn about advanced server and networking technologies as well as working in a business environment. **This course includes an embedded Wellness component. Students in this course will not be required to take a separate Wellness course. Prerequisite: Information Technology 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. This course includes an embedded Wellness component. Students in this course will not be required to take a separate Wellness course. Prerequisite: Computer Science 2

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 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. Grades: 10, 11, 12

T527B    TC (HN Opt)    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 two week cycles to program their own ideas or recreate existing games. Grades: 10, 11, 12; Prerequisites: AP Computer Science

T505    CP    Fast Track IT/CS
This course is an accelerated offering for Grade 10 and 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.) 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
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. Prerequisite: Career Interest Survey

T712    TC    Media Technology 2
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. Prerequisite: Media Technology 1

T988    TC    Media Technology 3
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. Prerequisites: Media Technology 1 and 2

T612L    CP    Digital Film & TV Production
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. Grades: 9 - 12

**PRINT & PRODUCTION**

Print & Production (P&P) is a MA Department of Elementary and Secondary Education (DESE) Career Technical Education (CTE), Chapter 74
approved program. Students in P&P 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, dye sublimation and modern binding machines to create and produce projects such as stationery, calenders, 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  
**Print & Production 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, dye sublimation as well as how to operate press, bindery, and digital imaging equipment. **Grades: 10, 11; Career Interest Survey**

**T847**  
TC  
**Print & Production 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, dye sublimation, 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. Grades: 11, 12; Prerequisite: Print & Production 1**

**T987**  
TC  
**Print & Productiony 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, screen printing, dye sublimation 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. Grade: 12; Prerequisite: Print & Production 1**

**T607L**  
TC  
**Introduction to Digital Printing**  
Students in this introductory course will learn the fundamental aspects of offset, digital, dye sublimation, and silk-screen printing. Students will learn how to use computers for desktop publishing as well as acquire production skills in the areas of press, bindery, silk-screen printing, and digital printing. **Prerequisite: open to grade 10, 11, students not currently or previously enrolled in Print & Production Level 1, 2 or 3, and with approval by the instructor**

**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**  
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 Four (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. **Grades: 10, 11, 12**

**B630**  
TC  
**Marketing and Retail Management**  
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. **Grades: 11, 12; Credit: 10**

**B940**  
TC  
**Bank Operations**  
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. **Students have the option to sign for two if there is an opening per semester; Grade: 12; Prerequisite: Induction Program and Instructor Approval**

**B985**  
TC  
**Personal Finance for Seniors**  
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! **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, JK-12 Coordinator of Science, Technology, & Engineering
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.

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<td>S201 CP CHEMISTRY</td>
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<td>S202 HN CHEMISTRY</td>
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<td>S301 CP BIOLOGY: A HUMAN APPROACH</td>
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<td>S302 HN BIOLOGY</td>
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<th><strong>ELECTIVES</strong></th>
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<td>S404 CP CONTEMPORARY APPLICATIONS OF GENETICS (HN Opt)</td>
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<th><strong>ADVANCED PLACEMENT COURSES</strong></th>
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<td>S406 CP EPIDEMIOLOGY</td>
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<td>S407 CP HUMAN ANATOMY &amp; PHYSIOLOGY (HN Opt)</td>
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<td>S408 CP MARINE BIOLOGY</td>
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<td>S409 CP FORENSICS</td>
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<tr>
<td>S410 IN MARINE SCIENCE INTERNSHIP (ACADEMIC INTERNSHIP)</td>
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<td>S411 CP ORGANIC CHEMISTRY</td>
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<td>S415 IN SCIENCE &amp; ENGINEERING RESEARCH (ACADEMIC INTERNSHIP)</td>
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<td>S416 CP EXERCISE PHYSIOLOGY (HN Opt)</td>
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<td>S418 CP OCEANOGRAPHY</td>
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<td>S420 IN CRLS TECHNOLOGY LAB ASSISTANT INTERNSHIP</td>
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<td>S425 CP BRAIN &amp; BEHAVIOR (HN Opt)</td>
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<td>S430 CP ENVIRONMENTAL SCIENCE (HN Opt)</td>
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<tr>
<td>S435 CP FOOD, FARMING, &amp; OUR PLANET (HN Opt)</td>
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<tr>
<td>S440 CP PROJECT PHYSICS: THE WAY THINGS WORK (HN Opt)</td>
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<td>T503 TC ROBOTICS/FIRST (SEE PAGE 44)</td>
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<td>T515 TC THE SCIENCE OF FOOD (SEE PAGE 41 &amp; 52)</td>
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<td>T603 TC ENGINEERING 1 (SEE PAGE 44)</td>
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**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 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 Biology

» 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.

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

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<th>MARINE BIOLOGY</th>
<th>LIFE SCIENCES*</th>
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<td>Pre-requisite Requirement</td>
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<tr>
<td>Minimum B in Biology</td>
<td>Minimum B in Chemistry</td>
<td>Minimum B in Physics</td>
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<tr>
<td>Minimum B in four semesters of the below courses**</td>
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<tr>
<td>Marine Biology</td>
<td>Anatomy &amp; Physiology</td>
<td>Ecology</td>
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<tr>
<td>Oceanography</td>
<td>Genetics</td>
<td>AP Environmental Science</td>
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<tr>
<td>AP Biology</td>
<td>Exercise Physiology</td>
<td>Food, Farming, &amp; Our Planet</td>
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<tr>
<td>AP Biology</td>
<td>AP Biology</td>
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<tr>
<td>Epidemiology</td>
<td>CP Environmental Science</td>
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<tr>
<td>Brain &amp; Behavior</td>
<td>Marine Biology</td>
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<tr>
<th>Experiential Requirement</th>
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<tbody>
<tr>
<td>Passing grade in one of the below semester internships or equivalent deemed by staff review board</td>
<td></td>
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<tr>
<td>Marine Science Intern</td>
<td></td>
<td>Draper Labs Intern</td>
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<td></td>
<td></td>
<td>Harvard Labs Intern</td>
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<td></td>
<td>Science &amp; Engineering Research Internship***</td>
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<td>TA for Respective AP Science Course</td>
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<tr>
<th>Extra Curricular Requirement</th>
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<tr>
<td>Participation in one of the below for at least one full season</td>
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<tr>
<td>Ocean Bowl</td>
<td>Science Team</td>
<td>EAC/Compost</td>
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<tr>
<td>Underwater Robotics</td>
<td>Envirothon</td>
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<tr>
<th>Staff Review Board Members</th>
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<tr>
<td>Members listed below work in congress with the Dean &amp; Coordinator for Science on adaptions and/or considerations of the above listed requirements</td>
<td></td>
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<tr>
<td>Paul McGuinness</td>
<td>Tanya Augustine</td>
<td>Sarah Colby</td>
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<tr>
<td>Elizabeth Scott</td>
<td>Barbara Dorrity</td>
<td>Tobe Stomberg</td>
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<tr>
<td>Laura Borrelli</td>
<td>Tobe Stomberg</td>
<td>Elizabeth Scott</td>
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<tr>
<td>Janira Arocho</td>
<td>Elizabeth Scott</td>
<td>Janira Arocho</td>
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<tr>
<td>Laura Borrelli</td>
<td>Paul McGuinness</td>
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<tr>
<td>Janira Arocho</td>
<td>Laura Borrelli</td>
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| *A concentration in Life Sciences allows choices from first three columns |
| **Research Internship must be pre-approved by respective Review Board Members | | |
Honors Designation for S101 CP Physics First

A student will receive an Honors Designation on their transcript for Physics First by completing a series of requirements throughout the year, such as: more in-depth assignments, rigorous analysis of their experimental data, and extended research and analysis for their culminating projects. At the end of the course, students will demonstrate their understanding and achievements by creating and presenting an honors portfolio that draws together their body of work and relates it to the overarching goals for the course. Prerequisites: Physics and Chemistry grades of B or better or recommendation of previous science teacher

### SCIENCE ELECTIVES

**S403 CP Astronomy**

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. Prerequisites: Physics, Chemistry and Biology. Students can be concurrently enrolled in Biology. Recommended prerequisites: Algebra 2

**S404 CP (HN Opt) Contemporary Applications of Genetics**

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. Prerequisites: Physics, Chemistry and Biology

**S405 CP Ecology**

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

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. **Prerequisites:** Physics, Chemistry and Biology

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 Zoanthellae 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. **Prerequisites:** Chemistry and Biology

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? **Prerequisites:** Physics, Chemistry, and Biology

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. **Prerequisites:** Marine Biology or Oceanography and permission of the instructor

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); **Prerequisites:** B or better grade in Chemistry and Biology

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. **Prerequisites:** Application, including resume, transcript and letter of recommendation—See Ms. Dorritie in room 3408 for application

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. **Prerequisites:** Physics, Chemistry and Biology

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; **Prerequisites:** Chemistry
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. **Prerequisites: Googledoc application**

### S425 | CP (HN Opt) | Brain and Behavior

This course is about the biology of the brain. How are signals transmitted in the brain? How do neurons create memories and how do we learn? How are nervous systems organized? How does the brain control complex animal behaviors such as migration, mating, altruism, and echolocation?

To answer these questions, students will read varied advanced texts, interpret models and data, participate in class discussions, complete projects and demonstrate understanding on written assessments. **Credits: 10**

### S430 | CP (HN Opt) | Environmental Science

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. 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. **Credits: 10**

### S435 | CP (HN Opt) | Food, Farming, and Our Planet

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. **Prerequisites: Physics, Chemistry and Biology**

### S440 | CP (HN Opt) | Project Physics: The Way Things Work

Humans have been farming for over 40,000 years! We rely on agriculture for everything from food to animal feed to clothing and fuel. With the looming consequences of overpopulation and global climate change, understanding agriculture is more important than ever. In this course students will learn about agriculture by studying plants, soil, water, microbes, insect pollinators and pests. We will look closely at large agro-business and sustainable organic farming; we will understand environmental degradation and the impact that agriculture has had on our ecosystems; we will learn about solutions and ways that agriculture can sustain our growing human population. Students will conduct independent research projects, write lab reports, read primary sources, and convey scientific information to their peers and the community. **Credits: 10**

### T610 | TC | Introduction to Biotechnology (Biotech 1)

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. **Grades: 10, or the prior approval of the instructor.**

### T515 | TC | The Science of Food

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 a 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. **Grades: 10, 11, 12 or the prior approval of the instructor.**

### T870 | HN | Intermediate Molecular Biology (Biotechnology 2)

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. Grades: 11, 12; Biotechnology 1 or the prior approval of the instructor.

| T980  | HN | Advanced Biotechnology (Biotechnology 3) |

In Biotechnology Level 3 (Honors), students learn fundamental concepts and techniques in protein engineering and analysis. Students use microorganisms 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. Grades: 11, 12; Biotechnology 2 or the prior approval of the instructor.**

### 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**

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 organisational diversity and the structure and function of plants and animals, followed by a study of interactions in populations and communities. **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**

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. **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**

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. **Prerequisite: Algebra and Geometry, and previous or concurrent enrollment in Algebra 2.**

**S504B AP Physics 2**

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 electromagnetic 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. **Prerequisite: AP Physics 1, Algebra and Geometry, and previous or concurrent enrollment in Algebra.**

**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-based 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. Prerequisites: AP Calculus recommended but NOT required

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<thead>
<tr>
<th>S503B</th>
<th>AP</th>
<th>Physics C: Electricity and Magnetism (Semester 2 of AP Physics C)</th>
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</table>

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. Prerequisite: AP Calculus required

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<tr>
<th>S510</th>
<th>AP</th>
<th>Environmental Science</th>
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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. Prerequisites: Physics, Chemistry, Biology and Algebra

Office of Student Services

STAFF
Desiree Phillips, Coordinator of Upper Schools, High School, and Out-of-District
Kristin Knowlton, 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 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 and Transitional Program**
    
    The Functional Academics Program is part of 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. 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, the Learning Center, School-to-Work, College and Career Exploration, etc. Teacher approval is required for these courses.
In addition, the ability to swim and engage in water sports is a lifetime 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. If students do not pass the Wellness 1 swim test they will be required to take Swim Development and Aquatic Fitness to meet this graduation requirement.

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**

<table>
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<tr>
<th>PH001 PE Wellness 1</th>
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<tbody>
<tr>
<td>PH001A HE Grade 9 Health Education</td>
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<td>PH002 Teen Health 10</td>
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<td>PEO020 PE Lifetime Fitness I and II</td>
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<tr>
<td>PH0022 PE Team Sports</td>
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<tr>
<td>PEO020A PE Before School Lifetime Fitness (Sem. 1 Only)</td>
</tr>
<tr>
<td>PEO024 PE Swim Development &amp; Aquatic Fitness (Sem. 1 Only)</td>
</tr>
<tr>
<td>PEO024A PE Before School Water Safety Instructor (Sem. 1 Only)</td>
</tr>
<tr>
<td>PEO025 PE Young Adult Wellness</td>
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<tr>
<td>PEO028 PE Lifeguard Certification (Sem. 2 Only)</td>
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<tr>
<td>PEO028A PE Before School Lifeguard Certification (Sem. 2 Only)</td>
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<tr>
<td>PEO029 PE Athletics</td>
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<tr>
<td>PEO035 PE Yoga and Stress Management</td>
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<tr>
<td>PEO035A PE Before School Yoga &amp; Stress Management (Sem. 2 Only)</td>
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<tr>
<td>PEO040 PE Project Adventure</td>
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**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; 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; Prerequisite: None; Co-Requisites Dance 1**

**PH002 PE Teen Health 10**
This course will include units on Nutrition, Fitness, Tobacco, Alcohol and Drug Prevention and CPR. **Grades: 10, 11, 12; Prerequisite: None**
This course will include units on Moving for a Lifetime and Fundamentals of Individualized Fitness. Students will participate in units that are focused on the foundations of fitness such as yoga, strength training, cardio respiratory interval training and fitness based team sports/games. **Grades: 10, 11, 12; Alternate Days**

**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: 10, 11, 12; Prerequisite: None. May be taken on both black and silver days for juniors and seniors only.**

**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: 10, 11, 12; 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: 10, 11, 12; Prerequisite: None**

**PE0024A PE Before School Swim Water Safety Instructor**

This instructor course is to train instructor candidates to teach courses and presentations in the American Red Cross Swimming and Water Safety program including Parent and Child Aquatics, Preschool Aquatics, Learn-to-Swim, Adult Swim, Private Lessons, Water Safety Courses (including Safety Training for Swim Coaches*) and Water Safety Presentations. offered before the school day (6:45-7:45 am). **Grades: 10, 11, 12; Prerequisite: None**

**PE0028 PE Lifeguard 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: 10, 11, 12; Prerequisite: American Red Cross Swim Proficiency Test.**

**PE0028A PE Before School Lifeguard 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. Second semester only. **Grades: 10, 11, 12; Prerequisite: American Red Cross Swim Proficiency Test.**

**PH0025 PE Young Adult Wellness**

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; Prerequisite: None**

**PH0029 PE PE Athletics**

This option is for sophomores, juniors and seniors who want to substitute a CRLS interscholastic sport for their Physical Education requirement (Non-CRLS Sports/Activities will not be accepted). 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 year’s sport participation. **Grades: 10, 11, 12; Length: One Sport Season**

**PH0035 PE Yoga and Stress Management**

This class supports students in developing self-awareness, emotional resilience, healthy body image and compassion through yoga, breathing practices, stress management, mindfulness and community building. **Grades: 10, 11, 12; Prerequisite: None**

**PH0035A PE Before School Yoga and Stress Management**

This class supports students in developing self-awareness, emotional resilience, healthy body image and compassion through yoga, breathing practices, stress management, mindfulness and community building. **Grades: 10, 11, 12; Prerequisite: None**

**PH0040 PE Project Adventure Leadership**

This course is designed to promote cooperation, communication, teamwork, and problem solving skills. Students will learn that the success of a group depends on the participation of all of its members. The curriculum also gives all students various opportunities to practice positive leadership skills. Students in this course will learn how to facilitate problem solving initiatives, how to belay climbers on the high elements, and how to lead some Wellness I Project Adventure games and initiatives. **Grades: 10, 11, 12; Prerequisite: None**
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
Angela Green, Coach

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

<table>
<thead>
<tr>
<th>Level</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>CP</td>
<td>Arabic 1-2 (HN Opt)</td>
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<tr>
<td>HN</td>
<td>Arabic 3-4</td>
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<tr>
<td>CP</td>
<td>Chinese 1-3 (Mandarin) (HN Opt)</td>
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<td>HN</td>
<td>Chinese 4 (Mandarin)</td>
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<td>AP</td>
<td>Chinese</td>
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<tr>
<td>CP</td>
<td>French 1 (HN Opt)</td>
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<td>HN</td>
<td>French 2-5</td>
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<tr>
<td>AP</td>
<td>French</td>
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<tr>
<td>HN</td>
<td>Latin 1-4</td>
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<tr>
<td>AP</td>
<td>Latin</td>
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<tr>
<td>CP</td>
<td>Spanish 1 (HN Opt)</td>
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<td>HN</td>
<td>Spanish 2-5</td>
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<td></td>
<td>History of Latin America</td>
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<tr>
<td>AP</td>
<td>Spanish Language and Culture</td>
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<tr>
<td>CP</td>
<td>An Introduction to Spanish-Speaking Culture and Identity</td>
</tr>
<tr>
<td>HN</td>
<td>The Spanish-Speaking Scholar: Exploring Identity and Culture Through Literature</td>
</tr>
<tr>
<td>AP</td>
<td>Spanish Literature and Culture</td>
</tr>
<tr>
<td>CP</td>
<td>History of Latin America (HN Opt)</td>
</tr>
<tr>
<td>CP</td>
<td>American Sign Language 1-2</td>
</tr>
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</table>

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.

Prerequisites: Arabic 1 or Teacher Recommendation

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.
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). Prerequisites: Arabic 2 or Teacher Recommendation

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). 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 come to understand its culture and contribution to the world.

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.

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. Prerequisite: Chinese I

Chinese 3 is a proficiency-based course which refines and expands linguistic skills in culturally authentic contexts. The course focuses on developing communicative skills with an increasing emphasis on reading and writing in ideographic characters and expanding vocabulary. Prerequisite: Chinese 2

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. Prerequisite: Chinese 3

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. Prerequisite: HN Chinese 4

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.

Students will develop their French skills through the study of culture, vocabulary, and grammar. By discovering and reading about the experiences of typical French speaking people, students will become familiar with language as a tool for communication with their cultures. Students will work toward gaining proficiency in all areas of communication – reading, writing, speaking and listening all while learning new vocabulary and grammar structures. An honors option is available for students who excel and are interested in engaging with the curriculum on a deeper level through more in-depth options for projects and various additional classroom assignments.

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. Prerequisites: French 1 or recommendation of eighth grade teacher
L112 | HN | French 2
---|---|---
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. **Prerequisite:** HN French 1 or recommendation of eighth grade teacher

L211 | CP | French 3
---|---|---
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. **Prerequisite:** CP French 2

L212 | HN | French 3
---|---|---
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. **Prerequisites:** CP French 3, HN French 2, or Teacher Recommendation

L412 | HN | French 4
---|---|---
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. **Prerequisites:** French 3 Honors or Teacher Recommendation

L512 | HN | French 5
---|---|---
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. **Prerequisite:** HN French 4 or Teacher Recommendation

L612 | AP | French
---|---|---
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. **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
---|---|---
You will learn to read and write in Latin at a basic level moving at an accelerated pace. You will follow a Roman family through their daily lives in an ancient resort town and journey with them along the ancient Via Appia (Appian Way) to Rome. You will study the fundamentals of Latin grammar, build your Latin vocabulary and your English vocabulary by learning the English words that have come from your Latin vocabulary words, and learn about Roman history, culture and daily life.

L142 | HN | Latin 2
---|---|---
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. **Prerequisite:** HN Latin 1 or Teacher Recommendation

L242 | HN | Latin 3
---|---|---
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 Coliseum. 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. **Prerequisite:** HN Latin 1 and 2 or Teacher Recommendation
### SPANISH

Spanish continues to be a popular World Language at CRLS. 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.

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<tr>
<th>Course</th>
<th>Grade</th>
<th>Description</th>
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| L021    | CP (HN Opt) | Spanish 1
Students will develop their Spanish skills through the study of culture, vocabulary, and grammar. By discovering and reading about the experience of typical Spanish speaking people, students will become familiar with language as a tool for communication. Students will work toward gaining proficiency in all areas of communication – reading, writing, speaking and listening all while learning new vocabulary and grammar structures. An honors option is available for students who excel and are interested in engaging with the curriculum on a deeper level through more in-depth options for projects and various additional classroom assignments. This class is not intended for native speakers of the language; please refer to classes for Heritage Speakers. |
| L121    | CP    | Spanish 2
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. |
| L122    | CP    | Spanish 3
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. |
| L112    | CP    | History of Latin America
With the historic changes in the U.S. policy towards Cuba coupled with the immigration issues facing this country, Latin American again takes center stage in world events. Who are our neighbors to the South? This course explores the history and culture of Latin America, a region that includes Mexico, Central America, South America and the Caribbean. Stu-

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| L342    | HN    | Latin 4
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 literary style, as well as discuss topics and themes in ancient Roman literature. Prerequisites: HN Latin 3 or Teacher Recommendation |
| L442    | AP    | Latin
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. Prerequisites: HN Latin 4 or Teacher Recommendation |
| L417    | CP (HN Opt) | History of Latin America
With the historic changes in the U.S. policy towards Cuba coupled with the immigration issues facing this country, Latin American again takes center stage in world events. Who are our neighbors to the South? This course explores the history and culture of Latin America, a region that includes Mexico, Central America, South America and the Caribbean. Stu-

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</table>
| L112    | CP    | Spanish 2
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 preterite 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. Prerequisites: Grade of B or better in Spanish 1 or Teacher Recommendation |
| L211    | CP    | Spanish 3
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. Prerequisites: Spanish 2 or Teacher Recommendation |
| L222    | HN    | Spanish 3
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 preterite 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. Prerequisites: Grade of B or better in CP Spanish 2, HN Spanish 2, or Teacher Recommendation |

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<tr>
<th>Course</th>
<th>Grade</th>
<th>Description</th>
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</table>
| L417    | CP (HN Opt) | History of Latin America
With the historic changes in the U.S. policy towards Cuba coupled with the immigration issues facing this country, Latin American again takes center stage in world events. Who are our neighbors to the South? This course explores the history and culture of Latin America, a region that includes Mexico, Central America, South America and the Caribbean. Stu-

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| L112    | CP    | Spanish 2
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 preterite 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. Prerequisites: Grade of B or better in Spanish 1 or Teacher Recommendation |
| L211    | CP    | Spanish 3
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. Prerequisites: Spanish 2 or Teacher Recommendation |
dents will take a close look analyze the impact of European colonization on
the indigenous peoples, independence movements of the 19th century and
major political events of the 20th and 21st centuries. Students may opt for
either honors Spanish or History credit as follows: Spanish language credit
includes advanced readings in Spanish throughout the course followed by
an academic (term) paper in the Spanish language. History includes
readings in English followed by an academic paper in English. Classroom
discussion is in English to give all students the opportunity to participate.
For credit in Spanish, students should be proficient and able to read and
write independently in the language, with strong skills in in reading and
writing. **There will be no CP Option for credit in Spanish, it is only offered
for HN credit. Prerequisites: World History 2, U.S. History 1 and 2.**

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<th>L421</th>
<th>CP</th>
<th>Spanish 4</th>
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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 pretent,
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. **Prerequisites:
CP Spanish 3 or Spanish Heritage Language Speakers**

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<th>L422</th>
<th>HN</th>
<th>Spanish 4</th>
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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. **Prerequisites: HN
Spanish 3, Grade of B or better in CP Spanish 3, or Teacher
Recommendation**

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<tr>
<th>L423</th>
<th>HN</th>
<th>Spanish 5</th>
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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 citizen-
ship 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. Prerequisites: Spanish 4 or Teacher Recommendation**

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<tr>
<th>L621</th>
<th>CP</th>
<th>An Introduction to Spanish-speaking Culture and Identity</th>
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</table>
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. Prerequisite: Teacher Recommendation

L622 HN | The Spanish-Speaking Scholar: Exploring Identity and Culture through Literature

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 or AP Literature courses. Prerequisite: Teacher Recommendation

■ AMERICAN SIGN LANGUAGE

L625 CP | American Sign Language 1

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.

L626 CP | American Sign Language 2

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. 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 extracurricular 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.

GoodWork© Senior Internship and Seminar

Y000B 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 supported 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.

**ENHANCED SENIOR YEAR COURSES OFFERED IN OTHER DEPARTMENTS**
These courses are offered by other CRLS departments and may be taken as ESY Electives.

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<tr>
<th>Code</th>
<th>Department</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>S410</td>
<td>IN</td>
<td>Marine Science Internship</td>
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<tr>
<td>S415</td>
<td>IN</td>
<td>Science and Engineering Research</td>
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<tr>
<td>H418</td>
<td>HN</td>
<td>Kimbrough Scholars Project</td>
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See Science page 51.

See History/Social Science page 33.
Design & Print Coordinator: Michele Watson Maxwell Creative Design Instructor

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

Photos by: Bethany Versoy

Printed on recycled paper using soy ink

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